



The influence of paternal and maternal parenting styles on adolescents' regulatory focus: A longitudinal study

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Abstract

To strengthen the evidence for the developmental assumption of regulatory focus theory, that individuals' chronic self-regulatory orientations root in parenting behaviors, the present study investigated the influences of maternal and paternal parenting styles on Chinese adolescents' regulatory focus and the effects of regulatory focus on mental health using an 8-month longitudinal design. 466 Chinese middle and high school students completed the regulatory focus, perceived maternal and paternal parenting style, life satisfaction, and positive and negative social adjustment measures. The results showed that: (1) Adolescents' promotion focus positively predicted life satisfaction and positive social adjustment and negatively predicted negative social adjustment. Prevention focus positively predicted negative social adjustment. (2) Maternal emotional warmth positively predicted promotion focus, whereas paternal harsh discipline positively predicted prevention focus. (3) Promotion focus mediated the relationship between maternal emotional warmth and life satisfaction and positive and negative social adjustment. Prevention focus mediated the relationship between paternal harsh discipline and negative social adjustment.

Keywords Regulatory focus · Adolescent · Mental health · Paternal parenting style · Maternal parenting style · Longitudinal study

Promotion and prevention regulatory focus, two distinct self-regulatory systems proposed by regulatory focus theory (RFT, Higgins, 1997), have been shown to exert different impacts on a wide range of outcomes, including behavioral strategies (Higgins, 2000), performance (Gorman et al., 2012), attitudes (Liu & Yao, 2019), emotional experiences (Higgins et al., 1997), and well-being (Manczak et al., 2014), necessitating attention on developing and fostering adaptive regulatory focus. RFT stated that an individual's regulatory focus develops during childhood as a function of his/her interaction with caretakers. Although a few studies have supported this theoretical argument, these studies rely on cross-sectional

investigations predominantly conducted in Western cultures. The present research, therefore, aims to strengthen the existing evidence by investigating the influence of maternal and paternal parenting styles on Chinese adolescents' regulatory focus and the subsequent effects of regulatory focus on mental health in an 8-month longitudinal design.

Regulatory Focus Theory

Higgins (1997) proposed the RFT to distinguish two ways in which people approach pleasure and avoid pain: self-regulation with a promotion focus and self-regulation with a prevention focus. A promotion focus entails the motivation to attain nurturance and growth and to bring one's actual self into alignment with his/her ideal self. Self-regulation with a promotion focus encompasses representing goals as hopes or aspirations and sensitivity to the presence and absence of positive outcomes. In contrast, a prevention focus entails the motivation to attain security and safety and to bring one's actual self into alignment with his/her ought self. Self-regulation with a prevention focus encompasses representing goals as duties or obligations and sensitivity to the presence and absence of negative outcomes.

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Individuals with different regulatory focus tend to exhibit different behavioral strategies when pursuing the same goal. For example, to obtain higher grades, a promotion-focused person tends to adopt eagerness-related strategies, such as studying hard, whereas a prevention-focused person tends to adopt vigilance-related strategies, such as turning down an invitation to go out to avoid wasting time before an exam (Higgins, 2000). Indeed, previous research has associated promotion focus with ensuring hits and ensuring against errors of misses in the signal-detection paradigm, risk taking, and fast behaviors and prevention focus with ensuring correct rejections and ensuring against errors of commission in the signal-detection paradigm, risk aversion, and accurate behaviors (Förster et al., 2003; Hamstra et al., 2011; Higgins, 2012).

Regulatory Focus and Well-Being

RFT views promotion and prevention as equally important to successful living. That is, promotion focus is not generally superior to prevention focus, and vice versa. However, promotion focus has consistently been associated with positive well-being constructs, such as positive affect, psychological and physical health, whereas prevention focus has been related to negative well-being constructs, such as negative affect and physical and mental health problems. Because theories of well-being tend to emphasize growth and individuals' ability to realize their potential, which coincides with a promotion orientation, rather than a prevention orientation.

Regulatory focus affects both the nature and the intensity of individuals' emotional experience. Promotion-focused individuals' emotions vary along a cheerful (gain) - dejected (no gain) dimension, whereas prevention-focused individuals' emotions vary along a quiescent (no loss) - agitated (loss) dimension (Higgins et al., 1997). Plus, since promotion-focused (prevention-focused) individuals are more concerned with positive (negative) outcomes, they feel more intensely positive (negative) after a desirable (undesirable) outcome (Idson et al., 2004). As a result, promotion and prevention focus have been linked to intensity of positive and negative affect, respectively (Brockner & Higgins, 2001; Eddington et al., 2012; Koopmann et al., 2016; Klenk et al., 2011).

