

CULTURAL VARIATIONS IN MOTHERS' ACCEPTABILITY OF BEHAVIORAL CHILD
MANAGEMENT TECHNIQUES:
EXAMINATION OF UNDERLYING MECHANISMS

by

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Abstract

Behavioral parent training (BPT) is a widely used, evidence-based treatment and prevention intervention for managing noncompliant and disruptive child behavior. However, the cultural sensitivity of the techniques emphasized within the program has been largely unexamined. This study examined cultural differences in mothers' acceptance of common techniques for managing disruptive child behavior, and the possible roles of parenting styles and implicit theories in mediating any cultural differences. A community sample of 117 Euro-Canadian and Chinese-immigrant mothers of boys aged 4- to 8-years participated. Results indicated that Chinese-immigrant mothers had more favorable attitudes towards punishment techniques (i.e., over-correction and spanking) than Euro-Canadian mothers, and that mothers' authoritarian and training parenting styles were mediators underlying this cultural difference. No cultural differences were found in mothers' attitudes towards reward (i.e., praise and token economy) or withdrawal of positive reinforcement (i.e., response cost and time-out) techniques. This study takes a first step to inform efforts to increase cultural sensitivity in approaches to the delivery of mental health services to the underserved population of Chinese-immigrant families.

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Introduction

There has been a substantial increase in the number of culturally diverse populations in Canada within recent years, and many ethnic minorities, including Chinese-immigrant families, are underserved in the mental health field (Chen, Jo, & Donnell, 2004), despite comparable prevalence rates for child noncompliance and other disruptive behavior problems, which are among the most common behavioral concerns of parents (Achenbach, Howell, Quay, & Conners, 1991; Serketich & Dumas, 1996). Although a widely used, evidence-based treatment and prevention intervention for noncompliant and disruptive child behavior has been developed (i.e., behavioral parent training (BPT); Eyberg, Nelson, & Boggs, 2008), the cultural appropriateness of the techniques within the program has been largely unexamined (Forehand & Kotchick, 1996). Thus, this study examined cultural differences in mothers' acceptability of behavioral techniques for managing child noncompliance and disruptive behavior problems to help inform culturally sensitive delivery of psychological services. Moreover, this study was a first step in investigating psychological variables as potential underlying mechanisms that may account for cultural differences in mothers' acceptability of child management techniques.

This study begins by highlighting the importance of cultural considerations in parenting, followed by a review of the cultural compatibility of BPT with parenting practices in the Chinese culture. Cultural differences between Chinese-immigrant and Euro-Canadian mothers' acceptability of different types of behavioral child management techniques are presented, as acceptability of these techniques is likely to affect mothers' intentions to use BPT. Two psychological factors, parenting styles and implicit theories, are offered as potential mechanisms underlying cultural differences in the acceptability of and intention to use techniques for managing noncompliant and disruptive child behavior.

Importance of Cultural Considerations

The importance of examining the role that culture plays in parenting within Canadian society is particularly significant given the substantial changes in the number and distribution of culturally diverse populations in Canada within recent years. Approximately 16.2% of the total population in Canada (Statistics Canada, 2006c), and 29.3% of the total population in British Columbia (B.C.) are ethnic minorities (Statistics Canada, 2006b). Table 1 presents the percentages of the top ethnic groups within Canada and B.C. (Statistics Canada, 2006b, 2006c).

Table 1

Percentage of Ethnic Minority Groups in Canada and B.C. as of 2006

Ethnic Group	Canada		B.C.	
	Total	Total Ethnic	Total	Total Ethnic
	Population	Minority	Population	Minority
	N = 31,612,897	Population	N = 4,113,487	Population
		N = 5,068,100		N = 1,204,935
Chinese	3.9%	24.0%	9.9%	40.4%
South-Asian ^a	4.0%	24.9%	6.4%	26%
Aboriginal	5.4%	24.9%	4.8%	16.3%
East-Asian ^b	2.8%	17.2%	5.2%	21.2%
Black ^c	2.5%	15.5%	0.6%	2.8%

Note: examples of specific cultures within select ethnic groups include: ^a Indian. ^b Filipino, Korean, Japanese. ^c Caribbean, African.

Chinese ethnicity represents a large proportion of ethnic minorities within Canadian society, particularly within B.C., and 40% of Canadian community mental health providers report that they serve Chinese-immigrant families, making this cultural group the most often served ethnic minority group by such organizations (Short & Johnston, 1994). Thus, this cultural group was the focus of this study, although in reviewing previous research, it was often necessary to draw on the broader category of East-Asians (which includes the cultural groups of Japanese, Korean, and Chinese individuals). Nevertheless, it is important to acknowledge that heterogeneity exists within the East-Asian culture which highlights the necessity to distinguish between individual cultures (e.g., Japanese versus Chinese)(Yoon & Cheng, 2005). In addition, differences in parental responses to child behavior have been found between Chinese parents living in their country of origin and those who have immigrated to North America (Hess, Chang, & McDevitt, 1987), and immigrant status may play an important role in determining maternal beliefs and parenting practices (e.g., Johnson, 2007). The current project compared the acceptability of child management techniques and underlying psychological variables in Euro-Canadian (i.e., those of Western European descent who were born in Canada) and Chinese-immigrant (i.e., those with a Chinese heritage who immigrated to Canada) parents living within Canada, as opposed to comparing parents living in different countries. In this way, the aim of enhancing mental health service delivery to the underserved Chinese-immigrant population within Canada is addressed more directly. Moreover, the confounding effects that different reference groups have on cross-cultural comparisons are diminished by comparing individuals from two cultures who are now living within the same geographic area (e.g., Canada)(Heine, Lehman, Peng, & Greenholtz, 2002). However, one disadvantage of this approach is the introduction of another confound in that immigrant status differs between the two cultural

groups. Nevertheless, I believe that the parenting beliefs and psychological variables in this study are more closely tied to cultural background than to immigrant status, because cognitions related to childrearing and socialization are believed to acculturate very slowly, perhaps because mental schemas are generally resistant to change, or because they constitute core aspects of identity (Cote & Bornstein, 2003).

Several models have been proposed for understanding adaptive development in ethnic minority children. Bronfenbrenner's (1979; 1986) ecological framework describes a child as embedded within four levels of interdependent structures, which include the microsystem (i.e., direct experiences with immediate others such as parent-child interactions), mesosystem (i.e., interplay among various microsystems such as the strength of the home-school relationship), exosystem (i.e., larger social settings such as extended family and school board), and macrosystem (i.e., broad ideology, belief systems, cultural customs and values). This model identifies culture as an external macrolevel factor and its influences are seen as indirectly experienced through the interaction with other contextual levels. In contrast, current integrative models (e.g., Coll, Crnic, Lamberty, & Wasik, 1996; Yasui & Dishion, 2007) consider culture to be a central tenet of all environmental contexts, directly influencing the child from the immediate microsystem level (e.g., cultural socialization within the family context) to the larger macrosystem level (e.g., social or economic discrimination). With regards to parenting in particular, Ogbu's (1981) cultural-ecological view of child development proposes that culturally-valued competencies and theories of childrearing dictate the customary parenting practices believed to be successful in fostering culturally-valued child behavior.

Cultural sensitivity, or the extent to which a clinician integrates cultural considerations into communication, assessment, diagnosis, and treatment planning (Haggerty et al., 2007), has

been emphasized in the mental health field (e.g., Matthews & Peterman, 1998; Whaley & Davis, 2007; Yutzenka, 1995). A variety of cross-cultural practice guidelines have been developed, including the American Psychological Association's (APA, 1993) guidelines for providers of psychological services to ethnic, linguistic, and culturally diverse populations, their guidelines on multicultural education, training, research, practice, and organizational change for psychologists (APA, 2003), as well as cross-cultural guidelines specific to family therapy (Paniagua, 1996). Although these guidelines offer suggestions for mental health service provision in general (e.g., therapist cultural self-awareness, specific knowledge of other cultures), there have not been any culturally sensitive guidelines pertaining to specific types of interventions such as parenting practices for managing problem child behavior. This is an area of need because, even though the prevalence of noncompliance and disruptive behavior problems in children appears to be similar across ethnicities (e.g., Bird et al., 2001; Matsuura, Okubo, Kojima, & Takahashi, 1993), ethnic minority families, including Asian-North Americans, are underserved in the mental health sector (Chen, Sullivan, Lu, & Shibusawa, 2003; Chiu, 2004; Chow, Jaffee, & Snowden, 2003; Sue, Fujino, Hu, Takeuchi, & Zane, 1991). That is, Asian-North Americans do not use mental health services as much as would be expected based on the size of the Asian-North American population (Sue et al., 1991). Referrals to mental health services for Asian-North American children are underrepresented (Stern, Cottrell, & Holmes, 1990), and higher dropout rates from and less therapeutic involvement in mental health services have been identified among ethnic minorities in comparison to nonminority families (Kazdin, Mazurick, & Siegel, 1994; Sue, 1977; U.S. Department of Health and Human Services, 2001; Yeh, McCabe, Hough, Dupuis, & Hazen, 2003; Yeh et al., 2002). For example, 50% of Asian North-Americans drop-out of mental health treatment after only one session compared to a 29% rate for Euro-North Americans (Sue &

McKinney, 1975). For Asian-North Americans, the lack of participation in mental health services appears to be the result of linguistic, cultural, and economic factors that pose barriers to accessing care within the current service delivery system (Leong & Lau, 2001). These factors include cultural differences in views of mental illness and help seeking behaviors, language barriers, and mistrust of government-operated institutions. Moreover, some mental health treatments may be culturally inadequate and unresponsive (Gibbs & Huang, 1998). Many therapeutic factors have been identified that influence the provision of treatment with ethnic minorities, including client-therapist matching on attitudes, beliefs, and values; integration of cultural variables into assessment and case conceptualization; structural characteristics of the therapeutic process; and cultural receptivity and familiarity with the recommended intervention (for a more detailed review, see Matthews & Peterman, 1998). Thus, given the encompassing impact of culture on parenting and child development, combined with the mental health underservicing of Asian North American families, this study focused on the important role that cultural factors may play in helping to improve the provision of effective services for Chinese-immigrant families. I focus on a common parenting concern: child noncompliant and disruptive behavior problems, and the behavioral treatment recommended for these problems.

Child Noncompliance and Disruptive Behavior Problems

Noncompliance is defined as the refusal to initiate and complete actions requested by another person, including the failure to follow a previously stated rule (McMahon & Forehand, 2003). A substantial portion of parents report problems with noncompliant behaviors displayed by their young children, with approximately 30-50% of parents reporting concerns with child disobedience, whining, refusal to obey, defiance, and temper tantrums (Achenbach et al., 1991; O'Brien, 1996). High levels of child noncompliance at home are consistently rated as a primary

reason for the referral of young children for mental health services (Achenbach et al., 1991; Serketich & Dumas, 1996), with 60% of parents reporting a need for assistance with regard to behavior problems (O'Brien, 1996), and 80-90% of clinic-referred parents reporting problems with child noncompliance at home (Achenbach et al., 1991). The development of compliance to parental instructions has important implications for the young child's autonomy, self-regulation, internalization of moral values, and general socialization (Kochanska, Tjebkes, & Forman, 1998; Schroeder & Gordon, 2002). Conversely, noncompliance appears to be a pivotal behavior associated with the development of further disruptive behavior problems, as it is a primary characteristic of the diagnostic categories of oppositional defiant disorder (ODD) and conduct disorder (CD) (McMahon & Forehand, 2003). Enhancing the personal and social costs associated with them, child noncompliance and disruptive behavior problems also are known to increase the risk of negative outcomes in adulthood including alcoholism and drug abuse, poor employment history, poor marital functioning, and a range of psychiatric disorders (Maughan & Rutter, 2001).

Current etiological models of child noncompliant and disruptive behavior problems acknowledge the influence of numerous, transactionally-related factors, including biological/genetic (e.g., child temperament), environmental (e.g., stressful life events), and social (e.g., parent-child interactions) influences (Bakermans-Kranenburg & van Ijzendoorn, 2006; Button, Lau, Maughan, & Eley, 2008). Families of children with noncompliant and disruptive problems experience many difficulties, including interactions characterized by negativity and control, and high levels of social disadvantage, stress, and distress (Barry, Dunlap, Cotten, Lochman, & Wells, 2005; Lindahl, 1998). Genetic propensities such as difficult temperament or reward insensitivity in the child are seen as interacting with these family difficulties, particularly

harsh or inept parenting, in a reciprocal fashion, leading to an escalation in both family negativity and child disruptive behavior (Lytton, 1990; Patterson, 2002). The central role accorded parenting in these etiological models, coupled with the less changeable nature of other major influences such as child genetic make-up or family social disadvantage, have led intervention and prevention efforts to focus on parenting practices as a prime vehicle of change in this area. Thus, interventions to reduce noncompliant and disruptive child behaviors often seek to train parents in the use of effective behavior management techniques.

Prevalence rates for noncompliance and disruptive child behavior problems among Chinese-immigrant families are comparable to those reported among Euro-North American families (Chang, Morrissey, & Koplewicz, 1995; Choi & Lahey, 2006). For instance, Nguyen and colleagues (2004) reported that Asian-American children and youth are just as likely as Euro-North Americans to receive a diagnosis of conduct-related disorder, and that Asian-American males are more likely to receive a conduct-related diagnosis compared to Asian-American females – a gender difference that is consistent among Euro-North American samples (American Psychiatric Association, 2000). Thus, training parents to effectively manage noncompliance and disruptive behaviors in children is important in both Chinese-immigrant and Euro-Canadian families.

Behavioral Parent Training

BPT is one of the most effective ways to change parenting behavior and is an evidence-based treatment and prevention intervention for noncompliant and disruptive child behavior problems (Eyberg et al., 2008). BPT programs are designed to enable parents to become agents of change in their children's lives through the application of social learning principles (Briesmeister & Schaefer, 1998). Although numerous BPT programs have been developed, they

share several common characteristics (Kazdin, 1997). Most BPT models employ a series of steps, where techniques are taught over 6 to 12 group or individual therapy sessions, and can be conceptualized in two stages (Wells, 1994). Initially the focus is on training parents to praise and reinforce their child's positive behaviors and ignore misbehavior in order to avoid inadvertently reinforcing negative behaviors. The second phase of parent training teaches parents to actively discourage noncompliant behaviors using withdrawal of positive reinforcement techniques such as time-out and response-cost. Parents are also instructed to observe and monitor child behavior, and to give their child concise and clear commands. After being taught a technique by the professional, parents are given instructions and assistance in implementing the technique at home with their child. Home practice is necessary and parents are taught that it is through regular and consistent use of these techniques with their child, that their child's noncompliant and disruptive problem behaviors will improve. By instilling these parenting techniques, BPT aims to modify coercive patterns of parent-child interactions, and to subsequently reduce noncompliant and disruptive child behaviors while promoting the development and maintenance of more adaptive child behaviors.

Considerable research supports the efficacy of BPT in promoting positive changes in parenting behaviors and reducing child noncompliant and disruptive behaviors (e.g., Kaminski, Valle, Filene, & Boyle, 2008; Lundahl, Risser, & Lovejoy, 2006; Maughan, Christiansen, Jenson, Olympia, & Clark, 2005; Reyno & McGrath, 2006; Thomas & Zimmer-Gembeck, 2007). BPT is associated with improvements in noncompliant and disruptive child behaviors compared to pre-treatment measures (e.g., Costin & Chambers, 2007) and compared to children in wait-list control (e.g., Eyberg, Boggs, & Algina, 1995) and treatment as usual (e.g., Hutchings, Appleton, Smith, Lane, & Nash, 2002) groups. BPT is associated with reductions in negative and

ineffective parenting strategies (e.g., Connell, Sanders, & Markie-Dadds, 1997; Eyberg et al., 1995; Hutchings et al., 2002). In addition to its positive effects on parenting and child noncompliant and disruptive behavior, BPT also leads to improvements in parent–child relationships (e.g., Gross, Fogg, & Tucker, 1995), parenting self-esteem (e.g., Pisterman, Firestone, McGrath, & Goodman, 1992), maternal well-being (e.g., Connell et al., 1997; Hutchings et al., 2002), parenting stress (e.g., Conners, Edwards, & Grant, 2007; Pisterman et al., 1992), and the behavior of siblings who were not targeted in treatment (e.g., Brotman et al., 2005). In sum, BPT has established validity in improving parenting behavior and reducing noncompliance and disruptive behavior problems in children, as well as positively impacting multiple other aspects of family and parent functioning.

Efficacious BPT programs have also been conducted with Chinese parents. For example, a BPT program was conducted in Hong Kong for 25 Chinese families of children 4 to 10 years of age who were referred for aggressive and defiant child behaviors (Ho et al., 1999). Significant therapeutic changes occurred in parent-child interactions, disruptive behaviors, and parents' perceptions of their parenting behaviors compared to pre-treatment levels. These gains were maintained at a 4-month follow-up. Similarly, Leung, Sanders, Leung, Mak, and Lau (2003) conducted a BPT program with a sample of Chinese parents of children between the ages of 3 to 7 years with early onset conduct-related problems in Hong Kong. Ninety-one parents were randomly assigned to the intervention or a waitlist control group. At post-treatment, participants in the intervention group reported significantly lower levels of child behavior problems, less dysfunctional parenting styles, and greater sense of parenting competence compared to the waitlist control group. Positive outcomes were also found when the same BPT program was conducted with a broader age range of participants (i.e., Chinese parents of children ages 2 to 12

years)(Leung, Sanders, Ip, & Lau, 2006). Leung, Tsang, Heung, and Yiu (2009) also showed BPT-related reductions of child behavior problems, parenting stress, and inappropriate child management strategies (e.g., criticism, corporal punishment), and increases in positive parenting practices (e.g., praise, reflective statements) among Chinese parents and their 2- to 8-year-old children in Hong Kong. These changes were maintained 3 to 6 months after program completion. BPT has also been implemented with Chinese parents who have immigrated outside of China and Hong Kong, including to the United States (Reid, Webster-Stratton, & Beauchaine, 2001) and Australia (Crisante & Ng, 2003), with consistent positive parent and child intervention effects. Taken together, evidence suggests that BPT programs that were initially developed in North America or Australia appear to be an efficacious form of treatment and prevention for Chinese parents.

However, despite evidence supporting the efficacy of BPT (i.e., it has been shown to work under research conditions that emphasize internal validity), these programs remain limited in their effectiveness, or real-world applicability, perhaps particularly so among Chinese-immigrant families. That is, BPT programs are severely limited by failures of parents to actively participate in the programs, including problems with sporadic attendance, incomplete home practice assignments, limited participation in sessions, and premature termination (Nock & Ferriter, 2005). Clearly, without attendance or use of the parenting techniques that are taught, the odds of successful treatment outcome are much reduced (Kazdin et al., 1994; Prinz & Miller, 1994). Furthermore, parents who are nonadherent and fail to complete assigned home practice or fail to persevere in the use of skills after treatment are also less likely to achieve significant levels of improvement in child and family functioning (Lundahl et al., 2006).

