



Indirect Effects of Overparenting and Family Communication Patterns on Mental Health of Emerging Adults in China and the United States

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Abstract

According to self-determination theory, the satisfaction of basic psychological needs (i.e., autonomy, competence, relatedness) is essential for human mental health and flourishing. This process was hypothesized to be impeded by overparenting (a.k.a. helicopter parenting) and maladaptive family communication patterns. Therefore, a series of indirect effects was tested from overparenting and family communication patterns to emerging adults' mental health and environmental mastery through psychological needs satisfaction. These effects were tested with data from 282 U.S. and 281 Chinese university student participants who completed an online questionnaire. The results showed that overparenting was positively associated with family conformity orientation and negatively associated with family conversation orientation. There were significant indirect effects from overparenting and family conversation orientation to emerging adults' mental health (depression and anxiety) and environmental mastery. These findings point to hindered psychological needs satisfaction as a potential mechanism that links overparenting and family conversation orientation to emerging adults' psychological distress or well-being.

Keywords Overparenting · Helicopter parenting · Self-determination theory · Environmental mastery · Mental health

Introduction

Overparenting, also known as “helicopter parenting,” involves the delivery of excessively involved, controlling, and risk averse parenting behaviors that are developmentally inappropriate (Segrin et al., 2012). It is considered developmentally inappropriate because parents are doing for their children (e.g., making decisions, managing risks, providing resources) what the children could do for themselves without parental intervention. Despite potentially being enacted with good intentions, this form of parenting appears to have deleterious consequences for adolescent and emerging adult well-being (LeMoyne & Buchanan, 2011; Schiffrin et al., 2014; Segrin et al., 2013) and coping skills (Odenweller et al., 2014). By its very nature, overparenting likely coexists with otherwise detrimental family communication behaviors that could contribute to negative child outcomes, although

this has rarely been tested in the research literature. Additionally, overparenting may be associated with maladaptive child outcomes by way of interfering with the satisfaction of psychological needs in emerging adult children (Schiffrin et al., 2021). Therefore, the primary aims of this study are to determine the extent to which overparenting covaries with problematic family communication patterns and, if so, how they collectively contribute to disrupted satisfaction of psychological needs and compromised psychological well-being in emerging adulthood. The secondary aim was to extend the research literature on overparenting and family communication patterns by comparatively examining these processes in the American and Chinese cultures, given the eclectic findings on parenting practices and child outcomes that are sometimes comparable, and sometimes different, in Asian and American contexts (e.g., Bi et al., 2018; Kho et al., 2019).

The most robust finding to emerge from the past decade of research on overparenting is that it is reliably associated with maladaptive child traits such as entitlement and narcissism (e.g., Segrin et al., 2012; Winner & Nicholson, 2018) and psychological distress in the form of depression and anxiety (e.g., Cui et al., 2019b; Schiffrin et al., 2014). Perhaps as an extension of these core problems, children

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exposed to overparenting also exhibit lower school involvement, academic adjustment, and maladaptive academic motivations (Burke et al., 2018; Schiffrin & Liss, 2017), greater engagement in risky behaviors (Nelson et al., 2015), substance use problems (Cook, 2020), and insecure attachment (Jiao & Segrin, 2021). Researchers have recently turned their attention to possible mediating mechanisms that could explain how and why overparenting is associated with such unfortunate outcomes in young adult children. Such research is vitally important to the development of a theory of overparenting and child outcomes.

Overparenting and Family Communication Patterns

Like any other parenting practice, overparenting does not occur in a vacuum. Rather, it is part of a larger and more general family communication climate. Research on family communication patterns shows that there are two dominant norms or orientations to family communication that have been described as conversation orientation and conformity orientation (Koerner & Fitzpatrick, 2002). Families high in conversation orientation value openness and expression of differing opinions and perspectives. Families high on conformity orientation place a premium on agreement and shared viewpoints, often at the cost of children's autonomy and independence. Phenomena such as conformity and conversation orientation likely become salient once children appear in the family system, at the same time that parenting styles begin to take form.

The discourse of families high in conformity orientation is more self, versus other, oriented, and marked by more advice versus confirmation, when compared to families low in conformity orientation (Koerner & Cvcancara, 2002). Directive advice and guidance is one of the hallmarks of overparenting (Segrin et al., 2012). Conformity orientation is also positively associated with parents' privacy invasion behaviors and perceived ownership of emerging adults' private information (Kennedy-Lightsey & Frisby, 2016; Ledbetter, 2019). This type of parental intrusiveness is also consistent with overparenting. Families high in conversation orientation, unlike those who engage in overparenting, tend to raise children with positive psychosocial outcomes (Schrodt et al., 2008). This suggests that family conversation orientation is likely to be negatively associated with overparenting. Odenweller et al. (2014) used two measures of helicopter parenting and found each to be positively correlated with family conformity orientation. In a more recent study of first-year university students, helicopter parenting was found to be strongly and positively correlated with family conformity orientation but weakly and negatively correlated with family conversation orientation (Dorrance Hall et al., 2021). Therefore, it is predicted that

H1 Overparenting will be positively associated with family conformity orientation and negatively associated with family conversation orientation.