Additionally, according to Gorman et al.'s (2012) meta-analysis, promotion focus was positively associated with self-esteem, optimism, and job satisfaction, and negatively associated with anxiety. In contrast, prevention focus was negatively associated with self-esteem and job satisfaction and positively associated with anxiety. Moreover, compared to prevention focus, promotion focus has been linked to improved psychological well-being, life satisfaction, physical health, and reduced depressive symptoms (Koopmann et al., 2016; Manczak et al., 2014).

Parenting Behavior as a Developmental Precursor of Regulatory Focus

Among the many factors that may shape individuals' chronic regulatory focus, parenting behavior plays a crucial role. RFT illustrated how different styles of caretaker-child interactions lead to the emergence of differences in regulatory focus. Nurturance-oriented parenting, emphasizing attaining accomplishments and fulfilling aspirations, instills a promotion focus. That is, the caretakers make the child experience positive outcomes by showing affection, appreciation, and encouragement. The caretakers make the child experience the absence of positive outcomes by ending an activity, withdrawing love and affection, or showing disappointment. In contrast, security-oriented parenting, emphasizing protection, safety, and obligations, instills a prevention focus. That is, the caretakers make the child experience the absence of negative outcomes by stressing the importance of safety and asking the child to "mind your manners". The caretakers make the child experience negative outcomes by punishing and scolding the child (Higgins, 1997; Higgins, 1998; Higgins & Silberman, 1998).

Although there are relatively few empirical studies examining this developmental assumption of RFT, the findings consistently supported the association between parenting styles and regulatory focus. From the perspective of self-discrepancy theory (Higgins, 1987), Manian et al. (1998) found that college students' recollection of parental emotional warmth is positively associated with a congruency between an actual self-belief and an ideal self-belief, which coincides with a promotion focus. In contrast, parental rejection is positively associated with a discrepancy between an actual self-belief and an ought self-belief, which coincides with a prevention focus. Manian et al. (2006) examined the relationship between 4- to 5-year-old children's strength of self-guide strength and their mother's report of parenting behaviors. Again, the association between children's ideal guide (promotion orientation) and maternal nurturance was supported. Even though neither maternal punishment nor maternal control predicted ought guide (prevention orientation), their interaction was significant.

Keller (2008); Doğruyol (2008); Cho (2016); and Xue (2017), however, measured regulatory focus directly by using a general regulatory focus measure (Lockwood et al., 2002). Plus, they all assessed adults' recollections of parents' parenting behavior. They showed that promotion focus is positive correlated with an authoritative (active responsive) parenting style (Keller, 2008; Xue, 2017) and parental care (Cho, 2016), whereas prevention focus is positively correlated with authoritarian (active restrictive) parenting style (Keller, 2008; Xue, 2017) and parental overprotection (Cho, 2016). With a Turkish sample, Doğruyol (2008) supported the positive effects of parental support and psychological control on

promotion and prevention focus respectively. However, he also revealed some cross-culture differences. For example, overprotection was found to predict not only prevention focus, but also promotion focus.

The Present Study

Given the extensive research on the profound influence of regulatory focus on various health, educational, and behavioral outcomes across disparate fields (Higgins, 2015), it is important to explore the developmental origins of individuals' regulatory focus. Specifically, it is "an important topic on the research agenda" to investigate the relationship between parenting styles and different self-regulatory orientations proposed in RFT (Keller, 2008, p. 357). Even though a few studies have addressed this issue (as reviewed earlier), these studies are limited in the following aspects.

First, all the studies have relied on cross-sectional data and therefore could not establish causality. Longitudinal data are necessary to corroborate and clarify the assumed causal impact of parenting styles on chronic regulatory focus. Second, these studies were mostly conducted in Western cultures (except for Doğruyol, 2008). Yet culture may play an important role, since not only parenting style (Li & Masuda, 2016) but also the influence of parenting style on child development (Chao, 1994; Wintre & Ben-Kanz, 2000) have consistently been found to have cross-cultural differences. Indeed, parental overprotection, a security-oriented parenting style that was supposed to predict prevention focus, was found to predict both promotion and prevention focus in Turkish culture (Doğruyol, 2008). Therefore, studies conducted in other non-Western cultures such as China, are needed to further enhance the generalizability of the developmental assumption of RFT. Third, previous studies mostly operationalized parenting styles as either an overall parenting style (Keller, 2008; Manian et al., 1998; Xue, 2017) or a maternal parenting style (Manian et al., 2006). Only Doğruyol (2008) and Cho (2016) included both parents' parenting styles and found that they may predict regulatory focus differently, suggesting that the impacts of maternal and paternal parenting styles on a child may differ (Garcia-Moral et al., 2016). Therefore, assessing maternal and paternal parenting styles separately and examining both of their effects could increase our ability to predict individual differences in regulatory focus.

