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Authors

Pan, Yingqiu
Gauvain, Mary
Schwartz, Seth J

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Do parents' collectivistic tendency and attitudes toward filial piety facilitate autonomous motivation among young Chinese adolescents?

Yingqiu Pan · Mary Gauvain · Seth J. Schwartz

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Abstract The present study investigates the association of Chinese parents' collectivistic tendency, attitudes towards filial piety (i.e., children respecting and caring for parents (RCP) and children protecting and upholding honor for parents (PUHP)), parenting behaviors (i.e., autonomy granting (AG) and psychological control (PC)) with young adolescents' autonomous motivation. Participants were 321 Chinese parents and their eighth-grade children who independently completed a set of surveys. Results showed that parents' collectivistic tendency indirectly and positively contributes to children's autonomous motivation through the mediation of AG and PC, respectively. Parents' attitude toward RCP has an indirect and positive contribution to children's autonomy motivation through the mediation of AG while parents' attitude toward PUHP shows an indirect and negative contribution to children's autonomous motivation through the mediation of PC. The findings suggest that different cultural emphases in collectivist-based societies play different roles in adolescents' autonomy development. The implications of the findings are discussed.

Keywords Collectivism · Filial piety · Autonomous motivation

Introduction

In Western societies, satisfying the need for autonomy is seen as essential for individual psychological growth as well as for the integrity and well-being of the mature person (Erikson 1968). However, researchers hold differing views regarding the importance of autonomy for youth development in non-Western societies. Researchers who hold a cultural relativistic perspective contend that autonomy, which reflects individual needs for independence and separation-individualization from others, must be examined within the context of cultural value and goals (Blos 1979; Mahler 1972; Markus and Kitayama 2003; Steinberg and Silverberg 1986). In terms of this perspective, autonomy needs are consistent with Western cultural values of individualism but are contrary to cultural values of interdependence and social conformity found in collectivistic Eastern societies (Iyengar and DeVoe 2003; Oishi 2000). Accordingly, collectivistic cultures may inhibit the development of autonomy in adolescence, a process that is enacted in the family setting in the ways in which parents encourage or support autonomy-related behaviors (Olsen et al. 2002; Quoss and Zhao 1995). In contrast to a cultural relativistic view, researchers who subscribe to self-determination theory (SDT) endorse a universal view and conceive of autonomy as an innate human need for self-determination (i.e., regulating behaviors in terms of one's internal volition) that is vital for individual growth and social integration regardless of the cultural context in which development occurs. In this view, social connections are not ignored; rather they are seen as important contributors to individual autonomy (Chirkov 2009; Ryan and Deci 2000; Vansteenkiste et al. 2005).

Recent empirical studies have investigated whether autonomy and autonomy support are important components

Y. Pan (✉)
Department of Sociology and Social Work, College of Public Policy, Xiamen University, Xiamen, People's Republic of China
e-mail: ypan001@xmu.edu.cn

M. Gauvain
Department of Psychology, University of California at Riverside, Riverside, CA, USA

S. J. Schwartz
Leonard M. Miller School of Medicine, University of Miami, Miami, FL, USA

of youth development in collectivistic societies. Results have revealed that individual autonomy is positively associated with psychological well-being among Canadians, Chinese Canadians, and Singaporeans (Rudy et al. 2007) and that autonomy benefits academic motivation in Chinese children regardless of the quality of teacher-student relations (Bao and Lam 2008). It has also been reported that autonomy support provided by parents and teachers positively predicts Chinese and South Korean children's and young adults' academic functioning and psychological well-being, such as positive emotions and self-esteem (D' Ailly 2003; Jang et al. 2009; Vansteenkiste et al. 2005; Wang et al. 2007; Zhou et al. 2009). These findings suggest that autonomy is not unique to individualistic Western cultures; it appears to be applicable to collectivist-based Eastern societies as well, a position that supports the universal theoretical view of autonomy development.

Given the apparent importance of autonomy and autonomy support for youth development in collectivistic societies as reported in this prior research, one might conclude that a collectivistic cultural orientation does contribute in a meaningful way to youth autonomy development and parental support for this development. However, when comparing youth autonomy development across different cultures, researchers have found that adolescents from Asian backgrounds, such as Chinese adolescents, tend to have later or older age expectations for behavioral autonomy than their American counterparts (Lerner and Steinberg 2009). In addition, researchers who examined measurement validity of parental autonomy granting (AG) in four countries (China, Mexico, India, and the United States) found that the mean levels of AG from both mothers and fathers were highest in the United States, lowest in China, and similar for the Mexican and Indian samples (Supple et al. 2009). Wang et al. (2007) also identified cultural variations; they found positive associations between parents' autonomy support and children's emotional functioning to be stronger for American children than for Chinese children. These findings suggest that, although autonomy and autonomy support are relevant for youth development in different cultural contexts, autonomy and autonomy support may be more strongly endorsed or exert stronger effects on youth developmental and relational outcomes in individualistic Western cultures than in collectivist-based Eastern cultural contexts.