Evidence suggests that these problems with reduced utilization of BPT may be particularly common among Chinese-immigrant parents, perhaps due to poor cultural sensitivity of BPT. Leung and colleagues (2006) found that Chinese families who had newly immigrated into Hong Kong were significantly more likely to drop-out from a BPT program than non-immigrant families. In addition, ethnic minority families are less likely to enroll in BPT than Euro-North American families (Patterson et al., 2002; Reid et al., 2001). For instance, Reid and colleagues (2001) found that although ethnic minority parents, including Chinese-immigrants, who enrolled in a BPT program were as likely as Euro-Americans to continue to attend, ethnic minority families were less likely to enroll in the program in the first place, with 28% of minority and 17% of Euro-American mothers choosing not to participate in the baseline assessments.

Feelings of shame and stigma have been identified as major issues that negatively influenced Chinese-North American parents' intentions to seek professional help for problem child behavior (Lau & Takeuchi, 2001). That is, Chinese parents, particularly mothers, tended to feel ashamed, embarrassed, and/or guilty about behavior problems in their children, and thus were less inclined to seek public help for the child problems (Chiu, 2004). Furthermore, Asian-American parents reported that the techniques taught in a BPT program were less useful compared to Euro-American, African-American, and Hispanic-American parents (Reid et al., 2001). This finding is consistent with early anecdotal evidence describing various problems with acceptability of BPT techniques encountered when working with Chinese parents in Hong Kong (Lieh-Mak, Lee, & Luk, 1984). First, the number of dual-income families has increased and grandparents are increasingly involved with caregiving; however, the cultural belief that elders are to be respected for their greater wisdom has hindered the teaching of parenting skills and strategies to grandparents. Second, because psychological explanations for child behavior are

often not accepted in Chinese culture and instead illness is seen as a physical issue, medical doctors are relied upon and parents may not be convinced that they themselves can contribute to the management of child conditions. Third, Chinese parents are not accustomed to playing with or praising their children, as these practices contradict the authoritative and hierarchical role of elders and the goals of instilling humility and encouraging persistence in children. Fourth, Chinese parents find it difficult to ignore undesirable child behavior because it damages the family's reputation, and they often consider physical punishment as acceptable and effective. Similar issues were raised by a more recent report of attitudes towards BPT by Chinese parents, such that many Chinese parents had difficulties using praise, ignoring negative child behavior, refraining from overdirective play, and coordinating techniques with extended family members (Leung et al., 2009). These issues suggest that certain types of child management techniques (e.g., parenting control and punishment) may be more acceptable for Chinese parents than other BPT techniques (e.g., praise). This differential acceptance of types of BPT techniques may be one factor related to the low rates of participation in BPT among Chinese parents. For example, BPT programs typically emphasize the goal of improving the parent-child relationship, and dedicate a significant proportion of time to teaching positive reinforcement techniques particularly in the first half of the program (Eyberg et al., 2008; Walle, Hobbs, & Caldwell, 1984). However, Chinese parents may be less likely to begin BPT or to find it useful since the advertised goals and initial strategies involved may not match their views of acceptable parenting practices for managing noncompliant and disruptive child behavior. Thus, acceptance of BPT is likely to be low among Chinese-immigrant families.

Taken together, the ability of mental health services in general, including BPT programs, to be maximally effective remains limited by relatively low rates of utilization and engagement

in treatment, a problem that may be particularly apparent in Chinese-immigrant families. Given that research has traditionally given little attention to cultural variables in BPT (Forehand & Kotchick, 1996), and that only a proportion of Chinese-immigrant and other ethnic minority parents are taking advantage of the benefits that BPT has to offer, there is a need for research to identify cultural differences in the motivational processes underlying participation in BPT.

Treatment Acceptability

One factor that may influence parents' likelihood of utilizing and engaging in a treatment is its social validity (i.e., the meaning and value it has to society) (Wolf, 1978). Social validity can be evaluated at three levels: (i) the social significance of the treatment goals (i.e., how meaningful it is to decrease disruptive child behavior problems or to increase positive child behaviors); (ii) the social appropriateness of the procedures implemented (i.e., the acceptability of child management techniques); and (iii) the social importance of the effects of treatment (i.e., satisfaction with outcomes). The current study focuses on the second aspect of social validity: acceptability of treatment procedures. Treatment acceptability refers to the perceived appropriateness of treatment procedures by potential clients (Kazdin, 1980a). It includes judgments of the appropriateness of the treatment techniques for the presenting problem, whether the techniques are just, sensible, and nonintrusive, and whether the techniques concur with popular notions of what constitutes treatment. Treatment acceptability is typically investigated with experimental studies using analogue methodology in which participants are asked to read fictitious case vignettes and rate hypothetical treatment recommendations (Calvert & Johnston, 1990; Eckert & Shapiro, 1999; Reimers, Wacker, Cooper, & de Raad, 1992b). Questionnaires are typically used to assess acceptability with participants rating the fairness and expected effectiveness of intervention procedures using a Likert-type scale, and responses are then

computed into an overall acceptability score for each intervention that is rated (Finn & Sladeczek, 2001). Versions of the Treatment Evaluation Inventory (TEI, Kazdin, 1980a) and the Intervention Rating Profile-20 (IRP-20, Witt & Martens, 1983) are among the most commonly used treatment acceptability measures (Finn & Sladeczek, 2001).

Parental views regarding the acceptability of BPT techniques are seen as precursors to parents' participation in BPT, which in turn, influences treatment outcome (Mah & Johnston, 2008; Nock & Ferriter, 2005). The acceptability of BPT techniques has been found to be significantly related to treatment participation (Kazdin, Holland, & Crowley, 1997), and both in turn, have been shown to correlate with BPT process and outcomes (Kazdin & Wassell, 1999). For example, parental perceptions of aspects of acceptability such as treatment relevance, expectancies, and demandingness predict treatment attendance, adherence, and outcome (Kazdin et al., 1997; Kazdin & Wassell, 1999; Nock, Ferriter, & Holmberg, 2007; Nock & Kazdin, 2001), and acceptability is positively related to child improvement following BPT (MacKenzie, Fite, & Bates, 2004). Furthermore, promising evidence in the adult literature suggests that the matching of treatments to the particular characteristics of clients (e.g., beliefs about treatments) is a means of improving the outcome of psychological interventions (e.g., Cooney, Kadden, Litt, & Getter, 1991; Finney & Moos, 1986). For example, Kreuter, Oswald, Bull, and Clark (2000) found that health education materials on weight loss that were tailored to overweight individuals based on characteristics such as their beliefs or motives were more effective than non-tailored materials in helping individuals change health-related cognitions and behaviors. This suggests that assessing parents' acceptability of BPT may be helpful in matching families with intervention techniques that are maximally appealing to them, in order to enhance parents' willingness to participate in and benefit from the recommended treatment.

A sizable literature exists supporting the general acceptability of BPT treatments, particularly as compared to alternatives such as pharmacological interventions (e.g., Johnston, Hommersen, & Seipp, 2008; Kazdin, 1980a; Wilson & Jennings, 1996). Numerous variables that affect the overall treatment acceptability of behavioral techniques for managing noncompliant and disruptive child behavior problems have been investigated, and can be grouped into four categories related to the therapist (e.g., the title of the professional, the type of language used to describe an intervention; Carter, 2005; Witt, Moe, Gutkin, & Andrews, 1984), parent/family (e.g., gender, income, prior knowledge of treatment; Clark & Elliott, 1988; Miller & Kelley, 1992), child (e.g., severity of child behavior problems; Frentz & Kelley, 1986), and treatment (e.g., complexity and time required to implement procedures, reported effectiveness; Elliott, Witt, Galvin, & Peterson, 1984; Tingstrom, McPhail, & Bolton, 1989). Overall, research reveals that variations in client and treatment characteristics are related to different levels of intervention acceptability. However, much remains to be known about how parents may differentially accept the types of techniques offered *within* BPT programs, as well as the acceptability of techniques that may be more conventional to Chinese culture but which are typically discouraged in BPT (e.g., spanking).

Acceptability of Types of Child Management Techniques

This study focused on the acceptability of three general types of child management techniques (i.e., reward, withdrawal of positives, and punishment), with an examination of the possible role of culture in moderating the acceptability of these types of techniques. Based on operant conditioning principles (Skinner, 1938), two of four possible types of consequences are often used in BPT to modify the occurrence of child behavior (see Table 2).

Types of Behavioral Consequences and Parenting Techniques

Positive reinforcement, or the application of positive consequences following appropriate behavior, is a technique taught to parents in BPT programs to increase the likelihood of desired child behaviors. Specific types of positive reinforcement techniques emphasized in BPT include praise and other social rewards, which are defined as positive verbal statements (e.g., “That’s great!” or “I really appreciate it when you do what I tell you to do”), and physical affection (e.g., hugs, high-fives) contingent on child compliance or other desired behavior. A more formal and elaborate positive reinforcement technique often taught in BPT is token economy, a system of awarding tokens or points for desired child behavior. Children can trade in these tokens or points

for privileges or other rewards (e.g., extra playtime, special toy). Taken together, this study refers to these positive reinforcement techniques as “reward techniques”. On the other hand, negative punishment, or the removal of a favorable stimulus following inappropriate behavior, decreases the future likelihood of child noncompliance and disruptive behavior problems. Two forms of negative punishment are typically taught in BPT: a) time-out which involves removing the child to a quiet, isolated location that is devoid of all sources of positive reinforcement (especially parental attention); and b) response cost which removes a privilege that the child normally has (e.g., watching television, eating dessert after dinner) contingent on inappropriate child behavior. These techniques will be collectively referred to as “withdrawal of positive reinforcement techniques” (or “withdrawal” in short) in this study.

A third category of consequences is positive punishment, or the application of negative consequences following inappropriate behavior, to decrease the future likelihood of such behavior. Examples of this form of punishment are over-correction and spanking. Over-correction (also known as positive practice) involves having the child repeatedly engage in the desired behavior as punishment for having displayed an inappropriate behavior, with the assumption that such practice is mildly aversive to the child. For example, if a child inappropriately slams the door, the child is required to practice the desired behavior by opening and closing the door carefully and quietly 20 times in a row. Spanking, or corporal punishment, is defined as “the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correction or control of the child's behavior” (Straus & Donnelly, 1994, p.4). Although mild forms of these positive punishment techniques have historically been included within BPT programs (e.g., Forehand & McMahon, 1981), they are now often discouraged from BPT. In this study, these techniques will be labeled as

“punishment”. The fourth category, negative reinforcement, or the removal of aversive stimuli following appropriate behavior, is meant to increase the future likelihood of desired child behaviors. An exemplar technique in this category is nagging, which persists until the desired behavior is produced. This technique should theoretically increase positive child behaviors, provided that parental nagging continues until the child complies and then terminates. However, many parents often give in prematurely following repeated child noncompliance, which actually reinforces the child’s problem behavior instead. In addition, this technique often leads to repetitive escalation of negative parent-child interactions, as suggested by the coercion theory developed by Patterson (1982; 2002). That is, a coercive cycle is characterized by parental demands for compliance, the child's refusal to comply, followed by escalating complaints by both parents and children, and over time, children’s aggressive behavior problems increase while parents' control over these aversive behaviors decrease. Thus, this category of behavioral consequences was not examined as a type of technique for managing problem child behavior in this study.

Differential acceptability ratings have been found for the aforementioned child management techniques among Euro-North Americans. Acceptability studies have presented case vignettes describing hypothetical children (boys and girls with ages ranging from 3 to 10 years) with disruptive behavior problems (e.g., aggression, tantrums, noncompliance) to undergraduate students (e.g., Kazdin, 1980a), teachers (e.g., Elliott et al., 1984), pediatric staff (e.g., Tarnowski, Kelly, & Mendlowitz, 1987), community samples of parents (e.g., Calvert & McMahon, 1987), and clinic-referred parents (e.g., Jones, Eyberg, Adams, & Boggs, 1998). Overall, findings from these studies suggest that acceptability ratings are higher for reward and withdrawal techniques than punishment techniques. For instance, Jones and colleagues (1998)

assessed the acceptability of BPT techniques among 20 clinic-referred mothers of 2.5- to 7-year-old children (75% were boys), while Pemberton and Borrego (2007) assessed the acceptability of BPT techniques among a community-sample of 82 parents (77% were mothers). Both studies presented case vignettes describing children with disruptive behavior problems and used the Treatment Evaluation Inventory – Short Form (TEI-SF; Kelley, Heffer, Gresham, & Elliott, 1989) to assess the acceptability of BPT techniques. Findings from these studies indicate that parents rate the withdrawal techniques of response cost and time-out to be as acceptable as the reward technique of token economy. Both of these categories of techniques were rated as more acceptable than punishment techniques including over-correction, ignoring, and spanking.

Taken together, results suggest that Euro-North American parents have greater acceptance of reward and withdrawal techniques taught in BPT compared to punishment techniques which are discouraged in BPT. However, the cultural background of the majority of participants in these previous studies has been Euro-American. Although no known studies have examined the acceptability of child management techniques amongst Chinese-immigrant parents, a few studies have investigated this issue in other cultures. Among African-Americans, the literature regarding the acceptability of child management techniques has been mixed, with some studies reporting that acceptability does not vary as a function of ethnicity (Tarnowski, Simonian, Park, & Bekeny, 1992), while others have demonstrated that African-American families with low income view less labor-intensive options (e.g., spanking) to be more acceptable than techniques requiring greater time and effort such as time-out (Heffer & Kelley, 1987). Other studies have only examined the acceptability of BPT techniques within one cultural group and have not examined cultural differences. For instance, among Mexican-American parents, withdrawal techniques (e.g., response cost, time-out) were rated as more acceptable than

reward techniques (e.g., token economy) (Borrego, Ibanez, Spendlove, & Pemberton, 2007).

Taken together, these studies suggest that cultural differences in the acceptability of child management techniques may exist.

Furthermore, as previously mentioned, anecdotal reports of implementing BPT with Chinese parents suggest that parental control and punishment techniques may be more acceptable for Chinese parents than other BPT techniques, such as praise, which was anecdotally reported to be the most difficult technique for Chinese parents to implement (Leih-Mak et al., 1894; Leung et al., 2009). This observation would be consistent with research indicating that 57.6% of students in China reported having received some form of an over-correction punishment technique (e.g., running laps, repetitive homework)(Chen et al., 2006), and over 40% of Chinese-North Americans above the age of 18 years agreed that the use of spanking was an effective way to discipline children (Yick, 2000). In fact, Yick's finding may be an underestimate of the attitudes and beliefs of Chinese-immigrant parents because the sample in the study included individuals who were not parents and individuals who were relatively acculturated to the Euro-North American culture. Indeed, Chinese mothers of preschoolers in China have been found to score higher on physical coercion methods of discipline (e.g., spanking) compared to Euro-North American mothers (Wu et al., 2002).

Taken together, it is reasonable to speculate that Chinese-immigrant mothers may have greater acceptance of punishment techniques, and lower acceptance of reward techniques taught in BPT compared to Euro-Canadian mothers (see Figure 1 for hypothesized results). Little is known about the relative acceptability of the withdrawal techniques for managing child behavior among Chinese-immigrant parents, although it is clear that many Chinese parents do use versions of time-out (e.g., kneeling or standing in a corner or outside)(Tian & He, 2004) and response cost

(e.g., deprivation of special privileges or rewards)(Chen et al., 2006; Sollenberger, 1968). To shed empirical light on these speculations, this study is designed to compare the acceptability of reward, withdrawal, and punishment child management techniques between Euro-Canadian and Chinese-immigrant mothers.

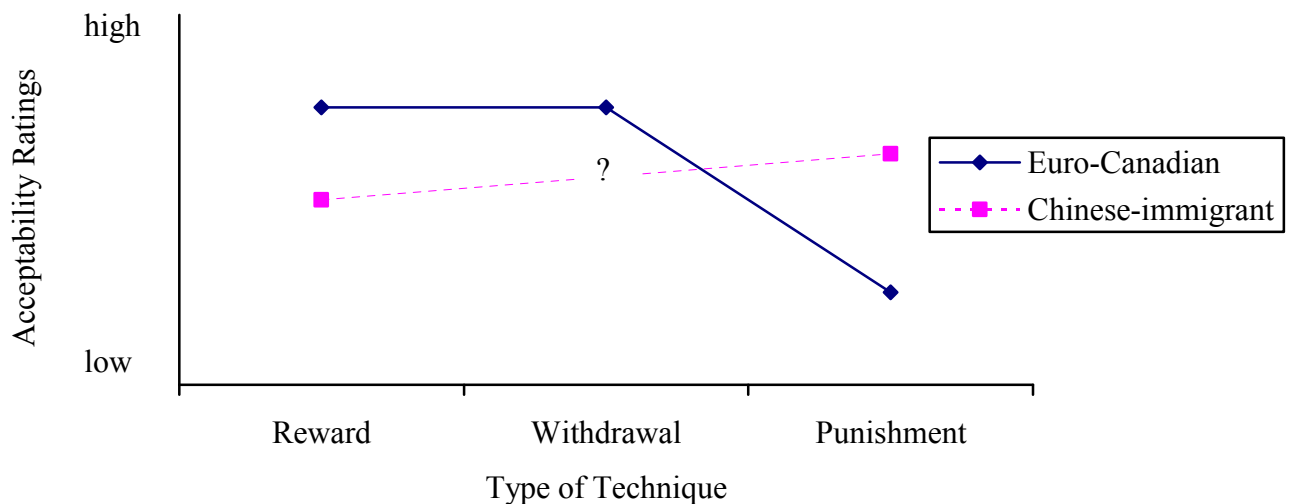


Figure 1. Hypothesized interaction of culture and type of child management techniques in mothers' acceptability ratings.

Intention to Use Child Management Techniques

It is important to acknowledge that the transition from acceptance of parenting techniques such as those taught in BPT to actual use and treatment participation or successful outcome is one that families do not always make. Although parents may see BPT techniques as acceptable (e.g., Boothe & Borrego, 2004; Johnston et al., 2008; Wilson & Jennings, 1996), they still may fail to actively participate in the treatment (Nock & Ferriter, 2005). However, according to the theory of planned behavior (TPB), the belief and attitude towards a technique (i.e., acceptability) is one factor that leads to the formation of behavioral intention to implement the technique, and it is this intent construct that is the immediate antecedent of actual behavior (Ajzen, 1991).

Although intentions engender only a small-to-medium effect on behavior (Webb & Sheeran,

2006), and other factors may moderate the relation of intention to action, such as perceptions of behavioral control (Sheeran, Trafimow, & Armitage, 2003), and habit (Ouellette & Wood, 1998), studies do point to the importance of parental intention in determining actual use of child management techniques. For instance, Whittingham, Sofronoff, and Sheffield (2006) found that behavioral intention, rather than acceptability, perceived control, or perceived usefulness, was the only significant predictor (accounting for 20.52% of the unique variance) of the number of BPT strategies attempted by parents of a child with an Autistic Spectrum Disorder. Dumas, Nissley-Tsiopinis, and Moreland (2007) found that among mothers of preschoolers from diverse ethnic and socioeconomic backgrounds, intention to enroll in a BPT program was indeed related to their actual enrollment, but not to their attendance, which was predicted by time availability instead. Taken together, I argue that cultural differences in acceptability and the behavioral intentions they predict are both important aspects to consider in understanding parents' use of child management techniques related to BPT, although the correlations among these constructs are far from perfect, and acceptability and intentions are obviously not the only factors contributing to parents' use of techniques.