The present study aimed to test the developmental assumption of RFT by assessing the relationship between maternal and paternal parenting styles and Chinese adolescents' regulatory focus using a two-wave longitudinal design. Moreover, since both parenting styles and regulatory focus are found to have important implications for self-regulation outcomes, we

included adolescents' well-being (as indicated by life satisfaction and positive and negative social adjustment) to explore the potential mediator role of regulatory focus in the relationship between parenting styles and well-being.

Based on the previous findings of the relationship between promotion focus and enhanced well-being and prevention focus and reduced well-being, we propose the following hypothesis:

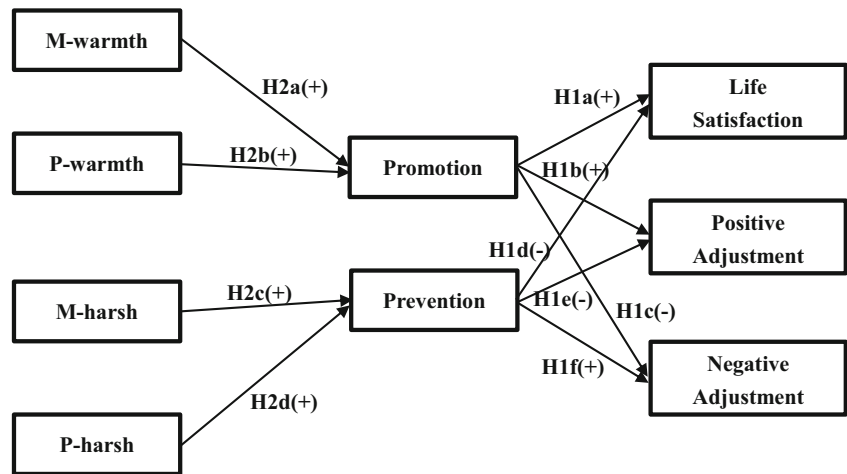
- *Hypothesis 1:* Promotion focus would be associated with enhanced well-being, as indicated by higher levels of life satisfaction (1a in Fig. 1) and positive social adjustment (1b) and lower levels of negative social adjustment (1c). In contrast, prevention focus would be associated with reduced well-being, as indicated by lower levels of life satisfaction (1d) and positive social adjustment (1e) and higher levels of negative social adjustment (1f).

One major concern with investigating the relationship between parenting styles and regulatory focus in China is that the typology of parenting styles developed in Western cultures may not capture the nature of Chinese parenting. For example, the term authoritarian may have a different meaning within Chinese societies (Chao, 1994). Therefore, we adopted Wang et al.'s (2019) parenting behavior scale, a scale specifically developed to capture the characteristics of Chinese parenting culture, as a framework for parenting styles in China. For the purpose of this study, two dimensions of this scale, emotional warmth (showing affection, appreciation and encouragement) and harsh discipline (imposing the parents' own will upon the child with nonsupportive strategies, a combination of physical punishment and psychological control) were included. Giving or withholding emotional warmth represented for children the presence or absence of positive outcomes, and previous studies supported the association between emotional warmth and promotion focus (Keller, 2008; Manian et al., 1998; Manian et al., 2006; Xue, 2017). In contrast, administering or withholding punishment and exerting or not exerting control represent for children the presence or absence of negative outcomes, and previous studies supported the association between the combination of punishment and control and prevention focus (Manian et al., 2006). Therefore, we propose the following hypothesis:

- *Hypothesis 2:* Maternal (2a) and paternal (2b) emotional warmth would be positively associated with promotion focus, while maternal (2c) and paternal (2d) harsh discipline would be positively associated with prevention focus.

Based on Hypotheses 1 and 2, we propose the following mediation hypothesis:

Fig. 1 Hypothesized mediation model. *Note.* P-warmth = paternal emotional warmth; M-warmth = maternal emotional warmth; P-harsh = paternal harsh discipline; M-harsh = maternal harsh discipline. + and - signs in parentheses signify hypothesized positive and negative relationship between variables, respectively



- *Hypothesis 3:* Promotion focus would mediate the relationship between parental emotional warmth and well-being (3a), while prevention focus would mediate the relationship between parental harsh discipline and well-being (3b).