Psychological Need Fulfillment

Overparenting, and the problematic family communication orientations that are hypothesized to be associated with it, has been linked with psychosocial problems in the late adolescents and young adults exposed to this form of parenting (Dorrance Hall et al., 2021; Schiffrin et al., 2014). A compelling explanation for the harmful effects of overparenting, and associated family communication patterns, on child outcomes can be found in self-determination theory (Deci & Ryan, 2002; Ryan & Deci, 2000). According to self-determination theory, and in particular, basic psychological needs theory (one of the six mini-theories embedded in self-determination theory), there are three basic needs of which fulfillment serve as psychological nutrients that promote adjustment and growth. Autonomy refers to having volition and free will. Relatedness is the need for a bonding and caring connection to other people. Finally, competence is a reference to feelings of effectiveness and capability. The frustration of these needs is presumed to be a causal antecedent to maladjustment and malfunctioning (Ryan & Deci, 2000).

Overparenting and related maladaptive family communication patterns are likely agents for hinderance of basic psychological need fulfillment. For example, maternal helicopter parenting has been found to be associated with reduced autonomy and competence, and paternal helicopter parenting with reduced autonomy, all of which were associated with diminished child well-being (Schiffrin et al., 2019a). In four different samples of university students, helicopter parenting was negatively associated with reports of autonomy, competence, and relatedness (Cook, 2020; Greene et al., 2019; Schiffrin et al., 2014, 2021). An omnibus measure of psychological needs satisfaction that assessed autonomy, self-efficacy (competence), and social acceptance (relatedness) have also been shown to correlate negatively with receipt of helicopter parenting (Cui et al., 2019a). In a rare study of family communication patterns and basic psychological needs in grade school children in Iran, conversation orientation was positively, and conformity orientation negatively, associated with children's autonomy, competence, and relatedness (Moltafet et al., 2015). These findings suggest that overparenting may work in tandem with high conformity orientation and low conversation orientation to interfere with the need fulfillment of offspring, potentially compromising their well-being. It is, therefore, predicted that

H2 Overparenting and conformity orientation will be negatively, and conversation orientation will be positively, associated with psychological need satisfaction.

Need Fulfillment and Well-Being

Satisfaction of the basic psychological needs specified in self-determination theory has been routinely linked with a sense of mastery. Environmental mastery is the capacity to effectively manage one's life and surrounding world (Ryff & Keyes, 1995) and is a robust correlate of mental health over the lifespan, manifested in lower depression and higher self-esteem and resilience for example (Knight et al., 2011; Montpetit & Tiberio, 2016). According to self-determination theory, when people feel that their needs for autonomy, competence, and relatedness are satisfied, they are more inclined to feel a sense of environmental mastery, which is highly beneficial to overall esteem and psychological well-being.

An extensive and broad range of studies document powerful associations between psychological need satisfaction and compromised mental health as evident, for example, in elevated depression and anxiety (e.g., Bartholomew et al., 2011; Miner et al., 2013; Yu et al., 2016). A core assumption of self-determination theory is that human nature is definable in part by the pursuit of basic psychological needs that, if satisfied, promote mental health and well-being, but when unmet will culminate in disrupted mental health. This is exactly the pattern of effects evident in the research literature (e.g., Schutte & Malouff, 2021).

Collectively, prior research provides a foundation for expecting a negative association between psychological need fulfillment and overparenting and maladaptive family communication patterns (i.e., high conformity, low conversation orientation). Evidence also supports a positive association between psychological need fulfillment and mental health (e.g., lower depression, higher environmental mastery). Therefore, informed by the axioms of self-determination theory, psychological need satisfaction may be one of the key mechanisms by which overparenting and maladaptive family communication patterns are associated with compromised mental health in emerging adult children. Both overparenting and family conformity could interfere with satisfaction of competence, relatedness, and autonomy needs. When parents do for children that which they could do for themselves, the child is less likely to develop a sense of autonomy and the sense of competence that comes for successfully performing a task without parental assistance. High conformity and low conversation could similarly frustrate autonomy and relatedness needs. Conformity is antithetical to autonomy, and by placing a low value on dissenting opinions, could interfere with feelings of relatedness, at least in the family context. Naturally, a high family conversation orientation

should do the exact opposite—promote feelings of relatedness and autonomy. Therefore, it is predicted that

H3 Overparenting, low conversation orientation, and high conformity orientation will exhibit an indirect effect on mental health (high environmental mastery, low depression and anxiety) through low psychological need fulfillment.

We sought to test H1–H3 by assembling them into a single structural model that specifies overparenting and family communication patterns (conversation and conformity orientation) as exogenous variables. As mentioned previously, these phenomena are assumed to emerge in family systems concurrent to the appearance of children and are therefore specified as being correlated with each other (H1). Both overparenting and conformity orientation are assumed to be negatively associated with basic psychological need fulfillment and conversation orientation is assumed to be positively associated with need fulfillment (H2). Accordingly, basic psychological need fulfillment is positioned as a mediator in the model. Finally, basic psychological need fulfillment is expected to be positively associated with environmental mastery and negatively associated with psychological distress, as indicated by depression and anxiety (H3). This model effectively specifies direct effects of overparenting and family communication patterns on environmental mastery and psychological distress, along with indirect effects of overparenting and family communication patterns on mastery and distress, through basic psychological need fulfillment.

Cultural Variation in Family Communication Patterns and Overparenting

Although the vast majority of research on family communication patterns, and overparenting for that matter, has been conducted with samples in the U.S., international research studies indicate that family communication patterns may operate similarly across a range of cultural contexts. In a sample of U.S., Chinese, and Saudi Arabian young adults, family conversation orientation was comparable across cultures, but conformity orientation was highest in Saudi Arabia and lowest in China (Guan & Li, 2017). Nevertheless, both family communication patterns exhibited comparable correlations with other family environment variables such as parent–child closeness and conflict styles in the three cultures studied. Although China is often thought of as a more collectivist culture that would value conformity, modern-day Chinese families have more of a conversation than conformity orientation and this is preferred by Chinese children (Zhang, 2007), much the same as families in the United States. However, when compared to Japanese families, families in the U.S. appear higher in both conversation

and conformity orientation (Shearman & Dumlao, 2008). Nevertheless, as in the Guan and Li (2017) study, the two dimensions of family communication orientations exhibited comparable associations with other family communication variables in Japan and the United States.

