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Maternal Beliefs, Adolescent Perceived Maternal Control and Psychological Competence in Poor Chinese Female-headed Divorced Families

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Abstract:

Based on the data of 337 female-headed divorced families living in poverty in Hong Kong, the relationships among maternal beliefs (Chinese cultural beliefs of familism, maternal expectations of children's future, maternal attribute of children's achievement to effort), adolescents' perceived maternal control and adolescent psychological competence (indexed by beliefs in the future, clear and positive identity, and resilience) were examined. Results indicated that adolescents' perceived maternal control mediated the influence between maternal beliefs and adolescent psychological competence in poor female-headed divorced families in Hong Kong. With the paucity of research on family beliefs and indigenous parenting practice, the present study underscores the importance of maternal beliefs and maternal control on nurturing adolescent psychological competence in Chinese divorced families facing adversity, which contributes to the development of Chinese familial model of resilience. Theoretical and practical implications of the findings are discussed.

Keywords: Chinese, parental beliefs, parental control, adolescent development, divorced families

INTRODUCTION

With the increase of divorce rate in the few decades, the rise of number of single-parent families has become a global as well as local issue. During the past two decades, the crude divorce rates (i.e. number of divorces per 1,000 population) in many countries (e.g. China, Japan, Germany, Spain) have risen rapidly (United Nations, Department of Economic and Social Affairs, Population Division, 2009). In the U.S., though the crude divorce rate dropped from the peak of 5.0% in 1985, it remained high in past decade, reaching 3.7% in 2006. In China, the crude divorce rates have been tripled over the past two decades, with 2.29 million Chinese couples divorced in 2012 (Chinese Statistics Bureau, 2013). In Hong Kong, the crude divorce rate was 3% and divorce as a percentage of marriage in 2012 was 34.9% (Census and Statistics Department, 2013). The number of single-parent families has increased by 137% in the past two decades, from 34,538 in 1991 to 81,705 in 2011 (Census and Statistics Department 2001, 2011). Among the single-parent families in Hong Kong, single-mother families far outnumbered single-father families in the past decade. While the number of single fathers increased by 24.3% from 14,216 in 2001 to 17,665 in 2011, the number of single mothers grew more rapidly by 35.6% from 47,215 in 2001 to 64,040 in 2011 (Census and Statistics Department, 2011). The lives and situations of single-mother families have been one of the concerns of the family theorists and researchers (Amato & Keith, 1991; Anderson, 2003; Paterson, 2001). Jones et al. (2007) identified several risk factors that exhibited in single-mother families, which included inadequate income, maternal depression and inadequate parenting. Due to the child-rearing role of mothers, employment difficulties and reduced earnings, single-mother families are found more vulnerable to poverty (Millar & Ridge, 2009). In fact, it was found that the median monthly income of single

mothers was only HK\$9,000, while the corresponding figures of single fathers and the general working population were HK\$12,000 and HK\$15,000 respectively (Census and Statistical Department, 2011). Chant (2007) described the phenomenon as “feminisation of poverty”, which is characterized by a higher incidence, greater severity, and more persistence in poverty exhibited in single-mother families, and they face more barriers to lifting themselves out of poverty. Hence, there is higher chance of intergenerational poverty in single-mother families.

Poverty and loss have brought detrimental effects to children and adolescents of female-headed divorced families. The divorced families were regarded as “defective” and “incomplete” due to the marital breakdown, and negative label of “broken homes” has been linked to them (Rice, 2001; Wells & Rankin, 1991). There has been empirical evidence that adolescents in single-mother families displayed more psychosocial problems, such as mental disorder, academic underachievement, and problem behaviors such as teenage pregnancy and delinquency (Amato & Keith, 1991; Lipman et al., 2002; Murry & Brody, 1999; Wells & Rankin, 1991).

Despite the loss and poverty that divorced mothers have encountered, there has been empirical support that they do care, nurture and supervise their children (Anderson, 2003; Hsieh & Shek, 2008). Particularly, the resilience literature has identified that family beliefs and parental practices are protective factors of adolescents living in underprivileged circumstances in facing adversity (e.g. Garmezy, 1993; Leung & Shek 2015b, in press). Patterson (2002), in the Family Adjustment and Adaptation Response (FAAR) Model, suggested that family meaning and identity help families meet with the family demands, and build up better adaptation in face of adversity. Walsh (2006) also indicated that spirituality and positive outlook help families develop family resilience against adversity and hardship. Obviously, parental

beliefs are important protective factors for families in facing their challenges and difficulties they encounter. From the cultural-ecological perspectives (Super & Harkness, 1986), parental beliefs influence parental behaviors, which further affect adolescents' psychosocial development (Padmawidjaja & Chao, 2010; Super & Harkness, 1986). Specifically, LeVine (1980) suggested universal parental goals and cultural values influence parenting strategies and parental behaviors. While some parental goals are universal across cultures (such as reducing the risk for children, working for their welfare, and enhancing their future economic security; LeVine, 1980), other socialization goals are culturally specific, depending on the family demands and qualities of children that are valued (Chen, Liu, & Li, 2000). These specific goals determine cultural strategies in parenting, which further influence adolescent development. Echoing with the ideas, Bornstein and Cheah (2006) further highlighted several functions of parental beliefs, including generating and shaping parental behaviors, assessing the effectiveness of parenting practices and transmitting cultural information across generations.

Generally speaking, belief systems are “values, convictions, attitudes, biases, and assumptions, which coalesce to form a set of basic premises that trigger emotional responses, inform decisions, and guide actions” (Walsh, 2006, p.50). In shaping the norms, values, and assumptions about life that guide one's behaviors and instill one's valued competencies, culture plays its important part in the formulation of parental beliefs (Bornstein & Cheah, 2006). In this study, three aspects of parental beliefs are examined, the Chinese cultural beliefs of familism, parental expectations of children's future and parental attributions of children's achievement to effort. The former parental belief describes parent's attitudes towards family embedded in the Chinese

culture (Yang, 2006), whereas the latter two are child-specific beliefs that indicate parents' aspirations of the children's future and achievement.