Method

Participants and Procedure

Participants were middle and high school students from a broader project focusing on the relationship between family environment and students’ mental health. 628 students were randomly selected from two schools in Beijing.

Participants completed two surveys over eight months. Survey 1 (T1) assessed parenting style, regulatory focus, life satisfaction, and social adjustment. After 8 months, survey 2 (T2) assessed regulatory focus, life satisfaction, and social adjustment. The procedures of surveys 1 and 2 were identical. Informed consent was obtained from participants and their parents. These consent procedures were approved by the Ethics Committee of the Faculty of Psychology at the corresponding author’s university. Students were informed of the purpose and voluntary nature of the surveys and their right to withdraw at any time. Participants completed a battery of self-reporting questionnaires in their classrooms, with two research assistants there to assist with individual student comprehension if necessary and to respond to any questions. Each survey took approximately 15 min to complete, and each student received a stationery set (including stickers, a pen, and a notebook) as incentive after finishing the second survey.

Of the 628 initial participants, 480 (76%) completed both surveys. Following the recommendations of Goodman and Blum (1996), the results from multiple logistic regression revealed that whether or not participants completed both surveys

versus just survey 1 was not significantly predicted by demographics (gender, age, number of children in the family, and family socioeconomic status) or the focal baseline measures ($ps > .12$). Thus, the data appear to be missing at random with respect to the focal variables, and the results are unlikely to be biased by participant attrition. Because the goal of this study was to explore the influence of paternal and maternal parenting, participants from one-parent families were removed from the dataset, resulting in a final sample of 466¹; 190 (40.8%) of the participants were male. Participants were from grade 7 (28.5%), grade 8 (30.9%), grade 10 (26.4%), and grade 11 (14.2%).² The average age was 14.4 years ($SD = 1.57$), and the average number of children in the family was 1.3 ($SD = .41$).

Measures

Parenting Styles Parenting styles were measured with the Parenting Behavior Scale developed by Wang et al. (2019). The emotional warmth (seven items; e.g., “My father/mother does activities together with me, because they know that I enjoy it, such as sports, walking, shopping”; $\alpha = .88$ and $.87$ for paternal and maternal, respectively) and harsh discipline (nine items; e.g., “My father/mother often blames me for being lazy and useless in front of others”; $\alpha = .85$ for both paternal and maternal) dimensions of this scale were used. Participants were asked to evaluate their paternal and maternal parenting behavior separately and rated each item on a 5-point Likert scale ranging from (1) *very strongly disagree* to (5) *very strongly agree*.

¹ To ensure that this deletion will not alter the research results, we reran all the analyses including the data from 14 participants from one-parent families (9 missing paternal data and 5 missing maternal data). The results of the path estimates were essentially identical with the original ones.

² Participants from grade 9 and grade 12 were excluded because they would graduate from their school soon and would therefore not be available for the second survey.

Regulatory Focus The General Regulatory Focus Measure (GRFM) (Lockwood et al., 2002) was used to assess the participants' regulatory focus. This questionnaire consists of 9 promotion-related items (e.g., "I frequently imagine how I will achieve my hopes and aspirations"; T1 $\alpha = .81$; T2 $\alpha = .84$) and 9 prevention-related items (e.g., "I am anxious that I will fall short of my responsibilities and obligations"; T1 $\alpha = .76$; T2 $\alpha = .82$). These items were scored on a 5-point Likert-type scale ranging from (1) *not at all true of me* to (5) *very true of me*. The Chinese version of GRFM has been tested and found to be reliable and valid in assessing students' regulatory focus (Bian et al., 2020a; Bian et al., 2020b; Gao et al., 2017).

Life Satisfaction We measured life satisfaction using Huebner's (1994) Multidimensional Students' Life Satisfaction Scale (MSLSS). The Chinese version of the MSLSS included five subscales that had five items each, such as family scale (T1 $\alpha = .89$; T2 $\alpha = .88$; e.g., "I enjoy being at home with my family"), friend scale (T1 $\alpha = .89$; T2 $\alpha = .90$; e.g., "I have a lot of fun with my friends"), school scale (T1 $\alpha = .86$; T2 $\alpha = .87$; e.g., "I enjoy school activities"), living environment scale (T1 $\alpha = .83$; T2 $\alpha = .82$; e.g., "I like where I live"), and self scale (T1 $\alpha = .84$; T2 $\alpha = .82$; e.g., "I like myself"; Tian & Liu, 2005). All items were scored on a 4-point Likert-type scale ranging from (1) *very strongly disagree* to (4) *very strongly agree*.

