How culture matters in children's purchase influence: a multi-level investigation

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Abstract:

Children's purchase influence (CPI) is an important factor in understanding family consumption behavior. The present study investigated the effects of cultural adaptation, including the role of acculturation and ethnic-identification, on children's role in family purchase decisions. By conceiving of CPI as a family context-dependent phenomenon, we hypothesized that parent–child cultural dissonance/consonance within the family influences CPI through a cross-level process. The hypotheses were tested on data collected from 99 Hong Kong Chinese immigrant family triads, i.e., father, mother, and a teenage child. The results showed that: (1) acculturation positively and ethnic-identification negatively influenced CPI for most products, (2) the interaction between acculturation and ethnic-identification had a positive influence on CPI, and (3) generational dissonance/consonance had significant moderating effects on CPI through a cross-level route.

Keywords: acculturation | ethnic-identification | children's purchase influence (CPI) | generational dissonance/consonance | Chinese immigrant families | multi-level analysis

Article:

Immigration is a substantial contributor to population growth in North America. According to the 2001 Census, 13.4% of the Canadian population was born outside Canada; this proportion will be 22.2% in 2017, with a growth rate of about 65% in comparison with 2001 (Statistics Canada 2005). On the contrary, the non-immigrant population will have a slower growth of 4–12% over the same period. Among visible minorities, the Chinese group is estimated to be the largest (between 1.6 and 2.2 million) in 2017 (Statistics Canada 2005). Right behind English and French, Chinese is now the third most widely used language in Canada (Statistics Canada 2004). In the United States, immigrants currently constitute more than 50% of its net annual population increase while the proportion of Chinese immigrants is steadily growing (Fix and Zimmermann 1997). As the growth in immigration becomes a major characteristic in North America, the topic of cultural influences on immigrants' consumption behavior is attracting increasing attention (e.g., Deshpandé et al. 1986).

Traditionally, psychological and consumption adaptation processes have been examined with the primary focus centered on adults (Coll and Magnuson 1997), largely ignoring children's experience. A move toward understanding how cultural adaptation changes immigrant children's consumption behavior and, in particular, their role in the family purchase/consumption situations is particularly warranted because these immigrant children now account for approximately 17% of the Canadian school-aged children (Statistics Canada 2004) and about 24% of the American school-aged children (US Census Bureau 2000). Not only are children themselves important customers, but also their influence on family purchase decisions is steadily increasing (Caruana and Vassallo 2003). The need to advance our knowledge about children's purchase influence (CPI) in these immigrant families is in line with the fact that today's immigrants typically migrate as a family unit, which is opposite to the early 20th century trend of single men migrating from Europe (Rumbaut 1997).

A systematic review of the literature also shows that little research addresses the levels-of-analysis issue in studying family consumption behavior. No research has been found that examines how family-level factors may moderate the effects of individual-level variables on CPI. As noted by Foxman et al. (1989), the family is a key socialization agent for children. The examination of interactions between family- and individual-level variables is especially important in studying CPI in immigrant families since the family's adaptation to the host culture (a family environmental variable) may moderate the effects of cultural adaptation on CPI at the individual level.

To fill these gaps, a framework is designed to investigate the relationship between cultural adaptation and children's role in family purchasing within Chinese immigrants, one of the largest components of the immigration flow in North America. A survey was used to collect multi-item, multi-respondent CPI data from 99 family triads for different product categories, including frequently-purchased children products, infrequently-purchased children products, frequently-purchased family products, and infrequently-purchased family products. By using the multi-level modeling technique, we test the hypotheses pertaining to the main effects, as well as the within- and between-level interactions, of the cultural variables at both individual and family levels on CPI. This study contributes to the family literature by introducing generational dissonance/consonance as a family-level cultural variable to see if it moderates the relationship between cultural adaptation and CPI at the individual level. To the best of our knowledge, so far, hierarchical modeling technique has not been applied in family research in the context of consumption decision-making. In addition, our present research is among the pioneering studies that investigate the topic of children's purchase influence from a cross-cultural perspective.

Theoretical background

Immigration to a new culture can be considered as a special case of socialization, or, to be more precise, "re-socialization," which involves a cultural adaptation in aspects of social and psychological functioning (Taft 1986). Two aspects of cultural adaptation have been widely used in the consumer adaptation literature. One is "acculturation," which refers to the learning of the traits of the mainstream culture. The other is "ethnic identification," which represents the strength of maintenance of original cultural traits. Cultural adaptation is widely acknowledged to change an immigrant's values, attitudes, abilities, motives, personal identity, ethnic identity, and

lifestyle preferences (Berry 1990). This process, however, is inevitably influenced by the environment in which s/he lives. Among a variety of social contexts, family is the closest and one of the most influential forces to facilitate or deemphasize an adolescent's adoption of certain values, aspirations and behaviors. Therefore, in order to get a clearer picture on how cultural adaptation affects CPI, we need to examine its effects from both individual and family levels.

Cultural adaptation at the individual level

According to Hofstede (1980), Chinese possess collectivistic cultural values and norms, where people are supposed to be interdependent and have strong and cohesive ties with in-group members. On the contrary, North Americans pursue individualism, in which individuals in society have loose ties and are expected to be independent. In addition to collectivism, Confucianism also plays an important role in guiding the Chinese heritage family schema and paradigm, manifested by clear hierarchies between elder and younger, male and female, and ruler and ruled (Abelmann 1997). Researchers believe that such family schema and paradigm not only determine the family's patterns of functioning but also have powerful influences on members' judgment, choice, and action (H. I. McCubbin and M. A. McCubbin 1996).

In the Chinese family, the importance of loyalty and submission by children to parental wishes are treasured (Feldman and Rosenthal 1990). The expression of individual needs and desires are considered selfish if they are in conflict with those of the family; as a result, children are often encouraged to sacrifice personal goals for the good of the relationships with parents (Triandis 1995). In general, Chinese teenagers are socialized to: (1) control self-directed acts and to reduce unique individual characteristics, (2) develop collective ideology and cooperative skills and behaviors such as obedience, conformity and interdependence, and (3) become an integral part of the larger group and to make contributions to the collective welfare and social concern (Chen 2000).