Deeply influenced by the Confucian thought, collective familism is emphasized in the Chinese culture (Ting & Chiu, 2002). As suggested by Yang (2006), familism is defined as "a person's complex system of social attitudes towards their family, family members, and family-related affairs" (p.300). There are three dimensions of Chinese cultural beliefs of familism: family solidarity and harmony, continuation of posterity and family prosperity (Yeh & Yang, 1997). Among these dimensions, family solidarity and harmony and family prosperity are strongly emphasized in the Chinese socialization of the children (Ting & Chiu, 2002). While family solidarity and harmony demands family members to have mutual care and support among each other, family prosperity requires them to strive for achievement so as to bring reputation to the family name, i.e. "*guang zong yao zu*" (bring honour to ancestors). This entails special meaning to the divorced families. On one hand members are obliged to maintain family solidarity and strive for family reputation, but on the other hand the loss, resentment and harm of divorce may challenge these beliefs. In the Chinese culture, traditional families are patriarchal and hierarchical in nature, which is guided by the Three Cardinal Guide (*san gang*) and the Five Constant Relationships (*wu lun*). As family reputation represents honouring the male lineage (Ting & Chiu, 2002), i.e. the name of the father's family, this may be contradictory to the divorced mothers, especially those having abandoned by their spouses. Furthermore, divorce implies the breakdown of the marital relationship which causes direct challenge to their beliefs of family solidarity and harmony.

Parental expectations of children's future are especially salient in the Chinese families as they contain both practical and moral values. The practical value refers to

the expectation of children to have good prospect in the future, whereas the moral values imply the moral obligations to contribute to the family and to be good citizens (Leung & Shek, 2011a). The former is especially important to poor families, as parents expect that their children can climb up the social ladder in the future, hence escape from the trajectories of intergenerational poverty (Leung & Shek, 2015b). Parental expectations have been identified as a predictor of children's cognitive and psychological competence (Eccles, Wigfield, & Schiefele, 1998; Schoon, Parson, & Sacker, 2004).

Another parental child-specific belief that is salient in Chinese communities is the causal attributions for children's success to effort. In the Chinese culture, effort in education is emphasized, as reflected by the sayings "*qin you gong, xi wu yi*" (reward lies ahead of diligence but nothing is gained by indolence) and "*qin neng bu zhou*" (diligence is a means by which one makes up for one's dullness). It was found that parental attribution of child's success and failure to effort influenced parental control and sacrifice of Chinese families experiencing economic disadvantage (Leung & Shek, 2015a).

In the Chinese culture, parental control has been regarded as a distinctive feature of parenting (Chao & Tseng, 2002). As suggested by Semtana and Daddis (2002), parental control is defined as the "rules, regulations and restrictions that parents have for their children" (p. 563). Unlike punitive or harsh parenting, parental control has its indigenous meaning of "*jiao xun*" (to train) and "*guan*" (to govern) in the Chinese culture, which contains strong connotation of "training" (Chao, 1994). The concept of "guan" (to govern) includes expectation setting and "contingent autonomy" i.e., giving autonomy only when children act responsibly (Padmawidjaja & Chao, 2010, p. 41). Shek (2007) further identified three features intrinsic to parental control,

including 1) a combination of behavioral control and psychological control to demand absolute obedience of the children to their parents; 2) high level of morality without dishonouring the family's name, and 3) strict and firm rules for the enforcing parental expectation and demand.

However, previous studies that examined the influence of parental control to adolescent development in the Chinese communities showed equivocal results. While parental control was found negatively predicted social competence and school performance (Chen, Dong, & Zhou, 1997), there was contradictory evidence showing that parental control did not affect adolescent psychosocial outcomes (e.g. self-worth, social competence; Chen, Liu, & Li, 2000) and academic performance (McBride-Chang & Chang, 1998). Leung, Lau, and Lam (1998) further found that authoritarian parenting was positively associated with academic achievement in Chinese adolescents. Hence, it is noteworthy to examine the influence of parental control to adolescent development in the Chinese contexts.

In view of majority of studies focus on the “deficiencies” of divorced families and emphasizing the “problems” of adolescents, this study highlights the “resilience” perspective and look into the positive developmental outcomes of adolescents that focus on their potentials, abilities, and competence (Damon, 2004; Shek, Siu, & Lee, 2007). Benson (1997) identified 40 developmental assets of adolescents, and Catalano et al. (2002) determined fifteen positive youth development constructs to assess adolescents' assets and abilities. Regarding adolescent developmental outcomes, three constructs are examined: beliefs in the future, clear and positive identity, and resilience. Beliefs in the future represent one's aspirations, hopes and future goals (Sun & Shek, 2012). Clear and positive identity determines one's unified self-concept that helps in building self-esteem, exploration of self-worth, reduction of self-

discrepancies and facilitating role formation and achievement (Tsang, Hui, & Law, 2012). Resilience is “positive adaptation within the context of significant adversity” (Luthar, Cicchetti, & Becker, 2000, p. 543). These three constructs of psychological competence are especially essential for adolescents of divorced families experiencing economic disadvantage because they are the building blocks for adolescents to have optimistic orientations towards future, positive self-image and affiliations, and capability to handle challenges and difficulties. Adolescents who possess these competencies may have good mastery of life in face of hardship and adversity.

As far as Confucian thought is strongly emphasized in the Chinese culture, parents who have stronger beliefs of family solidarity and prosperity (Yang, 2006), more expectations of their children’s future (Leung & Shek, 2011a) and more emphasis of effort in attributing children’s achievement (Leung & Shek, 2015a) may modify their parenting practice to exercise more control and monitoring to their children’s behaviors. Children under close supervision and strict parenting may develop positive psychosocial outcomes. In fact, the model was empirically supported by Leung and Shek (in press) in their study on examining the relationships among parental beliefs, parental control and adolescent development in intact families experiencing economic disadvantage in Hong Kong. Results suggested that maternal control mediated between paternal expectations of children’s future and adolescents’ positive development in poor intact Chinese families. However, previous study suggested that it was paternal expectations rather than maternal expectations that influenced maternal control and adolescent development. More importantly, the impact of divorce may have detrimental effects to parental beliefs and behaviors (Eamon & Zuehl, 2001; Jones et al., 2007). Hence, it is illuminating to examine whether maternal beliefs predict adolescents’ psychological development via maternal

control in the female-headed divorced families in the context of poverty.