Underlying Mechanisms

This study moved beyond simply identifying whether differences in the acceptability of child management techniques exist between cultural groups, and investigated two possible underlying mechanisms (i.e., parenting style and implicit theory) that may account for cultural differences in mothers' acceptability of, and intention to use different types of child management techniques. This is an important contribution because such variables may be useful in understanding how to change the relationship between culture and acceptability/ intention. That is, because it is not possible to change an individual's culture, mothers' acceptance of and intent

to use child management techniques may be enhanced by targeting the underlying construct that accounts for the reduced acceptability/intention in Chinese-immigrant parents, or alternately by changing BPT interventions to be in line with the underlying beliefs of Chinese-immigrant parents (see Figure 2).

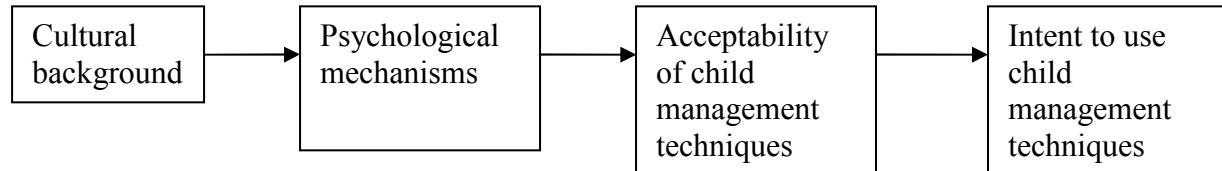


Figure 2. Hypothesized mediation model of psychological mechanisms underlying cultural differences in mothers' acceptability of and intention to use child management techniques.

Parenting Style. The first possible underlying mechanism investigated was parenting style, or the attitudes toward the child that a parent transmits to the child and which create an emotional climate surrounding parent-child exchanges (Baumrind, 1971). One of the most widely used typologies for understanding parenting styles was developed by Baumrind (1971). The combination of parental responsiveness (i.e., the degree to which parents are warm, nurturing, and sensitive to their child's needs) and demandingness (i.e., the degree to which parents establish high expectations, discipline and control over their child's behavior) is central to her conceptualization of parenting style. Baumrind suggested four parenting styles: authoritative (i.e., high warmth, appropriate control), authoritarian (i.e., low warmth, high control), permissive (i.e., high warmth, low control), and indifferent (i.e., low warmth, low control). Because cross-cultural comparisons have typically focused on the first two types (see Lim & Lim, 2004), only the authoritative and authoritarian parenting styles were discussed in this study. An authoritative parenting style is characterized by warmth, nurturance, and

acceptance, autonomy granting and democratic participation, and reasoning or verbal give-and-take between parents and children. On the other hand, an authoritarian parenting style is characterized by harsh discipline such as physical punishment, restrictive control, and verbal hostility (e.g., scolding and criticism). Across numerous studies, in comparison to Euro-American parents, Chinese parents are consistently more authoritarian and less authoritative, although the latter finding is less robust (e.g., Leung, Lau, & Lam, 1998; Porter et al., 2005; Wu et al., 2002). I speculate that cultural differences in the likelihood of the authoritarian parenting style, which emphasizes a high degree of control and punishment, may account for potential cultural differences between Euro-Canadian and Chinese-immigrant mothers' acceptability of punishment techniques. In addition, given that the authoritative parenting style emphasizes a high degree of warmth and acceptance and is more common among Euro-Canadian than Chinese immigrant mothers, it is reasonable to predict that this variable may account for potential cultural differences between Chinese-immigrant and Euro-Canadian mothers' acceptability of reward techniques.

Beyond the classic Baumrind typology, emerging evidence suggests that these parenting style dimensions do not accurately capture the nature of parenting among Chinese parents. For example, although Chinese parents are more authoritarian than Euro-American parents, this more controlling and demanding parenting style is related to positive outcomes (e.g., self-control, frustration tolerance, self-confidence, and positive attitudes towards work and others) in Chinese children (Xu, Wan, Mussen, & Shen, 1991), whereas it is typically related to negative child outcomes among Euro-Americans (Ang & Goh, 2006). Thus, Chao (1994) proposed an alternative parenting concept of "training" derived directly from Chinese cultural values which emphasize the importance of hard work, self-discipline, and obedience. In support of this

conceptualization, Chinese-immigrant mothers of preschool-aged children scored significantly higher on training ideologies compared to Euro-American mothers (Chao, 1994). Furthermore, Chinese-immigrant parents are observed to pay special attention to training children in socially desirable and culturally approved behavior, which includes higher demands for compliance (e.g., obedience without question) and inhibition (e.g., self-control and suppression of aggression) in the Chinese culture compared to Euro-North American culture (Julian, McKenry, & McKelvey, 1994). Thus, the training parenting style was assessed in this study to examine if this variable may also account for potential cultural differences in mothers' acceptability of child management techniques. Given the preliminary nature of this construct, no specific predictions were made regarding comparisons between the training and authoritarian parenting styles.

Implicit Theory. Another mechanism that may account for cultural differences in mothers' technique acceptability is their implicit theory. Implicit theories, defined as a set of lay beliefs about the world, play a pivotal role in social understanding (Dweck, 1999). These underlying belief systems or conceptual frameworks guide people's motivational goals, information processing, and patterns of responding to events. A social-cognitive model of implicit theories was proposed by Dweck and Leggett (1988), which distinguished between two types of theories that people can hold: an *entity* theory that portrays a personal attribute as relatively fixed, and an *incremental* theory that portrays the attribute as relatively malleable. These two mindsets are considered to be alternative lay perspectives on human nature, with neither necessarily reflecting the true social reality (Plaks, Grant, & Dweck, 2005). In addition, the entity and incremental theories represent opposite ends of a single continuum, such that most people tend to possess aspects of both theories, although individuals may differ with regards to the degree to which the two theories are more chronically accessible (Levy, Plaks, Hong, Chiu,

& Dweck, 2001). In numerous studies, the entity or incremental theories held by adults and children have been shown to differentially influence cognition, affect, motivation, and behavior across a wide range of academic, social, and moral domains (for reviews, see Dweck, 1999; Dweck, Chiu, & Hong, 1995a; Dweck & Leggett, 1988). Furthermore, these implicit theories can be measured as chronic structures using self-reported rating questionnaires, or primed/induced using persuasive articles (Plaks et al., 2005). Although these theories have been shown to generalize to attributes external to the self (e.g., properties of other people, places, things, phenomena, or the world), the majority of research in this area thus far has focused on implicit theories of the self in the domains of intelligence and achievement, or implicit theories related to stereotyped social inferences of the personality or morality of others. Although there are no known published studies examining how implicit theories may orient parents to have different goals towards parenting or child behavior, it seems reasonable to expect that mothers' implicit theories would generalize to their parenting beliefs and goals.

Cultural differences have been found in the extent to which these different implicit theories are embraced: Euro-North-Americans are more likely to hold the entity theory, whereas East-Asians are more likely to hold the incremental theory (Heine et al., 2001). Each theory orients an individual to focus on different motivational goals. Individuals with an entity theory tend to orient more toward *performance* goals of gaining positive judgments of their attributes and avoiding negative ones. That is, when individuals view their personal qualities as fixed, their focus is to demonstrate or prove their abilities and to avoid demonstrations of deficiencies. This is consistent with a *self-enhancement* orientation of highlighting positive attributes and downplaying negative ones, which is more likely demonstrated by Euro-North Americans than East Asians (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). On the other hand,

individuals with an incremental theory tend to orient more toward *learning* goals of increasing their competence. That is, when individuals view their attributes as malleable, they emphasize the necessity to cultivate their abilities and strive to achieve their full potentials. Thus, incremental theorists persist and exert more effort to improve their weaknesses. This is consistent with a *self-improvement* orientation of highlighting negative traits or behaviors in lieu of positive ones, which is more likely demonstrated by East-Asian individuals than Euro-North Americans (Kitayama et al., 1997). In the current study, it is expected that Euro-Canadian mothers will be more likely to hold an entity theory with performance goals of increasing positive child behavior or strengths, whereas Chinese-immigrant mothers will be more likely to hold an incremental theory with learning goals of improving negative child behavior or weaknesses.

Hypotheses

This study took a first step in investigating the interrelations among mothers' acceptability of and intention to use child management techniques, potential underlying mechanisms, and culture. Overall, mothers' parenting styles and implicit theories are predicted to account for cultural differences in the acceptability of child management techniques. Although no known studies have examined the acceptability of child management techniques among Chinese-immigrant parents, it was predicted that they would rate punishment techniques (i.e., overcorrection and spanking) with goals of decreasing negative child behavior problems through high levels of parental control and harsh discipline are rated as more acceptable than reward techniques (i.e., praise and token economy) which have goals of increasing positive behavior through parental warmth and nurturance – a pattern opposite to that predicted for Euro-Canadians. This is because Chinese-immigrant mothers, who are assumed to hold authoritarian and training parenting styles and incremental theory beliefs, are expected to target problem child

behaviors and accept punishment techniques, since misbehavior, but not proper behavior, signals the need for improvement and discipline. Euro-Canadian mothers, on the other hand, who are assumed to hold an authoritative parenting style and entity theory beliefs, are expected to nurture and highlight positive child behaviors and thus accept reward techniques in order to place their children in a positive light (Ng, Pomerantz, & Lam, 2007).

Method

Participants

Mothers of nonproblem boys (i.e., not diagnosed with any emotional or behavioral disorders, nor having severe cognitive or developmental delays) between the ages of 4 to 8 years were recruited. If the mother had more than one son in the target age range of 4 to 8 years, the one who was closest to the age of 6 years was chosen as the target child. The focus on mothers was justified by the important role that mothers hold in the socialization of their children (McBride & Mills, 1993; Renk et al., 2003). Boys were chosen because the prevalence of noncompliance and disruptive behavior problems is considerably higher in boys than girls, with male-to-female ratios ranging from 2:1 to 9:1 in both Chinese and Euro-American samples (American Psychiatric Association, 2000; Weine, Phillips, & Achenbach, 1995; Xin, Chen, Tang, & Lin, 1992). The age range of 4 to 8 years was chosen because noncompliance and disruptive child behavior problems are common among young children (Lavigne, Gibbons, Christoffel, & Arend, 1996); thus, understanding mothers' acceptance of child management techniques for this age group would be useful in informing early treatment and prevention interventions for disruptive child behavior. The attitudes towards child management techniques held by mothers of nonproblem children were investigated, rather than the attitudes of mothers with children who have already been diagnosed with a disruptive behavior disorder. This

provided a chance to assess mothers' attitudes towards the techniques prior to involvement with the mental health service system, as a likely proxy for how such beliefs may influence the early stages of treatment decision-making. Furthermore, mothers of nonproblem children represent the general community whose perceptions of behavioral child management techniques are likely to directly and indirectly affect the families of children with disruptive behavior problems. For example, mothers of nonproblem children may be called upon as consultants to friends and family members who are seeking advice for managing their child's problem behaviors. The importance of these attitudes among mothers generally is reinforced by research indicating that mothers tend to prefer natural support systems (e.g., family and friends) over professional help (e.g., psychologists)(Raviv, Raviv, Edelstein-Dolev, & Silberstein, 2003; Wills, 1992). This is particularly true among Chinese-immigrant mothers who tend to look first to their families and close friends for help, in order to avoid public disclosure of problems and having their family viewed negatively by others (Ho & Chung, 1996; Lau & Takeuchi, 2001).

Mothers were recruited using a registry of past research participants who were willing to participate in future studies, advertisements in community newspapers, notices in community centers, school newsletters, and online forums. Two hundred and eighteen mothers were screened for eligibility to participate in the study; 42 mothers did not meet inclusion criteria (e.g., mothers with a South Asian or African cultural background, mothers of children with a clinical diagnosis, or mothers with daughters but not sons). Of the 176 remaining participants, 142 mothers fully completed the study, 8 mothers requested to withdraw from the study (mainly due to busy schedules, but with a few indicating dissatisfaction with the honorarium amount or with the type of questions asked), 6 mothers returned incomplete questionnaire packages, and 20 mothers did not return the questionnaires despite repeated reminder calls and emails.

There were two groups of participants, differentiated by culture but all residing in the Lower Mainland of Vancouver, British Columbia, Canada. The group of Euro-Canadian mothers was comprised of mothers of Western European descent (based on the United Nations' regional group definition consisting of 29 member states including the United Kingdom, Germany, and Italy)("Western European and Others Group", 2005), the majority of whom were born in Canada¹. The Chinese-immigrant group was composed of mothers who were born in the country of their heritage descent, but had since immigrated to Canada. The Chinese mothers were those with heritage descent from mainland China, Hong Kong, or Taiwan. This classification is typical of that used in previous research (e.g., Chao & Tseng, 2002). In order to ensure homogeneity in the acculturation status of the Chinese-immigrant group, the data from 20 Chinese mothers were excluded from data analyses because they identified themselves more with the mainstream culture than with their heritage culture (see Vancouver Index of Acculturation below). Thus, only Chinese mothers who were less acculturated to the mainstream Euro-Canadian culture were included. Final presentation of sample numbers and descriptives can be viewed in the Results section.

Measures

All measures were first devised in English, and then translated into both traditional and simplified Chinese. Translation guidelines suggested by van Widenfelt, Treffers, de Beurs, Siebelink, and Koudijs (2005) were followed. Four Chinese-immigrant mothers who were bilingual and bicultural were involved in the translation process, and were each randomly assigned a set of measures to translate from English into Chinese. Dictionaries, translation programs, and consultation with family, friends, and colleagues were used to aid translation of

¹ Nineteen Euro-Canadian mothers were born outside of Canada (i.e., USA, Western Europe, Australia). There were no significant differences between native vs. immigrated Euro-Canadian mothers in their identification with the mainstream culture on the Vancouver Index of Acculturation, $t(58) = .17, p = \text{n.s.}$

difficult items. To establish the validity of the translations, each measure was then assigned to a new translator, who was naive to the original English wording, in order to translate the Chinese versions back into English. Any discrepancies between the original and back-translated English versions were discussed between the principal investigator and a Chinese-immigrant mother. Furthermore, a final review of all translations was conducted between the principal investigator and a Chinese-immigrant psychology research assistant to ensure the cultural appropriateness and meaning equivalence of the measures. Mothers were given the option of which language version of the measures they preferred to receive.²

The majority of items within the questionnaire package used Likert-type scale rating formats. Subjective Likert-type scales may be problematic in cross-cultural comparisons because people from different cultural groups use different referents for their self-reported values (e.g., Chinese evaluate themselves in comparison with other Chinese, whereas North-Americans evaluate themselves with reference to other North-Americans)(Heine et al., 2002; Peng, Nisbett, & Wong, 1997). However, this issue is minimized when comparisons are made between different cultural groups within the same country, as is the case in the current study, because there is increased likelihood that people will use the same point of reference (i.e., both Chinese-immigrants and Euro-North Americans living in Canada are more likely to evaluate themselves in comparison with the general Canadian population)(Heine et al., 2002). Internal consistencies of all measures are presented in the results section. In order to control for order effects, four sets of questionnaire packages for each language were compiled, each varying in the order in which

² All Euro-Canadian mothers received English versions of the measures; Of the Chinese-immigrant mothers, 63.2% received Chinese versions and 36.8% received English versions. Mothers' choice of English versions was related to their acculturation to North American culture, $r(55) = .28, p < .05$. However, no significant differences on any of the outcome measures were found between the type of language versions that the Chinese-immigrant mothers received, with the exception that Chinese mothers who chose Chinese language versions rated themselves as having more difficulty imagining vignettes than those who chose English versions.

certain measures and items were presented. Either counterbalancing or randomization was used (see below for details).

Primary Measures

Child management technique descriptions. All mothers read a brief description of six types of BPT techniques: praise, token economy, time-out, response cost, overcorrection, and spanking.³ These descriptions were adapted from those used in previous studies that have examined parents' acceptance of behavioral interventions for disruptive child behavior problems (e.g., Jones et al., 1998; Pemberton & Borrego, 2007). The descriptions were presented to the mothers in random order before the first vignette, and were also available as pop-up reminders for the mothers while they made their acceptability ratings. See Appendix A for the descriptions.

Disruptive child behavior vignettes. Mothers read two short scenarios describing a boy with noncompliant and disruptive behavior problems (see Appendix B). The scenarios were adapted from vignettes used in previous studies that describe a boy with behavior problems meeting diagnostic criteria for oppositional defiant disorder (ODD)(e.g., Jones et al., 1998; Pemberton & Borrego, 2007). This methodology of presenting child behaviour vignettes has also been used with different cultural groups, including Chinese-immigrant mothers (e.g., Mah & Johnston, 2007). Mothers were informed that the descriptions were representative of the boy's typical behavior, and were requested to imagine themselves as the mother of the boy described in the vignettes. A pilot study was conducted to ensure the age and cultural appropriateness of the boy's behavior, as well as the equivalence of the severity of behaviors between the two scenarios, given that this variable has been found to affect acceptability ratings (e.g., Frentz & Kelley, 1986; Reimers, Wacker, Cooper, & DeRaad, 1992a). This was done by asking a small

³ The technique of differential attention was originally included, but was removed from analyses in this study because the technique included both reward and withdrawal aspects.

sample of Euro-Canadian and Chinese-immigrant mothers to rate the level of perceived severity of behavior problems, as well as the age and cultural appropriateness of the behaviors exhibited by the boy in each scenario on a 5-point scale ranging from 1 (*not at all*) to 5 (*very*). Mothers also had the opportunity to offer suggestions for ways to improve the vignettes. Overall, feedback from the pilot study indicated that the two vignettes were similar in perceived severity ($M = 4.00$ among Euro-Canadian mothers; $M = 4.13$ among Chinese-immigrant mothers), and were both age- ($M = 3.75$ among Euro-Canadian mothers; $M = 3.88$ among Chinese-immigrant mothers) and culture-appropriate ($M = 3.25$ among Euro-Canadian mothers; $M = 3.75$ among Chinese-immigrant mothers). The vignettes were presented in counterbalanced order across participants.

Treatment Evaluation Inventory – Short Form (TEI – SF; Kelley et al., 1989). Following each child behavior vignette, maternal ratings of acceptability for each of the six child management techniques (presented in random order) were collected using six items from the TEI-SF. The TEI-SF has been widely used in examining the acceptability of behavioral interventions among parents (Finn & Sladeczek, 2001). It is a nine-item self-report questionnaire assessing treatment acceptability, and is based on Kazdin's (1980a) 15-item Treatment Evaluation Inventory (TEI). Respondents used a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) to indicate their agreement with each item. Ratings were averaged to produce an overall score, with higher scores representing greater treatment acceptability. The TEI-SF has demonstrated good internal consistency (Cronbach's alpha is .85), and is comparable to the longer TEI in detecting differences in acceptability ratings among behavioral techniques including response cost, positive reinforcement, and time-out (Kelley et al., 1989). In an effort to reduce the large number of ratings that the mothers were required to

complete in this study, three items of the TEI-SF were removed because these items have demonstrated lower loadings on the factor of overall acceptability (Johnston et al., 2008; Kelley et al., 1989), and address issues that are not directly relevant to acceptability (e.g., child discomfort and the need for consent to treatment). Refer to Appendix C for a copy of the measure.