Considered together, the findings in prior research suggest that autonomy and autonomy support are beneficial for youth development in Eastern societies but the process and impact of this development differs from that in Western societies. Theoretically, these findings provide support for the claim in self-determination theory (Ryan and Deci 2000) that autonomy development and autonomy support

are important for adolescents' growth across different cultures. Meanwhile, they also suggest that culture does indeed play a unique role in adolescents' autonomy development and, accordingly, the autonomy support provided by parents and caregivers. However, due to some limitations associated with prior research, the role of collectivistic cultures in youth autonomy development and the mechanisms by which collectivistic cultures may contribute to autonomy development in adolescents are unclear.

One limitation of prior research is that participants have typically been identified by the nation in which they or their immediate ancestors live, with culture regarded as synonymous with nation or "national origin." However, treating culture as a single, overarching, and uniform feature of human psychological experience does not reveal the complex ways in which culture contributes to individual development (Gauvain et al. 2011). Furthermore, equating culture with national origin makes it difficult to assess whether it is culture or some other psychological process that systematically varies across countries and, thereby, accounts for different developmental outcomes (Matsumoto and Yoo 2006).

Second, prior research has tended to rely on the general construct of collectivism to represent different collectivistic cultures (Jang et al. 2009; Lee et al. 2010). Such an approach views collectivistic cultures as monolithic and ignores cultural variations in collectivistic cultures across different societies. Based on an intensive literature review, Oyserman et al. (2002) concluded that different collectivistic societies do share some common cultural characteristics, such as an emphasis on interdependence. However, cultural variations across different collectivistic societies also exist. Similarly, Rhee et al. (1996) suggested that it is not appropriate to use the construct of collectivism as a catchall term to represent interdependence-based value systems across different societies. The type of collectivism observed in China, for example, is markedly different from the types of collectivism observed in Mexico, India, and Iran. On this point, Schwartz et al. (2010) discussed variations in collectivism across different cultural groups. For example, *communalism* (emphasis on social ties over individual achievements) is known to be an important value orientation among individuals of African descent. *Familism* (obligations to family members) is a prevailing cultural value among Latin Americans. In Chinese societies, *filial piety* (Xiao Shun in Chinese), defined as upholding honor for one's family and caring for parents even after their deaths, is one of the most closely held cultural values.

Considering the limitations associated with prior research on youth autonomy development, it is suggested that, to achieve a better understanding of the role of collectivistic cultures in youth autonomy development, researchers need

to consider the common cultural characteristics across different collectivistic societies (e.g., collectivistic tendency) as well as cultural variations in particular collectivistic societies (e.g., filial piety in China). To follow this line of reasoning, the present study aimed to investigate the role of Chinese parents' collectivism tendency (CT) and attitudes toward filial piety in adolescents' autonomy development and parents' autonomy support.

Filial piety

In the Confucian *Analects*, You Zi said that filial piety and fraternal submission are the root of all benevolent actions. Meng Zi, an important Chinese philosopher in the third century B.C., emphasized that the inherent love-and-respect toward parents is the seed of benvolence and suggested to extend this virtue to those outside the family—"treat with reverence the elders in your own family so that the elders in other families shall be similarly treated; treat with kindness the young in your own family so that the young in other families shall be similarly treated." As the most important tenet of Chinese ethics and the root of Chinese cultural traditions, filial piety has guided and regulated Chinese people's socialization behaviors and other daily practices over the past 2,000 years (Hsieh 1967). In terms of the importance of filial piety to socialization, Ho (1996) further pointed out that, in the Chinese society, filial piety is not just reserved for one's own parents and grandparents, it also has profound social and psychological influences on the formation of Chinese people's character, including the development and implementation of discipline practices, morality, and cognition in Chinese families and other social settings. Along these lines, research findings indicated that Chinese adolescents' attitude toward filial piety is positively associated with adolescents' autonomous motivation (Hui et al. 2011).

Based on an intensive review of literature in this area, Yeh and Yang (1999) summarized that filial piety represents that children treat their parents and other ancestors in a way that meets certain material and emotional requirements. Yeh and Bedford (2003) further differentiated two dimensions of filial piety. *Reciprocal filial piety* pertains to children attending to and caring for parents emotionally and physically out of gratitude for parents' efforts in raising them (e.g., children respecting and caring for parents (RCP)). This dimension emphasizes building warm interpersonal connections between parents and children. The other dimension is *authoritarian filial piety* that involves children suppressing their own wishes and complying with the parents' expectations that children maintain parents' reputation (e.g., children protecting and upholding honor for parents (PUHP)). Hierarchy and submission are emphasized in the authoritarian filial piety.