Under this background, the present study aimed at examining the relationships among maternal beliefs, adolescents' perceived maternal control and adolescents' psychological competence in Chinese female-headed divorced families experiencing economic disadvantage. Based on the cultural-ecological perspective (Super & Harkness, 1986), the resilience literature (e.g. Patterson, 2002; Walsh, 2006), and the Chinese socialization (e.g. Chao & Tseng, 2002; Leung & Shek, in press), four hypotheses were tested:

Hypotheses 1: Based on the family resilience literature (e.g. Patterson, 2002; Walsh, 2006), it was hypothesized that more positive endorsement of maternal beliefs (indexed by Chinese cultural beliefs of familism, maternal expectations of children's future, maternal attribution to children's success to effort) would predict more psychological competence of adolescents.

Hypotheses 2: Based on the cultural-ecological perspective that parental beliefs shape parental behaviors (Super & Harkness, 1986), it was hypothesized that more positive endorsement of maternal beliefs would predict more maternal control perceived by adolescents.

Hypothesis 3: Based on the Chinese socialization model (Chao & Tseng, 2002), it was hypothesized that more adolescent perceived maternal control would predict more adolescents' positive development;

Hypotheses 4: Based on the cultural-ecological perspective (Super & Harkness, 1986) and the previous study (Leung & Shek, in press), it was hypothesized that adolescents' perceived maternal control mediated the influence between maternal beliefs and adolescents' psychological competence in poor Chinese female-headed divorced families.

METHOD

Participants

A cross-sectional survey of single-mother families was conducted in Hong Kong. Facing the fact that a complete list of female-headed divorced families was non-existent in Hong Kong, and poor female-headed divorced families were “hidden” communities to get rid of social stigma, purposive sampling method was adopted in the study. Social service units including children and youth service centres, community centres, family service centres across Hong Kong were invited to participate in the study. Finally, 17 social service units joined the study. The participating social service agencies used different sources such as their membership lists, recipient lists of supportive services for single-parent families and poor families, school lists etc. to identify the potential participants. To identify the respondent families, three criteria were used: 1) Chinese single-mother families facing divorce, separation or loss contact of spouse; 2) have at least one child with age between 11 and 17; and 3) monthly household income of less than 50% of monthly median domestic household income based on Hong Kong Census 2011. In case there was more than one child in the family, the elder child would be selected to be the respondent. Trained social workers were given training on identification of respondents as well as data collection. There were 337 poor Chinese female-headed divorced families participated in the study. For power analysis having statistical power = 0.8, $df = 36$, $\alpha = 0.05$, the sample sizes for test of close fit and non-close fit should be more than 279 and 333 respectively (Bowen & Guo, 2012; MacCallum, Browne, & Sugawara, 1996). Hence, the sample size of the study provided adequate power for the analysis.

Regarding the mothers' sample, the mean age of the mothers was 43.15 ($SD = 5.68$). Majority of mothers were of low educational level, with 239 mothers (71.1%) at the junior secondary level or lower. There were 92 (27.5%) mothers born in Hong Kong, and 85 (25.2%) had resided in Hong Kong for 6 to 10 years respectively. A high proportion of families ($n = 243$, 72.1%) received Comprehensive Social Security Assistance (CSSA) from the Government. Those who worked in the labour market were primarily engaged in unskilled jobs ($n = 34$, 10.1%). There were 302 (89.6%) divorced mothers, 27 (8.0%) were separated, and 8 (1.9%) whose spouse disappeared. 24 mothers (7.1%) had experienced single-parenthood for less than one year, 71 mothers (21.1%) for 2 to 3 years, 95 mothers (28.2%) for 4 to 6 years, 82 mothers (24.2%) for 7 to 10 years, 55 mothers (16.3%) for more than 10 years, and 10 mothers did not respond on this question. The mean and mode of number of children in the sample was 1.86 ($SD = 0.83$) and 2 respectively.

In the adolescent sample, there were 166 boys (49.3%) and 171 girls (50.7%). The mean age of the adolescents was 13.73 ($SD = 2.03$), with the mean age of boys and girls at 13.80 ($SD = 1.98$) and 13.65 ($SD = 2.08$) respectively. There were 95 adolescents (28.2%) studying in Primary Six or below (Grade 6 and below), 161 (47.7%) in junior secondary level (Grade 7 to 9), 81 (24.1%) studying in senior secondary level (Grade 10 above). Majority of adolescents were born in Hong Kong ($n = 212$, 62.9%).

Procedure

During data collection, both mothers and adolescents were given explanations about the research objectives, data collection procedure, the use of the data, and the rights of the respondents to voluntarily participate and withdraw from the research.

Written informed consent of both mothers and adolescents was sought. Mothers were invited to fill in the Mother Questionnaire which contained measures of maternal beliefs, whereas adolescents were invited to fill in the Adolescent Questionnaire which contained measures of perceived maternal control and psychological competence. The questionnaire was administered by each participant in a self-administered format separately. In case the participants found difficulties in comprehending the questionnaires, items were read out by trained social workers in an interview format. Parents and adolescents took around 40 minutes to complete the questionnaires. A HK\$100 (US\$12.5) supermarket coupon was given to each family that had participated in the study as a compensation of time and travelling expense. Conforming to the ethics of human subject research, the study was approved and monitored by Human Subjects Ethics Sub-committee of an internationally recognized university.

Measures

Mothers' Report

Assessment of Maternal Beliefs

In this study, three scales were used to assess maternal beliefs: 1) *Beliefs in Chinese Familism Scale (BCF)*. Based on Confucian thoughts, Yeh and Yang (1997) developed a 40-item measurement in assessing beliefs in Chinese familism. There are three dimensions: family solidarity and harmony (21 items); continuation of posterity (9 items); and family prosperity (10 items). In this study, two subscales on family solidarity and harmony, and of family prosperity were used (totally 31 items). Each item is rated on a 6-point Likert scale ranging from “strongly disagree” to “strongly agree”. An example item of the subscale of maternal cultural belief of family

solidarity and harmony is “In face of difficulties, the most helpful persons are always family members”, and that of family prosperity is “Parents should offer the best education to children so as to honor their ancestors”. Higher score indicates higher endorsement of beliefs in Chinese familism. 2) *Chinese Parental Expectations of Children’s Future Scale (PECF)*. Based on the literature (e.g. Shek & Chan, 1999), a 17-item indigenous PECF was developed in five dimensions: educational achievement, self-reliance, occupation, family obligation and conduct (Leung & Shek, 2011a). Each item is rated on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree). The measure showed good psychometric properties (Leung & Shek, 2011b). A sample item is “I expect my child to complete university”. Higher scores indicate higher parental expectations of children’s future. 3) *Mothers’ Attributions Questionnaire (MAQ)*. Based on the Weiner’s (1974) theory of attribution of one’s success/failure and the literature on strategy attributes (Borkowski, Weyhing, & Carr, 1988), a 24-item questionnaire based on four attributes (effort, ability, strategy use and luck) were identified for success or failure in school children (Chan, 1994). Each item is rated on a 4-point Likert scale ranging from “strongly disagree” to “strongly agree”. Example item is “If my child completes a worksheet well, it is most likely because he/she works hard”. The questionnaire showed good psychometric properties (Phillipson, 2006). In this study, maternal attribution of children’s success to effort was used. Higher scores indicate higher maternal attribution of children’s success to effort. The subscales showed good internal consistencies in the study with Cronbach’s alpha values of measures of beliefs in Chinese familism = 0.92; mothers’ expectations of children’s future = 0.88; maternal attribution of children’s success to effort = 0.73 in a sample of 337 mothers (Table 1).