In the Western family, on the other hand, individual growth and development is valued and children are encouraged to become physically and psychologically separated from their parents (Greenfield 1994). The primary goal of socialization in this culture is an autonomous, independent, self-reliant individual who "enters into social relationships and responsibilities by personal choice" (Greenfield and Suzuki 1998). Consequently, Western teenagers place a relatively high value on independence and tend to devalue conformity to authority and social customs. These cultural differences are imbedded from the beginning of the children's rearing process. When contrasting the mothering behaviors of Korean and American women with infants, Choi (1995) found that Korean mothers tended to view infants as passive and dependent, whereas American mothers viewed infants as autonomous and independent.

Cultural differences between the East and the West also exist in the parent–child communication style For the Chinese, a preferred communication style between parent and child is *lun zi pai bei*, or the hierarchical social recognition. As Gao et al. (1996) noted, in the Chinese society "recognition often is derived from one's expertise on a subject due to years of experience, education, or a power position" (p. 285). Accordingly, the power of a "voice" is decided by seniority, authority, experience, knowledge, or expertise. This phenomenon actually reflects traditional Chinese cultural values of respecting elders and listening to seniors' voices.

Therefore, the Chinese family system values dependence on the family, unquestioned acceptance of parental authority, preservation of the status quo and profound loyalty (Bond and Hwang 1986). In China, conformity not only tends to govern all interpersonal relations, but it also enjoys social and cultural approval (Hsu 1981). In contrast to the Chinese, North Americans show less respect to seniors and allow more equal voice rights in family settings. Consequently, it is not surprising to see that Western children, in comparison with their Chinese counterparts, have greater influence on family purchase decisions (Foxman et al. 1989).

It must be acknowledged, however, that in recent years more and more Western values that encourage individualism have been imported into China via the Internet, multinational corporations, and the mass media. These Western-based beliefs and values have challenged Chinese parents' traditional values, hierarchical social structure, and excessive bureaucratic control and pushed them to raise their child toward a more individualistic way (e.g., Liu 2004). While this will inevitably bring about some changes in the Chinese culture, it is generally believed the Chinese cultural traditions are so firmly entrenched that the core values will unlikely see rapid changes. The traditional values and ideologies, such as those concerning respect for authority figures and parents, behavioral restraint and compliance, should continue to play a significant role in affecting socialization and child development, due to the enduring and resilient nature of the culture (Ho et al. 2001). A study by Wu (1996) lent strong support for this argument. Specifically, Chinese parents from Shanghai, Southern Taiwan, Bangkok, Singapore, Honolulu, and Los Angeles were found to share many basic traditional values, socialization goals and parenting practices, despite varying degrees of geographical and ideological differences.

The resistance to give up the basic Chinese traditional values and norms, however, does not mean that Chinese parents are immune to the influence of the host culture. Delgado-Gaitan (1993), for example, found that as immigrant parents became more acculturated and participated in the dominant culture's language, organizations, and politics, they endorsed more independence and used more verbal skills with their children. Therefore, we expect that when the fathers and mothers become more acculturated, the influence of the Western mainstream culture and North American ways of parenting may force them to bridge the two cultures (Kim 2001) and therefore assign more power to their children in deciding family purchases.

Chinese children, however, are normally more open and receptive than their parents to new physical/social situations requiring behavioral shifts (Berry 2003; Berry et al. 1992). During the process of acculturation, children often give up much of their own cultural identity and reject their parents' cultural values and norms (Szapocznik et al. 1980). Besides, they quickly assimilate the perceptions and values of the majority culture, and begin to perceive the differences between their own family situation and that of other children through social comparisons (Kagitcibasi 1996). Therefore, we expect that when the Chinese children become more acculturated, more autonomy will be demanded, and this will lead to a need for greater influence in family purchase decisions.

> ***Hypothesis 1a (the individual-level main effects)***: Children's influence on family purchase decisions is positively related to the level of acculturation of fathers, mothers,

and children themselves, but negatively related to the level of ethnic identification of family members.

Studies on various ethnic groups in North America have found that acculturation and ethnic identification are not the bipolar ends of a single-continuum and therefore adopting cultural values of the host culture does not necessarily cause the loss of one's original ethnic identity (e.g., Lambert et al. 1986). The treatment of these two facets of cultural adaptation as distinct is increasingly seen in the cross-cultural literature (Jun et al. 1993; Kim et al. 2001). Ryder et al. (2001) claim that the relationship between these two dimensions is orthogonal. Their findings indicate that when immigrants are exposed to two cultures, they incorporate to varying degrees two coexisting cultural self-identities. According to this bidimensional approach to cultural adaptation, we expect a significant interplay between acculturation and ethnic identification on CPI. Specifically, highly-acculturated individuals with weaker ethnic-identification should tend to accept more individualistic values than those with stronger ethnic-identification. Following in the same vein, lowly-acculturated individuals with stronger ethnic-identification vis-à-vis those with weaker ethnic-identification have higher preferences toward the collectivistic culture. Therefore,

> ***Hypothesis 1b (the individual-level interactive effect)***: The effect of acculturation (ethnic identification) on children's purchase influence is moderated by ethnic identification (acculturation). To be more specific, highly-acculturated individuals with weaker ethnic-identification are likely to have higher perceptions of CPI than those with stronger ethnic-identification, while lowly-acculturated individuals with stronger ethnic-identification tend to report lower level of CPI than those with weaker ethnic-identification.

Cultural adaptation at the family level

Most studies of family consumption behavior neglect the levels-of-analysis issue. By nature, families are multi-level entities, where individuals (lower level units) are nested within families (higher level units). On the one hand, individuals are influenced by the families to which they belong. On the other hand, the properties of a family are influenced by the individuals who make up that family. These kinds of interactions between the individuals and the families can be specified as a hierarchical system, in which individuals and families represent different hierarchical levels. Separating the effects of individual-level factors from those of family-level factors also allows researchers to examine the interplay between the individuals and the families. Theoretically, such research is defined as "multilevel research" (Hox 1995; Raudenbush and Bryk 2002).