Social Adjustment We measured social adjustment using Zou et al.'s (2012) Adolescents' Social Adjustment Assessment Scale (ASAAS). This scale included 48 items and can be summed up as two adjustment functions: positive (T1 $\alpha = .93$; T2 $\alpha = .90$; e.g., "I'm proud of some of the things that I have done") and negative adjustment (T1 $\alpha = .94$; T2 $\alpha = .92$; e.g., "I often feel depressed"). All the items were scored on a 5-point Likert-type scale ranging from (1) *not at all true of me* to (5) *very true of me*.

Control Variables Gender, age, number of children in the family, and family socioeconomic status (SES) were included as covariates to partial out their possible impacts on the focal variables. SES information was reported by students, including their paternal and maternal education levels and occupations and their family income. Indicators of SES were assigned prior to formal data analysis (Shi & Shen, 2007; Wang et al., 2019). Education level was coded from 1 to 4 (1 = junior middle school education or below, 2 = high school or technical school education, 3 = bachelor's degree, 4 = master's degree or above); occupations were coded from 1 to 5 (1 = unemployed or temporary work, 2 = manufacturing or service, 3 = office work, 4 = administrative or managerial, 5 = professional and technical); and family monthly income was coded from 1 to 7 (1 = relying on government relief, 2 = less than 3000 RMB, 3 = 3000 to 5000 RMB, 4 = 5000

to 8000 RMB, 5 = 8000 to 12,000 RMB, 6 = 12,000 to 20,000 RMB, 7 = more than 20,000 RMB).³ After coding, the five indicators of SES were standardized separately, and the principal component analysis was applied to obtain factor loadings of each indicator. Finally, the total family SES was synthesized with factor loadings as the weight (Bradley & Corwyn, 2002).

Results

The descriptive statistics and correlations among the focal variables are reported in Table 1. Prior to hypothesis testing, we conducted confirmatory factor analysis of the measurement model that included the focal predictors (T1 paternal emotional warmth and harsh discipline, maternal emotional warmth and harsh discipline), mediators (T2 promotion and prevention focus), and outcomes (T2 life satisfaction, positive and negative adjustment) using Mplus 7.11 (Muthén & Muthén, 2012) to determine whether our measured variables are distinguishable from each other. The model fit test was based on the final sample of $N = 466$. The fit of the nine-factor model was acceptable: $\chi^2(7344) = 22,459.54$, $p < .01$, CFI = .92, TLI = .92, RMSEA = .07, and SRMR = .06. Standardized item loadings to their respective factors were all statistically significant ($p < .01$), ranging from .33 to .80. Average variance extracted estimates ranged from .34 to .52. None of the confidence intervals around the correlations (phi estimates) among factors contained a value of 1, supporting discriminant validity (Anderson & Gerbing, 1988). The average variance extracted estimates for any combination of two constructs were greater than the shared variance between them (phi-squared), also suggesting discriminant validity (Fornell & Larcker, 1981).

We tested the full model via path analysis using Mplus 7.11 (Muthén & Muthén, 2012). In addition to the hypothesized relations shown in Fig. 1, we controlled for the baseline variables by including paths from each baseline variable to its counterpart (e.g., a path from baseline promotion focus to Time 2 promotion focus). We also controlled for gender, age, number of children in the family, and SES by including paths from them to the mediators and outcome variables. The hypothesized path model, which is illustrated in Fig. 2, had

³ Even though we followed previous studies among Chinese adolescents (e.g., Wang et al., 2019; Xu et al., 2019) in using adolescents' report on family income, teenagers may not know their family income accurately. To ensure that this family income indicator was reliable, we replaced monthly family income with participants' report on whether living in their own house (1 = no and 2 = yes) as one of the indicators of SES (Boyce et al., 2006; Mao & Zhao, 2012). We found that the new synthesized family SES and the original SES had a very high correlation ($r = .97$, $p < .001$). We then reran all our analyses and found that the results were essentially identical with the original results. Therefore, we retain the family income information as one of the indicators of family SES.