Adolescents' Report

Assessment of perceived maternal control

Chinese Maternal Control Scale (AMCS). Based on a review of the literature and indigenous Chinese cultural beliefs, Shek (2005, 2007) developed a twelve-item AMCS to assess perceived maternal control. AMCS contained elements of behavioral and psychological control. Each item is rated on a 4-point Likert scale ranging from “strongly disagree” to “strongly agree”. A sample item is “My mother expects me to be mature (*sheng xing*)”. AMCS showed good psychometric properties in previous studies (Shek, 2007). Higher scores indicate higher level of Chinese perceived maternal control. AMCS showed good internal consistency in the study, with Cronbach’s alpha of 0.86 in a sample of 337 adolescents.

Adolescents' psychological competence

Chinese Positive Youth Development Scale (CPYDS). Shek, Siu, and Lee (2007) developed a 90-item CPYDS that contains fifteen aspects of positive youth development. Three subscales measuring were used in this study. 1) *Beliefs in the Future subscale (BF)*. BF was modeled after the Chinese Hopelessness Scale (Shek, 1993). A short form of three items was used in the study. An example of *BF* is “I have confidence that I will be a useful person when I grow up”. 2) *Clear and Positive Identity Subscale (CPI)*. A seven-item CPI was developed with the review of the literature (e.g. Education and Manpower Bureau, 2003). A short form of three items was used in the study. An example of *CPI* is “I am a person with self-confidence”. 3) *Resilience subscale (RE)*. With some items modeled after the items of the Chinese Beliefs about Adversity Scale (Shek, 2004), a 6-item subscale measuring resilience was developed. A short form containing three items was used in the study. An

example of *RE* is “I believe problems in life can be solved”. Each item in the Subscales is rated on a 6-point Likert scale (1 = “strongly disagree”, 6 = “strongly agree”). The three subscales showed acceptable internal consistencies in the study, with Cronbach’s alpha values of measures of beliefs in the future = 0.92, clear and positive identity = 0.75, resilience = 0.83 in a sample of 337 adolescents (Table 1).

Data Analyses

Structural equation modeling (SEM) using AMOS 22.0 was conducted to test the hypotheses. A two-step approach of modeling was adopted in the study (Kline, 2005). Initially, the measurement model was tested to confirm the factor structure of the latent variables. Then, the structural model of the relationships among maternal beliefs, perceived maternal control and psychological competence of adolescents was examined. Several goodness-of-fit indices were employed to test the models, including (i) chi-square (χ^2), with a non-significant probability value to show a closer fit of the hypothetical model (Hu & Bentler, 1999); (ii) the Comparative Fit Index (CFI) and the Normal Fit Index (NFI) values greater than 0.90 to indicate a good model fit; and (iii) the Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Squared Residual (SRMR) lower than 0.06 to indicate a good fit, and between 0.06 and 0.08 to indicate an acceptable fit (Hu & Bentler, 1999). Based on the work of Baron and Kenny (1986), the hypothetical model of direct influence of maternal beliefs to adolescent psychological competence was tested. The direct effect was estimated. Then adolescents’ perceived maternal control was added to the hypothetical model as a mediator. The goodness-of-fit indices were determined, and direct and indirect effects were estimated. Finally, the mediational significance of maternal beliefs on adolescent psychological competence via

perceived maternal control was assessed by bootstrapping mediation test (Preacher & Hayes, 2008) with 5,000 bootstrapped re-samples. In case a “zero” value was not found between the upper and lower bounds of bias corrected 95% confidence intervals in bootstrapping mediation test, the mediation effect was supported (Preacher & Hayes, 2008).

Rather than using the item-based model, parcel-based model was employed in the present study due to three reasons. First, the aim of this study was to examine structural relationships among the variables instead of scale validation. Second, some measurements contained many items (e.g. *BCF* contained 31 items), which may result in large amount of measurement errors when item-based model was employed (Matsunaga, 2008). Third, parcel-based model improves the variable to sample size ratio when applying to relatively small sample (Vandenberg & Scarpello, 1991). This approach has been widely used in social science research in structural equation modeling (Bandalos & Finney, 2001) and proved to obtain satisfactory statistical properties (MacCallum et al., 1999). However, there are arguments that parceling strategy simplifies the interpretation of model parameters and thus masks model misspecification (Bandalos & Finney, 2001; Chapman & Tunmer, 1995). As there are views that the use of parceling depends on the unidimensionality of the items being combined (Hall, Snell, & Singer Foust, 1999), it is recommended that the items belonging to the same dimension are pooled together to form a parcel.

The measurements of Chinese cultural beliefs of familism, maternal expectations of children's future, and maternal attributions of children's success to effort formed three parcels of latent construct of maternal beliefs, whereas the subscales of beliefs in the future, clear and positive identity, and resilience were used as the parcels of psychological competence. As the measurement of parental control was

unidimensional, items were randomly assigned to three parcels. The reliability of each parcel was determined (Table 1).

Finally, based on the transactional model of development that child and adolescent behaviors interplay with parental child-rearing strategies (Sameroff, 2009), bi-directional relationships between parental influences and children's characteristics are plausible. Hence, two alternative models, the influence of maternal control on adolescent psychological competence via maternal beliefs, and influence of maternal beliefs on maternal control via adolescent psychological competence, were tested respectively.

RESULTS

The descriptive statistics of the measures were listed in Table 1. Full information maximum likelihood (FIML) estimation was used (Arbuckle, 2007) to handle the missing data. As the skewness and kurtosis values of all observed variables were below 2 and 7 respectively (Table 1), multivariate normality assumptions was supported (Curran, West, & Finch, 1996). Hence, maximum likelihood method was used in the analyses. The model was further checked by using of asymptotically distribution-free (ADF) estimator.