Due to the restrictions of the analytical packages, researchers used to deal with hierarchical data in two ways. The first approach involves ordinary least squares (OLS) regression applied to the disaggregated data pooled across all families, in which all respondents are treated to be independent. This method poses conceptual problems because the individual is used as the unit of analysis when the observations from each family are probably statistically dependent on one another. In this case, the probability of committing a Type I error is inflated and exceeds the nominal alpha level to varying degrees, with estimates biased with smaller estimated standard errors (Raudenbush and Bryk 2002). The other alternative is to aggregate the individual

responses to the family level and then investigate the proposed relationships at the family level. As a result, responses from many family members are combined into fewer family-level units. The main problem with this approach is that all within-family information is lost and the statistical analysis loses power. Accordingly, relationships between aggregated variables are often much stronger than and different from those between the disaggregated variables (Raudenbush and Bryk 2002). It should be pointed out that researchers may distort the interpretation if they analyze the data at one level, and draw conclusions at another level (Hox 1995).

To avoid these problems in traditional linear model analyses, the multilevel modeling technique is used to take into account the hierarchical structure of family data and incorporate variables from both the individual and the family levels. At the family level, we borrowed a measure from the social science literature to capture the variance of cultural adaptation across immigrant families: *generational dissonance*, which refers to the degree of congruence in the level of acculturation between parents and children (Portes and Rumbaut 1996). Based on this scale, immigrant families can be classified into two categories: generationally dissonant families (i.e., dissimilar levels of acculturation between parents and children) and generationally consonant families (i.e., similar levels of acculturation between parents and children) (Portes and Rumbaut 1996). In consonant acculturation families, children and parents have acquired a similar level of proficiency in the English language and the host culture. Both children and parents in these families are likely to strive for integration into and acceptance by the dominant society (Kim 1995). In generationally dissonant families, however, children's and parents' acculturation levels are disparate. While children in these families are actively learning the new language and culture, their parents tend to be unable and/or unwilling in their adaptation to the host society, resulting in their acquisition of minimal English language skills and limited understanding of North American culture (Kim 1995).

Dissonant families tend to experience more tensions between the parent and child generations as indicated by more frequent and intense family conflicts (e.g., Min 1998). A few investigations suggest that the decline in the parent–child relationship quality in these families may be caused by divergent attitudes held by immigrant parents and their children toward the mainstream culture (e.g., Farver et al. 2002; Nguyen and Williams 1989). Nguyen and Williams (1989), for instance, reported that with the increase in length of residence in North America, the traditional values of the Vietnamese immigrant parents stayed consistent, whereas the cultural values held by teenage children went through transformations and increasingly diverged from those of their parents. Similarly, Sung (1985) and Yew (1987) found in Chinese–American families that conflicts between parents and children occurred because parents expected their children to be passive and obedient, whereas American culture encouraged children to be active, independent, aggressive and self-sufficient. In short, Chinese immigrant adolescents' orientation towards differentiation and independence was in conflict with the family's traditional value of mutual dependency (D. W. Sue and S. Sue 1990).

The differences in value orientation across parents and children may also result in children's hostility toward certain parenting practices that are considered as positive in their country of origin. For example, parental strictness, which children in Korea view as a positive dimension containing parental warmth, was perceived as a reflection of aggression, rejection, and hostility

among Korean–American adolescents (Rohner and Pettengill 1985). Similarly, Kim and Choi (1994) found that Korean–Canadian adolescents highly identified with Korean values perceived their parents as accepting, less rejecting and less hostile than Korean–Canadian adolescents lowly identified with Korean values. As a result of acculturation dissonance, the deterioration of the intergenerational relationship in immigrant families can easily diminish children's willingness to tell parents about their problems and voice their opinions in family matters. Besides, the adolescents in generationally dissonant families are less likely to treat their parents as references after whom to model their behaviors; instead, they may turn to their peers as the primary source influence in shaping their consumption habits and preferences.

By contrast to generationally dissonant families, generationally consonant families are found to enjoy high family cohesion. According to Tseng and Fuligni (2000), parents and children who are less discrepant in their acculturation levels are able to use the same language in communicating with each other, increasing the likelihood of parent–child communication and parents' transmission of values onto their children. This shared understanding and communication can foster a positive parent–child relationship within the family (Kim 1995). The positive affect in the parent–child relationship may spill over to parenting behaviors, with the parents being more likely to know their children's needs and preferences and to discuss with their children various family decisions, including product purchases. In line with this reasoning, we expect that family-level acculturation moderates CPI. Specifically,

> ***Hypothesis 2 (the family-level main effect)***: Children's influence on family purchase decisions is lower in dissonant families than in consonant families.
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> ***Hypothesis 3 (the cross-level effect)***: The impact of cultural adaptation on the children's influence in family purchase decisions at the individual level is moderated by generational dissonance. Specifically, the positive effects of acculturation and the negative effects of ethnic-identification on CPI are likely to be found only for culturally consonant families but not for culturally dissonant families.

Materials and methods

Sample

The sample consisted of Chinese–Canadian family triads (i.e., father, mother, and a teenage child) living in Montreal, Canada. Chinese immigrants may be different in their initial level of acculturative capacity, depending on their place of previous residence (e.g., China, Hong Kong, and Taiwan). In order to control for possible confounding effects caused by the place of previous residence, only the Chinese families with Hong Kong heritage, i.e., both parents came from Hong Kong, were included in our sample.