As with overparenting, researchers are just beginning to investigate cross-cultural similarities and differences in overparenting and its effects on children. An American-South Korean comparison found some mean-level differences in helicopter parenting, particularly among fathers (more in South Korea), but patterns of association between helicopter parenting and child self-efficacy were comparable in the two cultures (Jung et al., 2019). Similarly, even though helicopter parenting was lower in Finland compared to the U.S., associations between helicopter parenting and child psychological need satisfaction and self-control were essentially equivalent (Cui et al., 2019b).

Cross-cultural research often reveals mean-level differences in family communication patterns and overparenting. However, these variables more often than not, correlate similarly with child outcomes across cultures. This pattern of findings points to an important quality of parenting and family communication research. Although it is never prudent to assume that research findings documented in one culture will generalize to others, it may also be unwise to simply assume that they will not. Ultimately, this becomes an empirical question, in this case concerning scope conditions on the effects of family communication variables. These scope conditions can only be defined through research that tests effects in different contexts, one of which might be defined by culture.

As a non-western culture, China is often characterized, perhaps stereotypically, as a high conformity culture compared to the United States. However, there are a range of similarities and differences in the parenting practices of the two cultures. For example, as in the U.S., many Chinese parents practice authoritative and authoritarian parenting, but some exhibit strict-affectionate parenting (high warmth and encouragement, but high harshness) that appears far more culture-specific (Zhang et al., 2017). At the same time, the value of psychological needs fulfillment for child development is also evident in Chinese children (Li & Hein, 2019) as it is in the United States. Efforts to understand the elements of overparenting in China have identified a number of components that have also been identified in U.S. samples such as anticipatory problem solving and excessive affective involvement (Leung & Shek, 2019). Overparenting in families of Chinese emerging adults has also been linked with narcissism, just as in U.S. samples (Leung & Shek, 2018; Winner & Nicholson, 2018). Because of these similarities and differences, and because China represents 20% of the world's population, we sought to test the hypothesized indirect effects from overparenting and family communication

patterns in both the U.S. and China for a comparative analysis and propose the following research question.

RQ1 Will a model that describes relationships between overparenting and family communication patterns (exogenous variables) to basic psychological need fulfillment (mediating variable) to environmental mastery and psychological distress (dependent variables) fit equally well for emerging adults in China versus the United States?

Method

Participants and Procedure

Data included in this study were part of a larger cross-cultural research project investigating parent-child relationships during emerging adulthood in the U.S. and China. Upon acquiring IRB approval, U.S. participants ($n = 282$) were recruited from Communication courses at a large public university in the U.S. by offering course credit. Chinese participants ($n = 281$) were recruited from Journalism and Communication courses at a large public university in mainland China by offering the equivalent of \$1.50 cash and were entered into a drawing for five \$15.00 cash bonuses. To be eligible to participate in this study, students had to be between 18 and 25 years of age. The response rates were 31.3% and 40.1% separately for the U.S. and Chinese recruitment. Table 1 shows the demographic characteristics of the participants.

In the larger cross-cultural project, both the U.S. and Chinese participants completed an online questionnaire in English via Qualtrics. For the sake of accommodating more items while not increasing participant burden, the larger project used a method of planned missing data design, that is, the three-form design (Graham et al., 1996, 2006). With this design, four blocks of questions, X, A, B, and C were created, and each of the three questionnaire forms included the common X block and two of the other three blocks. That is, the three forms were XAB, XAC, and XBC. Each participant completed one of the three forms. The three-form design has proven a useful method to shorten survey length, relax participant burden, and thereafter increase data quality, and reduce costs (e.g., Little & Rhemtulla, 2013).

In the present study, the items associated with the central constructs (i.e., overparenting and basic psychological needs satisfaction) and demographic questions were included in block X as recommended (e.g., Graham et al., 2006; Rhemtulla et al., 2016), the general self-efficacy items were included in block A, the family communication patterns and anxiety items were included in block B, and the environmental mastery and depression items were included in block C.

Table 1 Demographic characteristics of the U.S. and Chinese participants

Variable	U.S. participants (<i>n</i> = 282)	Chinese participants (<i>n</i> = 281)
Age (<i>M</i> , <i>SD</i>)	20.67 (1.84)	19.83 (1.38)
Gender (%)		
Male	105 (37.2)	79 (28.1)
Female	176 (62.4)	202 (71.9)
Other	1 (.4)	
School year (%)		
First-year	34 (12.1)	98 (34.9)
Sophomore	76 (27.0)	66 (23.5)
Junior	100 (35.5)	53 (18.9)
Senior	69 (24.5)	62 (22.1)
Other	3 (1.1)	2 (.7)
Race (%)		
African American	12 (4.3)	
Asian	16 (5.7)	
Caucasian	166 (58.9)	
Hispanic	47 (16.7)	
Native American	1 (.4)	
Pacific Islander	1 (.4)	
Other	6 (2.1)	
Multi-racial	33 (11.7)	
Living arrangement (%)		
Live with parents	126 (44.7)	170 (60.5)
Not live with parents	56 (55.3)	111 (39.5)
Frequency of parent–child communication (%)		
Several times a day	120 (42.6)	71 (25.3)
Approximately once a day	67 (23.8)	46 (16.4)
Several times a week	64 (22.7)	76 (27.0)
Approximately once a week	18 (6.4)	41 (14.6)
Several times a month	8 (2.8)	29 (10.3)
Approximately once a month	2 (.7)	8 (2.8)
Less than once a month	3 (1.1)	10 (3.6)

Measures

Overparenting

The 10-item Consolidated Helicopter Parenting Scale (Schiffirin et al., 2019b); $\alpha = .90$ for both U.S. and Chinese samples; e.g., “My parents try to make all of my major decisions,” “I sometimes wish my parent would ‘back off’ and stay out of my business”) was used to assess overparenting on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). A higher score on each item indicates a greater level of overparenting.