Given the importance and variations associated with the construct of filial piety in the Chinese society, one aim of this study is to investigate the potentially unique associations of parents' attitudes toward filial piety (i.e., children RCP, and children PUHP) and parents' collectivistic tendency (i.e., individual feelings, beliefs, behavioral intentions, and behaviors related to solidarity and interpersonal concerns) with parental autonomy support and adolescents' autonomy development. We expect that a more detailed analysis of different dimensions of collectivism as expressed in Chinese society may help to provide a more accurate picture of the role of collectivistic cultures in adolescents' autonomy development and help to address the controversy as to whether autonomy is equally valued across different cultures.

Autonomy granting (AG) and psychological control (PC)

According to self-determination theory (Ryan and Deci 2000), autonomy is an innate human psychological need for self-determination. Social environment may facilitate or inhibit one's ability to achieve autonomy. Consistent with this theoretical view, findings of empirical research have shown that parents' and teachers' autonomy support positively contributes to adolescents' autonomy in different collectivistic societies (D' Ailly 2003; Jang et al. 2009; Chirkov and Ryan 2001; Reeve 2006; Supple et al. 2009; Vansteenkiste et al. 2005).

However, it is important to point out that adolescents may benefit from various forms of parents' autonomy support (Chirkov and Ryan 2001; Pan and Gauvain 2012; Ratelle et al. 2005; Soenens et al. 2007; Supple et al. 2009). For example, Silk et al. (2003) defined parental AG as parental encouragement of adolescents' individual expression and decision making. These researchers also proposed that the opposing construct of psychological control (PC), defined as coercive, passive-aggressive, and intrusive control characterized by hostility toward the adolescent, is important to assess as it may counteract parental encouragement for autonomy. In contrast, other researchers focus on different aspects of parental autonomy support such as parental promotion of volitional functioning, defined as parents' encouragement of children's decisions that reflect the child's true values and interest (Soenens et al. 2007). Supple et al. (2009) placed more emphasis on parental behavioral AG, (i.e., parents' allowing children's independent decision making and self-reliance) and examined its contribution to adolescents' academic functioning across different cultures.

In the present study, we examine the associations of Chinese parents' AG and PC with adolescents' autonomy development, as suggested by Silk et al. (2003). The goal is to provide a comprehensive understanding of the relations

between different types of parenting practices and adolescents' autonomy development.

Self-determination theory and autonomous motivation

Interm of Self-determination Theory (SDT), the ability to initiate and regulate one's own behaviors in a way that is consistent with personal will and desires is seen as a fundamental and universal characteristic of human development (Chirkov et al. 2003; Chirkov 2009; Ryan and Deci 2000). SDT further proposes that experiences of autonomy are essential for the development of self-determined or autonomous motivation, which will be reflected in various forms and to different degrees across individuals and settings. Specifically, autonomous motivation includes: intrinsic regulation (i.e., individuals engage in particular activities for the inherent interest and pleasure they derive from the participation); integrated regulation (i.e., behaviors regulated by personal values and needs that are fully assimilated into the self); and identified regulation (i.e., behaviors regulated by a conscious valuing of personally important goals). SDT also proposes different forms of controlled regulations (i.e., behaviors regulated by external forces or pressure), including introjected regulation (i.e., behaviors performed to avoid guilt or anxiety or to attain ego enhancements) and external regulation (i.e., behaviors performed to comply with an external demand or reward contingency). To characterize the extent to which a person's motives are autonomous versus controlled by external forces, the Relative Autonomy Index (RAI) has been used. The RAI is a score that is computed by weighting and summing across the different types of regulations. This score was used in the present study as the measure of adolescents' autonomy development.

To illustrate the associations of Chinese parents' collectivistic tendency, attitudes toward filial piety (i.e., children RCP; children PUHP), AG, PC, and adolescents' autonomous motivation, a theoretical model is presented in

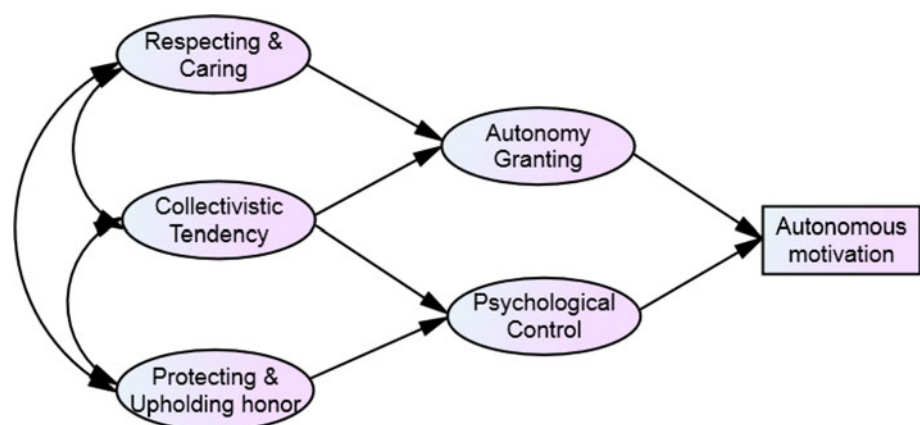
Fig. 1, and our hypotheses about the relations among these variables are explained and summarized below.