Overall, mothers made 36 ratings of acceptability (i.e., 6 items on the TEI-SF for each of the 6 child management techniques) for each of the two scenarios of child disruptive behavior. The acceptability ratings for each technique were averaged across the six items and across the two scenarios. Next, the ratings for praise and token economy were averaged to create a composite rating of acceptability of reward techniques; time-out and response cost ratings were combined to create a rating of acceptability of withdrawal techniques; and overcorrection and spanking ratings were combined for a rating of acceptability of punishment techniques.

Intent to use child management techniques. Mothers' intentions to use the child management techniques were measured with the following question: "If your child was exhibiting high levels of disruptive behavior problems, how likely it is that you would *implement or use* each of the following child management techniques?" Mothers answered on a 7-point Likert scale ranging from 1 (*very unlikely*) to 7 (*very likely*) for each of the seven techniques (presented in random order). Similar methods of assessing intentions have been used in previous research with both Euro-North American and Chinese populations (e.g., Dumas et al., 2007; Mo & Mak, 2009). Consistent with the data reduction approach taken with ratings of acceptability, the intention ratings for praise and token economy were averaged to create a composite score of intention to use reward techniques; time-out and response cost were combined to create a score of intention to use withdrawal techniques; and overcorrection and spanking were combined for a

score of intention to use punishment techniques. Because the acceptability ratings were measured on a 5-point scale, and intention was on a 7-point scale, to ensure comparability between mothers' ratings of acceptability and intention, a simple proportional transformation approach was used, multiplying each 7-point intention score by 5/7 to scale it to an equivalent 5-point score. This procedure has been shown to demonstrate similar results to those derived from more complicated transformations (e.g., least-squares best fitting linear, quadratic, third-order polynomial, and power functions)(Colman, Norris, & Preston, 1997).

Measures of Underlying Psychological Mechanisms

Parenting Authority Questionnaire- Revised (PAQR; Reitman, Rhode, Hupp, & Altobello, 2002). The PAQR is a 30-item self-report measure of parenting styles. Unlike other self-report parenting measures (e.g., the Parenting Scale; Arnold, O'Leary, Wolffe, & Acker, 1993) that were not constructed based on Baumrind's (1971) conceptualizations of parenting style prototypes, the PAQR consists of three 10-item scales corresponding to the authoritative, authoritarian, and permissive parenting styles (refer to Appendix D for a list of items in this measure). Items are rated on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Subscale scores were averaged, with higher scores reflecting greater levels of the parenting style. This measure has demonstrated modest reliability (Cronbach alphas ranging from .72 to .77, and test-retest reliability ranging from .61 to .87) and convergent validity in a predominantly Caucasian, higher SES sample (Reitman et al., 2002). Although this measure has not yet been used with a Chinese-immigrant sample, the psychometric properties among predominantly African-American, lower SES samples were relatively comparable to the Euro-American sample, with the exception of poorer internal consistencies (Cronbach alphas ranging from .56 to .66) for the authoritative subscale (Reitman et al., 2002). Although all items were

administered, for the purposes of this study, only the scores reflecting authoritarian and authoritative parenting styles were examined, because the majority of previous research comparing Euro-North American and Chinese mothers has focused on these two dimensions (see Lim & Lim, 2004).

Training parenting style. To assess cultural differences in the level of mothers' training parenting style, Chao (1994) derived 13 items based on Chinese child-rearing literature that cover two areas: "ideologies on child development and learning" and "ideologies on the mother-child relationship". Six of the items significantly distinguished between Chinese and Euro-American mothers (Chao, 1994), and were significantly related to each other, with a modest internal consistency (Cronbach $\alpha = 0.64$)(Chen & Luster, 2002). Items were rated on the same 5-point Likert-type scale that was used in the PAQR, the other measure of parenting styles; thus, these six items were included at the end of the PAQR (see Appendix D). Items were averaged, with higher scores indicating stronger beliefs in the training parenting style.

Implicit Person Theory Measure (IPTM; Dweck, 1999). The IPTM is an 8-item, domain-general measure of implicit theories. Half of the items depict entity theory and the other half depict incremental theory (see Appendix E). All items were answered on a 6-point Likert scale ranging from 1 (*strongly agree*) to 6 (*strongly disagree*). Research supports the validity of this method of assessing implicit theories, with high reliability (internal consistency α s ranging from .93 to .95, and test-retest reliabilities of .82 over a 1-week interval and .71 over a 4-week period) (Hong, Chiu, Dweck, Lin, & Wan, 1999; Levy, Stroessner, & Dweck, 1998). The measure does not correlate with measures of self-esteem, self-presentation concerns, optimism, or cognitive ability, and expected relationships between cognitive and behavioral variables and implicit theories based on the measure are consistent with those obtained when implicit theories are

manipulated/induced, thus demonstrating discriminant and convergent validity, respectively (Dweck, 1999; Dweck, Chiu, & Hong, 1995b). The measure has also been used with individuals from different cultures, including Chinese participants (e.g. Hong et al., 1999), with psychometric properties consistent with those found among Euro-North Americans, suggesting cross-cultural validity.

Different forms of implicit theory measures vary depending on the target person being judged [i.e., whether participants are asked to make judgments about their own traits (e.g., “You can substantially change who you are”) or about people in general (e.g., “Everyone can substantially change who he/she is”)], as well as the target topic of focus [i.e., whether the items refer to a specific trait (e.g., intelligence, personality, or moral character) or a general domain (e.g., “kind of person”)]. For the purposes of this study, although it would have been most ideal to assess each mother’s implicit theory regarding whether she believes she can change her child’s noncompliant behavior [i.e., both the mother and the child as target persons, and the specific noncompliant child behavior domain as the target topic (e.g., “You can substantially change your child’s misbehavior”)], no previous research has phrased implicit theory questions in this way. Thus, a domain-general measure (e.g., “kind of person”) was used since no specific form exists with regards to people’s theories of noncompliant child behavior. Furthermore, the items of the measure referred to people in general since one previous study that has assessed mothers’ implicit theories about their children phrased the implicit theory questions in general terms (e.g., “People can substantially change the type of person they are”), and the expected relationships between mothers’ implicit theories and their perceptions of children’s competence were demonstrated (Heppner et al., 2006). Thus, asking mothers to make judgments about people in general with regards to a nonspecific domain appeared to be the best available approach.

Goal orientation questions. Following the recommendations made by Dweck (1999), measures of motivational goal orientation that correspond with individual's implicit theories were presented in the form of forced-choice questions because individual's goal priorities become manifest when they are presented with a choice or conflict situation, rather than when goals are assessed independently. Mothers were asked two questions (presented in counterbalanced order across participants) about their goal orientation. First, mothers' motivational goals (i.e., performance vs. learning goals) were assessed with the following question: "Would you prefer to (a) have your child's positive strengths enhanced, or (b) have your child's negative weaknesses improved?" Second, mothers' child-rearing goals (i.e., to increase desirable child behavior vs. to decrease problem child behavior) were assessed via this question: "Would you prefer to have your child (a) display more positive behaviors with no change in negative behaviors, or (b) display less negative behaviors with no change in positive behaviors?" The options within each of the two questions were also counterbalanced across participants. Previous research that has used forced-choice options to determine goal orientations has demonstrated the validity of this approach in distinguishing between individuals with entity vs. incremental theories and their corresponding behavioral patterns among both Euro-American and Chinese samples (e.g., Ames & Archer, 1987; Hong et al., 1999).

Demographic and Covariate Measures

Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999). To assess and control for potential differences across groups in the functioning of the mothers' own children, mothers completed the ECBI, a 36-item measure that assesses parental report of the number of disruptive behavior problems and the frequency with which they occur in children and youth ages 2-16. (This measure is not included in the appendix due to copyright). Each behavior was rated on a 7-

point Intensity scale that assesses how often the behavior currently occurs in the home ranging from 1 (*never*) to 7 (*always*).⁴ This scale has demonstrated acceptable psychometric properties (Funderburk, Eyberg, Rich, & Behar, 2003). Reliability is satisfactory, whether judged by internal consistency (Cronbach $\alpha = .88$ to $.95$), inter-rater reliability ($.79$ to $.86$), or retest stability after 12 weeks to 10 months ($r = .75$ to $.80$). Convergent and discriminant validities have also been established (Funderburk et al., 2003). A Chinese version of this measure has been validated by Leung, Chan, Pang, and Cheung (2003); unfortunately, I was unable to obtain this version from the authors, and so the measure was translated for this study.

Balanced Inventory of Desirable Responding – Impression Management subscale (BIDR-IM; Paulhus, 1984). Because the current study asked about less socially acceptable views of parenting (e.g., spanking), participants may have been motivated to provide socially appropriate responses rather than those reflecting their true beliefs (Bugental, Johnston, New, & Silvester, 1998). Thus, the BIDR was administered as a check on mothers' attempts at impression management. This scale has 20 items that were rationally developed on the assumption that some respondents systematically over-report their performance of a wide variety of desirable behaviors and underreport undesirable behaviors. Respondents rated their agreement with each statement on a 7-point scale ranging from 1 (*not true*) to 7 (*very true*). Half of the items in the BIDR are keyed positively and half of the items are keyed negatively. As suggested by Paulhus (1991), after reversing the negatively keyed items, a dichotomous scoring procedure of assigning points only for extremely desirable responses (i.e., a rating of 6 or 7) was used to provide some assurance that response style rather than content was evaluated. Higher scores represent greater

⁴ For the purposes of this study, the yes/no Problem scale was not used.

attempts at impression management. (This measure is not included in the appendix due to copyright).

Previous research has found high acquiescent response bias, or the tendency to agree with statements in general (e.g., “yea-sayers”), among collectivistic cultures (e.g., Chinese) (Smith, 2004). One method of controlling for acquiescence is to have a scale with a balanced scoring key, with half the items keyed positively and half the items keyed negatively (Paulhus, 1991), as was done in the BIDR. Thus, in this study, this measure was also used to assess mothers’ acquiescence by adding the raw scores of the 10 items that were keyed negatively, with higher scores reflecting greater yea-saying.

Overall, the BIDR demonstrates adequate reliability, with internal consistency coefficient alpha values ranging from .75 to .86, and test-retest correlations over a 5-week period of .65 (Paulhus, 1991). This scale also shows satisfactory convergent and concurrent validity, with high correlations (mean $r = .76$) with a cluster of measures traditionally known as lie scales, role playing measures, and other social desirability inventories. This measure has also demonstrated satisfactory reliability (e.g., Cronbach $\alpha = .79$) and evidence of convergent and discriminant validity when used with Chinese samples (e.g., Heppner et al., 2006; Lalwani, Shavitt, & Johnson, 2006; Montagliani & Giacalone, 1998).

Demographics and Treatment History Questionnaire (DTHQ; Johnston, Seipp, Hommersen, Hoza, & Fine, 2005). This questionnaire uses both forced-choice and Likert rating scale formats to assess mothers’ demographic background and their experiences with BPT techniques. First, mothers were asked for general descriptive information about their family such as maternal age, marital status, number of years lived in Canada, the number, ages, and genders of other children in the family, and variables contributing to family socioeconomic status (SES).

Because research has suggested that mothers' previous knowledge and experience with treatments may affect their ratings of treatment acceptability (e.g. Clark & Elliott, 1988; Johnston & Fine, 1993), mothers were asked about their current use of behavior management techniques, when they started using these techniques, and how often they used them. Refer to Appendix F for a copy of this measure. Supporting the validity of the measure, among families of children with ADHD, mothers' reports about their use of and experiences with BPT techniques on this measure have been found to relate to their beliefs about and acceptability ratings of BPT (Johnston et al., 2008; Johnston et al., 2005).

Attitudes Towards Seeking Professional Psychological Help Scale – Short Form (ATSPPHS; Fischer & Farina, 1995). Because cultural differences in mothers' willingness to seek professional help may affect mothers' attitudes towards BPT-related techniques, the ATSPPHS was included. It is a 10-item unidimensional version of the original 29-item multidimensional scale developed by Fischer and Turner (1970). In general, items reflect an individual's recognition of the personal need for professional help and their confidence in the ability of the mental health professional to be of assistance. Items are rated on a 4-point Likert-type scale from 0 (*disagree*) to 3 (*agree*), and are summed to yield a total score ranging from 0 to 30, with higher scores indicating more favorable attitudes towards help-seeking. This measure has demonstrated good internal consistency among both Euro-American and Chinese samples (mean Cronbach alphas = .84)(Fischer & Farina, 1995; Fung & Wong, 2007). One-month test-retest reliability was .80, and known-groups validity has been established by finding statistically significant differences in scores between individuals who have and have not sought professional help for a serious emotional or personal problem (Fischer & Farina, 1995). A previously translated version of this measure by Fung and Wong (2007) was not obtained until after data

collection was complete in this study; however, comparison between that version and the Chinese version used in this study showed few and only minor differences, which helps to confirm the quality of the translations conducted in this study. Refer to Appendix G for a list of items in this measure.

Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000). The VIA was used to assess the level of acculturation among the mothers. It is a 20-item self-report instrument designed to assess several domains relevant to acculturation, including values, social relationships, and adherence to traditions. Items were generated in pairs with regard to content area, with one item in each pair referring to the heritage (e.g., Chinese) culture and the other item referring to mainstream North American culture. Each item is rated on a 9-point scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). Two subscale scores are computed, with one score signifying level of identification with the heritage culture and another score signifying level of identification with the mainstream culture. Satisfactory psychometric properties have been demonstrated for this measure (Ryder et al., 2000). Both the heritage and mainstream dimensions are highly internally consistent (α s = .91, and .89, respectively). Both subscales also yield significant correlations with several concurrent validity indicators, including percentage of time lived in Canada, generational status, and Western identification (mean r s = -.37 for the heritage subscale, and .47 for the mainstream subscale; Ryder et al., 2000). This measure has also demonstrated cross-cultural validity as used with Chinese-immigrants (Ryder et al., 2000). Refer to Appendix H for a sample of this questionnaire.

Procedure

Approval for this project was obtained from the University's ethical review committee (see Appendix I). When mothers first contacted the laboratory, a research assistant described the

study in detail, in the preferred language of the mother (i.e., English, Mandarin, or Cantonese), and if mothers were interested in participating, a brief phone screening was conducted to determine whether they met criteria to be included in the study. Eligible mothers were then provided with a participant number, and a password-protected, fillable PDF form consisting of the questionnaires in the chosen language was sent to the mother's via e-mail.

Conducting the study using electronic forms sent via e-mail had several advantages. First, because mothers may have felt that their ratings reflected on them as a parent in some way, it was desirable to minimize the likelihood that mothers responded in a socially desirable manner. A meta-analytic study found that participants asked to complete computer-administered questionnaires responded in a less socially desirable manner compared to participants completing paper-and-pencil measures (Richman, Kiesler, Weisband, & Drasgow, 1999). Second, electronic questionnaires are returned more promptly to the researcher and have fewer incomplete responses compared to paper-and-pencil questionnaires (Kiesler & Sproull, 1986). Furthermore, by collecting data through e-mail, it was possible to recruit mothers from communities throughout the Greater Vancouver Regional District, as 94.6% of the total population of Chinese-immigrants in B.C. live in the Mainland/South Western region (Statistics Canada, 2006a), including municipalities farther away from the University of British Columbia (41.3% in Vancouver, 18.6% in Richmond, 14.9% in Burnaby, 5.0% in Surrey, and 4.8% in Coquitlam)(Statistics Canada, 2006d). Thus, Chinese-immigrant and Euro-Canadian mothers living in these five municipalities were targeted.

I considered a potential sampling bias that may have been introduced by restricting my participants to those with Internet access. However, in 2003, 64.9% of adults in the Vancouver region accessed the Internet from home, and 73.5% of adults in this area used the Internet from

any place including home, work, or a public library (Statistics Canada, 2003b). Furthermore, 83.7% of Canadian families with children under the age of 18 accessed the Internet from home, work, libraries, or other locations in 2003 (Statistics Canada, 2003a). A larger proportion of Chinese-immigrant individuals (88.8%) in Greater Vancouver are reported to be using the Internet for a variety of purposes (e.g., e-mail, chat rooms, using the Web, transferring files, playing games) compared to Euro-Canadians (79%)(Boshier, Kow, & Huang, 2006). However, Euro-Canadian women between the ages of 35 and 50 years were found to have significantly greater knowledge about the Internet (e.g., information about search engines, browsers, acronyms, URLs, cookies, and procedures) compared to Chinese-immigrant women within the same age group (Boshier et al., 2006). Thus, efforts were made to keep the Internet task used in this study as simple and straightforward as possible, with detailed instructions, and an option to complete the study via mailed-in paper copies of questionnaires was also available to mothers who were not familiar, or encountered problems, with using the Internet.⁵ To ensure that my study protocol was as user-friendly as possible, mothers were able to log in and out of the PDF form so that they did not need to complete the measures all at once.

All identifying participant information was first collected over the phone. Participant identification on the questionnaires was through the participant number only and no identifying information was collected or sent via the Internet. The documents linking participant names and participant numbers are kept in a locked cabinet. The initial page of the questionnaire package provided the information required by the University's ethical review committee's standards for obtaining consent for questionnaire-based studies (see Appendix J). This information included:

⁵ From the final sample, 23.93% of mothers completed the study via mailed-in paper questionnaires, with a greater proportion of Chinese-immigrant mothers (33.33%) choosing this method compared to Euro-Canadian mothers (15.00%), $\chi^2(1) = 5.40, p < .05$. However, no significant differences on any of the outcome measures were found between mothers who completed electronic vs. paper versions of the questionnaires.

the purpose and procedures of the study, a description of what measures were taken to protect mothers' confidentiality, how compensation and findings would be distributed, contact information of the researchers and the UBC research office, and a check box to provide consent. After reading the initial consent form, a general instruction page was presented with details (including a step-by-step guide with screen images) on how to download a free updated version of the Adobe Reader program, how to navigate through the questionnaire form (with a specific request to complete the form in the order presented), and how to properly save the responses (mothers were also prompted to save their responses after each individual measure throughout the questionnaire package). In addition, mothers were able to indicate whether or not they wished to receive a summary of the findings from this study, and whether or not they wished to be included in a volunteer registry to be informed about future research studies.