Correlational analyses showed that except duration of stay of mothers in Hong Kong that was related with many observed variables of maternal beliefs, maternal control and adolescents' psychological competence, other demographic data (including education level of mothers, duration of single-motherhood, household income, number of children) did not correlate with these variables. It was found that the longer duration of stay of mothers in Hong Kong, the less endorsement of Chinese cultural beliefs of familism and expectations of children's future. Hence, moderation

effect of duration of stay of mothers in Hong Kong in the structural model was assessed. Two groups, duration of stay in Hong Kong for 10 years and below, and duration of stay in Hong Kong more than 10 years, were formed, with two groups contained similar sample size ($n_{(\text{duration of stay in Hong Kong} \leq 10 \text{ years})} = 170$; $n_{(\text{duration of stay in Hong Kong} > 10 \text{ years})} = 167$). Measurement invariance tests and multiple group path analysis across two groups were performed. Chi-square difference test and change of CFI (i.e. $\Delta\text{CFI} < 0.01$; Cheung & Rensvold, 2002) were used to determine whether the models were invariant between these two groups. In case invariance between two groups was found in measurement model and structural model, duration of stay of mothers in Hong Kong would also be controlled in the study.

Correlational analyses indicated that maternal Chinese cultural beliefs of familism were positively associated with adolescents' perceived maternal control, beliefs in the future and clear and positive identity. Maternal expectations of children's future were positively related with all observed variables of adolescents' perceived maternal control and psychological competence. Maternal attribution of children's success to effort was positively associated adolescents' perceived maternal control and clear and positive identity (Table 2).

The Measurement Model

The measurement model of maternal beliefs, adolescents' perceived maternal control and psychological competence was evaluated by confirmatory factor analysis. Every latent variable was allowed to correlate with every other latent variable freely so as to test whether the observed variables relate only to the latent variables they are represented (Cole & Maxwell, 2003). As more known information than parameters to be estimated, the measurement model is identified. The goodness-of-fit indices of the

measurement model were $\chi^2 = 50.679$, $df = 24$, $p < 0.01$, $\chi^2/df = 2.112$, CFI = 0.973, NFI = 0.951, and RMSEA = 0.058 and SRMR = 0.038. It was not unusual to have a significant χ^2 due to the fact that the likelihood ratio test is sensitive to large sample size (Byrne, 2001). The result indicated that CFI and NFI was more than 0.90, and RMSEA and SRMR were less than 0.06 (Hu & Bentler, 1999), showing that the measurement model provided an acceptable fit to the data. The observed variables significantly represented the corresponding latent constructs. The factor loadings of maternal beliefs, adolescents' perceived maternal control and psychological competence ranged from 0.50 to 0.62, 0.68 to 0.78, and 0.74 to 0.85 respectively (Table 1).

The Structural Model

Both structural models of direct influence between maternal beliefs on adolescent psychological competence, and mediation effect via perceived maternal control were identified. Regarding direct influence of maternal beliefs to adolescent psychological competence, the goodness-of-fit indices showed that the hypothetical model yielded good fit of the data, with $\chi^2 = 40.928$, $df = 23$, $p < 0.05$; $\chi^2/df = 1.779$; NFI and CFI were 0.937 and 0.971 respectively (above 0.90, Hu & Bentler, 1999), and RMSEA and SRMR were 0.048 and 0.038 respectively (below 0.06, Hu & Bentler, 1999). The hypothetical model explained 5% of the variance of adolescent psychological competence. The direct influence of maternal control to adolescent psychological competence was significant ($\beta = 0.23$, $p < 0.001$). Hypothesis 1 was supported. The standardized solution of the tested model is presented in Figure 2.

Then, adolescents' perceived maternal control was added to the structural model. The goodness-of-fit indices showed that the hypothetical model yielded a good fit of

the data, with $\chi^2 = 97.501$, $df = 45$, $p < 0.01$; $\chi^2/df = 2.167$; NFI and CFI were 0.911 and 0.949 respectively (NFI and CFI was above 0.90; Hu & Bentler, 1999), and RMSEA and SRMR were 0.059 and 0.043 (below 0.06; Hu & Bentler, 1999). The hypothetical model explained 17% of the variance of adolescent psychological competence in Chinese female-headed divorced families experiencing economic disadvantage. It was found that maternal beliefs positively predicted adolescents' perceived maternal control, with $\beta = 0.51$ ($p < 0.001$). Hypothesis 2 was supported. Furthermore, results showed that adolescents' perceived maternal control positively predicted psychological competence, with $\beta = 0.39$ ($p < 0.001$). Hypothesis 3 was supported. Lastly, the findings indicated that direct effect of the influence between maternal beliefs and adolescent psychological competence became non-significant ($\beta = 0.04$, $p > 0.05$). However, the indirect effect via maternal control was significant, with $\beta = 0.20$ ($p < 0.01$). The total indirect effect of influence of maternal beliefs to adolescent psychological competence via perceived maternal control was 0.24 ($p < 0.001$). A “zero” was not found between the upper and lower bounds of the bias corrected 95% confidence intervals of the indirect effects of the mediating path (Preacher & Hayes, 2008), indicating that the mediation effect was supported. Hypotheses 4 were supported. The standardized solution of the tested model is presented in Figure 2 and the direct, indirect and total effects of the pathways were listed in Table 3. When asymptotically distribution-free (ADF) estimator was used to test the model, the regression paths were substantively equivalent. A simplified model showing only the indirect effect (i.e. omitting the direct effect) was tested (Model 3). It was found that Model 3 showed a good fit of data, with $\chi^2 = 97.744$, $df = 46$, $p < 0.01$; NFI and CFI were 0.911 and 0.928 respectively, and RMSEA and SRMR were 0.058 and 0.043 respectively (Table 4).

In addition, two alternative models, the influence of maternal control on adolescent psychological competence via Chinese cultural beliefs of familism (Model 4), and the influence of Chinese cultural beliefs of familism on maternal control via adolescent psychological competence (Model 5), were tested. It was found that the two alternative models did not fit the data well when compared with Model 2 (full hypothetical model) and Model 3 (simplified hypothetical model). Hence the alternative models were rejected. The goodness-of-fit of all models were shown in Table 4.