First, in terms of parental enthnotheories (Harkness et al. 2001), cultural belief systems that parents hold function "as the nexus through which elements of the larger culture are filtered, and as the source of parenting practices and the organization of daily life for children and families (p. 9)." It is hypothesized that Chinese parents' CT and attitudes toward filial piety (i.e., children RCP, and children PUHP) would predict parenting practices related to AG and PC.

Consistent with self-determination theory that social relatedness has a positive contribution to children's autonomous motivation (Ryan and Deci 2000), we further hypothesize that Chinese parents' attitude toward children's RCP that emphasizes building a warm interpersonal relationship between parents and children will have a positive contribution to parental AG. In contrast, Chinese parents' attitude toward children's PUHP that emphasizes children's conformity to parents' authority and family hierarchy will positively predict parental PC.

Second, according to SDT, autonomy support is critical for youth autonomy development (Ryan and Deci 2000). It is hypothesized that parents' AG and its opposite construct of PC will have a positive and negative contribution, respectively, to adolescents' autonomous motivation. Put together, it is hypothesized that parental collectivistic orientations (i.e., collectivistic tendency and attitudes toward filial piety) will contribute to adolescents' autonomous motivation via parental AG and PC. Furthermore, given findings of previous research showed that parents' collectivism has no association with adolescents' autonomy (Jang et al. 2009), we also hypothesize that the indirect and positive effect of parents' collectivistic orientations on adolescents' autonomous development via parental AG will counteract with the indirect and negative effect of parents' collectivistic orientations on adolescents' autonomy development via PC.

Fig. 1 Theoretical model of the relations between parents' collectivistic orientations, parenting behaviors, and adolescents' autonomous motivation



Methods

Participants

A total of 321 eighth-graders (164 female, 157 male) and their parents (one parent for each student) participated. Students were recruited from three public middle schools in a southern Chinese city. Within each school, three classes of eighth graders were randomly selected to participate. The average age of the students was 14.5 years ($SD = 7.1$ months). Among participating parents, 50.2 % (161) were mothers, 48.0 % (154) were fathers, and six parents (1.8 % of the sample) did not report their gender. Among the participating parents, 15.0 % (48) had elementary school education or below, 30.2 % (97) had middle school education, 25.2 % (81) had secondary higher education, 8.7 % (28) had 2 or 3 years of college education, and 19.6 % (63) had 4 years college education or more. Four parents (1.3 %) did not report their education background. Most (95 %) of the participating adolescents lived with married or remarried parents. The median annual family income for the participating families was 60,000RMB (about US\$9,500), which represents lower to middle class in China.

Procedure

For each class, students completed questionnaires in their home classroom under the supervision of an experimenter. The whole questionnaires took about 30 min for students to complete. All students (except for 25 students who were not available when questionnaires were administered or who declined to participate in the study) took parent questionnaires home for parents to complete and then brought the questionnaires back to school. It took about 15 min for parents to complete the questionnaires. Both students and parents were informed that their participation was voluntary. Each student received a pen in appreciation of his or her participation. Parents did not receive any incentive for their participation. All student and parent questionnaires were collected in the middle of the 8th grade spring semester. Of the returned parent questionnaires, 84.9 % (321) were completed and matched with their children's questionnaires; 15.1 % (57) were not completed or identifiable. An independent t test was conducted to examine the mean difference in autonomous motivation between students whose parents participated in the study and those students whose parents did not and no difference was found, $t(371) = 1.13, p > .05$.

Measures

Adolescents completed questionnaires about autonomous motivation. Parents completed questionnaires assessing

parental collectivistic tendency, attitudes toward filial piety, AG, and PC. Some of the questionnaires were originally developed in English and translated into Chinese by a bilingual psychology professor and translated back into English by a bilingual English literacy professor. The two translators then discussed differences between the original and back-translated English versions, and worked together to translate the final English version into Chinese. Participants answered questionnaire items using 5-point Likert rating scales, varying from 1 = Not true at all/ Totally disagree to 5 = Very true/Totally agree.

Youth measure of autonomous motivation

This construct was measured using a composite score (RAI) based on four subscales: *External regulation* (behaviors performed to comply with an external demand or reward contingency; 4 items, e.g., "If I do well in school, I may receive rewards"); *Introjected regulation* (behaviors performed to avoid guilt or anxiety or to enhance the ego; 4 items, e.g., "To prove that I am capable to do well in school"); *Identified regulation* (behaviors regulated by a conscious valuing of personally important goals; 4 items, e.g., "For me, learning is something important"); and *Intrinsic regulation* (behaviors regulated by the internal pleasure derived from doing activities; 4 items, e.g., "For the pleasure that I experience in studying new knowledge"). The four *external regulation* items and two *intrinsic regulation* items were adapted from the Academic Self-Regulation Questionnaire (Ryan and Connell 1989) and other items were adapted from the Academic Motivation Scale (Vallerand et al. 1989) or developed for the present study. Results of Principal Components Analysis showed that 67.46 % of the cumulative variance was explained by the four components (i.e., intrinsic, identified, introjected, and external regulation).