Next, mothers read the six brief descriptions of child management techniques. Mothers then read one of the two vignettes describing a boy with disruptive behavior problems, followed immediately by ratings of acceptability (using the TEI-SF) for each of the six techniques to manage the behavior of the child described in the vignette. To provide mothers with a change in the variety of questions in order to help maintain an appropriate level of motivation and interest, mothers completed the measure of impression management (i.e., BIDR) after the acceptability ratings for the first vignette. Then, mothers read the remaining vignette and rated the acceptability of child management techniques again. Afterwards, mothers were asked how easy or hard it was to imagine being the mother of the boy described in the scenarios. This question, which was rated on a 10-point scale ranging from 1 (*easiest*) to 10 (*hardest*), provided an estimate of whether the mothers' responses in the study may approximate actual responses in real life. Other measures used to assess possible control variables were then presented, including the

Demographics and Treatment History Questionnaire, and the Eyberg Child Behavior Inventory. These measures were presented before the next set of questionnaires as a way to prompt mothers to think about their own children as opposed to the initial hypothetical vignettes. Then, mothers completed the measures of goal orientation questions (GOQ) and implicit theory (IPTM). These measures were completed after the ratings of acceptability in order to reduce possible order effects in which responses to these measures may have influenced mothers' acceptability ratings. This is particularly important given that previous research has demonstrated that experimentally-induced priming of implicit theories can modify participants' beliefs and actions (Heine et al., 2001; Hong et al., 1999). Next, mothers completed the measures of parenting style (PAQR) including the items about the training style, and help-seeking attitudes (ATSPPHS). Finally, all mothers were asked to complete the acculturation questionnaire (VIA). This was done to keep the procedures consistent across both cultural groups, although only the acculturation scores from Chinese-immigrant mothers were of interest. Afterwards, a final instructions page was presented with complete details (including a step-by-step guide with screen images) on how to login to a proxy e-mail account to submit the completed form as an e-mail attachment (for mothers who did not feel comfortable with using their own e-mail accounts due to privacy/confidentiality issues). Mothers were mailed a cheque for \$10 as an honorarium for their participation.

Results

The data were analyzed in five steps. First, data inspection and preliminary analyses were conducted to examine the accuracy of data entry, missing data, multivariate outliers, the distributions of all scores, and the internal consistencies of all administered questionnaires. Second, cultural differences in sample characteristics were examined to identify any possible

covariates. Third, a three-way (2 cultural groups x 2 types of rating x 3 types of techniques) mixed analysis of covariance (ANCOVA) was conducted to examine cultural differences in mothers' attitudes towards the child management techniques. Fourth, *t*-tests and chi-squares were conducted to examine cultural differences in mothers' parenting style, implicit theory, and goal orientations. Finally, a bootstrapped method for assessing three-path mediation models was used to examine the possible mechanisms underlying cultural differences in mothers' attitudes towards child management techniques. Unless otherwise stated, an alpha level of .05 was used for all statistical tests.

Data Inspection and Preliminary Analyses

Twenty percent of the data was proofread by an undergraduate research assistant to check the accuracy of data entry. Less than .001% of the raw items were erroneously entered, and no identifiable pattern was found among the errors. Five multivariate outliers (four Euro-Canadians and one Chinese-immigrant mother) were identified by computing a Mahalanobis distance for each case and comparing against a critical value of the chi-square distribution at $p < .001$ (Rousseeuw & van Zomeren, 1990). These cases were excluded from all further analyses. Thus, the final sample consisted of 117 participants: 60 Euro-Canadian mothers and 57 Chinese-immigrant mothers. No univariate outliers were then identified. Across all participants, the total number of missing items was less than 1%; 75.53% of the total number of items had no missing values, 17.30% of the items had one missing value, and 4.22% had two or three missing values. Visual inspection of the data suggested that these items were likely missed at random and that the pattern was not systematically related to participant characteristics. However, five of the items related to sample descriptives (i.e., three items about education and employment, and two items about current use of behavioral techniques) had four or more participants with missing

values. These items were missed only among Chinese-immigrant mothers who used the Chinese versions of the forms, and were likely missed due to technical errors with displaying the drop-down menu options associated with these items. For the majority of measures, no participants were missing data for a complete subscale; thus, scores were adequately computed using the means of the acquired data; otherwise, missing cases were excluded analysis by analysis, resulting in a maximum of one case being deleted in each analysis. All scores appeared normally distributed, with skewness and kurtosis levels less than 1.00. Internal consistencies within all measures administered in the current sample were generally satisfactory (refer to Table 3).

Table 3

Internal Consistencies of Measures

Measure	Euro-Canadian	Chinese-immigrant
Acceptability of Rewards ^a	.94	.93
Acceptability of Withdrawal ^a	.93	.93
Acceptability of Punishment ^a	.92	.94
Authoritarian parenting style ^b	.71	.73
Authoritative parenting style ^b	.75	.73
Training parenting style ^c	.68	.68
Implicit Theory ^d	.93	.86
Impression Management ^e	.83	.83
Child Behavior Problems ^f	.93	.92
Psychological help-seeking ^g	.82	.81
^a Measured using the TEI-SF. ^b Measured using the PAQR. ^c Measured using items from Chao (1994). ^d Measured using the IPTM. ^e Measured using the BIDR-IM. ^f Measured using the ECBI. ^g Measured using the ATSPPHS.		

Sample Characteristics

Demographic, child behavioral functioning, and social desirability variables were compared between the Euro-Canadian and the Chinese-immigrant groups of mothers using independent samples *t*-tests and chi-square tests to determine if any of these variables needed to be controlled in later comparisons of the two cultural groups (see Table 4). The majority of mothers were married or in a common-law relationship, with an average age around 38-39 years, and had sons around the age of 5.5 years. Most of the families in this study had two children and family socioeconomic status (SES) was predominantly middle-class. None of the mothers reported having children who had been diagnosed with any major physical, mental, or behavioral condition or disorder, and consistent with the community-based sample of participants, 85.5% of mothers' reports of the behavioral problems in their own children were below clinical levels (cutoff score is 132 on the ECBI Intensity subscale; Colvin, Eyberg, & Adams, 1999).

No significant differences between cultural groups were found on mother age, marital status, child age, child behavioral functioning, impression management, acquiescent responding, when mothers started using behavioral management, or how often they currently used the techniques. There were significant differences between cultural groups in the following variables: the number of children in the family, socioeconomic status, acculturation (i.e., identifications with heritage (Chinese, European) and mainstream (North American) cultures), mothers' ratings of the difficulty imagining the hypothetical scenarios, attitudes towards psychological help-seeking, and their current use of punishment techniques.

Table 4

Descriptive Information for Euro-Canadian and Chinese-Immigrant Mothers

Variable	Euro-Canadian ($n = 60$)			Chinese immigrant ($n = 57$)			<i>t</i> -test
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range	
Mother age (in years)	38.03	4.25	27 – 47	39.23	4.10	28 – 48	$t(114) = -1.55, n.s.$
Target child age (in years)	5.62	1.33	4 – 8	5.67	1.23	4 – 8	$t(115) = -0.21, n.s.$
Number of children in the family	2.13	0.81	1 – 4	1.82	0.69	1 – 4	$t(115) = 2.22, p < .05, d = .41$
Family socioeconomic status ^a	45.13	12.14	15 – 66	38.36	13.46	9 – 60.5	$t(114) = 2.85, p < .01, d = .53$
Mothers' educational level	5.82	0.77	3 – 7	5.62	0.97	3 – 7	$t(108) = 1.19, n.s.$
Mothers' occupational status ^b	6.57	1.63	0 – 9	5.46	2.13	0 – 9	$t(79) = 2.65, p < .05, d = .60$
Heritage culture identification ^c	6.46	1.28	3.6 – 9.0	7.29	0.88	4.8 – 8.9	$t(115) = -4.06, p < .001, d = .76$
Mainstream culture identification ^c	7.01	1.09	4.1 – 9.0	5.47	1.24	2.5 – 7.9	$t(115) = 7.11, p < .001, d = 1.32$
Child behavioral problems ^d	97.30	28.51	40 – 167	105.61	28.25	54 – 175	$t(115) = -1.58, n.s.$
Impression management ^e	10.37	4.29	0 – 19	10.93	4.34	1 – 19	$t(115) = -0.71, n.s.$
Acquiescent responding ^e	31.83	10.30	12 – 62	29.47	10.60	13 – 53	$t(115) = 1.22, n.s.$
Difficulty imagining scenarios	5.17	2.80	1 – 10	7.82	1.97	2 – 10	$t(114) = -5.92, p < .001, d = 1.11$
Psychological help-seeking ^f	21.00	5.05	6 – 29	17.98	5.24	5 – 30	$t(115) = 3.17, p < .01, d = .59$

Table 4 continued

Variable	Euro-Canadian (<i>n</i> = 60)		Chinese immigrant (<i>n</i> = 57)		chi-square test
	Percentage	Percentage	Percentage	Percentage	
Mothers' marital status					
Single/never married	8.33		0.00		$\chi^2 (2) = 5.29, n.s.$
Married/common-law	80.00		91.07		
Divorced/separated/widowed	11.67		8.93		
Current use of techniques					
Reward	96.67	No 3.33	Yes 96.49	No 3.51	$\chi^2 (1) = .003, n.s.$
Withdrawal	85.00	15.00	92.98	7.02	$\chi^2 (1) = 1.89, n.s.$
Punishment	20.00	80.00	56.14	43.86	$\chi^2 (1) = 16.27, p < .001, \varphi = .37$
When started to use techniques					
Less than 1 year ago	6.78		4.35		$\chi^2 (2) = 0.82, n.s.$
1-2 years ago	10.17		15.22		
More than 2 years ago	83.05		80.43		

Table 4 continued

Euro-Canadian (<i>n</i> = 60)		Chinese immigrant (<i>n</i> = 57)	
Variable	Percentage	Percentage	chi-square test
Frequency of current use of techniques			$\chi^2 (2) = 5.29, n.s.$
Rarely (less than once a week)	10.00	7.14	
Occasionally (2-3 times/week)	23.33	26.19	
Frequently (daily)	66.67	66.67	

^a Measured using Hollingshead (1975) Four Factor Index of Social Status – note: degrees of freedom vary due to missing data. ^b
Among mothers who were currently employed. ^c Measured using the VIA. ^d Measured using the ECBI. ^e Measured using the BIDR-
IM. ^f Measured using the ATSPPHS.

It is worthy to note that the cultural difference in SES is likely to be a reflection of the immigrant status of the Chinese group of mothers, and is driven by cultural differences in mothers' occupational status (i.e., most of the Euro-Canadians were business managers and major professionals, whereas most of the Chinese-immigrant mothers were administrative personnel and minor professionals) rather than their educational levels (i.e., the majority of mothers from both cultural groups had some college education).

To be used as a covariate, a variable had to correlate significantly with the dependent variable⁶ and not reflect preexisting real group differences since this study lacked random assignment (see Miller & Chapman, 2001; Tabachnick & Fidell, 2000). This approach helps to maintain the external validity of results since the unique pre-existing characteristics of each group remain in the analyses, as opposed to excluding these factors and thereby creating groups that may not generalize to the real world setting. As the number of children in the family and SES did not significantly correlate with any acceptability or intent variables, these demographic variables are not discussed further.⁷ Mothers' attitude towards psychological help-seeking was significantly correlated with their acceptability of and intention to use punishment techniques, $r(115) = -.26, p < .01$, and $r(115) = -.20, p < .05$, respectively. In addition, mothers' current use of punishment techniques was related to their acceptability of and intention to use punishment techniques, $r(115) = .53, p < .001$, and $r(115) = .43, p < .001$, respectively. However, these variables are likely indicative of preexisting group differences, and thus, were not used as covariates.⁸ On the other hand, difficulty imagining the vignettes was significantly correlated

⁶ Refer to Appendix K and L for a list of correlations between demographic and outcome and underlying variables for each cultural group.

⁷ Even when the number of children and SES along with mothers' difficulty imagining vignettes were controlled in an ANCOVA, the results remained consistent with the results described below.

⁸ When both mothers' attitudes towards help-seeking and current use of punishment techniques along with mothers' difficulty imagining vignettes were controlled in an ANCOVA, 2 significant main effects were found: Mothers rated

with acceptability ratings for reward, $r(115) = .19, p < .05$, and punishment techniques, $r(115) = .33, p < .001$. Given that this variable was related to the methodology specific to this study, and may not reflect preexisting group differences, the variable of difficulty imagining the vignettes was retained as a covariate in the ANCOVA as described below.⁹

Three-Way Mixed Analysis of Covariance (ANCOVA)

A three-way mixed ANCOVA was conducted to examine differences in mothers' attitudes towards child management techniques with one between-subjects factor: cultural groups (Euro-Canadian vs. Chinese-immigrant), and two within-subjects factors: type of technique (reward vs. withdrawal vs. punishment), and type of rating (acceptability vs. intent), with difficulty imagining the vignettes as a covariate. The assumptions of normality of sampling distributions, linearity, homogeneity of variance (Levene's tests $p > .01$), multicollinearity ($rs < .65$), and sphericity (Mauchly's tests $p > .05$) were met. The main effects of cultural group, $F(1, 112) = 16.19, p < .001, \eta^2 = .13$, and type of technique, $F(2, 224) = 26.93, p < .001, \eta^2 = .19$, were significant. These main effects were qualified by a significant two-way interaction between cultural group and type of technique, $F(2, 224) = 4.62, p < .05, \eta^2 = .04$. The main effect of type of rating, the two-way interactions between cultural group and type of rating, and between type of rating and type of technique, as well as the three-way interaction between cultural group, type

punishment techniques ($M = 2.29, SD = .06$) less favorably than reward ($M = 3.68, SD = .07$) or withdrawal ($M = 3.76, SD = .07$) techniques, $F(1, 110) = 10.40, p < .001, \eta^2 = .09$; and Chinese-immigrant mothers ($M = 3.40, SD = .07$) had more favorable attitudes towards all techniques compared to Euro-Canadian mothers ($M = 3.09, SD = .07$), $F(1, 110) = 9.02, p < .01, \eta^2 = .08$. No significant interactions emerged. This may be due to the strong relationship between current use of punishment and attitudes towards punishment techniques, suggesting that these variables likely reflect the same construct; thus, the dependent variable differences also may have been controlled for when current use of punishment techniques was included as a covariate.

⁹ Even when the ANOVA was conducted without the covariate, the results remained significant, with an additional main effect of rating, $F(1, 114) = 8.33, p < .01, \eta^2 = .07$, which was qualified by an interaction between rating and technique, $F(1, 114) = 6.25, p < .01, \eta^2 = .05$. Follow-up tests of this interaction revealed significant simple main effects of reward, $F(1, 114) = 6.22, p < .05, \eta^2 = .05$, and punishment techniques, $F(1, 114) = 16.96, p < .001, \eta^2 = .13$, with mothers accepting reward ($M = 3.80, SD = .05$) and punishment ($M = 2.45, SD = .05$) more than intending to use them ($M = 3.57, SD = .11$; and $M = 2.14, SD = .09$, respectively).

of technique, and type of rating were not significant. Table 5 presents the means and standard deviations of mothers' attitudes towards child management techniques.

Table 5

Acceptability and Intent towards Reward, Withdrawal, and Punishment Techniques in Euro-Canadian and Chinese-Immigrant Mothers

	Euro-Canadian mothers		Chinese immigrant mothers	
	Acceptability	Intent	Acceptability	Intent
Type of Technique	Mean (<i>SE</i>)	Mean (<i>SE</i>)	Mean (<i>SE</i>)	Mean (<i>SE</i>)
Reward	3.61 (.07)	3.51 (.15)	3.99 (.07)	3.63 (.15)
Withdrawal	3.61 (.07)	3.69 (.15)	3.83 (.07)	3.90 (.15)
Punishment	2.09 (.07)	1.67 (.12)	2.81 (.08)	2.61 (.13)

Note: Ratings were made on a scale from 1 to 5, with higher ratings reflecting greater acceptability or intent. Values indicate marginal means controlling for difficulty imagining vignettes.

Follow-up tests of the interaction between cultural group and type of technique were conducted looking at the effect of cultural group for reward, withdrawal, and punishment techniques separately. For punishment techniques, the simple main effect was significant, $F(1,112) = 27.83, p < .001, \eta^2 = .20$, with Chinese-immigrant mothers accepting and intending to use punishment ($M = 2.67, SD = .10$) more than Euro-Canadian mothers ($M = 1.91, SD = .09$). For reward and withdrawal techniques, no significant cultural differences in mothers' attitudes were found ($F(1,112) = 2.94, p > .05, \eta^2 = .03$; and $F(1,112) = 1.43, p > .05, \eta^2 = .01$, respectively). Additional follow-up tests of the interaction between cultural group and type of technique were conducted looking at the effect of type of technique within Euro-Canadian and

Chinese-immigrant mothers separately. Within both cultural groups, the simple main effects were significant (for Euro-Canadians: $F(2,111) = 108.35, p < .001, \eta^2 = .66$; for Chinese-immigrants: $F(2,111) = 48.47, p < .001, \eta^2 = .47$), with punishment techniques being rated significantly less favorably than reward and withdrawal techniques (mean differences among Euro-Canadians were -1.64 and -1.75, respectively; mean differences among Chinese-immigrants were -1.15 and -1.19, respectively). Figure 3 presents the interaction between cultural group and type of technique on mothers' acceptability/intent attitudes.

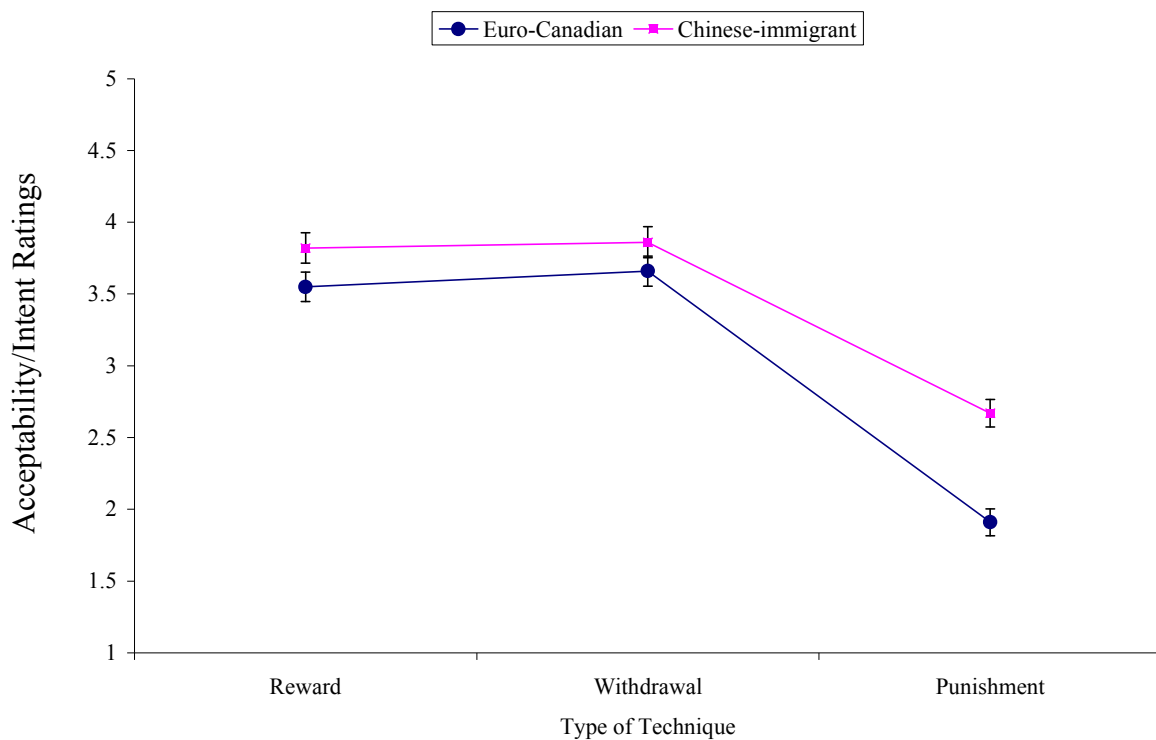


Figure 3. Interaction between cultural group and type of technique on mothers' acceptability/intent attitudes.