Family Communication Patterns

The 26-item Revised Family Communication Patterns Instrument (Ritchie & Fitzpatrick, 1990) was used to assess conversation ($\alpha = .94$ for both the U.S. and Chinese samples; e.g., “My parents encourage me to express my feelings”) and conformity orientations ($\alpha = .81$ and $.80$ for U.S. and Chinese samples; e.g., “My parents feel that it is important to be the boss”) with a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). Following Horstman et al.’s (2018) suggestion, one item on conversation and three items on conformity were removed due to their poor performance in factor analysis. A higher score on each item indicates a greater level of conversation or conformity orientation.

Basic Psychological Needs Satisfaction

The nine-item Basic Need Satisfaction in Relationships (La Guardia et al., 2000; $\alpha = .92$ and $.85$ for U.S. and Chinese samples; e.g., “When I am with my parents, I feel free to be who I am”) was used to assess basic psychological needs satisfaction, namely autonomy, relatedness, and competence, in parent–child relationships on a 7-point Likert scale (1 = *not at all true*, 7 = *very true*). After reversing scores for applicable items, a higher score on each item indicates a greater level of needs satisfaction.

General Self-efficacy

The eight-item New General Self-Efficacy scale (Chen et al., 2001; $\alpha = .94$ for both U.S. and Chinese samples; e.g., “I believe I can succeed at most any endeavor to which I set my mind”) was used to assess general self-efficacy with a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). A higher score on each item indicates a greater level of general self-efficacy.

Environmental Mastery

The nine-item environmental mastery subscale of Scales of Psychological Well-Being (Ryff, 1989; $\alpha = .78$ and $.80$ for U.S. and Chinese samples; e.g., “In general, I feel I am in charge of the situation in which I live”) was used to assess environmental mastery with a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). A higher score on each item indicates a greater level of environmental mastery.

Anxiety

The seven-item anxiety subscale of the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983; $\alpha = .84$ and $.81$ for U.S. and Chinese samples; e.g., “I get a sort of frightened feeling like ‘butterflies’ in the stomach”) was used to

assess anxiety. Participants indicated how often they had the described feelings in the past week on a 4-point Likert scale (1 = *not at all*, 4 = *very often*). After reversing scores for applicable items, a higher score on each item indicates a greater level of anxiety.

Depression

The 10-item Center for Epidemiologic Studies Depression Scale Revised (Miller et al., 2008; Radloff, 1977; $\alpha = .81$ and $.75$ for U.S. and Chinese samples; e.g., “I was bothered by things that usually don’t bother me”) was used to assess depression. Participants indicated how often they had the described feelings in the past week on a 4-point Likert scale (1 = *rarely*, 4 = *most often*). After reversing scores for applicable items, a higher score on each item indicates a greater level of depression.

Results

Descriptive Statistics

The free statistical software R 4.0.3 (R Core Team, 2020) and the lavaan package (Rosseel, 2012) were used to evaluate the measurement and structural models with maximum likelihood estimation. Multiple imputation was used to handle data missingness resulted from the three-form design (e.g., Little & Rhemtulla, 2013), and the mice package (van Buuren & Groothuis-Oudshoorn, 2011) was used to impute 20 datasets. Rubin’s (1987) multiple imputation rules were used to pool parameter estimates from the 20 imputed datasets, and to calculate degrees of freedom for each parameter’s *t* test and confidence interval (CI).

Table 2 shows the means, standard deviations, and independent samples *t* test results of the observed variables for U.S. and Chinese participants. On average, compared to Chinese participants, the U.S. participants reported higher levels of conversation orientation, basic psychological needs satisfaction, general self-efficacy, environmental mastery, and anxiety. The two samples did not differ on overparenting, conformity orientation, and depression.

Measurement Model

Prior to testing the hypothesized relationships, a measurement model with six latent constructs (i.e., overparenting, conversation orientation, conformity orientation, basic psychological needs satisfaction, environmental mastery, and psychological distress) was evaluated with confirmatory factor analysis (CFA) for its fit to the data. To reduce the potential for error due to over-identified latent constructs,