Family data were collected through the cooperation of the Chinese language school and a Chinese church in Montreal. Initially, 300 sets of questionnaires were distributed to the teachers of the Chinese language school with the consent of the principal. The teachers then handed out the packages, each containing a cover letter asking three members of the family (i.e., the student and his/her parents) to fill out the questionnaires, and students were asked to return the

completed questionnaires to the school in the following week. Additionally, 35 sets were distributed in a Chinese church with the same instructions. Two versions of the questionnaire, one in English and the other in Chinese, were developed. The back translation approach was used to ensure idiomatic equivalence of the Chinese and English versions. Respondents were given a choice to complete the questionnaire in the language that they felt most comfortable with. Each version required about 15–20 min to complete. A single identification number was assigned to the three questionnaires in each package so that responses by members of the same family could be matched. Out of the 335 sets of questionnaires distributed, a total of 108 family triad sets were returned with complete responses, of which 101 sets were from Chinese families of Hong Kong heritage.

The average age of the children was 15.2 years, with a range of 13–19. Male children accounted for 41.3%. The children had resided in North America for an average of 10.2 years. About 60.6% of the fathers and 71.6% of the mothers were aged between 41 and 50. The average number of years of residence in North America was 10.7 for the mothers and 10.3 for the fathers, respectively. About 38.5% of the fathers and 29.3% of the mothers had completed high school. Around 85.3% of the fathers and 82.6% of the mothers felt most comfortable speaking Chinese. The average household income was $39,500.

Measures

Acculturation

The measure of acculturation should reflect varying degrees of identification with and attachment to the dominant culture (Phinney 1990). As Berry (1986, p. 296) emphasizes, “the crucial point is that not every person in the acculturating group will necessarily enter into the acculturation process in the same way or to the same degree,” and hence “the assessment of individual psychological acculturation is an important aspect of acculturation research.” Based on previous research (e.g., Kim et al. 2001), family members’ acculturations were measured with the following three items: (1) I consider myself to be Canadian, (2) I would like to be known as “Canadian,” and (3) I feel very attached to all aspects of the English–Canadian culture. This measure was found to be substantially correlated with measures of linguistic acculturation such as English language use (0.34), English mass media exposure (0.41) as well as with a measure of English–Canadian social interactions (0.57) (Kim et al. 2001). Responses to each item were made on five-point scales anchored by ‘*strongly disagree*’ (1) and ‘*strongly agree*’ (5). Individual-level acculturation was measured by averaging the scores of these three items (Cronbach’s $\alpha = 0.89$).

Ethnic identification

Adopted from Kim et al. (2001) study, the measure of Chinese immigrants’ level of ethnic identification consisted of six attitudinal items: (1) I consider myself to be Chinese, (2) I feel very proud of my Chinese cultural background, (3) I think of myself as Chinese first and as Canadian second, (4) The Chinese culture has the most positive impact on my life, (5) I would like to be known as “Chinese,” and (6) I am still very attached to the Chinese culture, anchored

at '*strongly disagree*' (1) and '*strongly agree*' (5). This six-item scale was reliable ($\alpha = 0.76$), and the mean score of ethnic identification was then derived for each respondent.

Children's Purchase Influence (CPI)

Both parents and children were asked to rate the extent to which the child would exert influence in some sample family purchase decisions. Based on previous research (Kim and Lee 1997), 21 children's decision influence measures were included covering four a priori classified categories of products in the questionnaire, i.e., infrequently-purchased products for the child (Infre_C, e.g., stereo systems, bicycles), frequently-purchased products for the child (Fre_C, e.g., clothes, CDs), frequently-purchased products for the family (Fre_F, e.g., breakfast cereals, toothpaste) and infrequently-purchased products for the family (Infre_F, e.g., cars, television sets). In addition to the differences in the frequency of purchase and the product user, these categories also exhibit variations in the purchase expenditure, with frequently purchased products generally being less expensive than infrequently purchased products. Past findings have shown that children's influence tends to vary depending upon the product user and the amount of purchase expenditure (e.g., Foxman and Tansuhaj 1988).

Being aware of the possibility that product classifications may not be identical across three subgroups (fathers, mothers, and children), the factor loading pattern of these 21 items for each subgroup (see the Appendix) was checked. It was found that all three pattern matrices not only conformed to a priori expectations but also showed a high level of similarity. The estimates of Cronbach's reliability coefficients for each of the four categories across the three subsamples were all satisfactory, ranging from 0.71 to 0.84. Subsequently, average scores of children's influence for these four product categories were computed and used as the dependent variables.

Generational dissonance

According to previous research (e.g., Farver et al. 2002), generational dissonance is measured by subtracting the acculturation score of the adolescent from that of the least acculturated parent in the family. Before classifying families into generational dissonant/consonant groups, the data was examined and two exceptional cases where the child's acculturation score was significantly less than that of either parent were discovered. A closer look at the data showed that the children in these families came to Canada a few years later than their parents, which is not the usual case for most Chinese immigrants. In order to prevent complications in data analysis, these two exceptional cases were excluded from further analysis. Based on a mean split (mean = −0.64) of the generational dissonance scores (i.e., $M_{\text{Parent}-\text{ACC}}$—$M_{\text{Child}-\text{ACC}}$), the remaining 99 families were divided into two groups, 47 consonant families and 52 dissonant families.

Analytical strategy: hierarchical linear modeling

To investigate the effects of predictors at multiple levels of analysis, we employed multivariate hierarchical linear modeling (HLM: Raudenbush and Bryk 2002). In this study, we attended to variables at two levels of analysis: (1) the individual level that differentiates one person from another, and (2) the family level that addresses the effects of family environment. In the first level of analysis, we addressed the question of whether different levels of acculturation and

ethnic identification actually impact children's purchase influence. Previous research suggests that age may have confounding effects with our focal variables in the present study. Findings in past research reveal that children have a tendency to overestimate their influence in family purchase decisions (e.g., G. E. et al. 1985), which is likely due to the motive to put themselves in a more favorable light or social desirability response biases (Corfman 1991). In light of this, age was incorporated in our analysis as a covariate. The level-1 equation for CPI is:

$$\mathrm{CPI}_{ij} = \beta_{0j} + \beta_{1j}(\mathrm{ACC}_{ij}) + \beta_{2j}(\mathrm{EI}_{ij}) + \beta_{3j}(\mathrm{ACC}_{ij} * \mathrm{EI}_{ij}) + \beta_{4j}(\mathrm{AGE}_{ij}) + r_{ij} \quad (1)$$

where i denotes individuals; j indicates families; CPI_{ij} denotes individual i's perception of CPI in family j; ACC_{ij} refers to individual-level of acculturation; EI_{ij} is individual-level of ethnic identification; AGE_{ij} (coded as a dummy variable: 0, children; 1, parents) represents respondents' age; β_{0j} is the intercept, which is allowed to vary across j families; β_{ij} ... β_{4j} are the regression slopes for their respective predictor variables, which are also allowed to vary across families; and finally, r_{ij} captures the individual-level error term, with a mean of zero and variance σ^2.