Thus, the hypothesis is only partially supported - cultural differences were found in mothers' acceptability/intent attitudes towards punishment techniques, but contrary to predictions, no differences were found with regards to mothers' attitudes towards reward techniques. In addition, no cultural differences were found for mothers' attitudes towards

withdrawal techniques. It is also worthy to note that although Chinese-immigrant mothers accepted and intended to use punishment more than Euro-Canadian mothers, all mothers rated punishment techniques less favorably than reward and withdrawal techniques.

Cultural Differences in Underlying Variables

Given the significant cultural difference in mothers' attitudes towards punishment techniques, psychological variables were compared between the Euro-Canadian and the Chinese-immigrant groups of mothers using independent samples *t*-tests and chi-squares to identify which variables to test as possible mediators underlying the cultural difference. As shown in Figure 4, there were significant differences between cultural groups in authoritarian ($t(115) = -4.96, p < .001, d = .93$) and training ($t(115) = -9.49, p < .001, d = 1.77$) parenting styles as predicted, but no significant difference was found on authoritative parenting style ($t(115) = 1.41, p > .05$). In addition, contrary to hypotheses, no significant differences between cultural groups were found on implicit theory or goal orientation questions (see Table 6).

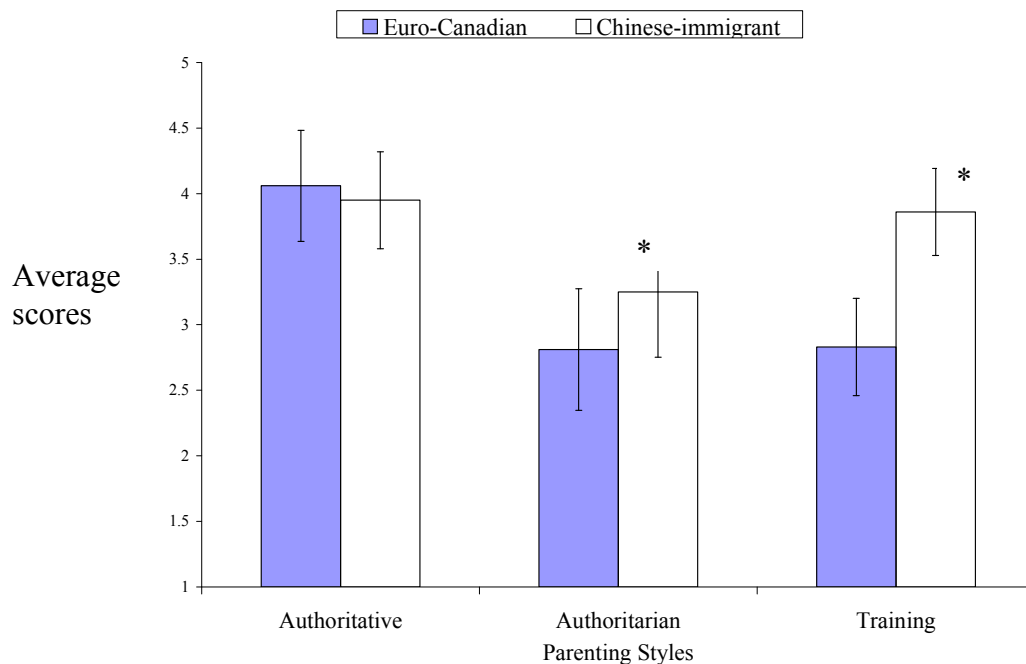


Figure 4. Cultural differences in parenting styles.

Table 6

Cultural Differences in Underlying Variables

Variable	Euro-Canadian (<i>n</i> = 60)				Chinese immigrant (<i>n</i> = 57)			
	<i>M</i>	<i>SD</i>	Range		<i>M</i>	<i>SD</i>	Range	<i>t</i> -test
Implicit Theory ^a	3.45	0.89	1.25 – 6.00		3.73	0.88	1.88 – 6.00	<i>t</i> (115) = -1.76, <i>n.s.</i>
Goal Orientation Questions	Percentage				Percentage			
					chi-square test			
Enhance child strengths	46.67				32.14			χ^2 (1) = 2.55, <i>n.s.</i>
Improve child weaknesses	53.33				67.86			
More positive child behaviors	30.00				23.21			χ^2 (1) = 0.68, <i>n.s.</i>
Less child behaviors	70.00				76.79			

^a Measured using the IPTM, with higher scores reflecting greater endorsement of entity theory.

In addition to being significantly different between cultural groups, to be considered as a potential mediator, the psychological variables had to significantly correlate with acceptability and intent to use punishment techniques. Analyses for reward and withdrawal techniques were not conducted because no cultural differences were found in the ANCOVA for these techniques. As indicated in Table 7, across all mothers in the study, authoritarian and training parenting styles were significantly related to acceptability of and intent to use punishment techniques, and thus were examined as possible mediators in the subsequent analyses.

Table 7

Correlations among Culture, Authoritarian and Training Parenting Styles, Acceptability, and Intent Ratings for Punishment Techniques

<i>N</i> = 117	1	2	3	4	5
1. Cultural group	---	.42***	.66***	.51***	.45***
2. Authoritarian style ^a	.32**	---	.61***	.50***	.41***
3. Training style ^b	.58***	.58***	---	.55***	.51***
4. Acceptability of Punishment ^c	.44***	.45***	.52***	---	.63***
5. Intent to use Punishment	.38***	.34***	.47***	.61***	---

^a Measured using the PAQR. ^b Measured using items from Chao (1994). ^c Measured using the TEI-SF. Note: Cultural group was coded 1 (Euro-Canadian) and 2 (Chinese-immigrant). Values above the diagonal represent zero-order correlations, whereas italicized values below the diagonal represent partial correlations controlling for difficulty imagining vignettes. ** $p < .01$; *** $p < .001$

Three-Path Mediation Models

To determine whether each of the authoritarian and training parenting styles mediate the relationship between cultural group and acceptability of punishment techniques, and whether mothers' acceptability beliefs mediate their intentions to use punishment techniques, the statistical procedures for assessing a three-path mediational model using the SAS macro recommended by Taylor, MacKinnon, and Tein (2008) were used. This model involves two mediators (i.e., parenting style and acceptability) intervening in a series between an independent and dependent variable (i.e., culture and intention to use punishment techniques). Two separate tests (path A through authoritarian parenting style, and path B through training parenting style) were conducted (refer to Figure 4). Mothers' ratings of difficulty imagining the vignettes continued to be used as a covariate in these analyses.

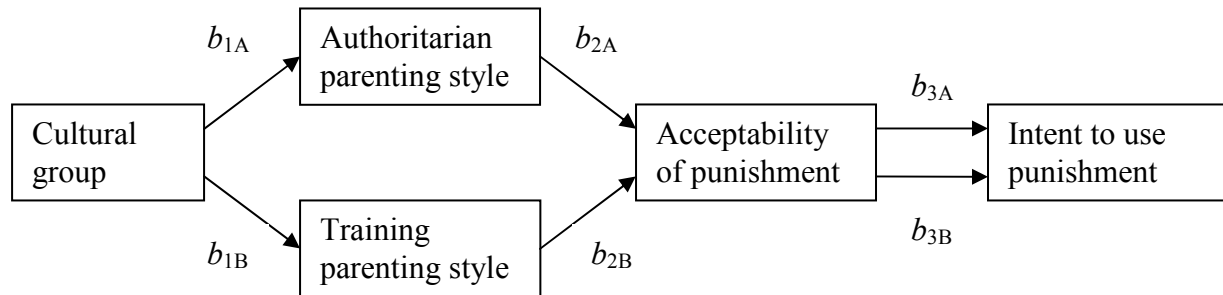


Figure 5. Two separate three-path mediation models linking culture to intent to use punishment.

To estimate the mediated effects (i.e., the product of coefficients $b_1b_2b_3$), bootstrapping analyses with 1000 resamples were used to derive 95% confidence intervals. This method has been recommended, as an alternative to using a Sobel test, as a way to draw valid and reliable conclusions in instances where sample sizes are small (< 400 ; Stone & Sobel, 1990) and the assumption of normality cannot be met (Preacher & Hayes, 2004). That is, recent research has indicated that the Sobel test may not be the most appropriate method for testing the significance

of the indirect effect (Bollen & Stine, 1990; MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002), because it ignores the potential skew in the distribution of the indirect effect, which can reduce the power to detect a significant indirect effect (i.e., mediation), particularly when the sample size is small. The bootstrapping procedure, on the other hand, empirically constructs confidence intervals for the indirect effect by creating multiple (e.g., 1000) bootstrap samples from the original data set (see Shrout & Bolger, 2002 for a complete description of the procedure). This allows for the possibility that confidence intervals could be non-symmetric due to non-normal distributions of the indirect effect. The percentile bootstrap was recommended by Taylor and colleagues (2008) as a conservative method that successfully controls for Type I error and has good power.

Pathway A through authoritarian parenting style. As the first part of the path analysis, a test of the overall model using a multiple regression analysis showed that 41.92% of the total variance in mothers' intention to use punishment techniques was accounted for by culture, authoritarian parenting style, and acceptability. As demonstrated in Table 8, each of the three paths (b_{1A} , b_{2A} , b_{3A}) in the mediated effect is significantly different from zero, and the 95% confidence interval excluded zero, indicating a significant, albeit weak, indirect effect of culture on intent to use punishment techniques through authoritarian parenting style and acceptability, consecutively.

Table 8

Effects of Culture on Intent to Use Punishment Techniques through Authoritarian Parenting Style and Acceptability

Effect	SE	Test	Reject H ₀
$b_{1A} = 4.56$	$s_{b1} = 0.89$	$t(115) = 5.10, p < .001$	Yes
$b_{2A} = 0.04$	$s_{b2} = 0.01$	$t(115) = 4.31, p < .001$	Yes
$b_{3A} = 0.84$	$s_{b3} = 0.14$	$t(115) = 5.90, p < .001$	Yes
$b_{1A}b_{2A}b_{3A} = 0.17$	---	95% CI = [0.05, 0.31]	Yes

Pathway B through training parenting style. A multiple regression analysis showed that 43.53% of the total variance in mothers' intention to use punishment techniques was accounted for by culture, training parenting style, and acceptability. As demonstrated in Table 9, each of the three paths (b_{1A} , b_{2A} , b_{3A}) in the mediated effect is significantly different from zero, and the 95% confidence interval excluded zero, indicating a significant indirect effect of culture on intent to use punishment techniques through training parenting style and acceptability, consecutively.

Table 9

Effects of Culture on Intent to Use Punishment Techniques through Training Parenting Style and Acceptability

Effect	SE	Test	Reject H ₀
$b_1 = 6.11$	$s_{b1} = 0.66$	$t(115) = 9.26, p < .001$	Yes
$b_2 = 0.06$	$s_{b2} = 0.01$	$t(115) = 4.09, p < .001$	Yes
$b_3 = 0.78$	$s_{b3} = 0.14$	$t(115) = 5.62, p < .001$	Yes
$b_1b_2b_3 = 0.28$	---	95% CI = [0.12, 0.49]	Yes

Strength of overall mediation model. Because both of the mediation pathways were significant, the overall strength of the mediation carried through both authoritarian and training parenting styles was also computed. Shrout and Bolger (2002) suggested that the strength of mediation should be represented as a proportion of the effect size mediated, P_M (defined as the sum of the indirect effects divided by the total effect). In this study, $P_M = (0.17 + 0.28) / 0.94 = 0.48$, indicating that approximately half of the total effect of culture on intent to use punishment techniques was mediated through both authoritarian and training parenting styles and through acceptability. Taken together, these results suggest that authoritarian and training parenting styles are two mechanisms underlying cultural differences in the acceptability of punishment techniques, which also accounts for mothers' intent to use those techniques to manage disruptive child behavior problems.

Acceptability of and Intention to Use BPT techniques

Shifting away from the focus on punishment techniques and back onto the two categories of techniques offered in BPT, the aforementioned results from the ANCOVA revealed no significant differences in Euro-Canadian and Chinese-immigrant mothers' acceptability of reward or withdrawal techniques, nor any significant cultural differences in mothers' intention to use these techniques. Correlations between mothers' ratings of acceptability and their ratings of intent were conducted across both cultural groups to verify the association between these beliefs as predicted by the theory of planned behavior (Ajzen, 1991). As expected, mothers' acceptability ratings were related to their intention to use both reward, $r(116) = .45, p < .001$, and withdrawal, $r(116) = .58, p < .001$, techniques.

Discussion

This study examined cultural differences in mothers' acceptability of different types of child management techniques, and the underlying roles of parenting style and implicit theory. As predicted, more than Euro-Canadian mothers, Chinese-immigrant mothers indicated they accept and intend to use punishment techniques (i.e., over-correction and spanking) to manage noncompliant and disruptive child behavior problems. Cultural differences in mothers' authoritarian and training parenting styles, characterized by high levels of control and discipline endorsed by the Chinese-immigrant mothers, accounted for significant variance in their acceptability of punishment techniques, which in turn accounted for a significant part of their intent to use these techniques. However, contrary to hypotheses, no cultural differences were found in mothers' acceptability and intent to use reward techniques, nor in mothers' attitudes towards withdrawal techniques; although as expected, across all mothers, acceptability ratings were related to their intentions to use the techniques. Furthermore, across all mothers, acceptability and intent to use reward and withdrawal techniques were greater than these ratings for punishment techniques. Taken together, these findings suggests that Chinese-immigrant mothers are just as accepting of techniques emphasized in BPT (i.e., praise, token economy, time-out, and response cost) as Euro-Canadians; but Chinese-immigrant mothers are also more accepting of punishment techniques that are typically discouraged or not covered in BPT programs. This study adds to existing literature by demonstrating cultural differences *and* similarities in mothers' attitudes towards different types of techniques for managing noncompliant and disruptive child behavior problems.

Two major cultural differences are highlighted in this study. The first pertains to mothers' attitudes towards punishment techniques (i.e., overcorrection and spanking). Previous research

has shown that the relative benefits vs. harms of spanking¹⁰ in relation to child outcomes may be moderated by family cultural background (Deater-Deckard & Dodge, 1997). For example, spanking has typically been associated with increased aggression among Euro-North American children, but has been associated with decreased or no significant changes to aggression among African-American children (Gunnore & Mariner, 1997). Furthermore, less negative child outcomes associated with spanking have been found among cultures where children themselves view and accept spanking as normative and beneficial (Deater-Deckard & Dodge, 1997). Such influences of cultural context on the association between spanking and child problems is consistent with the data from the current study demonstrating that although current use of spanking among Euro-Canadian mothers was related to more child behavior problems ($r = .28, p < .05$), use of spanking among Chinese-immigrant mothers was related to fewer child behavior problems ($r = -.30, p < .05$). In addition, studies have found that child outcomes are less negative in cultures where spanking is used instrumentally rather than emotionally, which is more often characteristic of an authoritarian parenting style (Grusec, Rudy, & Martini, 1997; Holden, Miller, & Harris, 1999; Straus & Mouradian, 1998). This would be consistent with the second cultural difference found in the current study in which the more authoritarian parenting style of Chinese-immigrant mothers accounted for a significant portion of their more favorable attitudes towards punishment techniques in comparison to Euro-Canadian mothers. However, it is also worthy to note that no significant difference between Chinese-immigrant and Euro-Canadian mothers was found in authoritative parenting style. This further strengthens the argument that although Chinese-immigrant mothers are more strict and demanding, they are not necessarily less warm or less accepting of the child than Euro-Canadian mothers. Moreover, the training parenting style,

¹⁰ Spanking is one form of punishment technique, and is emphasized in this discussion due to limited literature on cultural issues related to overcorrection, the other form of punishment technique.

which was offered as a more culturally appropriate alternative to the authoritarian style (Chao, 1994), also accounted for a significant portion of the cultural difference in mothers' attitudes towards punishment techniques. This suggests that the use of punishment in Chinese-immigrant families is not necessarily a negative or severe form of parental control, but rather a style of discipline to train child compliance. It would be worthwhile to further clarify the construct of training parenting style and to develop better ways to measure this aspect of parenting. For example, future research is needed to address the relatively low internal consistency ($\alpha = .68$ in this study) of the items suggested by Chao (1994). Three of the six items on this scale assess a broad range of topics that may not be proximally related to training parenting style (e.g., spanking, school success, and familial childcare). The addition of other items that are more central to the construct is likely to increase the reliability of the measure. In addition, it would be beneficial to test whether the items designed to measure a training parenting style are distinct from the construct of authoritarian parenting.

Clinical Implications

Results from this study have several implications for implementing BPT programs in a culturally-sensitive and effective manner with Chinese-immigrant families. First, across both Euro-Canadian and Chinese-immigrant mothers and for all three types of child behavior management techniques, ratings of acceptability are significantly related to ratings of intent to use the techniques. This highlights the importance of assessing parental acceptability of the techniques taught in BPT programs in order to better address the concerns of those parents who voice low acceptance of the offered techniques. Previous research has revealed several approaches which have led to greater treatment acceptability, such as the use of conversational (as opposed to technical) language augmented with a description of the possible benefits for the

client when providing rationales for behavioral treatments (Rolider, Axelrod, & Van Houten, 1998). In addition, parental attributions have been shown to relate to treatment acceptability, such that mothers who believed themselves to be responsible for their child's behavior were more likely to accept a BPT program, given that BPT is based on the assumption that both parenting and child behavior are modifiable (Peters, Calam, & Harrington, 2005). Providing attributional retraining, which involves identifying and challenging maladaptive parental attributions, within a BPT program has been shown to be effective in changing negative parental attributions (Sanders et al., 2004). This suggests that by taking steps to enhance parents' acceptance of BPT techniques and their own role in changing child behavior may assist in addressing problems related to limited adherence and attendance in BPT. It will also be useful in future research to address how parental acceptability may change as treatment progresses and what type of strategies may be optimally effective for enhancing acceptability beliefs at different stages of treatment. For example, ratings of acceptability for BPT have been found to decrease once parents have experience with it (Corkum, Rimer, & Schachar, 1999), perhaps because parents become more aware of the demandingness of the intervention.

Second, the findings of this study that Chinese-immigrant mothers accept and intend to use the reward and withdrawal techniques offered in BPT at levels equal to those of Euro-Canadian mothers suggests that these techniques offered within BPT are indeed culturally appropriate for these two groups. The small between-group effect sizes ($\eta^2 < .05$) offer confidence in the nonsignificant differences. The overall mean levels of mothers' acceptability of and intent to use reward and withdrawal techniques were in the moderately high range for both cultural groups (ratings of 3.5 to 3.9 out of 5.0), which is consistent with those reported for Euro-American mothers of children who met diagnostic criteria for ODD or CD (e.g., ratings of 3.6 to

3.8 out of 5.0; Jones et al., 1998). This suggests that even though the current study collected data from a community sample of mothers, findings may be generalized to also reflect the beliefs of a clinical sample of mothers.