Table 1 Descriptive statistics and correlations among the focal variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. Gender	–																		
2. Age	–.01	–																	
3. Number of children	.02	–.23**	–																
4. SES	.08	.37**	–.35**	–															
5. Promotion (T1)	.11*	.09	–.06	.07	(.81)														
6. Prevention (T1)	.08	.06	–.03	.02	.54**	(.76)													
7. Life satisfaction (T1)	.08	–.12**	.02	.07	.34**	.07	(.93)												
8. Positive adjustment (T1)	.04	–.05	.05	.06	.48**	.13**	.71**	(.93)											
9. Negative adjustment (T1)	.01	.15**	–.05	.02	–.11*	.18**	–.56**	–.50**	(.94)										
10. P-warmth (T1)	.07	–.09	–.05	.06	.25**	.10*	.58**	.44**	–.32**	(.88)									
11. M-warmth (T1)	.07	–.03	–.02	.06	.27**	.14**	.55**	.44**	–.33**	.78**	(.87)								
12. P-harsh (T1)	–.12**	.07	.03	.04	–.09*	.05	–.36**	–.22**	.36**	–.51**	–.34**	(.85)							
13. M-harsh (T1)	–.03	.06	–.01	.01	–.10*	.06	–.37**	–.22**	.39**	–.38**	–.48**	.72**	(.85)						
14. Promotion (T2)	.07	.02	–.10*	.09	.44**	.25**	.29**	.40**	–.12**	.22**	.30**	–.03	–.03	(.84)					
15. Prevention (T2)	.08	–.16**	–.04	–.02	.25**	.40**	.03	.07	.15**	–.01	.06	.20**	.19**	.50**	(.82)				
16. Life satisfaction (T2)	.07	–.07	–.01	.07	.32**	.08	.65**	.53**	–.38**	.42**	.41**	–.21**	–.22**	.39**	.08	(.93)			
17. Positive adjustment (T2)	.01	.01	–.03	.12*	.38**	.09*	.49**	.62**	–.38**	.33**	.36**	–.15**	–.17**	.56**	.16**	.64**	(.90)		
18. Negative adjustment (T2)	–.06	–.08	.07	–.12*	–.05	.12**	–.34**	–.34**	.53**	–.26**	–.30**	.28**	.34**	–.12*	.25**	–.37**	–.28**	(.92)	
M	1.59	14.44	1.25	10.05	3.84	3.55	3.24	3.61	2.07	3.68	3.90	2.18	2.27	3.84	3.53	3.22	3.61	2.21	
SD	.49	1.57	.41	2.79	.58	.63	.46	.60	.54	.93	.85	.83	.83	.57	.65	.44	.60	.64	

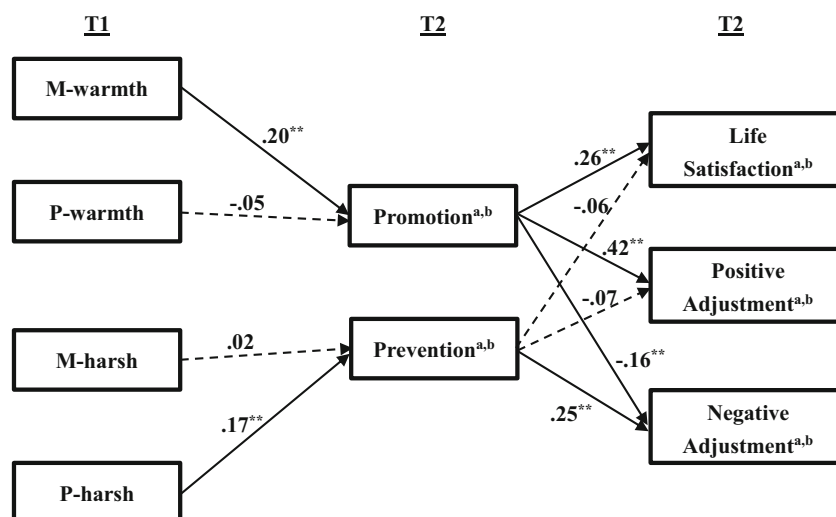
N = 466. Coefficient alphas are reported along the diagonal in parentheses. M -warmth = maternal emotional warmth; P-warmth = paternal emotional warmth; M-harsh = maternal harsh discipline; P-harsh = paternal harsh discipline. * $p < .05$. ** $p < .01$

acceptable fit: $\chi^2(72) = 161.24, p < .01, CFI = .93, TLI = .93, RMSEA = .05,$ and $SRMR = .05$. As predicted, the coefficient of the path from maternal emotional warmth to promotion focus ($\gamma = .20, p < .01$) was significant and positive, as was the coefficient of the path from paternal harsh discipline to prevention focus ($\gamma = .17, p < .01$). However, the path coefficients from paternal emotional warmth to promotion focus and maternal harsh discipline to prevention focus were not significant ($\gamma = -.05, p > .05; \gamma = .02, p > .05$, respectively). Additionally, the coefficients of the paths from promotion focus to life satisfaction ($\beta = .26, p < .01$), positive adjustment ($\beta = .42, p < .01$), and negative adjustment ($\beta = -.16, p < .05$) were all significant. While the coefficient of the path from prevention focus to negative adjustment ($\beta = .25, p < .01$) was significant, the path coefficients from prevention focus

to life satisfaction ($\beta = -.06, p > .05$) and positive adjustment ($\beta = -.07, p > .05$) were not significant (see Fig. 2). Therefore, these results provide support to Hypotheses 2a, 2d, 1a, 1b, 1c, and 1f but not to Hypotheses 2b, 2c, 1d, and 1e.