A zero-order correlational analysis was conducted to examine the relations among the four motivational components. Results showed that introjected, identified, and intrinsic motivation were positively and significantly correlated with each other, with the coefficient r 's ranging from .48 to .61 ($p < .001$). External regulation was positively related with introjected regulation ($r = .27, p < .001$) and negatively correlated with intrinsic regulation ($r = -.17, p < .01$). No relation was found between external regulation and identified regulation.

Following the correlational analysis, confirmatory factor analysis was conducted to examine the construct validity of the four motivational subscales. Results indicated adequate goodness-of-fit indices $\chi^2 = 249.45, df = 89, p < .001, NFI = 0.90, GFI = .91, CFI = .93, RMSEA = .074$. Internal consistency reliability coefficients for scores on these subscales in the present sample were: External

regulation, .73, Introjected regulation, .79, Identified regulation, .78, and Intrinsic regulation .89. In accordance with SDT and previous studies (Vansteenkiste et al. 2005), the Relative Autonomy Index (RAI) was computed to assess adolescents' autonomy. The autonomous subscales (Identified and Intrinsic regulation) are weighted positively, and the controlled subscales (External and Introjected regulation) are weighted negatively. The more autonomous or controlled regulation was assigned a larger weight. The specific formula was as follows: $2 \times \text{Intrinsic} + \text{Identified} - \text{Introjected} - 2 \times \text{External}$.

Parent measures

The questionnaires completed by parents measured parents' collectivistic tendency, attitudes toward filial piety (i.e., children RCP and children PUHP), AG, PC, and demographic information, including parent gender and educational background.

Collectivistic tendency was assessed using the Non-kin Collectivism subscale (10 items) by Rhee et al. (1996), which is based on the Scale of Individualism-Collectivism (INDCOL; Hui 1988). INDOL has been used effectively in previous international studies (Oyserman et al. 2002). It measures individual feelings, beliefs, behavioral intentions, and behaviors related to solidarity and interpersonal concerns. A sample item is "When I run into a neighbor, I find it awkward not to greet him or her." The reliability coefficient (Cronbach's Alpha) for scores on this measure was .79.

Attitudes toward filial piety were measured with two subscales of the Filial Piety Scale developed by Yeh and Yang (1999) for use with Chinese participants. The adapted subscales were effectively used in prior research (Wong et al. 2010). The two subscales used in the present study were RCP and PUHP. The subscale RCP assesses the extent to which parents believe that his/her child should respect and care about parents' feelings and life, 19 items, e.g., "Is the child supposed to be concerned with parents' health?"; "Is the child supposed to be self-sacrificing to take care of parents?" (rating range from 1 = definitely not supposed to, to 5 = definitely supposed to). One item that asks whether children should avoid quarreling with brothers or sisters in front of parents was deleted from the original set of items because the situation described is not applicable for most Chinese families today that have only one child. The subscale PUHP assesses the extent to which parents believe that children should avoid trouble and bring glory to parents (8 items) e.g., "Is the child supposed to do things that parents can take pride in?" Two items were deleted. One item that asks whether the child should work hard so parents can feel at ease was deleted because it was deemed inappropriate for adolescents as young as those in the study.

Another item that asks whether children should keep it secret when parents do something bad or illegal was also deleted. The internal consistency reliability coefficients for scores on RCP and PUHP were .89 and .67, respectively. Results of confirmatory factor analysis for the two dimensions of filial piety showed: $\chi^2 = 529.63$, $df = 293$, $p < .001$, GFI = .89, CFI = .92, RMSEA = .050.

Autonomy granting (AG) was measured by the AG Scale developed by Silk et al. (2003). Researchers have used this measure to assess autonomy promoting in families in different countries, including China (Manzi et al. 2012; Pan and Gauvain 2012). This scale assesses the extent to which parents encourage adolescents' individual expression and decision-making in daily communication (8 items). A sample item is, "I told my child that every member of the family should have some say in family decisions." Some words in the original items were modified in consideration of the cultural background of the sample. For example, for the item "My parents talk at home about things like politics or religion, where one takes a different side from others", the words "like politics or religion" were deleted because these topics are not common in the discussions of Chinese families. Internal consistency reliability for scores on this questionnaire was .79.