Table 2 Descriptive and comparison statistics for observed variables

Variable	U.S. participants		Chinese participants		<i>t</i> test
	<i>M</i> (SD)	<i>n</i>	<i>M</i> (SD)	<i>n</i>	
Overparenting	2.81 (1.33)	282	2.96 (1.22)	281	– 1.40
	<i>2.81 (1.33)</i>	282	<i>2.96 (1.22)</i>	281	– 1.40
Conversation orientation	4.87 (1.43)	187	4.55 (1.30)	187	2.26*
	<i>4.81 (1.25)</i>	282	<i>4.48 (1.15)</i>	281	2.95**
Conformity orientation	3.35 (1.23)	187	3.39 (1.08)	187	– 0.35
	<i>3.46 (1.13)</i>	282	<i>3.47 (1.00)</i>	281	– 0.10
BPNS	5.60 (1.29)	282	5.22 (1.06)	281	3.76***
	<i>5.60 (1.29)</i>	282	<i>5.22 (1.06)</i>	281	3.76***
General self-efficacy	5.93 (0.94)	189	4.99 (1.16)	189	8.64***
	<i>5.79 (0.88)</i>	282	<i>4.90 (1.08)</i>	281	8.70***
Environmental mastery	4.78 (0.97)	188	4.52 (0.92)	186	2.72**
	<i>4.66 (0.92)</i>	282	<i>4.47 (0.86)</i>	281	1.98*
Anxiety	2.23 (0.62)	187	2.03 (0.50)	187	3.35***
	<i>2.26 (0.58)</i>	282	<i>2.09 (0.49)</i>	281	3.11**
Depression	2.00 (0.59)	188	1.93 (0.50)	186	1.29
	<i>2.09 (0.55)</i>	282	<i>2.04 (0.49)</i>	281	0.95

The means (*M*) and standard deviations (SD) were calculated by treating the constructs as observed variables (i.e., participants’ scores on these constructs were calculated by averaging all the items on the corresponding scales). Values in italic were pooled results from 20 imputed datasets

BPNS basic psychological needs satisfaction

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

three parcels were created to represent each of the latent constructs as recommended by Little et al. (2013).

For each of the constructs overparenting, conversation orientation, and conformity orientation, three parcels were created based on the rule of balancing (i.e., items distributed evenly across the parcels as a function of the strength of their factor loadings from unidimensional confirmatory factor analysis; Little, 2013). For the construct basic psychological needs satisfaction, facet parceling was used to create the parcels (Little, 2013). That is, the items measuring each facet (i.e., autonomy, competence, and relatedness needs satisfaction) were grouped together in separate parcels. For each of the constructs, environmental mastery, and psychological distress, domain parceling was used to create the parcels (Little, 2013). That is, the constituent items (i.e., general self-efficacy and environmental mastery items for the construct environmental mastery, anxiety, and depression items for the construct psychological distress) were distributed evenly across the parcels based on the balancing rule.

In this CFA model, the scales for the six latent constructs were set by constraining their latent variances to 1.0 and means to 0.0 (Brown, 2006). All factor loadings were freely estimated. Table 3 shows the bivariate correlations between the latent variables. Multiple indices were used to assess

Table 3 Bivariate correlations between study variables

Variable	1	2	3	4	5	6
1. Overparenting	–	–.48***	.72***	–.71***	–.30***	.36***
2. Conversation orientation	–.40***	–	–.47***	.78***	.40***	–.32***
3. Conformity orientation	.48***	–.42***	–	–.62***	–.23*	.36***
4. BPNS	–.65***	.78***	–.44***	–	.55***	–.47***
5. Environmental Mastery	–.33***	.31***	.00	.42***	–	–.55***
6. Psychological Distress	.30***	–.37***	.11	–.43***	–.53***	–

U.S. participants below the diagonal, Chinese participants above the diagonal

BPNS basic psychological needs satisfaction

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

model fit, including comparative fit index (CFI) > .95, root-mean-square error of approximation (RMSEA) < .06, and standardized root-mean-square residual (SRMR) < .08 as recommended by West et al. (2012).

To evaluate the statistical comparability of constructs across the two samples, a series of nested multigroup CFA models was examined with country being the grouping variable. In particular, we examined (a) configural invariance (i.e., equivalence of factor structures) by assessing fit of the multigroup model; (b) metric invariance (i.e., equivalence of factor loadings) by constraining the factor loadings to be equal across groups and comparing its fit to that of the configural invariance model; and (c) scalar invariance (i.e., equivalence of factor loadings and item intercepts) by constraining the factor loadings and item intercepts to be equal across groups and comparing its fit to that of the metric invariance model. Passing or failing the metric and scalar invariance testing was determined by the size of change in CFI calculated by subtracting the CFI of the less constrained model (e.g., configural invariance model) from the more constrained model (e.g., metric invariance model). Invariance was supported if the change in CFI was greater than –.01 (Cheung & Rensvold, 2002).

The measurement model was first examined separately for the U.S. and Chinese samples. Both models demonstrated adequate fit to the data (see the two baseline models in Table 4). Also shown in Table 4, configural invariance was supported given the adequate fit of the multigroup/configural invariance model, and both metric and scalar invariance were supported given the changes in CFI were greater than –.01. Thus, the factor structure, loadings, and item

intercepts were equivalent between the U.S. and Chinese samples.

Structural Model

Upon establishing measurement invariance, a structural model was evaluated for its fit to the data, specifying the direct effects from overparenting, conversation orientation, and conformity orientation on environmental mastery and psychological distress, and their indirect effects through basic psychological needs satisfaction. The model was first fitted separately to the U.S. and Chinese samples and then compared. Living arrangement (dummy coded as 0 = live with parents, 1 = not live with parents) was included as a covariate in the analyses. For the sake of model parsimony and based on the results from this model, we only retained the path from living arrangement to psychological distress as the other paths were not statistically significant.