The variation in each of the β coefficients (β_{0j} ... β_{4j}) is predicted by the family-level model which incorporates generational dissonance as an explanatory variable. The following equations specify the level-2 models:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\mathrm{Dissonance}_j) + \mu_{0j} \quad (2a)$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\mathrm{Dissonance}_j) + \mu_{1j} \quad (2b)$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\mathrm{Dissonance}_j) + \mu_{2j} \quad (2c)$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\mathrm{Dissonance}_j) + \mu_{3j} \quad (2d)$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\mathrm{Dissonance}_j) + \mu_{4j} \quad (2e)$$

where $\mathrm{Dissonance}_j$ denotes family characteristics (0, consonant family; 1, dissonant family); u_{qj} ($q = 0, ..., 4$) are multivariate errors normally distributed over families, each with an expected value of 0, variance τ_{qq}, and covariance τ_{qq}' ($q, q' = 0, ..., 4$). Substituting Eqs. 2a, 2b, 2c, 2d, and 2e into Eq. 1 yields the following combined HLM model, which was estimated to test the hypotheses:

$$\begin{aligned}\mathrm{CPI}_{ij} = {} & \gamma_{00} + \gamma_{01}(\mathrm{Dissonance}_j) + \gamma_{10}(\mathrm{ACC}_{ij}) + \gamma_{11}(\mathrm{Dissonance}_j)(\mathrm{ACC}_{ij}) + \gamma_{20}(\mathrm{EI}_{ij}) \\ & + \gamma_{21}(\mathrm{Dissonance}_j)(\mathrm{EI}_{ij}) + \gamma_{30}(\mathrm{ACC}_{ij} * \mathrm{EI}_{ij}) \\ & + \gamma_{31}(\mathrm{Dissonance}_j)(\mathrm{ACC}_{ij} * \mathrm{EI}_{ij}) + \gamma_{40}(\mathrm{AGE}_{ij}) + \gamma_{41}(\mathrm{Dissonance}_j)(\mathrm{AGE}_{ij}) \\ & + \mathrm{error}\end{aligned}$$

To alleviate the level of multicollinearity potentially caused by interactions, ACC_{ij} and EI_{ij} were group-mean centered before the development of the interaction term $\mathrm{ACC}_{ij} * \mathrm{EI}_{ij}$ to reduce "nonessential collinearity" (J. Cohen et al. 2003). Following Raudenbush and Bryk's (2002) suggestion, all continuous measures in the level-1 model were group-mean centered in order to ensure numerical stability and avoid model misspecification. All of the coefficients β_{0j}, ..., β_{4j} were first specified as random effects across families; however, this model was found to be

underidentified. To solve this problem, β_{3j} and β_{4j} were subsequently constrained to be constant across families in further analyses. No off-diagonal element of the Tau matrix was found to be close to 1 or −1; thereby lending strong support for the appropriate specification of the model.

Analyses and results

To test the hypotheses, we conducted hierarchical linear modeling analyses in which several clusters of predictors were entered in a stepwise manner. This procedure involved testing three models for each of the four dependent variables (Infre_C, Infre_F, Fre_C, and Fre_F): baseline, individual-level, and family-level models. The baseline model only contained age as a control variable but no predictors of interest were added. Consistent with previous research (e.g., Belch et al. 1985), children tended to attribute greater influence to themselves than their parents for all product categories except for Infre_F (Fre_C: $\gamma_{40} = -0.11$, $p < 0.05$; Infre_C: $\gamma_{40} = -0.16$, $p < 0.05$; Fre_F: $\gamma_{40} = -0.19$, $p < 0.05$).

The baseline model decomposed the total remaining variance of the dependent variable after controlling for the effects of age into two sources: individual and family. As shown in the first set of HLM models in Table 1, variance partitioning results indicated that 28.2% (.091/[0.232 + 0.091]) of the total variance in CPI for Fre_C could be attributed to between-family differences, which was statistically significant ($\tau = 0.091$, χ^2 (107) = 222.2, $p < 0.05$). Similar results were found for other product categories as well, with 28.3, 29.6, and 30.4% of the total variance in CPI coming from the family-level resource for Infre_C, Fre_F, and Infre_F, respectively. These substantial family-level variations suggest that children's influence in family purchase decisions is not only associated with their individual cultural propensities but also with family characteristics, such as the family environment in which parent–child interactions take place.

After having analyzed the baseline models, blocks of individual-level predictors and family-level variables were incrementally added in the model (see Table 1) to test hypotheses 1–3. It should be noted that, with the inclusion of the individual-level predictors, between-family variance became larger for all product categories (e.g., from 0.091 to 0.122 for Fre_C). This pattern suggests that the values of the individual-level predictors were not evenly distributed across family members.