Last but not the least, multiple group analyses of the moderation effect of mother's duration of stay in Hong Kong in the hypothetical model were performed between two groups: mothers who have stayed in Hong Kong for ten years or less, and those who had stayed in Hong Kong for more than ten years. First, the measurement model was tested. To see whether the measurements have equivalent factor patterns, configural model without imposing equality constraint was tested. The model fitted the data well with $\chi^2 = 74.031$, $df = 48$, $p < 0.01$, NFI = 0.930, CFI = 0.974, RMSEA = 0.040 (90% CI = 0.20-0.058), SRMR = 0.053. When configural model was supported, metric invariance was tested. Results showed that the measurements across two groups were invariant in factor loadings, with $\chi^2 = 8.07$, $df = 6$, $p > 0.05$ and $\Delta CFI = 0.003$ (non-significant Chi-square difference test and $\Delta CFI < 0.01$; Cheung & Rensvold, 2002). Then, invariant test of intercepts of measured variables (i.e. scalar invariance) were conducted. It was found that the measurements across two groups were invariant in measurement intercepts ($\chi^2 = 23.76$, $df = 15$, $p > 0.05$; $\Delta CFI = 0.009$). As the measurement model across two groups was equivalent, the invariance of the structural model was tested. It was found that the chi-square test was non-significant and ΔCFI was less than 0.01 ($\chi^2 = 26.48$, $df = 18$, $p > 0.05$; ΔCFI

= 0.009), suggesting that the path models was invariant between the two groups.

Thus, mothers' duration of stay in Hong Kong did not have moderation effect in the estimated paths. Hence, controlling of mothers' duration of stay in Hong Kong in the path model was justified.

DISCUSSION

The study attempted to examine the mediation effect of adolescents' perceived maternal control in the influence between maternal beliefs (Chinese cultural beliefs of familism, maternal expectations of children's future, maternal attribute of children's achievement to effort) and adolescent psychological competence (indexed by beliefs in the future, resilience, clear and positive identity) in female-headed divorced families experiencing economic disadvantage. There are several unique features of the study. First, poor Chinese single-mother families who had experienced divorce were selected as the targets of study. They are the "hidden" community in the Chinese contexts, yet the number is increasing rapidly. Second, an array of maternal beliefs was studied. In view of the paucity of research on Chinese beliefs systems (Leung & Shek, 2015b), this study examined both Chinese cultural beliefs and parental child-specific beliefs. Third, rather than focusing on the deficiencies of divorced families that are "broken, flawed and deficient" (Rice, 2001), the study adopted a resilience paradigm to understand the contributions of single-mothers in nurturing adolescent developmental assets. Fourth, indigenous Chinese concepts (Chinese cultural beliefs of familism, parental expectations of children's future, parental attribution of children's achievement to effort and parental control) were employed in the study. Fifth, both mothers and adolescents of the divorced families were involved in the study. Sixth, the indigenous measurements developed and validated in the Chinese

communities were used in the study.

The mediation of perceived maternal control in the influence between maternal beliefs and adolescent psychological competence provides empirical support on the development of indigenous Chinese model of family socialization (Yeh & Yang, 1997), which is relatively different from the Western socialization. Based on the Confucian thoughts where collective familism is emphasized, the cultural beliefs of family solidarity and prosperity, parental expectations of children's future and attributions to children's success to effort are salient. Though mothers were facing divorce and economic hardship, their cultural beliefs did not wither and remained impactful to the children's psychological development. However, these maternal beliefs did not directly influence adolescent psychological competence, but they indirectly influenced adolescent psychological competence via maternal control, which is the distinctive feature in the Chinese parenting (Chao & Tseng, 2002). The study illustrates a familial pathway through which adolescent psychological competence in female-headed divorced families is nurtured, which contributes to the development of family resilience model unique to the Chinese communities.

The research presented two important findings that were peculiar to the previous studies. First, the previous study suggested that it was paternal beliefs rather than maternal beliefs that predicted maternal control and further influenced adolescents' psychological competence (Leung & Shek, in press). However, the present study suggested that maternal beliefs became the driving force of single-mothers to closely monitor their children's behaviors and set clear standards for their children to follow. The cultural-ecological perspective suggesting the importance of parental cultural meanings in influencing parental goals and practice (Super & Harkness, 1986) also applies to Chinese single-mother families. As suggested by Bornstein and Cheah

(2006), the child-rearing practices “instantiate cultural themes that are important to parents, and they communicate and reinforce cultural messages” (p.5). In the absence of fathers, maternal beliefs become influential for single-mothers to exercise maternal control over their children, in the hope to preserve family solidarity, perpetuate family prosperity, foster adolescents’ future aspirations and advocate the importance of effort for children’s success.

Second, in view of the previous studies that maternal control negatively influenced adolescent psychosocial outcomes (e.g. Chen, Dong, & Zhou, 1997; Nelson et al., 2006), this study provides a counter evidence that adolescents’ perceived maternal control positively predicted their psychological competence. In the Chinese communities where interdependent relationship among family members are stressed, parents are supposed to “train” and monitor their children’s behaviors, and children are obliged to follow their parents’ rules and guidance (Yeh & Yang, 1997). It seems that parental control may restrict children’s autonomy by prohibiting their expressions and behaviors. But in fact, parental control carries strong parent’s expectations, and moral and cultural standards of the children’s behaviors, rather than forbidding their children from their pursuit of aspiration and achievement. Parents are “responsible and respectful instructors who pass along cultural norms, values, and life experiences” (Xu et al., 2005, p. 525). Through parental control, adolescents “learn” and internalize the cultural norms and values, and develop their competence of positive future outlook, clear and healthy self-identity, and resilience against adversity.

It was found that the shorter mothers’ duration of stay in Hong Kong, the more positive endorsement of maternal beliefs, perceived maternal control and adolescent development. Most mothers who migrated from mainland China to Hong Kong are

mainly for the purposes of family reunion and better education of the children. Hence, they may have stronger cultural beliefs of family solidarity and harmony, and expecting their children can excel and honor their family name. However, the findings suggested that mothers' duration of stay in Hong Kong did not moderate the pathways through which maternal beliefs influenced adolescents' psychological competence via maternal control, indicating that the pathways remained stable regardless of mothers' migrant status. As research related to migrant status, maternal beliefs, parenting practice and adolescent development was rare in divorced families in Chinese contexts, further research on these areas is suggested.