Psychological control (PC) was measured using the PC Scale developed by Silk et al. (2003), which assesses the extent to which parents are psychologically intrusive and controlling of their children's feelings and behaviors (7 items). A sample item is, "When the child gets a poor grade, I think that he/she should feel guilty." The item "My parents won't let me do things with them when I do something they don't like" was deleted from the original scale due to low item-total correlations (<.30). Internal consistency reliability coefficient for this questionnaire was .76. Confirmatory factor analysis was conducted to examine parental AG and PC, which were proposed as two distinct constructs in Silk et al. (2003). Results of confirmatory factor analysis in the present study showed that the two-construct model has adequate goodness-of-fit indices, $\chi^2 = 173.02$, $df = 83$, $p < .001$, GFI = .94, CFI = .93, RMSEA = .058.

Results

Descriptive statistics for parents' collectivistic tendency, the two dimensions of filial piety (i.e., children RCP, and children PUHP), AG, and PC were presented in Table 1. A 2×2 (Parent gender \times Education background) MANOVA was conducted to determine whether there were any gender and educational-level differences in the variables of interest. Following that, zero-order correlations and Structural Equation Modeling (SEM) were conducted to examine the proposed theoretical model of the prediction

Table 1 Means and standard deviations of fathers’ and mothers’ collectivistic orientations, PC, and autonomous granting by parent education

	Non-higher education		Higher education	
	Mother <i>M</i> (SD)	Father <i>M</i> (SD)	Mother <i>M</i> (SD)	Father <i>M</i> (SD)
CT	3.94 (.47)	3.78 (.56)	4.03 (.42)	3.95 (.65)
RCP	4.17 (.45)	3.99 (.53)	4.09 (.41)	4.06 (.41)
PUHP	4.08 (.55)	4.00 (.58)	3.98 (.45)	4.04 (.42)
AG	3.53 (.66)	3.41 (.62)	3.82 (.56)	3.78 (.57)
PC	3.01 (.72)	3.03 (.66)	2.70 (.72)	2.87 (.73)

CT collectivism tendency, RCP respecting and caring for parents, PUHP protecting and upholding honor for parents, AG autonomy granting, PC psychological control

of parents’ collectivistic orientations to adolescents’ autonomous motivation.

Results of the 2 × 2 MANOVA (Parent gender × Education background) indicated significant group differences in collectivistic orientations, AG, and PC between parents who had received versus had not received post-secondary education, multivariate $F(5,303) = 4.99, p < .001$, partial $\eta = .28$. Results of univariate F tests indicated that parents who received higher education granted their children more autonomy, $F(1, 307) = 18.11, p < .001$, partial $\eta = .24$, and exercised less PC, $F(1, 307) = 7.04, p = .008$, partial $\eta = .15$. No significant education differences were found in parents’ collectivistic orientations. No gender differences or interaction effects (Parent gender × Education background) were found, multivariate $F(5, 303) = 1.51, p = .19$, multivariate $F(5, 303) = .42, p = .83$, therefore we collapsed the data across parent gender for all further analyses.

Zero-order correlations were conducted to examine the relations among parents’ education background, collectivistic tendency, RCP, PUHP, AG, and PC. As shown in Table 2, consistent with results of the MANOVA analysis, parents’ education background was related to parental AG and PC. In addition, Chinese parents’ collectivistic tendency, RCP, PUHP, AG, and PC were intercorrelated. Parental AG and PC were positively and negatively correlated with adolescents’ autonomous motivation, respectively. To examine the unique contributions of different attitudinal constructs to children’s autonomous motivation, Structural Equation Modeling analysis was conducted.

Before testing the proposed theoretical model, SEM was used to test the overall measurement model underlying the structural model. Considering that the scales used to assess parents’ CT, RCP, PUHP, AG, and PC included a large number of items, a parceling approach was used to establish the SEM model. Specifically, items for each given subscale were randomly selected, and an average of the sum of the

response scores were used as parcels or indicators for particular latent constructs (Little et al. 2002). Each of the latent constructs of collectivistic tendency (10 items), PUHP (8 items), AG (8 items), and PC (7 items) has two parcels. The latent variable of RCP (19 items) has four parcels. The number of items for each parcel of the particular latent variable is equal or roughly equal. For example, if there are 10 items for a latent variable, then each parcel has five items. If there are 19 items for a latent variable, then three parcels have 15 items (five for each parcel) and the fourth parcel has 4 items. SEM results showed that indices of goodness-of-fit for the overall measurement model are good, $\chi^2 = 148.23, df = 87, p < .001, GFI = .95, CFI = .97, RMSEA = .047$.

In the SEM analysis of the proposed theoretical model, effects of parents’ education background on parental AG and PC was controlled. SEM results indicated that the proposed model fits the observed data relatively well, $\chi^2 = 111.41, df = 67, p < .001, NFI = .94, TLI = .96, CFI = .97, RMSEA = .046$. The squared multiple correlations (R^2) for the variables of autonomous motivation, AG, and PC were .11, .21, and .14, respectively. The standardized coefficients between parents’ collectivistic orientations, RCP, PUHP, AG, PC, and children’s autonomous motivation are presented in Fig. 2.