Effects of individual-level cultural adaptation

H1 was broken down into two sub-hypotheses. H1*a* posited the main effects of acculturation and ethnic identification on CPI, while H1*b* proposed a significant interaction between these two cultural dimensions. The variables entered as the second block (see Table 1) tested this hypothesis. Similar to unstandardized regression coefficients, the coefficients appearing in Table 1 can be interpreted as the magnitude of the effect of each predictor on the criterion, controlling for other variables in the equation. As shown in Table 1, H1*a* was supported for three out of four products categories (Fre_C: $\gamma_{10} = 0.40$, $p < 0.05$; $\gamma_{20} = -0.33$, $p < 0.05$; Fre_F: $\gamma_{10} = 0.63$, $p < 0.05$; $\gamma_{20} = -0.23$, $p < 0.05$; and Infre_F: $\gamma_{10} = 0.15$, $p < 0.05$; $\gamma_{20} = -0.12$, $p < 0.05$). Therefore, for these three product categories, acculturation impacted CPI positively while the opposite was true for ethnic identification. This pattern, however, was not

shared by infrequently-purchased children products (Infre_C: $\gamma_{10} = -0.18$, $p < 0.05$; $\gamma_{20} = -0.32$, $p < 0.05$). For this category of products, while the negative impact of ethnic identification on CPI observed here conformed to prior expectations, the unexpected finding that acculturation also has negative impact on CPI will be explained later in the context of dissonant families. What it does suggest is that product type moderates the impact of acculturation on CPI.

Based on the assumption that cultural adaptation is a dynamic process, we expected that the effects of acculturation and ethnic identification depend on each other. In other words, the interaction between acculturation and ethnic identification should have a significant impact on CPI. From the results shown in Table 1, H1*b* was supported for three out of four product categories after controlling for the effects of individual differences in age (Fre_C: $\gamma_{30} = 0.10$, $p < 0.05$; Infre_C: $\gamma_{30} = 0.12$, $p < 0.05$; Fre_F: $\gamma_{30} = 0.15$, $p < 0.05$). For infrequently-purchased family products (Infre_F), the estimate was in the hypothesized direction but was not significant ($\gamma_{30} = 0.03$, n.s.). The estimates of the interaction effect were positive for all product categories, indicating that the effect of acculturation was stronger for low ethnic identifiers than for high ethnic identifiers. Consistent with expectations, this finding suggests that highly-acculturated individuals with weaker ethnic-identification are likely to have higher perceptions of CPI than those with stronger ethnic-identification.

Main effects of family-level acculturation

In addition to individual-level variables, we suggested both main effects (H2) and cross-level effects (H3) of family-level cultural dissonance on individual-level CPI. These two hypotheses were examined by the variables entered as the third block in Table 1. H2 was partially supported by the data. Specifically, CPI was found to be significantly lower in dissonant families than in consonant families for both categories of family products (Fre_F: $\gamma_{01} = -0.50$, $p < 0.05$; Infre_F: $\gamma_{01} = -0.48$, $p < 0.05$). The mean CPI scores across dissonant and consonant families gave a clearer representation of this finding (Fre_F: $M_{\text{Consonant}} = 2.61$ vs. $M_{\text{Dissonant}} = 2.08$, $t = 2.23$, $p < 0.05$; Infre_F: $M_{\text{Consonant}} = 2.34$ vs. $M_{\text{Dissonant}} = 1.82$, $t = 2.38$, $p < 0.05$), as shown in the first row in Table 2. However, for children's products, children in dissonant families had similar levels of influence as those in consonant families ($p > 0.15$).

These findings indicate that generational consonance/dissonance plays a significant role in children's involvement only in those family purchase decisions that involve products for use by the whole family. Consonant families, in which both parents and children have achieved a similar level of cultural adaptation and language proficiency, are likely to show more frequent and open parent–child communications. Therefore, children in consonant families may have more opportunities to participate in family purchase situations and exert influence in deciding what to buy. However, dissonant families are more likely to experience problems in parent–child communications due to the generational gap in language skills and value orientations. As a result, children in dissonant families may not be encouraged to voice their preferences and opinions in family purchase situations, especially when the product under purchase consideration is not solely for their own use. In order to avoid the potential conflict that may arise from discrepant preferences and losing authority over their children, parents in these families may often wish to keep children out of the decision process.

Table 1. Results of hierarchical linear modeling analyses

Dependent variables[a]	Unstandardized coefficient[b]											
	CPI for Fre_C			CPI for Infre_C			CPI for Fre_F			CPI for Infre_F		
Model	Baseline	Individual	Family	Baseline	Individual	Family	Baseline	Individual	Family	Baseline	Individual	Family
Intercept (γ_{00})	3.94*	3.94*	3.82*	3.66*	3.66*	3.62*	2.45*	2.45*	2.61*	2.27*	2.27*	2.34*
AGE (γ_{40})	−0.11*	−0.09*	−0.09*	−0.16*	−0.12*	−0.12*	−0.19*	−0.17*	−0.15*	−0.04	−0.02	−0.02
ACC (γ_{10})		0.40*	0.32*		−0.18*	0.01		0.63*	2.27*		0.15*	0.29*
EI (γ_{20})		−0.33*	−0.19*		−0.32*	−0.22*		−0.23*	−1.07*		−0.12*	−0.12*
ACC × EI (γ_{30})		0.10*	0.04		0.12*	0.12*		0.15*	0.53*		0.03	0.03
DISSONANCE (γ_{01})			0.10			0.08			−0.50*			−0.48*
DISSONANCE × AGE (γ_{41})			−0.00			0.00			0.01			0.00
DISSONANCE × ACC (γ_{11})			0.29*			−0.35*			−2.39*			−0.41*
DISSONANCE × EI (γ_{21})			−0.43*			−0.36*			1.19*			0.15*
DISSONANCE × ACC × EI (γ_{31})			0.29*			0.04			−0.54*			−0.01
Individual-level variance (σ^2)	0.232	0.186	0.185	0.541	0.442	0.439	0.453	0.357	0.352	0.258	0.181	0.178
Change in variance ($\Delta\sigma^2$)		0.046			0.099			0.096			0.077	
Proportion of explained variance		19.8%			18.3%			21.2%			29.8%	
Family-level variance (τ)	0.091	0.122	0.076	0.214	0.235	0.169	0.198	0.220	0.148	0.112	0.128	0.086
Change in variance ($\Delta\tau$)			0.046			0.066			0.072			0.042
Proportion of explained variance			37.7%			28.1%			32.7%			32.8%

*Significant at $p < 0.05$.