There are several theoretical and practical implications of the study. Theoretically, the study examines the familial pathways through which maternal beliefs influence adolescents' psychological competence via perceived maternal control in Chinese female-headed divorced families experiencing economic hardship, which is the first known scientific study in the social science literature. As commented by Lebow (2012), family issues "concerned with gender and culture were largely unattended to for many years" (p.437), the present study is an active response to the comments. Second, the study employed a resilience perspective to examine the protective factors that enhance the adolescents' positive developmental assets in Chinese families facing adversity. This contributes to the construction of resilience model pertinent to the Chinese communities. Third, the employment of indigenous Chinese concepts of parental beliefs and socialization practice facilitates the development of the Chinese family socialization model.

Practically, the study gives insight for family practitioners and youth counsellors in helping the divorced families experiencing economic disadvantage. Rather than emphasizing on the "father absent" perspective that depreciates the

single-mother families, family practitioners and youth counsellors can appreciate the “mother present” perspective (Wordlaw-Stinson, 2003) in nurturing the adolescents. Family practitioners and youth counsellors may need to shift the paradigm from “deficiency” perspective to “resilience” perspective and explore the strengths single-mothers in contributing to the families. Furthermore, in conventional service delivery for single-parent families experiencing economic disadvantage, family practitioners and youth counsellors emphasize on the tangible needs (such as financial subsidies, employment opportunities) and emotional needs of divorced families, while ignoring their beliefs systems. The present findings showed that positive beliefs of mothers are crucial in infusing parental behaviors, which in turn affect adolescent development. It is particularly impactful to divorced families experiencing economic disadvantage. The experience of loss and financial hardship will influence one’s beliefs and future outlook (McLoyd, 1990), especially their cultural beliefs of family solidarity and locus of control over life events. Hence, it is essential for family practitioners to cultivate positive beliefs in family life education programs for single-mothers. The Chinese cultural beliefs in family solidarity and prosperity, maternal expectations of children’s future, as well as attributions of children’s success to effort could serve as the content of family life education programs so to rekindle the hopes and positive beliefs of the divorced mothers. As suggested by Shiang et al. (1998) that “the incorporation of specific cultural beliefs and behaviors into standard clinical treatments is sorely needed to improve our ability to provide services to people from diverse settings” (p.182), family practitioners and youth counsellors may help the single-mothers endorse positive family beliefs, and challenge the negative beliefs that prohibit them to exercise appropriate parenting to their children.

Besides, though perceived maternal control was found positively predict

adolescents' psychological competence, single-mothers may feel stressful in monitoring their children's behaviors. Shek (2008) suggested that "higher behavioral control would be physically and psychologically taxing for mothers" (p.679). Moreover, adolescents may exhibit feelings of guilt and shame when they fail to follow their mother's expectations and standards (Bempechat, Graham, & Jimenez, 1999). Family practitioners and youth counsellors should be sensitive to the psychological well-being of adolescents and mothers as well as their interactions, and respond to their needs appropriately.

There are several limitations of the study. As the study is cross-sectional rather than longitudinal, it has the inherent problem of inferring cause-and-effect relationships due to the lack of time order. Second, purposive sampling may bring limitation on generalizability of the findings. Third, the use of parcel-based model in the study may have the possibility of model misspecification. Fourth, as the findings presented in the study were based on poor single-mother families in Hong Kong, there is a need to examine the relationships in different Chinese communities (e.g. mainland China) and Chinese people living in non-Chinese contexts (e.g. Chinese-Americans).

COMPLIANCE WITH ETHICAL STANDARDS

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The author declares that she has no conflict of interest.

The author declares that all procedures performed in studies involving human participants were in accordance with the ethical standards of Human Subjects Ethics Sub-committee of The Hong Kong Polytechnic University and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent was obtained from all individual participants included in the study.

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[in Chinese].

Table 1. Descriptive statistics, factor loadings and internal consistencies of measuring variables ($N = 337$)

	Measuring variables	Mean	SD	Skewness	Kurtosis	Factor loadings	Squared Multiple Correlations	Cronbach's Alpha
Mother	Maternal beliefs							
	Beliefs in Chinese familism	4.34	0.63	-0.09	0.19	0.62	0.38	0.92
	Mothers' expectations of children's future	5.23	0.49	-0.70	0.80	0.82	0.67	0.88
	Maternal attributions of children's success to effort	3.35	0.46	-0.09	-0.58	0.50	0.25	0.73
Adolescent	Perceived maternal control							
	AMCS Parcel 1	3.34	0.49	-0.36	-0.21	0.78	0.61	0.75
	AMCS Parcel 2	2.86	0.63	-0.15	-0.35	0.68	0.47	0.76
	AMCS Parcel 3	3.22	0.52	-0.44	0.14	0.76	0.57	0.75
	Psychological competence							
	Beliefs in the future	4.29	1.08	-0.40	-0.21	0.85	0.72	0.82
	Clear and positive identity	4.24	1.01	-0.32	-0.14	0.81	0.66	0.75
	Resilience	4.70	0.93	-0.71	0.83	0.74	0.55	0.83

Table 2. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1. Mothers' duration of stay in Hong Kong	1.00											
2. Gender of adolescents	0.06	1										
3. Age of adolescents	0.15**	-0.04	1									
Maternal beliefs												
4. Beliefs in Chinese familism	-0.13*	-0.03	0.02	1.00								
5. Mothers' expectations of children's future	-0.15**	-0.11	-0.09	0.51***	1.00							
6. Maternal attributions of children's success to effort	0.02	-0.01	-0.05	0.30***	0.40***	1.00						
Perceived maternal control												
7. AMCS Parcel 1	-0.16**	0.02	-0.21***	0.23***	0.32***	0.24***	1.00					
8. AMCS Parcel 2	-0.08	-0.13*	-0.08	0.28***	0.30***	0.22***	0.55***	1.00				
9. AMCS Parcel 3	-0.14*	-0.07	-0.17**	0.16**	0.31***	0.23***	0.59***	0.50***	1.00			
Adolescent psychological competence												
10. Beliefs in the future	-0.12**	-0.11*	0.10	0.13*	0.20***	0.08	0.20***	0.18**	0.35***	1.00		
11. Clear and positive identity	-0.10	-0.04	0.02	0.12*	0.16**	0.15**	0.21***	0.25***	0.31***	0.69***	1.00	
12. Resilience	-0.12*	-0.04	-0.09	0.07	0.12*	0.06	0.27***	0.13*	0.33***	0.63***	0.60***	1.00