Following the procedures recommended by Preacher and Hayes (2008), we tested the indirect effects of paternal and maternal parenting styles on life satisfaction and social adjustment through promotion and prevention focus. Table 2 shows the bootstrapping results. Through the mediator of promotion focus, the indirect effects from maternal emotional warmth to life satisfaction (estimate = .052; 95% confidence interval [CI] [.018, .086]), positive adjustment (estimate = .084; 95% CI [.031, .136]), and negative adjustment (estimate = -.032; 95% CI [-.058, -.007]) were significant, but not the indirect effects from paternal emotional warmth to life satisfaction

Fig. 2 Standardized path analysis results. Note. Standardized path estimates are reported in the figure. Dashed lines signify nonsignificant paths at $p > .05$. ^a Controlling for gender, age, number of children in family, SES. ^b Controlling for baseline (Time 1) level of the same variable. * $p < .05$. ** $p < .01$



(estimate = $-.012$; 95% CI [$-.040$, $.016$]), positive adjustment (estimate = $-.019$; 95% CI [$-.065$, $.026$]), and negative adjustment (estimate = $.007$; 95% CI [$-.011$, $.026$]). Through the mediator of prevention focus, however, neither the indirect effects from maternal harsh discipline to life satisfaction (estimate = $-.001$; 95% CI [$-.010$, $.007$]), positive adjustment (estimate = $-.002$; 95% CI [$-.011$, $.008$]), and negative adjustment (estimate = $.005$; 95% CI [$-.023$, $.034$]), nor the indirect effects from paternal harsh discipline to life satisfaction (estimate = $-.011$; 95% CI [$-.026$, $.004$]) and positive adjustment (estimate = $-.012$; 95% CI [$-.027$, $.003$]) were significant. Only the indirect effect from paternal harsh discipline to negative adjustment (estimate = $.043$; 95% CI [$.012$, $.074$]) was significant. We further examined whether paternal and maternal behavior had direct effects on life satisfaction and positive and negative adjustment, but they did not ($|\gamma| < .12$, $p > .09$). These results provide partial support to Hypotheses 3a and 3b.

Discussion

Aiming to build evidence for the developmental assumption of RFT, the present study assessed the longitudinal association between parenting styles and regulatory focus among Chinese adolescents. The results showed that while emotional warmth from mothers (but not fathers) predicted teenagers' promotion focus, punishment and control from fathers (but not mothers) predicted prevention focus. These findings provide support for the developmental assumption of RFT and extend the findings of previous research in several ways.

First, unlike previous studies examining the effect of parenting on regulatory focus among young children (Manian et al., 2006) or adults (Cho, 2016; Doğruyol, 2008; Keller, 2008; Manian et al., 1998; Xue, 2017), this was the first study conducted among adolescents. Adolescence is a time of

enormous transition and great potential. Based on the fact that adolescents begin to spend less time with their parents (Larson et al., 1996) and rely more heavily on their peers (Levitt et al., 1993), some researchers have questioned the influence of parents and emphasize the dominating role of peer influence (Harris, 1995). In contrast, other researchers have claimed that parents still play a vital role in shaping adolescents' development (Doyle et al., 2003). Our results support the importance of parental influence by demonstrating the impact of paternal and maternal parenting behavior on adolescents' regulatory focus. Moreover, one methodological constraint in previous studies lies in the source of the parenting style data. In these studies, parenting styles were assessed using either parents' self-report (Manian et al., 2006) or adults' memories of their parents' behavior (Cho, 2016; Doğruyol, 2008; Keller, 2008; Manian et al., 1998; Xue, 2017). However, it has been argued that children may be influenced by their perceptions of parental behaviors rather than by those reported by the parents (Frampton et al., 2010). Plus, whether or not an adult's memories of their parents' child-rearing practices reflect an accurate rather than a biased view of parenting behavior is unknown (Manian et al., 1998). Fortunately, it has been shown that adolescents can provide reliable and valid reports of parenting (Tabak & Zawadzka, 2017). Therefore, our study addresses the methodological limitation of previous studies by assessing children's perception of their parents' ongoing parenting behavior.