[a]AGE = age; ACC = acculturation; EI = ethnic identification; DISSONANCE = generational dissonance.

[b]Fre_C = frequently-purchased children product; Infre_C = infrequently-purchased children product; Fre_F = frequently-purchased family product; Infre_F = infrequently-purchased family product.

Table 2. Comparisons between dissonant and consonant families

Variables	CPI for Fre_c		CPI for Infre_c		CPI for Fre_f		Infre_f	
	Dissonance	Consonance	Dissonance	Consonance	Dissonance	Consonance	Dissonance	Consonance
Mean scores of CPI[a]	3.96 (0.96)	3.82 (0.87)	3.72 (0.82)	3.62 (0.77)	2.08* (0.48)	2.61 (0.52)	1.82* (0.32)	2.34 (0.38)
AGE → CPI	−0.09	−0.09	−0.12	−0.12	−0.14	−0.15	−0.02	−0.02
ACC → CPI	0.61*	0.32	−0.34*	0.01	−0.12*	2.27	−0.11	0.29
EI → CPI	−0.62*	−0.19	−0.58*	−0.22	0.12*	−1.07	0.03	−0.12
ACC × EI → CPI	0.33*	0.04	0.16	0.12	−0.01*	0.53	0.02	0.03

*Indicate that significant differences ($p < 0.05$) existed between dissonant families and consonant families.

[a]Standard deviations are in parentheses.

[b]CPI = children's purchase influence; AGE = age; ACC = acculturation; EI = ethnic identification; DISSONANCE = generational dissonance. Fre_C = frequently-purchased children product; Infre_C = infrequently-purchased children product; Fre_F = frequently-purchased family product; Infre_F = infrequently-purchased family product.

Cross-level effects of generational dissonance

Besides its main effect, H3 predicted a moderating effect of family-level cultural dissonance on the relationship between individual-level variables and CPI. To test this hypothesis, we first used the results in Table 1 to calculate separately the pure effects of individual-level acculturation and ethnic identification on CPI for dissonant families and consonant families, and then compared the causal paths of the model between these two types of families.

As indicated in Table 2, consistent patterns were found for consonant families over all four product categories, in which acculturation positively and ethnic identification negatively influence CPI simultaneously (Fre_C: $\gamma_{10} = 0.32$, $p < 0.05$; $\gamma_{20} = -0.19$, $p < 0.05$; Infre_C: $\gamma_{10} = 0.01$, n.s.; $\gamma_{20} = -0.22$, $p < 0.05$; Fre_F: $\gamma_{10} = 2.27$, $p < 0.05$; $\gamma_{20} = -1.07$, $p < 0.05$; Infre_F: $\gamma_{10} = 0.29$, $p < 0.05$; $\gamma_{20} = -0.12$, $p < 0.05$). Specifically, those members of consonant families (inclusive of parents and children) who are more acculturated toward the mainstream Canadian society and/or less strongly identifying with their Chinese culture of origin tended to attribute greater purchase influence to children (or children themselves). Existing evidence shows that the post-resettlement socialization process brings rapid changes in the core social values that Chinese teenagers subscribe to in the direction that is more compatible with those held by their Western counterparts; they become more accepting of the values such as independence, dominance, achievement, and individualism. Furthermore, more frequent parent–child communications facilitated by a common language use by both parents and children and the cultural compatibility between them are conducive to a cohesive parent–child relationship. Children in this type of family environment are more likely to be encouraged to participate and voice their opinions in family purchases.

However, mixed results were found for dissonant families, with three patterns emerging. First, respondents who are lower in acculturation and higher in ethnic identification perceived a higher level of children's influence on purchasing both frequently- and infrequently-purchased family products (Fre_F: $_{10} = -0.12$, $p < 0.05$; $\gamma_{20} = 0.12$, $p < 0.05$; Infre_F: $\gamma_{10} = -0.11$, $p < 0.05$; $\gamma_{20} = 0.03$, n.s.). Second, both acculturation and ethnic identification had significantly negative relationships with CPI for infrequently-purchased children products ($\gamma_{10} = -0.34$, $p < 0.05$; $\gamma_{20} = -0.58$, $p < 0.05$). Third, a positive effect of acculturation and a negative effect of ethnic identification were found for frequently-purchased children's products ($\gamma_{10} = 0.61$, $p < 0.05$; $\gamma_{20} = -0.62$, $p < 0.05$).

Some of the cross-level effects found for the dissonant families were in the direction opposite to what was expected and non-intuitive, suggesting cultural adaptation may work through a different mechanism to affect CPI in these families. As reported above, for both categories of family products, acculturation had a negative impact while ethnic identification had a positive impact on CPI. Furthermore, for the category of infrequently purchased children products, acculturation and ethnic identification both showed a negative influence on CPI. In generationally dissonant families, children's acculturation is unaccompanied or unguided by their parents' acculturation. Consequently, generational gaps in the value orientation and language proficiency may cause non cohesive and uneasy parent–child relationships. It is conceivable that, in dissonant families, ethnic identification or Chinese culture maintenance by the family members may work to reduce the intergenerational cultural gaps, which may in turn

promote parent–child communications. A family environment that is conducive to parent–child communications should also encourage children's participation in family decision making. This mode of thinking offers a plausible explanation for the finding that in dissonant families, ethnic identification (acculturation) influences CPI positively (negatively) in the family purchases involving frequently and infrequently purchased products for use by the whole family.

A similar reasoning can be made to account for the negative effect acculturation has on CPI for infrequently purchased children products in dissonant families. Given that the pace of acculturation is faster for the children than for their parents, acculturation in dissonant families may likely entail intergenerational cultural gaps, which in turn may hinder parent–child communications. Although highly-acculturated children in these families are likely to assert their preferences in purchasing products for their own use, parents who tend to value a more traditional parent–child relationship may unlikely allow much decision autonomy from their children, especially when the children's products under purchase consideration require large expenditures as those in the infrequently purchased category. Thus, in more acculturated dissonant families, it is conceivable that children have less purchase influence for this category of products due to their low level of participation in the purchasing process.