As shown in Fig. 2, parents’ AG had a direct and positive contribution to adolescents’ autonomous motivation ($\beta = .21, p < .001$), while parents’ PC showed a direct and negative contribution to adolescents’ autonomous motivation ($\beta = -.24, p < .001$). It was also found that parents’ collectivistic tendency made an indirect and positive contribution to adolescents’ autonomous motivation through the mediation of AG and PC, respectively. To test the significance of these indirect effects, the program RMediation (Tofighi and MacKinnon 2011) was used to examine 95 % CIs of each of the two-path indirect effects. For the indirect effect of parents’ CT on adolescents’ autonomous motivation via parental AG, the 95 % CI is [.08, .65]. For the indirect effect of parents’ CT on adolescents’ autonomous motivation via PC, the 95 % CI is [.07, .65]. The results suggested that parents’ CT had significant and indirect effects on adolescents’ autonomous motivation via parents’ AG and PC.

It was also found that parents’ attitude toward children’s RCP positively predicted adolescents’ autonomous motivation via parents’ AG. The 95 % CI for this indirect effect was [.08, .61]. In contrast, parents’ attitude toward children’s PUHP negatively contributed to adolescents’ autonomous motivation via PC. The 95 % CI for this indirect effect was [−1.33, −.32]. The results suggest that RCP and PUHP had significant indirect effects on adolescents’ autonomous motivation, though their paths are different.

Table 2 Mean (standard deviation) and zero-order correlations of parents' education, collectivistic orientations, PC, AG, and adolescents' autonomous motivation

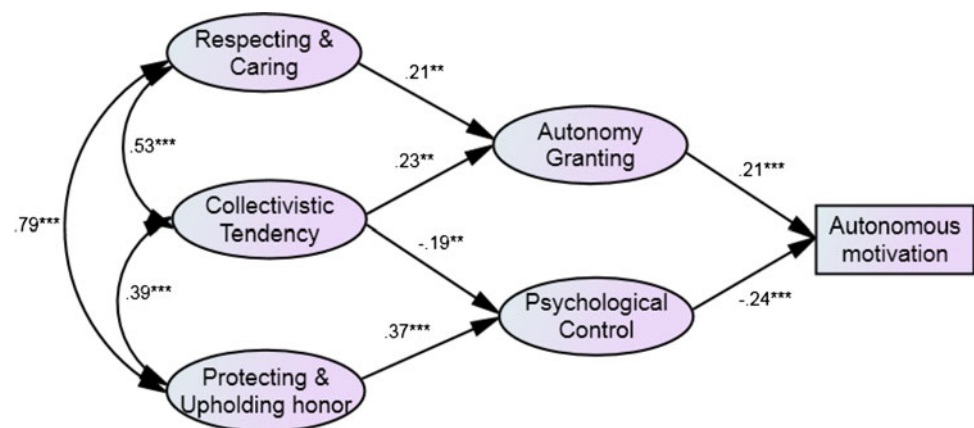
	<i>M</i> (<i>SD</i>)	Parent education ^a	CT	PUHP	RCP	AG	PC
CT	3.89 (.53)	.10					
PUHP	4.03 (.53)	-.03	.29***				
RCP	4.08 (.48)	.01	.45***	.64***			
AG	3.57 (.63)	.25***	.32***	.17*	.27***		
PC	2.95 (.70)	-.16**	-.06	.24***	.15**	-.12*	
Autonomous motivation ^a	1.44 (3.14)	.12*	.10	.04	.07	.20***	-.24***

^a All the variables in the Table 2 represent latent variables except for parent education and autonomous motivation which are observed variables. The scale rating range for the each latent variable is 1–5. The range for the variable of autonomous motivation (RAI score) is from –8.00 to 10.25

* $p < .05$; ** $p < .01$; *** $p < .001$

CT collectivism tendency, RCP respecting and caring for parents, PUHP protecting and upholding honor for parents, AG autonomy granting, PC psychological control

Fig. 2 Effects of parents' collectivistic tendency and attitudes toward filial piety on adolescents' autonomous motivation via the mediators of parental AG and PC



Discussion

Results of the present study indicate that: (1) parents' education background is significantly associated with parents' AG and PC; (2) parents' collectivistic orientations indirectly regulate their children's autonomous motivation through parental AG and PC; and (3) collectivistic culture does not simply facilitate or inhibit adolescents' autonomy development but, rather, operates as a double-edged sword in relation to Chinese adolescents' autonomous motivation. In other words, some aspects of this cultural value orientation facilitate autonomy development and some aspects appear to impede this development.

Results of the MANOVA indicated that parents who received higher levels of education granted more autonomy and exercised less PC toward their children than parents who did not receive higher levels of education. In contemporary China, rapid modernization and urbanization is underway. More and more high school students are afforded the opportunity to enter college or university. These findings suggest that future research attend to how changes in educational patterns in collectivistic societies may affect the association of

traditional cultural values with youth development, including processes relevant to autonomy development.