To examine if the path coefficients were equivalent across the two samples, a χ^2 difference test was used to determine if the unconstrained model (see Fig. 1) demonstrated a better fit to the data than did the constrained model where the covariance and regression coefficients were constrained to be equal across the two samples (see Fig. 2; the constrained model). A difference $\chi^2(16) = 15.197, p = .51$, showed the equivalence of path coefficients between the unconstrained model, $\chi^2(274) = 177.412, p = 1.00, CFI = 1.000, RMSEA = .000, 90\% CI [.000, .000], SRMR = .039$, and the constrained model, $\chi^2(290) = 192.609, p = 1.00, CFI = 1.000, RMSEA = .000, 90\% CI [.000, .000], SRMR = .056$. Thus, although the two values from pairs of coefficients in the unconstrained model (i.e.,

Table 4 Single- and multigroup CFA results

Model	χ^2	df	p	RMSEA [90% CI]	SRMR	CFI	CFI change	Pass/Fail
Baseline: U.S	88.458	120	.99	0.000 [0.000, 0.000]	0.038	1.000	–	–
Baseline: China	68.180	120	1.00	0.000 [0.000, 0.000]	0.036	1.000	–	–
Configural	156.435	240	1.00	0.000 [0.000, 0.000]	0.037	1.000	–	Pass
Metric	170.249	252	1.00	0.000 [0.000, 0.000]	0.044	1.000	.000 > –.01	Pass
Scalar	268.639	264	.41	0.008 [0.000, 0.025]	0.052	0.998	–.002 > –.01	Pass

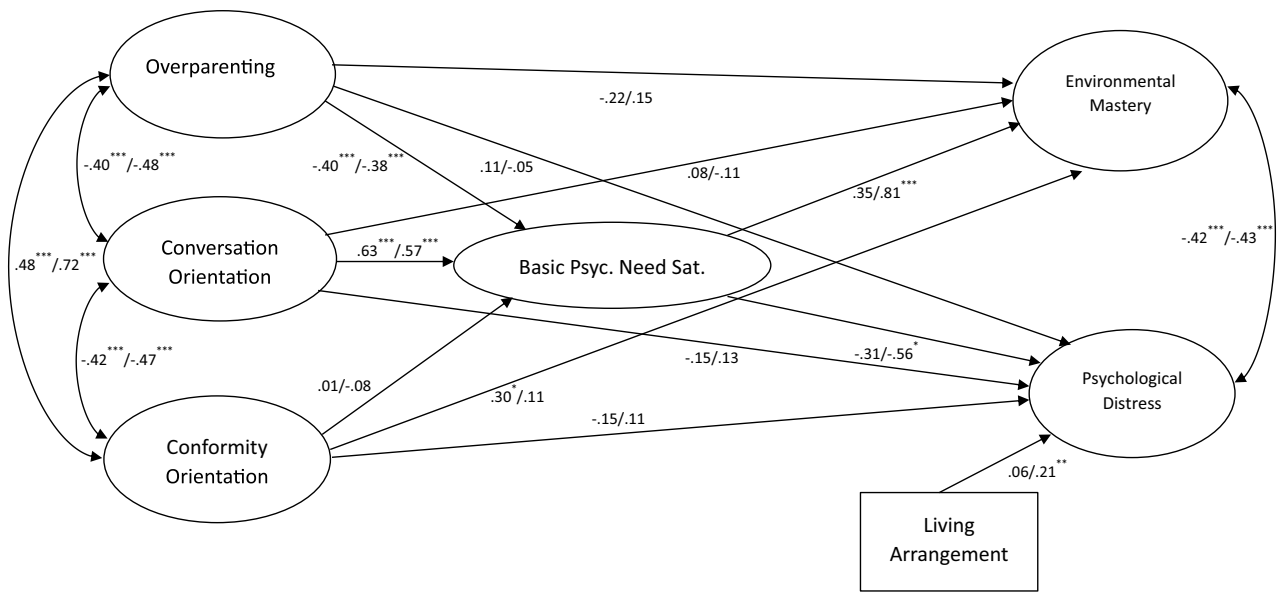


Fig. 1 Unconstrained structural model for the U.S. and Chinese participants' overparenting, family communication patterns, psychological needs satisfaction, environmental mastery, and psychological dis-

stress. Values are correlations and standardized regression coefficients for U.S./Chinese participants. * $p < .05$, *** $p < .001$