As presented in the shaded areas in Table 2, paired comparisons of causal paths further revealed that the differences across dissonant- and consonant-families were statistically significant ($p < 0.05$) for ten out of 12 individual-level paths. Overall, the present results support H3, showing that family-level cultural dissonance affects members' CPI via a cross-level route.

Discussion

The present study investigates the influence of cultural adaptation, both at the individual and the family levels, on family members' CPI. This paper contributes to the existing family consumption behavior literature by examining the effect of family-level cultural dissonance on CPI. The results suggest that the family environment moderates the effects of individual characteristics on children's influence in family purchases.

Theoretical implications

Many facets of the results show that cultural adaptation is of critical importance in understanding Chinese children's participation in family purchase decisions. Specifically, acculturation and ethnic identification jointly affect CPI. While acculturation positively and ethnic-identification negatively influence CPI for most products, the interaction between these two cultural dimensions is positive, indicating that the effect of acculturation is significantly higher for low ethnic identifiers than for high ethnic identifiers. Although acculturation and ethnic identification are often viewed as separate dimensions of ethnic change in cross-cultural psychology (Laroche et al. 1998), most studies in consumer research treat them as bipolar opposites on the same continuum. Our results indicate that using only one of the cultural adaptation dimensions may bias the cultural effects on consumer behavior. For example, one of our findings for dissonant family members showed that acculturation and ethnic-identification both negatively impact CPI over infrequently-purchased children products.

Another important finding pertains to the moderating effects of family-level cultural dissonance on CPI. On the one hand, children in generationally consonant families have more influence over both frequently- and infrequently-purchased family product purchases than children in dissonant families. But such a difference does not exist for children products, which suggests that, in addition to family type, product type may also be a significant factor in determining the level of CPI. Furthermore, for members of consonant families, higher-acculturation and lower-ethnic-identification result in higher CPI in purchase decisions for all product categories. On the other hand, some of the findings for dissonant families were in the opposite direction. Specifically, acculturation affected CPI negatively in dissonant families for both categories of the family products and infrequently purchased children products. While the reasons for these findings can only be speculated at this time, such results clearly suggest that these families experienced a different adjustment process in parent–child relationships in reaction to culture change. Furthermore, these findings demonstrate the need to incorporate multilevel units of analysis in family studies.

Managerial implications

In view of the increasing importance marketers attach to various ethnic markets in North America, a better understanding of immigrants' post-resettlement adjustments in consumption related behaviors and attitudes would provide a useful input into the formulation of effective segmentation strategies. In the realm of family life, culture change entails adjustments in consumption and decision-making patterns as well as in family resource allocation. However, our findings allude to the substantial variability in behavioral or attitudinal adjustments both within the family and among families. Specifically, acculturation and ethnic identification are likely to be important sources of this variability at the level of the individual family member, whereas intergenerational cultural dissonance may moderate the relationship between cultural adaptation and family consumption and decision making behavior.

Marketers have long noticed that children have a pervasive influence in family buying decisions. Chevrolet, for example, runs ads to directly woo these "back-seat consumers" when marketing its Chevy Venture minivan. However, our findings from Chinese–Canadian families suggest that advertisers, when targeting ethnic markets, need to identify the primary target family member(s) based on the level of cultural adaptation the family has experienced. Advertisers of family products may be rewarded by launching advertisements whose messages are primarily targeted toward the parents for ethnic families who still largely identify with their traditional values. Messages reflecting traditional Chinese family values should be integrated into the promotion of such products to enhance the market response.

Children's influence is generally higher in purchase situations involving items for their own use than for the use of the whole family. Therefore, it would be more effective to use children as actors when advertising children's products and thus communicate with this audience directly.

Finally, these results have to be interpreted with a caveat. Clearly, the relatively small sample of Chinese–Canadian families drawn from a small geographic area limits the external validity of the findings regarding the impact of culture change on family decision making/consumption behavior. In order to generate findings in this area with wide generalizability, future research

should have a larger sample size and expand its scope to include families from other Canadian cities.

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Appendix

Table 3. Measures of children's purchase influence

	Loadings[c]			Cronbach Alpha[c]		
Factors/measures[a]	**FA**	**MA**	**CA**	**FA**	**MA**	**CA**
Frequently-purchased children product[b]				0.80	0.73	0.71
Clothes for this child	0.707	0.771	0.650			
CDs for this child	0.846	0.621	0.633			
What movie this child should go to	0.764	0.766	0.756			
Magazines for this child	0.597	0.636	0.702			
Shoes for this child						
Infrequently-purchased children product[b]				0.82	0.81	0.81
A stereo system for this child	0.739	0. 765	0.815			
A bicycle for this child	0.778	0.816	0.776			
A Walkman for this child	0.706	0.752	0.831			
Computer software for this child						
Frequently-purchased family product				0.83	0.78	0.82
Tooth paste for the family	0.783	0.635	0.823			
Shampoo for the family	0.826	0.712	0.693			
Ketchup for the family	0.772	0.782	0.799			
Breakfast cereal for the family	0.750	0.770	0.727			
Soft drinks for the family						
What movie the family should go to						
Infrequently-purchased family product				0.84	0.74	0.79
The family car	0.732	0.678	0.600			
A house for the family	0.864	0.776	0.585			
A television set for the family	0.828	0.677	0.656			
Which restaurant to go to for the family dinner	0.632	0.629	0.808			
Where to go for the family dinner	0.689	0.658	0.812			
A stereo system for the family						

[a]These scales were measured on a five-point Likert-type scale (disagree strongly to agree strongly).
[b]In the children's questionnaire, "this child" was changed to "you."
[c]FA = Fathers' Assessments; MA = Mothers' Assessments; CA = Children's Assessments.
The items with factor loadings were used to develop composite scores of CPI for each product category.