The results from the current study may be interpreted as consistent with previous findings demonstrating that, once enrolled in BPT, Chinese-immigrant parents are just as likely as Euro-North Americans to continue to attend (Reid et al., 2001), perhaps because both groups of mothers have similar views of the acceptability of the techniques offered within BPT. However, this study did not address what levels of acceptability would be required before a parent would initiate enrollment in BPT. Given that studies have shown lower rates of enrollment in BPT among Asian families (Reid et al., 2001), I speculate that a higher mean level of acceptability (i.e., a rating greater than 4 out of 5) may be required among Chinese-immigrant mothers before they would be willing to enroll in BPT in comparison to Euro-Canadian mothers. Also, it is possible that across all mothers, acceptability may have a more step-like function in relation to treatment engagement, such that some threshold of acceptability is needed, but beyond that, other factors (e.g., parenting sense of efficacy and treatment effectiveness beliefs) become more important in decision-making (as suggested by Johnston, Mah, & Regambal, under review).

Furthermore, Chinese-immigrant mothers in this study accepted and intended to use punishment techniques more than Euro-Canadians. This is consistent with findings that 60-85% of Euro-Canadian mothers endorsed negative attitudes towards physical punishment (Durrant, Rose-Krasnor, & Broberg, 2003). In explaining how this higher rate of punishment acceptance among Chinese-immigrant mothers may be related to their lower participation in BPT, it is useful to think of the role that the cultural community may play in influencing parents' treatment decisions. For example, subjective norms (i.e., perceptions of what other people think about

one's behavior) have been found to be a significant predictor of help-seeking intention among Chinese individuals (Mo & Mak, 2009), given that the Chinese culture places significant value on interpersonal harmony, conformity within society, respect to authority figures, and concern for loss of face (Ng, 2000). This points to one aspect of BPT that may not be culturally sensitive to the Chinese culture. That is, because punishment techniques such as spanking are typically frowned upon in current BPT programs, Chinese-immigrant parents may hesitate to enroll in BPT out of fear of disapproval of their ways of child behavior management. Such reluctance is consistent with previous findings that Chinese parents are less likely to start BPT programs than Euro-North Americans (Reid et al., 2001), and with the finding in the current study demonstrating that Chinese-immigrant mothers had less favorable attitudes towards seeking professional help than Euro-Canadians. It would be interesting to further investigate the impact of differential acceptability of punishment techniques on parents' feelings of shame and stigma and how these factors may hinder professional help-seeking. For example, Euro-Canadian and Chinese-immigrant mothers could be asked to first rate their own acceptability of punishment techniques, followed by random assignment to one of two conditions: reading a description of BPT that includes either: 1) a favorable view of punishment techniques, or 2) a critical view of punishment. Ratings of intent to seek BPT intervention along with ratings of subjective norm could then be compared both between and within cultural groups. I would predict that Chinese-immigrant mothers who had high acceptability of punishment techniques but had read descriptions of BPT with critical views of punishment to have the lowest ratings of intent to use BPT due to greater feelings of stigma associated with the dissimilarity between their personal views and subjective norm.

Do the findings of this study mean that BPT programs should encourage and incorporate the use of punishment techniques in order to be culturally sensitive to the values and practices of Chinese-immigrant families? Not necessarily. I only suggest that clinicians who implement BPT with families of Chinese heritage may need to refrain from expressing negative judgments regarding the appropriateness of using punishment techniques to manage child behavior problems. As previously discussed, the use of physical punishment may not be related to negative child outcomes among Chinese families given the cultural context of this being a normative and acceptable style of child behavior management (Deater-Deckard & Dodge, 1997). Thus, there may be appropriate ways to discuss the use of punishment techniques within BPT for Chinese-immigrant families. For example, the following guidelines were recommended in an empirical review of the characteristics of effective spanking: i) it is not overly severe; ii) it is not used when parents are emotionally angry; iii) it is used predominantly for children aged 2 to 6; and iv) it is used in combination with reasoning (Larzelere, 2000). It is also helpful to recall that mothers in both cultural groups found reward and withdrawal techniques to be more acceptable than punishment. The fact that this pattern is found across both cultural groups suggest that both Euro-Canadian and Chinese-immigrant mothers prefer child behavior management approaches that do not involve applying aversive stimuli to the child, which is understandable given that caregivers in these cultures typically share the common desire to promote the well-being of their young, despite differences in their specific manners of doing so.

Although not directly targeting the acceptability of punishment techniques, other ways that BPT programs can be tailored to be more culturally sensitive for Chinese-immigrant parents have been demonstrated. Crisante and Ng (2003) implemented a BPT intervention with Chinese parents living in Sydney, Australia. While the overall content and goals of the program remained

consistent with BPT programs as conducted with Euro-North American or Euro-Australian parents, adjustments were made to ensure more cultural relevance. For instance, the program was conducted by a Cantonese-speaking facilitator and was promoted as a way of creating happier and less stressed parenting rather than focusing on changing parenting strategies to manage problem child behavior. In this way, the authors indicated that the sense of criticism and public shame of being a “bad parent” were removed. Significant improvements in child prosocial behavior were found and most parents were satisfied with the intervention. Reid and colleagues (2001) evaluated the effectiveness of a BPT program in a low-income sample of Euro-American, Asian-American, African-American, and Hispanic-American mothers. Although the generic program content remained the same across groups, the program attempted to be cultural sensitive by having parents identify their own individual goals for their children, and by respecting diverse viewpoints and goals. Results indicated that parent and child intervention effects were consistent across cultural groups. Specifically, at post-treatment, mothers in all cultural groups issued fewer commands, were more positive, less critical, more consistent, more involved, and more competent in their interactions with and discipline of their children, who were observed to exhibit fewer behavior problems compared to children of mothers who did not receive the intervention. Although these studies did not test the incremental benefits of the culturally-enhanced BPT program compared to a standard BPT program, the methods used in these two studies suggest a first step in targeting ethnic minority parents without compromising the effective content of BPT.

Hwang (2006; 2009) has recommended a comprehensive framework to guide the adaptation of empirically-supported treatments for use with diverse clientele, including Chinese-immigrants. He suggests using a combination of a bottom-up, community-based approach and a

top-down, theoretically driven approach. Specifically, the first step is to generate knowledge about potential adaptations and barriers from focus groups consisting of relevant stakeholders (e.g., Asian-focused community mental health providers, practitioners of traditional Chinese medicine, Asian parents). The second phase involves integrating the generated information with theory and empirical and clinical knowledge/experiences, such as understanding cultural beliefs about mental illness, or cultural differences in expression and communication of distress. This integration, in various domains, is then transformed into specific principles/recommendations and rationales and used to create a culturally-adapted manual. The third step involves reviewing the advantages and disadvantages of each modification in the manual with stakeholders and incorporating feedback to finalize the manual and conduct translations. The fourth step is to empirically test the culturally-adapted intervention, ideally through a randomized-control clinical trial comparing the culturally-adapted program to both a standard program and a wait-list control group. Outcome measures should be gathered from multiple sources (e.g., clients, clinicians, independent assessors), at multiple time points, and should target multiple outcomes (e.g., symptom reduction, skills acquisition). Dismantling studies could also be used to determine which adaptations are most important in facilitating change, and identify possible mediators and/or moderators that affect outcome. The final step involves synthesizing feedback from clients and clinicians to improve the intervention. This framework would provide a useful guide for future research aimed at developing and testing cultural adaptations of BPT programs among Chinese-immigrant parents.

Unexpected Findings

The results from this study revealed two unexpected null findings. First, there were no significant culture differences in mothers' acceptability of and intention to use reward

techniques, despite various anecdotal reports in previous literature suggesting that Chinese mothers have difficulties with implementing praise and other positive reinforcement (Lieh-Mak et al., 1894; Leung et al., 2009). One initial explanation for this finding is that, compared to Euro-North Americans, Chinese individuals have a greater respect for experts and authority figures (O’Keefe & O’Keefe, 1997). For instance, positive head nodding among Chinese individuals may reflect deference to a physician rather than an indication of agreement or understanding (Yee & Weaver, 1994). In the current study, perhaps the Chinese-immigrant mothers rated all of the techniques as relatively acceptable because they believed that these techniques were being promoted by experts or authority figures (such as the UBC researchers). However, arguing against this interpretation, findings revealed no cultural differences in mothers’ acquiescent responding style as measured by the BIDR. Another possible reason for the similar acceptance of reward techniques between the cultural groups is that praise may be used differently in Chinese vs. Euro-Canadian families. For instance, a recent study reported that Chinese parents use praise as a motivator *before* the desired child behavior has occurred (e.g., calmly telling the child that he is a “good boy” as a way of communicating the parents’ expectations that the child will behave appropriately), whereas Euro-North American parents typically use praise as a consequence *after* positive child behavior (e.g., positively telling the child that he is a “good boy” for complying to the parents’ demands)(Wang, Wiley, & Chiu, 2008). This temporal difference in distributing rewards may apply to the technique of token economy as well (e.g., giving the sticker before vs. after child compliance). Perhaps Chinese-immigrant and Euro-Canadian mothers in this study rated reward techniques as equally acceptable, yet one group conceptualizes rewards as motivation and another group sees rewards as reinforcement. Future studies can examine this issue further by directly comparing mothers’

acceptability of these distinct patterns of rewards. It also will be interesting to examine if child compliance in response to receiving reward before or after the desired child behavior is different between cultures. In Euro-North American culture, the giving of rewards before the desired behavior is often labeled as “bribery”, and is discouraged as an ineffective parenting strategy (e.g., Shiller & Schneider, 2003). However, it is possible to expect that within the Chinese culture, children would respond appropriately even when rewards are given prior to their requested behavior. If significant cultural differences are found in mothers’ acceptability of, and child compliance with, the use of rewards before vs. after desired child behavior, BPT programs for Chinese-immigrant families may need to accommodate for the use of rewards as a motivator as opposed to, or in addition to, a reinforcer.

Second, the nonsignificant cultural differences in mothers’ implicit theories and goal orientations also were not expected. Previous studies (e.g., Heine et al., 2001) demonstrating consistent differences between East-Asian and Euro-North American individuals in these constructs have typically involved different participant samples (e.g., undergraduate students), and/or used different wording in the measure (e.g., more specific and personal items: “I can change my intelligence”) in comparison to the current study. I speculate that any, or all, of these methodological differences may explain the divergence of results between past research and this study. For example, it is possible that there is something unique about mothers’ beliefs about child behavior problems which does not correspond well to implicit theories as expressed in relation to different domains or different targets. For instance, across both cultural groups, the majority of mothers preferred fewer problem child behaviors in contrast to more positive child behaviors, but this preference didn’t correspond with the relatively even distribution of mothers’ endorsement of incremental and entity theories. Furthermore, it is possible that the construct of

implicit theory is more distal, whereas other psychological variables such as parenting style are more proximal to mothers' attitudes regarding child behavior problems. If this were the case, then we would expect for implicit theory to still be related to mothers' acceptability, though less strongly than parenting style; however, in the current study, implicit theory was generally not significantly correlated with mothers' acceptability at all (e.g., $r_s < -.15$). On the other hand, methodological limitations may account for the unexpected null findings. For example, in the absence of established measures specifically targeting the construct of interest in this study (e.g., assessing mothers' beliefs regarding whether she can change her child's problem behavior), I opted to ask for general person beliefs, but this compromise may have come at a cost in terms of replicating previous studies and providing easily interpretable results. In hindsight, in addition to the aim of advancing the literature on implicit theories by assessing the construct in a new population (mothers) and domain (parenting) in this study, it also would have been useful to include measures and constructs that have been examined in previous studies (e.g., how mothers' implicit theories are related to their task persistence in the face of failure and beliefs regarding the utility of effort vs. ability; Ames & Archer, 1987; Heine et al., 2001). This inclusion would have allowed for more confidence in interpreting the lack of differences found in this study.

Limitations

Cultural comparisons in this study were conducted between only two groups: Euro-Canadian and Chinese-immigrant mothers. Although Chinese-immigrant mothers identified more strongly with their heritage culture than the mainstream culture, these mothers are likely more acculturated than Chinese mothers residing in their country of origin, either because they have assimilated into the mainstream North American society and/or because they held different values/beliefs from their heritage culture even prior to immigration. Thus, the beliefs and

attitudes held by the Chinese-immigrant mothers in this study may not be generalized to those of Chinese mothers residing in their country of origin nor to those of Chinese mothers who have chosen to immigrate to other countries (e.g., Australia) or perhaps even to other parts of Canada (e.g., rural Manitoba). In addition, a more detailed understanding of the process of acculturation (e.g., exploring whether attitudes towards punishment techniques are more culturally engrained than those for reward or withdrawal techniques) could be gained by comparing mothers at different stages of acculturation. Future research would benefit from comparing acceptability ratings between Chinese mothers residing in their country of origin, Chinese-immigrant mothers, Chinese-Canadian mothers (i.e., those born in Canada who identify more strongly with mainstream culture than heritage culture), and Euro-Canadian mothers.

One major methodological limitation of the current study is the use of a simple self-report measure of intention to use techniques rather than assessing mothers' actual use of the parenting strategies. Nevertheless, the findings from the intent measure (i.e., Chinese-immigrant mothers intend to use punishment techniques more than Euro-Canadians, but the groups intend to use reward and withdrawal techniques equally) demonstrate concurrent validity since the pattern is consistent with mothers' reports of their current use of techniques (i.e., from the questionnaire asking about the mothers' use of behavioral strategies, a greater proportion of Chinese-immigrant mothers reported currently using punishment techniques than Euro-Canadians, but no significant differences were found in mothers' current use of reward or withdrawal techniques). Confidence in the validity of the data would be boosted further with the addition of an objective rating of mothers' actual use of techniques (e.g., fathers' ratings, observational coding of mothers' parenting behavior).

Because a fully mediated model among culture, psychological mechanisms, and attitudes towards techniques was not found in this study, it is clear that the psychological variables examined in this study (e.g., parenting style, implicit theory) are not the only factors to consider in understanding cultural differences in parental attitudes and use of child behavior management techniques and BPT. It would be helpful for future research to extend the model to include other relevant variables, such as mothers' normative beliefs and perceived control as suggested by the theory of planned behavior (Ajzen, 1991). As previously discussed, mothers' subjective norms regarding the acceptance of techniques amongst community members may affect their feelings of stigma and shame which may diminish their intentions to participate in treatment. In addition, parents' perceived control or self-efficacy (i.e., the degree to which parents perceive themselves as capable of performing the required tasks associated with their caregiving role; Coleman & Karraker, 1997), is related to parents' intentions to refer their children for treatment (Maniadaki, Sonuga-Barke, & Kakouros, 2006). Other contributing factors to consider include perceived barriers to treatment participation (Kazdin & Wassell, 1999), such as the perception that treatment is too demanding, a poor alliance with the therapist, or obstacles to participation (e.g., lack of time or access), as well as parental attributions, motivation and readiness to change (see Morawska & Sanders, 2006 for a detailed review).

It is important to note that although the mediation models in this study tested the pathways in a specific direction (i.e., from culture to intent through parenting style and acceptability), the results do not, and cannot, imply causality, since there is no temporal precedence of factors in this study. Although it is not possible to randomly assign participants to different cultural groups, future research may seek to first assess mothers' current use of

techniques at baseline, then manipulate mothers' acceptability of techniques, and finally assess changes in their actual use of techniques.

Only the attitudes of a community sample of Chinese-immigrant and Euro-Canadian mothers of boys were investigated in this study. Future research is needed to assess the attitudes of fathers, parents from other cultural backgrounds, and parental attitudes towards techniques for managing the behavior of girls. In addition, as acceptability of child behavior management techniques is related to the severity of child behavior problems (Frentz & Kelley, 1986), research needs to examine cultural differences in the attitudes offered by mothers of children with and without clinical levels of disruptive behavior, and how such differences may be linked to parental enrollment, attendance, and adherence in BPT programs.

Conclusion

In conclusion, this study demonstrated the importance of considering the implications of cultural differences in mothers' acceptability of different types of child management techniques for understanding mothers' intentions to engage in BPT programs. Results suggest that although both Chinese-immigrant and Euro-Canadian mothers similarly accept and intend to use BPT techniques, differential attitudes towards punishment techniques that are discouraged in BPT may be related to greater hesitancy to enroll in BPT among Chinese-immigrant families. However, future work is required to examine other contributing factors to cultural differences in parental attitudes and use of BPT, and to create and validate a culturally-sensitive and effective BPT program adaptation for Chinese-immigrant families.

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Appendix A

Child Management Technique Descriptions

Reward Techniques

Praise and physical reward. To manage your child's behavior, you give him lots of positive attention and praise when he behaves appropriately. Whenever your child does what you tell him to do, you let him know how much you like it by giving him hugs, high-fives, or pats on the back. You also tell him how you appreciate his good behavior such as, "You've done a good job of cleaning! Thank you for helping me".

Token economy. To manage your child's behavior, you wait until after he disobeys; a while later you ask him again to do the same or a different chore. Every time he obeys, you put a sticker on your child's sticker chart. When he earns five stars, you let him have extra time with things that he likes. The special things may be his favourite toy, riding his bike, playing outside with his friends, or playing on the swing.

Withdrawal Techniques

Time-out. To manage your child's behavior, you have him sit in a chair in a corner away from all interesting things whenever he does not obey. You have him sit silently on the chair for 3 minutes. After 3 minutes, you will give him permission to get off the chair if he is quiet. If your child gets off the chair before you give permission, he must stay on the chair another 3 minutes.

Response cost. To manage your child's behavior, whenever he disobeys, you take away a privilege that the child normally enjoys. You tell your child why he is losing the privilege for that day. The privileges that your child might lose are things that he really likes, like watching television, a bedtime story, or eating dessert after dinner.

Appendix A continued

Punishment Techniques

Over-correction. To manage your child's behavior, you have him practice following directions whenever he does not obey. For example, if your child refuses to put his toys in the closet when told, you have him practice obeying by having him quickly put 10 toys in the closet one at a time. If needed, you help your child practice by guiding him to the closet.

Spanking. To manage your child's behavior, you spank him whenever he disobeys. For example, if he refuses to put his toys away, you walk him over to a chair and tell him that because he didn't do what he was told, he is going to get a spanking. You then put your child over your lap and give him two spanks on the bottom with an open hand.

Appendix B

Disruptive Child Behavior Descriptions

Vignette 1

Your child disobeys you a lot. He often refuses to do what you ask him to, such as going to bed on time or cleaning up his room. When you ask him to follow the rules, he often whines, argues with you, and loses his temper. When he doesn't get what he wants, your child tries to get back at you by physically hitting you or destroying objects in the house. Your child also provokes other children to make you mad. For example, the other day on the playground, your child started teasing a younger child. When you tried to talk to him about it, he was angry and placed the blame on the other child.

Vignette 2

Your child constantly defies you. He often refuses to do things you ask him to do, such as picking up his toys or doing other chores. When you ask him to do these things, your child often has a temper tantrum which includes yelling and throwing his toys. If anything breaks during a temper tantrum, he sometimes swears and he blames you for it. He argues with you a lot, especially when he doesn't get his own way. Your child also does things all the time to bother other children, such as poking them over and over to make them cry. Every time you try to talk to him about getting along better with other children, he acts touchy and annoyed.

Appendix C

Treatment Evaluation Inventory – Short Form (TEI-SF)

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. I find this technique to be an acceptable way of dealing with the child's problem behavior.
2. I would be willing to use this procedure if I had to change the child's problem behavior.
3. I like the procedures used in this technique.
4. I believe this technique is likely to be effective.
5. I believe this technique is likely to result in permanent improvement.
6. Overall, I have a positive reaction to this technique.