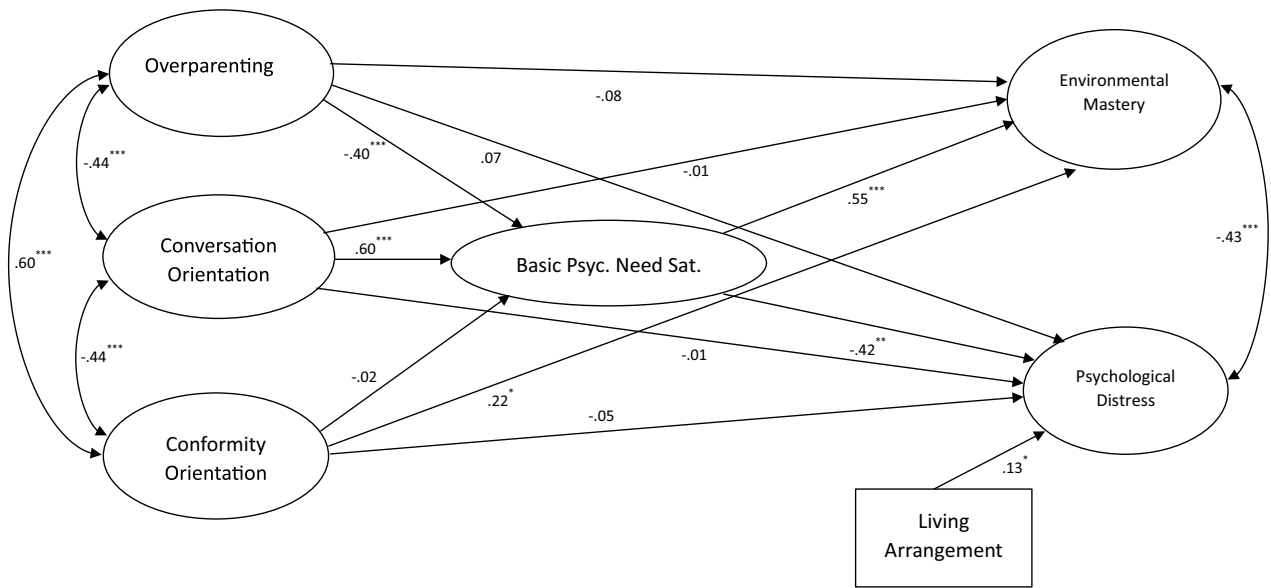


Fig. 2 Constrained structural model for the U.S. and Chinese participants' overparenting, family communication patterns, psychological needs satisfaction, environmental mastery, and psychological distress.

Values are correlations and standardized regression coefficients. * $p < .05$, ** $p < .01$, *** $p < .001$

conformity orientation → environmental mastery, BPNS → environmental mastery, BPNS → psychological distress, living arrangement → psychological distress) differed in statistical significance from zero (see Fig. 1), the non-significant χ^2 difference suggested that the overall coefficients were equivalent across the two samples. Accordingly, the results from the constrained model were interpreted.

As shown in Fig. 2, overparenting was positively associated with conformity orientation and negatively associated with conversation orientation. Moreover, both overparenting and conversation orientation significantly predicted basic psychological needs satisfaction, while the effect from conformity orientation was not significant. Basic psychological needs satisfaction, in turn, positively predicted

environmental mastery and negatively predicted psychological distress. No direct effect was observed from overparenting or conversation orientation on either environmental mastery or psychological distress. Conformity orientation had a significant and positive direct effect on environmental mastery, and no direct effect on psychological distress.

Table 5 shows a summary of the indirect effects from overparenting, conversation orientation, and conformity orientation on environmental mastery and psychological distress through basic psychological needs satisfaction. Both overparenting and conversation orientation indirectly predicted environmental mastery and psychological distress through basic psychological needs satisfaction. No indirect effect was observed for conformity orientation.

Discussion

This research was designed to provide a comparative analysis of a hypothesized indirect effect of overparenting and maladaptive family communication patterns on emerging adults' mental health in China and the U.S., following predictions derived from self-determination theory (Deci & Ryan, 2002; Ryan & Deci, 2000). The results indicated that overparenting and family communication patterns were significantly associated with emerging adults' psychological needs satisfaction, which were in turn associated with better mental health. Collectively, there were indirect effects of overparenting and family conversation orientation on mental health and mastery through satisfaction of psychological needs. These patterns of findings were comparable in samples from China and the United States.

Parents who engage in overparenting get excessively involved in decision making, risk protection, advising, and directing their children's lives. This type of parenting does not appear to be beneficial to the development of emerging adult children (Cui et al., 2019b; Schiffrin et al., 2014). Because of the excessive pattern of involvement and lack of child self-direction inherent in this type of parenting, it was hypothesized to coexist with family communication patterns that were high in conformity orientation and low

in conversation orientation. This hypothesis was confirmed with rather strong effects. An unstated assumption of helicopter parenting is that the parent knows what is best for the child, to such an extent that the parent has to frequently intervene in the child's life and on the child's behalf to ensure desired outcomes. It stands to reason that the same mindset that underwrites this style of parenting would also place a premium on conformity (as defined by the parent) and dismiss the openness and respect for individuality and autonomy that is part of conversation orientation.

In the present study, conformity orientation had a positive association with overparenting. Dorrance Hall et al. (2021) also studied helicopter parenting and family communication patterns. When conversation and conformity orientation were both entered into a structural model, conformity orientation also exhibited a positive association with overparenting. Collectively, these two investigations provide consistent evidence that overparenting covaries positively with conformity orientation. In a related investigation, Odenweller et al. (2014) also found a positive association between overparenting and conformity orientation but inconsistent evidence of an association with conversation orientation. The present investigation that assessed overparenting and family communication patterns as latent variables, and that effectively replicated the effect in two cultures, brings some resolution to this inconsistency in the family communication literature. Overparenting (or helicopter parenting) has a negative association with family conversation orientation.

Hypothesis 2 predicted that overparenting and family conformity orientation would be negatively, and family conversation orientation positively, associated with emerging adults' psychological needs satisfaction. The hypothesized relationships were supported with the exception of conformity orientation that was unrelated to satisfaction of psychological needs. According to self-determination theory (Deci & Ryan, 2002; Ryan & Deci, 2000), all people are motivated to satisfy autonomy, competence, and relatedness needs. Certain types of family communication patterns and parenting practices were predicted to thwart the satisfaction of these basic needs. In the family communication patterns literature more generally, conformity orientation

Table 5 Indirect effects for structural model

Indirect path through BPNS	<i>b</i>	SE	95% CI
Overparenting → Environmental mastery	-.26***	.07	[-.40, -.11]
Conversation orientation → Environmental mastery	.38***	.11	[.16, .60]
Conformity orientation → Environmental mastery	-.01	.03	[-.08, .05]
Overparenting → Psychological distress	.19**	.08	[.04, .34]
Conversation orientation → Psychological distress	-.28**	.11	[-.50, -.06]
Conformity orientation → Psychological distress	.01	.04	[-.06, .08]

BPNS basic psychological needs satisfaction. *b* unstandardized indirect effect. *SE* standard error

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

tends to have substantially weaker effects than conversation orientation (e.g., Schrodts et al., 2008; Wilson et al., 2014). In some contexts, a high conformity orientation might be experienced as family harmony and in others disrespectful to one's individual identity. This potential variation in experiences of family conformity orientation may explain why it was not significantly related to psychological needs fulfillment. In contrast, family conversation orientation was strongly associated with emerging adults' psychological needs fulfillment. Growing up in a family that values open expression of opinions, even if not shared by other family members, may provide an environment in which offspring can develop a sense of autonomy, relatedness, and competence through family interactions in which their perspectives are heard and valued.