Consistent with the hypotheses, results showed that Chinese parents' AG and PC had a positive and negative contribution, respectively, to adolescents' autonomous motivation. Considering individual differences in parenting behaviors among people within individualistic or collectivistic societies, the present findings provide additional evidence that it is the combination of different parenting behaviors in a given family context that may best predict youth autonomy development. In this sense, consideration to both of parents' autonomy support and control behaviors is essential when researchers investigate parenting factors that may shape adolescents' autonomy development.

Regarding the association between the different dimensions of parents' collectivism (i.e., CT, children RCP and children PUHP) and adolescents' autonomous motivation, divergent patterns emerged. Parents' collectivistic tendency was positively and negatively related, respectively, to parental AG and PC. In turn, parental AG and PC were positively and negatively linked, respectively, with adolescents' autonomous motivation. In short, parents'

collectivistic tendency evidenced an indirect and positive contribution to adolescents' autonomous motivation. The dimension of children's RCP, which emphasizes building warm interpersonal connections between parents and children, positively contributed to adolescents' autonomous motivation via parental AG. However, the parents' emphasis on children's PUHP, which stresses children's conformity or obedience to parents' authority and hierarchy, negatively contributed to children's autonomous motivation via PC. These results resonate the findings of prior research—the lack of direct association between collectivism and adolescents' autonomous motivation (Jang et al. 2009) may be due to the twofold or double-edge effects of collectivism on adolescents' autonomous motivation. That is, the positive effects of parents' collectivistic tendency and attitude toward children's RCP on adolescents' autonomous motivation may be canceled out or weakened by the negative effects of parents' attitude toward children's PUHP on adolescents' autonomous motivation. The findings may also serve as an important supplement to self-determination theory (Ryan and Deci 2000)—that is, the overall cultural emphasis on interdependence in collectivistic society may not necessarily play a facilitating role in adolescents' autonomous motivation. It appears that the nature of social relatedness between parents and children, specifically warm interpersonal connections versus hierarchy and conformity, is important in adolescents' autonomy development.

The present results also provide explanations for some puzzling findings in prior research, for instance that Chinese young adolescents are expected to gain autonomy at later ages than Western youth (Lerner and Steinberg 2009) and Chinese parents grant their children less autonomy than Western parents do (Supple et al. 2009). These patterns emerged even though autonomy and AG have been reported to be important for Chinese youth development (D' Ailly 2003; Vansteenkiste et al. 2005; Wang et al. 2007; Zhou et al. 2009). These conflicting findings resonate with the present results that collectivistic cultures in Eastern societies, such as China, have mixed effects on adolescents' autonomy development. On one hand, the cultural emphasis on warm interpersonal connections or relatedness (e.g., children's RCP) was positively linked with youth autonomy development via parents' AG. On the other hand, the cultural emphasis on hierarchy and conformity (e.g., children's PUHP) was negatively associated with Chinese adolescents' autonomy development via PC, which, in turn, may weaken the positive contribution of warm social relatedness to youth autonomy development. Given that cultural emphases on interdependence, hierarchy and conformity coexist and are interwoven in Chinese society, the social support for Chinese adolescents' autonomy development may be less potent as compared with social support in individualistic

cultures that value independence and self-reliance. In line with this point, it is not surprising that youth in collectivistic cultures hold later expectations for autonomy than do youth in individualistic societies.

It is worth noting that conducting psychological research with attention to cultural processes can present problems of interpretation, some of which stem from the use and adaptation of conventional measures. On this point, a limitation of this study is that some measures were modified due to cultural considerations and to statistical information (e.g., low item-total correlations). When interpreting the present findings, it should be noted that item modifications may have had some impact on the conceptualization of the constructs relative to their original construal. However, an “emic” approach to cross-cultural work, where constructs are modified so as to apply to a specific cultural context, is more appropriate and useful than an “etic” approach where constructs are applied literally across cultural contexts (Kagitcibasi 2005).

In conclusion, the present findings offer new information to the controversy stemming from universal versus cultural relativistic views of youth autonomy development and autonomy support by parents. First, any sweeping claim that collectivistic cultures facilitate or inhibit youth autonomy development may not be accurate. Cultural emphases on interdependence, hierarchy, and conformity coexist in the Chinese society, which may have a complex, mixed influence on youth autonomy development.

Second, our results suggest a mechanism as to how collectivistic orientations may contribute to autonomy development. Parents' collectivistic orientations may indirectly regulate adolescents' autonomous motivation via parental AG and PC.

Third, to develop a more accurate understanding of the role of collectivistic cultures in youth autonomy development, future research should attend to variations in collectivistic cultures across different societies. Culturally unique emphases in a collectivistic society, such as the dimensions of filial piety in the Chinese society studied here, may be important components of this developmental process.

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