* $p < .05$, ** $p < 0.01$, *** $p < .001$

Table 3: The standardized direct and indirect effects of maternal beliefs to adolescent psychological competence via perceived maternal control

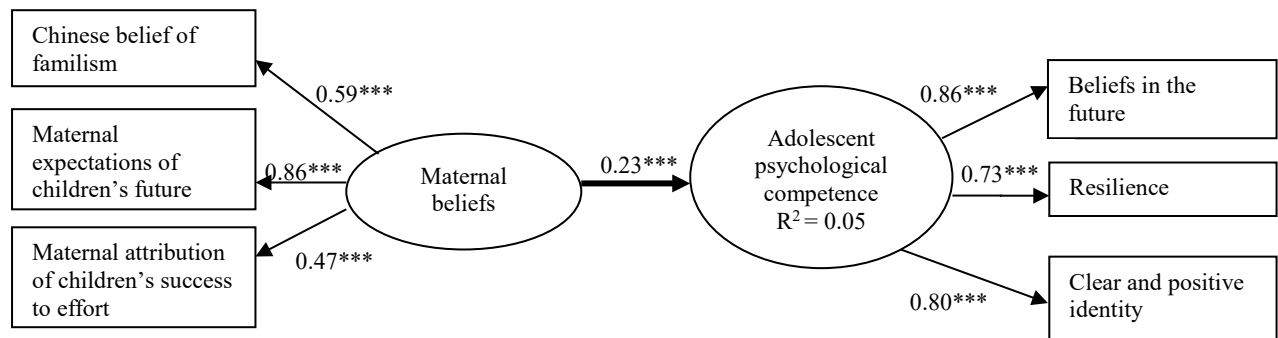
	Estimate (standardized)	BC (95% CI)	
		Lower	Upper
Direct effect	0.04	-0.292	0.543
Indirect effect via perceived maternal control	0.20**	0.238	0.806
Total Effect	0.24***	0.278	0.969

** $p < .01$, *** $p < .001$

Table 4: Goodness-of-fit indices of different tested models

Model No.	Influences	Model	χ^2	df	NFI	CFI	RMSEA	SRMR
1	Beliefs → Competence	Direct	40.928*	23	0.937	0.971	0.048	0.038
2	Beliefs → Control → Competence	Full	97.501**	45	0.911	0.949	0.059	0.043
3	Beliefs → Control → Competence	Simplex (omit direct effect)	97.744**	46	0.911	0.950	0.058	0.043
4	Beliefs → Competence → Control	Simplex	139.901***	46	0.873	0.909	0.078	0.082
5	Control → Beliefs → Competence	Simplex	119.915***	46	0.891	0.928	0.069	0.070

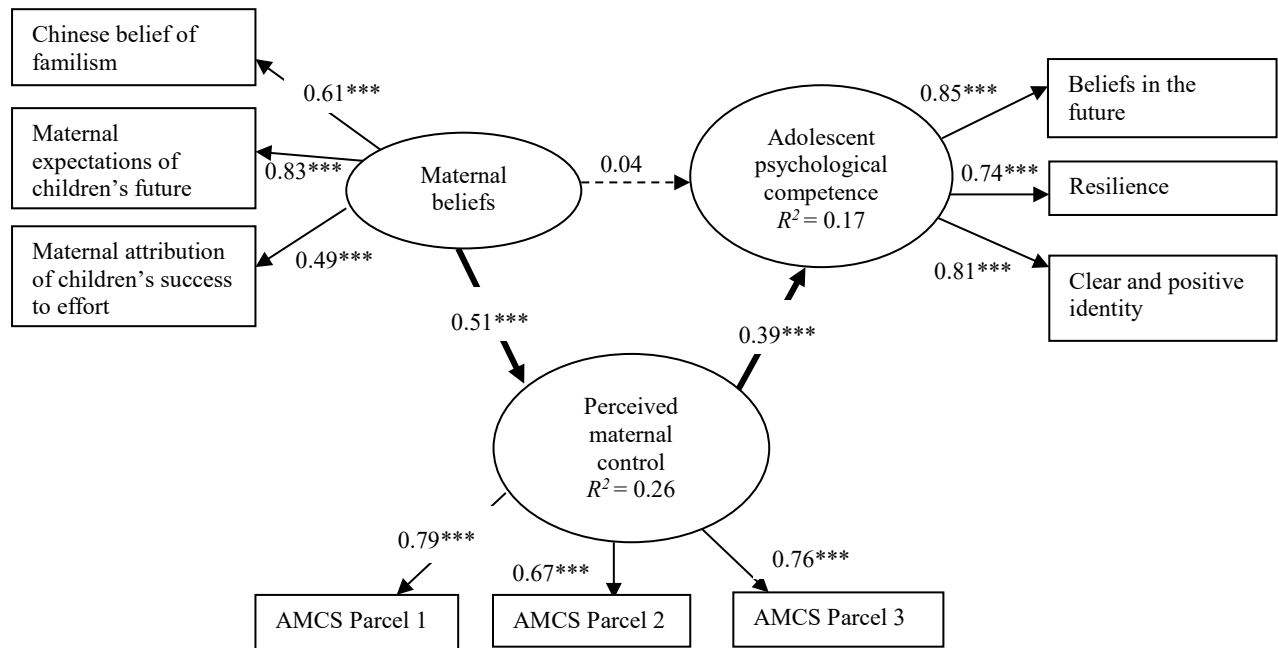
Figure 1: Full model by direct influence of maternal beliefs to adolescent psychological competence



Controlling:
 Mother's duration of stay in Hong Kong
 Gender of adolescents
 Age of adolescents

$\chi^2(23) = 40.928, p < 0.05$
 $\chi^2/df = 1.779$
 NFI = 0.937
 TLI = 0.955
 CFI = 0.971
 RMSEA = 0.048 (CI 90 = 0.022-0.072)
 SRMR = 0.038

Figure 2: Full model by which maternal beliefs influenced adolescent psychological competence via perceived maternal control



Controlling:
 Mother's duration of stay in Hong Kong
 Gender of adolescents
 Age of adolescents

$\chi^2(45) = 97.501, p < 0.01$
 $\chi^2/df = 2.167$
 NFI = 0.911
 TLI = 0.925
 CFI = 0.949
 RMSEA = 0.059(CI 90 = 0.043-0.075)
 SRMR = 0.043