Overparenting exhibited a negative relationship with psychological needs satisfaction. It is understandable why a highly directive and intrusive form of parenting would be associated with difficulty for children to realize their needs for autonomy and competence, especially when their parents try to solve problems for them. Past research has shown that overparenting covaries with other maladaptive family environment variables such as parental criticism, conditional parental regard, parental overcontrol, and discord (Rote et al., 2020; Segrin et al., 2015). It is now apparent that maladaptive family communication patterns can be added to this list of otherwise dysfunctional family processes that define environments in which overparenting is practiced.

Consistent with H3, there were significant indirect effects from both overparenting and conversation orientation to emerging adult psychological functioning, through psychological needs satisfaction. These indirect effects were evident regardless of whether psychological functioning was operationalized as environmental mastery or mental health (i.e., depression and anxiety). Overparenting appears to go hand in hand with emerging adult offspring experiencing lesser fulfillment of their basic psychological needs as specified in self-determination theory. This in turn is associated with poor mental health. Accordingly, thwarted psychological need satisfaction may be one of the mechanisms that explains why overparenting is so consistently linked with poor mental health in the offspring of such parents.

Family communication patterns have also been associated with child mental health (Schrodts et al., 2008). Family conversation orientation may share a common intervening mechanism with overparenting for explaining child mental health. Family conversation orientation (controlling for family conformity orientation or overparenting) may facilitate emerging adults' satisfaction of psychological needs that promote healthy psychological development, as specified in self-determination theory. We did not find an indirect effect from family conformity orientation on emerging adults' mental health. This is consistent with related research (e.g.,

Dorrance Hall et al., 2021; Schrodts et al., 2008) showing that of the two family communication orientations, conversation generally has considerably stronger effects than conformity. Absent any control for overparenting, it is reasonable to assume that a family conformity orientation is not beneficial to psychological needs satisfaction in offspring (as can be seen in the bivariate correlation between these two variables presented in Table 3).

Chinese parenting styles share some commonality with contemporary U.S. parenting styles but also have unique elements especially in terms of so-called "tiger parenting" (Xie & Li, 2019). For this reason, and the fact that China constitutes 20% of the world's population, parenting practices, and child psychological profiles were examined in Chinese and U.S. participants. Chinese participants in this study reported lower conversation orientation compared to their U.S. counterparts. Equally noteworthy is the fact that there were no significant differences between U.S. and Chinese participants' reports of overparenting. Importantly, this suggests that overparenting is not a uniquely American phenomenon. Its central tendency and variation were remarkably similar across the two samples of respondents.

Although there were a number of mean differences between Chinese and U.S. participants on the variables in the model, a multiple group structural equation analysis indicated that the model fit both samples equally well. At a general level, this pattern of findings is consistent with others in the literature showing that despite mean-level differences across cultures, associations between variables family processes and child outcomes operate similarly across cultures (e.g., Cui et al., 2019b; Jung et al., 2019). This is perhaps not surprising given that self-determination theory holds that basic psychological needs are universal. It may be that the family processes associated with satisfaction or frustration of those needs are similarly universal in nature. At a moment in the history of social science when questions about generalizability of samples are getting strenuous, for understandable reasons, it is important to be mindful that processes that may appear rooted in or bound by culture (e.g., overparenting, the pursuit of autonomy) may indeed operate similarly in other cultures—even those that cross the western/non-western divide.

There are a number of limitations inherent in this study that must be understood when interpreting its findings. First, the samples were both cross-sectional. Cross-sectional data cannot definitively support a particular causal order of variables. Because these variables cannot be manipulated experimentally, longitudinal research would be needed to more definitely support the causal ordering hypothesized in the model tested in this investigation. Second, the model tested is only one of multiple possible models for representing relationships among the variables. For example, environmental mastery could be a mediator and overparenting could be a

predictor of family conversation orientation. At the request of a reviewer, we tested such a model and as expected with a rearrangement of variables measured cross sectionally that model had comparable fit to the models in Figs. 1 and 2. Third, overparenting and family communication patterns were reported exclusively by emerging adults. Parents may have a different perspective on these family processes, and it would be useful to incorporate and compare those in future research. Finally, some of the items in the overparenting measure assessed subjective feelings about parents' behaviors, whereas others asked about whether parents enacted a certain behavior.

In conclusion, this investigation documented indirect effects from overparenting and family conversation orientation to emerging adults' environmental mastery and mental health, through satisfaction of psychological needs. The key intervening variable, psychological needs satisfaction, is hypothesized to be a universal set of human motivations. It, therefore, is understandable why the family communication processes hypothesized to be associated with psychological needs satisfaction operated comparably in participants from China and the United States. These findings provide needed insight into how and why overparenting and family communication patterns are associated with emerging adults' mental health.

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Declarations

Conflict of interest The authors have no conflicts of interest to declare.

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