Appendix D

Parenting Authority Questionnaire – Revised (PAQR)

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. In a well-run home, children should have their way as often as parents do.
2. It is for my children's own good to require them to do what I think is right, even if they don't agree.
3. When I ask my children to do something, I expect it to be done immediately without questions.
4. Once family rules have been made, I discuss the reasons for the rules with my children.
5. I always encourage discussion when my children feel family rules and restrictions are unfair.
6. Children need to be free to make their own decisions about activities, even if this disagrees with what a parent might want to do.
7. I do not allow my children to question the decisions that I make.
8. I direct the activities and decisions of my children by talking with them and using rewards and punishments.
9. Other parents should use more force to get their children to behave.
10. My children do not need to obey rules simply because people in authority have told them to.
11. My children know what I expect from them, but feel free to talk with me if they feel my expectations are unfair.

Appendix D continued

12. Smart parents should teach their children early exactly who is the boss in the family.
13. I usually don't set firm guidelines for my children's behavior.
14. Most of the time I do what my children want when making family decisions.
15. I tell my children what they should do, but I explain why I want them to do it.
16. I get very upset if my children try to disagree with me.
17. Most problems in society would be solved if parents would let their children choose their activities, make their own decisions, and follow their own desires when growing up.
18. I let my children know what behavior is expected, and if they don't follow the rules they get punished.
19. I allow my children to decide most things for themselves without a lot of help from me.
20. I listen to my children when making decisions, but I do not decide something simply because my children want it.
21. I do not think of myself as responsible for telling my children what to do.
22. I have clear standards of behavior for my children, but I am willing to change these standards to meet the needs of the child.
23. I expect my children to follow my directions, but I am always willing to listen to their concerns and discuss the rules with them.
24. I allow my children to form their own opinions about family matters and let them make their own decisions about those matters.
25. Most problems in society could be solved if parents were stricter when their children disobey.
26. I often tell my children exactly what I want them to do and how I expect them to do it.

Appendix D continued

27. I set firm guidelines for my children, but am understanding when they disagree with me.

28. I do not direct the behaviors, activities or desires of my children.

29. My children know what I expect of them and do what is asked simply out of respect for my authority.

30. If I make a decision that hurts my children, I am willing to admit that I made a mistake.

31. Parents must begin training their children as soon as possible.

32. Mothers must train their children to work very hard and be disciplined.

33. Mothers teach their children by pointing out good behavior in others.

34. When a child continues to disobey you, he/she deserves a spanking.

35. Mothers primarily express love by helping their children succeed, especially in school.

36. Children should be in the constant care of their mothers or families.

Note: Questions 2,3,7,9,12,16,18,25,26,29 depict authoritarian style. Questions

4,5,8,11,15,20,22,23,27,30 depict authoritative style. Questions 31-36 depict training style.

Remaining questions depict permissive style but were not used in this study.

Appendix E

Implicit Person Theory Measure (IPTM)

1	2	3	4	5	6
Strongly agree	Agree	Mostly agree	Mostly disagree	Disagree	Strongly disagree

1. The kind of person someone is, is something basic about them, and it can't be changed very much.
2. People can do things differently, but the important parts of who they are can't really be changed.
3. Everyone is a certain kind of person, and there is not much that they can do to really change that.
4. As much as I hate to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes.
5. Everyone, no matter who they are, can significantly change their basic characteristics.
6. People can substantially change the kind of person they are.
7. No matter what kind of a person someone is, they can always change very much.
8. People can change even their most basic qualities.

Note. Questions 1-4 depict entity theory; Questions 5-8 depict incremental theory.

Appendix F

Demographics & Treatment History Questionnaire (DTHQ)

1. What is your age?
2. Country of birth:
3. Number of years that you have lived in Canada:
4. What is your ethnicity?
5. What is your child's father or step-father's ethnicity?
6. What is your current marital status?
7. What is the highest level of education that you have completed?
8. What is the highest level of education that your child's father or step-father has completed?
9. Are you currently employed? -if so, what is your occupation?
10. Is your child's father or step-father currently employed? -if so, what is his occupation?
11. Please indicate:
 - The number of children you have
 - The age (in years) and gender of your first child
 - The age (in years) and gender of your second child
 - The age (in years) and gender of your third child
 - The age (in years) and gender of your fourth child
12. Currently, are you using any child management techniques to help your child's misbehavior? (*Please check all that apply*)
 - ☐ I do not currently use any child management techniques
 - ☐ Praise and physical reward (e.g., "Good job", hugs, high-fives)
 - ☐ Differential attention (e.g., notice good behavior, ignore whining or tantrums)
 - ☐ Token economy (e.g., stickers for completing chores)
 - ☐ Time-out
 - ☐ Response cost (e.g., loss of privileges like no TV or dessert)
 - ☐ Over-correction (e.g., repeated practice of positive behavior)
 - ☐ Spanking
13. When did you start using these child management techniques?
14. If you use child management techniques, how often would you say you use these techniques?

Appendix G

Attitudes Towards Seeking Professional Psychological Help Scale – Short Form (ATSPPHS)

INSTRUCTIONS: Below are a number of statements pertaining to psychology and mental health issues. For the purposes of this measure, the term “*mental health worker*” refers to professionals such as psychiatrists/psychologists/counsellors/social workers.

Read each statement carefully and indicate your agreement, partial agreement, partial disagreement, or disagreement. Please express your frank opinion in rating the statements. There are no “wrong” answers, and the only right ones are whatever you honestly feel or believe.

0	1	2	3
Disagree	Partly disagree	Partly agree	Agree

1. If I believed I was having a mental health breakdown, my first inclination would be to get professional attention.
2. The idea of talking about problems with a mental health worker strikes me as a poor way to get rid of emotional conflicts.
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in mental health services.
4. There is something admirable in the attitude of a person who is willing to cope with his/her conflicts and fears *without* resorting to professional help.
5. I would want to get mental health services if I was worried or upset for a long period of time.
6. I might want to have mental health services in the future.

Appendix G continued

7. A person with an emotional problem is not likely to solve it alone; he/she is likely to solve it with professional help.
8. Considering the time and expense involved in mental health services, they would have doubtful value for a person like me.
9. A person should work out his/her own problems; getting mental health services would be a last resort.
10. Personal and emotional troubles, like many things, tend to work out by themselves.

Appendix H

Vancouver Index of Acculturation (VIA)

PLEASE ANSWER EACH QUESTION AS CAREFULLY AS POSSIBLE BY CIRCLING *ONE* OF THE NUMBERS FOR EACH QUESTION TO INDICATE YOUR DEGREE OF AGREEMENT OR DISAGREEMENT.

Many of these questions will refer to your heritage culture, meaning the culture that has influenced you most (other than North American culture). It may be the culture of your birth, the culture in which you have been raised, or another culture that forms part of your background. If there are several such cultures, pick the one that has influenced you most (e.g. Irish, Chinese). If you do not feel that you have been influenced by any other culture, please try to identify a culture that may have had an impact on previous generations of your family.

1	2	3	4	5	6	7	8	9
Strongly Disagree		Disagree		Neutral/ Depends		Agree		Strongly Agree

1. I often participate in my heritage cultural traditions
2. I often participate in mainstream North American cultural traditions
3. I would be willing to marry a person from my heritage culture
4. I would be willing to marry a North American person
5. I enjoy social activities with people from the same heritage culture as myself
6. I enjoy social activities with typical North American people
7. I am comfortable working with people of the same heritage culture as myself

Appendix H continued

8. I am comfortable working with typical North American people
9. I enjoy entertainment (e.g. movies, music) from my heritage culture
10. I enjoy North American entertainment (e.g. music, movies)
11. I often behave in ways that are typical of my heritage culture
12. I often behave in ways that are 'typically North American
13. It is important for me to maintain or develop the practices of my heritage culture
14. It is important for me to maintain or develop North American cultural practices
15. I believe in the values of my heritage culture
16. I believe in mainstream North American values
17. I enjoy the jokes and humor of my heritage culture
18. I enjoy typical North American jokes and humor
19. I am interested in having friends from my heritage culture
20. I am interested in having North American friends

Appendix I



The University of British Columbia
Office of Research Services
Behavioural Research Ethics Board
Suite 102, 6190 Agronomy Road,
Vancouver, B.C. V6T 1Z3

CERTIFICATE OF APPROVAL - MINIMAL RISK

PRINCIPAL INVESTIGATOR: Charlotte Johnston	INSTITUTION / DEPARTMENT: UBC/Arts/Psychology, Department of	UBC BREB NUMBER: H08-01902
INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:		
Institution		Site
UBC Other locations where the research will be conducted: Subject's home via a fillable PDF form sent over e-mail.		Vancouver (excludes UBC Hospital)
CO-INVESTIGATOR(S): Janet W.T. Mah		
SPONSORING AGENCIES: N/A		
PROJECT TITLE: Cultural Differences in Mothers' Views of Parenting Strategies.		

CERTIFICATE EXPIRY DATE: September 2, 2009

DOCUMENTS INCLUDED IN THIS APPROVAL:		DATE APPROVED: September 2, 2008
Document Name	Version	Date
Consent Forms:		
informed consent form	N/A	August 21, 2008
Advertisements:		
ad tear-away poster	N/A	August 18, 2008
pamphlets	N/A	August 18, 2008
newspaper ad	N/A	August 21, 2008
Questionnaire, Questionnaire Cover Letter, Tests:		
TEI-A	N/A	August 21, 2008
ATSPPHS	N/A	August 21, 2008
VCQ	N/A	August 14, 2008
BIDR	N/A	August 11, 2008
PAQR	N/A	August 15, 2008
IPTM	N/A	August 11, 2008
GOQ	N/A	August 14, 2008
VIA	N/A	August 12, 2008
TEI-X	N/A	August 21, 2008
BIS/BAS	N/A	August 12, 2008
Appendix I continued		
technique descriptions	N/A	August 21, 2008

GHSQ	N/A	August 21, 2008
DTHQ	N/A	August 14, 2008
vignette A	N/A	August 21, 2008
ECBI	N/A	August 11, 2008
HCOM	N/A	August 15, 2008

The application for ethical review and the document(s) listed above have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.

***Approval is issued on behalf of the Behavioural Research Ethics Board
and signed electronically by one of the following:***

Dr. M. Judith Lynam, Chair
Dr. Ken Craig, Chair
Dr. Jim Rupert, Associate Chair
Dr. Laurie Ford, Associate Chair
Dr. Daniel Salhani, Associate Chair
Dr. Anita Ho, Associate Chair

Appendix J



**The University of British Columbia
Department of Psychology**

2136 West Mall
Vancouver, B.C.
Canada V6T 1Z4

Consent Form

Cultural Differences in Mothers' Views of Parenting Strategies

Principal Investigator: Dr. Charlotte Johnston
Department of Psychology
604-822-6771

Co-Investigator: Janet W.T. Mah, M.A.
Graduate Student
Department of Psychology
University of British Columbia
604-822-9037

Purpose:

This project looks at mothers' attitudes and opinions about parenting strategies for managing disruptive child behavior. In particular, we are interested in the links between various cultural and social factors and beliefs about child management techniques. Through this research we hope to better understand the cultural uniqueness of attitudes towards child behavior. Part of this project is research for the graduate dissertation of Janet Mah.

Study Procedures:

Your participation in the study will involve completing a number of questionnaires. These include questionnaires that ask about your demographic background, degree of acculturation, attitudes regarding child management techniques, ratings of your own child's behavior, beliefs about parenting, human nature, and mental health services. There are no known risks associated with participation in this study. The total time needed to complete the study is approximately 1 hour. Your responses will be submitted in a password-protected PDF form via e-mail.

Appendix J continued

Confidentiality:

All information gathered in this study will be treated with strictest confidence. Research information will be available only to personnel involved in the research project. Code numbers will identify your responses rather than names. Data that will be kept on a computer hard disk will also be identified only by code number and will be password protected so that only authorized research personnel will have access to it. Following the completion of the study, the data will be transferred to a CD and stored in a locked filing cabinet. Participants will not be identified by name in any reports of the completed study.

Remuneration/Compensation:

You will receive \$10 as appreciation for your participation in this research. A cheque will be mailed to your contact address following the submission of your completed questionnaire via e-mail, or the receipt of your notification of withdrawal from the study. A summary of the overall findings will be e-mailed to interested participants when the research is completed. There will be no disclosure of individual results.

Contact for information about the study:

If you have any questions or desire further information with respect to this study, you may contact Janet Mah at 604-822-9037 or Dr. Charlotte Johnston (604-822-6771).

Contact for concerns about the rights of research subjects:

If you have any concerns about your treatment or rights as a research subject, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598 or if long distance e-mail to RSIL@ors.ubc.ca.

Consent:

Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time. By clicking on the "I consent" button below, you will indicate that you have read and understood the description of the study provided above, and that you consent to participate in this study. Please print a copy of this consent form for your own records.

☐ I consent

☐ I do not consent

Appendix K

Correlations between Demographic and Outcome Variables

Variable	Reward				Withdrawal				Punishment			
	Accept		Intent		Accept		Intent		Accept		Intent	
	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin
Mother age	.02	.21	.04	.15	.14	.17	-.06	-.02	.001	-.03	-.11	-.002
Marital status ^a	.09	-.02	.004	.05	.11	.02	.16	-.03	.03	.05	-.09	-.04
Target child age	.22	-.07	.24	.03	.22	-.06	.14	-.17	.08	-.05	-.04	-.06
Number of children	.04	.07	.04	-.13	.11	.10	.18	.11	.12	.23	.11	.05
Family SES	-.07	-.05	.20	-.07	.14	.07	.17	.12	-.08	-.04	.01	.05
Mother's education ^b	-.13	-.10	.05	-.12	.09	-.03	.08	.12	-.11	-.13	-.11	-.05
Mother's occupation ^c	-.12	-.21	.20	-.17	.08	.16	.20	.08	-.14	-.09	.04	.05

Appendix K continued

Variable	Reward				Withdrawal				Punishment			
	Accept		Intent		Accept		Intent		Accept		Intent	
	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin
Heritage culture identification	.04	.13	.08	-.11	.12	.08	.07	-.07	-.14	.01	.20	.27*
Mainstream culture identification	.17	-.08	.17	-.04	.30*	.19	.12	.08	-.01	-.04	-.03	.12
Child behavioral problems	-.39**	.12	-.25	.03	-.14	.17	-.13	-.002	.13	.07	.01	.14
Impression management	.15	.01	.02	.01	.19	.10	.13	-.05	-.07	-.06	-.05	-.26
Acquiescent responding	-.11	-.10	-.05	.01	-.17	-.11	-.13	.17	.01	-.06	.10	.16

Appendix K continued

Variable	Reward				Withdrawal				Punishment			
	Accept		Intent		Accept		Intent		Accept		Intent	
	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin
Difficulty	-.07	.22	-.10	.02	-.10	.11	.01	.03	.15	.10	.23	-.06
imagining												
scenarios												
Psychological	-.19	.14	-.05	-.11	-.01	-.06	-.15	.04	-.18	-.11	-.04	-.11
help-seeking												
Current use												
Reward	.41**	-.12	.34**	-.08	.06	-.05	.15	-.12	.003	.18	.14	.12
Withdrawal	-.001	.03	.17	-.11	.21	.12	.36**	.24	-.11	.01	.19	.05
Punishment	.15	.11	.12	.02	.05	-.003	.02	-.23	.41**	.44**	.47***	.21
When start BPT	.22	-.06	.18	-.10	.33*	-.09	.44**	-.03	-.08	.12	-.04	.18
Frequency of use	.31*	.07	.39**	.16	-.02	.01	-.02	.06	.11	.19	.12	.23
BPT												

Appendix L

Correlations between Demographic and Underlying Variables

Variable	Parenting Styles						Goal Orientations					
	Authoritative			Authoritarian			Training			Implicit Theory		
	Euro	Chin		Euro	Chin		Euro	Chin		Euro	Chin	
Mother age	-.18	.03		.06	-.16		-.09	.12		-.07	-.07	
Marital status ^a	-.12	-.10		.11	-.08		-.02	-.01		.05	-.08	
Target child age	-.10	-.26		-.05	.06		.04	.12		.02	.13	
Number of children in the family	-.17	.31*		.31*	.06		.21	.22		-.03	-.10	
										-.18	-.22	
										-.03	-.03	
Family SES	.17	.16		-.12	-.22		-.16	-.10		-.05	.10	
Mothers' education ^b	.12	.11		.05	-.08		-.10	.08		.16	.19	
										.08	-.04	
										.13	-.002	
Mothers' occupation ^c	.16	.25		-.13	-.27		-.04	-.31		-.04	.07	
										.20	-.15	
										-.06		

Appendix L continued

Variable	Parenting Styles						Goal Orientations			
	Authoritative		Authoritarian		Training		Implicit Theory		Strength/Weakness	
	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin
Heritage culture identification	.22	.06	-.12	.32*	.05	.38**	-.20	.14	.17	-.02
Mainstream culture identification	-.05	.22	.05	-.02	-.12	.07	-.06	-.02	.06	-.34*
Child behavioral problems	-.13	-.002	-.22	.30*	-.01	.05	.20	.24	.14	.07
Impression management	-.01	.31*	.20	-.27*	.07	-.04	-.11	-.24	-.01	.09
Acquiescent responding	.08	-.27*	-.20	.18	-.08	-.07	.15	.12	.10	-.17

Appendix L continued

Variable	Parenting Styles						Goal Orientations			
	Authoritative		Authoritarian		Training		Implicit Theory		Strength/Weakness	
	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin	Euro	Chin
Difficulty imagining scenarios	.07	.11	.28*	.05	.09	.07	.05	.08	-.25	.18
									-.17	.29*
Psychological help-seeking	.17	.09	-.38**	-.18	-.32*	-.02	-.03	-.22	.01	-.10
									-.12	-.21
Current use										
Reward	.16	.05	.07	.06	.10	.10	-.27*	.02	.20	-.13
									.28*	-.11
Withdrawal	.01	.06	.10	.14	.13	.12	-.09	.03	-.02	-.04
									.13	-.15
Punishment	-.11	.04	.33*	.09	.24	.22	-.12	-.09	-.28*	-.13
									.06	-.13
When start BPT	.11	.01	.13	.13	.17	-.10	.008	-.18	-.01	-.06
									.13	.04
Frequency of use	.12	.09	<.001	.17	.14	.14	-.06	-.24	.19	-.16
									.17	.10
BPT										

Notes for Appendices L and M: * $p < .05$, ** $p < .01$, *** $p < .001$; Euro-Canadian group $n = 60$, Chinese-immigrant group $n = 57$; ^a Coded as 1 (Single, never married), 2 (Common-law/Live-in partner), 3 (Married), 4 (Separated/Divorced), 5 (Widowed); ^b Coded as 1 (Some high school), 2 (High school diploma or equivalent), 3 (Trade school), 4 (Some college), 5 (College degree), 6 (Graduate degree); ^c Coded as 1-3 (menial service and unskilled or semi-skilled labor), 4-5 (skilled workers; clerical; sales), 6-9 (technicians; semi-professionals; managers; professionals).