Second, our study is the first to test parenting behavior as the developmental precursor of regulatory focus in China. Previous studies have documented the cultural variations in both individual's regulatory focus (Higgins et al., 2008; Li & Masuda, 2016) and parenting behaviors (Bornstein, 2012). Besides, Doğruyol's (2008) study in Turkish culture did yield some findings that are not consistent with the assumption of the RFT (e.g., parental overprotection predicts not only prevention focus, but also promotion focus). Our results,

Table 2 Bootstrapping results for specific indirect effects

Specific indirect effects	Point estimate	SE	BC 95% Confidence intervals	
			Lower	Upper
M-warmth → Promotion → LS	.052	.017	.018	.086
M-warmth → Promotion → PA	.084	.027	.031	.136
M-warmth → Promotion → NA	-.032	.013	-.058	-.007
P-warmth → Promotion → LS	-.012	.014	-.040	.016
P-warmth → Promotion → PA	-.019	.023	-.065	.026
P-warmth → Promotion → NA	.007	.009	-.011	.026
M-harsh → Prevention → LS	-.001	.004	-.010	.007
M-harsh →Prevention → PA	-.002	.005	-.011	.008
M-harsh →Prevention → NA	.005	.014	-.023	.034
P-harsh → Prevention → LS	-.011	.008	-.026	.004
P-harsh →Prevention → PA	-.012	.008	-.027	.003
P-harsh →Prevention → NA	.043	.016	.012	.074

The numbers in bold indicate the intervals which do not contain zero

N = 466; 1000 bootstrap samples. BC = bias-corrected. M-warmth = maternal emotional warmth; P-warmth = paternal emotional warmth; M-harsh = maternal harsh discipline; P-harsh = paternal harsh discipline; LS = life satisfaction; PA = positive adjustment; NA = negative adjustment

however, highlight the generalizability of how regulatory focus was shaped by parenting behavior across cultures. That is, consistent with the studies conducted in Western cultures, we found that emotional warmth and harsh discipline lead to promotion and prevention focus, respectively. One explanation may be that like studies conducted in Western cultures, we adopted a rather general conceptualization of parenting styles. However, Doğruyol (2008) assessed more detailed parenting behaviors by subdividing parental control into different types: psychological control, behavioral control, and overprotection. Then he found that certain specific types of parental control (e.g., overprotection) is culturally relevant and have different effects on regulatory focus. Hence, a more detailed, instead of general, conceptualization of parenting styles is needed in the future to explore the culturally different effects of parenting behaviors on regulatory focus.

Third, this study addresses the limitation of previous studies by using a two-wave longitudinal design. Our results showed that initial parenting styles predict adolescents’ regulatory focus 8 months later, after controlling for initial regulatory focus. That is, parenting styles predict cross-time change in adolescents’ regulatory focus, which provides a stronger support for the assumed causal impact of parenting styles on chronic regulatory focus than cross-sectional data.

Fourth, this study examines the impacts of both paternal and maternal parenting on regulatory focus. Consistent with Cho (2016) and Doğruyol (2008), our results suggest the different roles of paternal and maternal parenting behaviors in shaping teenagers’ motivational orientation. Only maternal emotional warmth predicts promotion focus, and only paternal harsh discipline predicts prevention focus. The complementary roles of fathers and mothers in Chinese households may

play a relevant role in these results. Generally, Chinese mothers play the warm caretaker role in providing children with warmth and care (Chao, 1994), whereas fathers play the disciplinarian role in charge of disciplining and training the offspring (Shwalb et al., 2010). Therefore, it seems that emotional warmth increases children’s promotion focus only when it is from the warm caretaker, and harsh discipline increases children’s prevention focus only when it is from the disciplinarian.

It’s worth noting that the association between parenting style and children’s regulatory focus may be a reflection of the association between parents’ regulatory focus and children’s regulatory focus. Because regulatory focus is a fundamental motivation which influence various behaviors, including parenting behaviors. For example, since promotion-focused (prevention-focused) parents emphasize the presence and absence of positive (negative) outcomes themselves, they may tend to adopt a nurturance-orientated (security-oriented) style such as emotional warmth (harsh discipline) during parenting. Emotional warmth (harsh discipline), then, predicts children’s promotion (prevention) focus. Sasaki and Hayashi (2015) supported the association between parents’ regulatory focus and parenting style. They found that both parents’ promotion focus and active responsive parenting style increase parents’ preference for positively framed messages, whereas both parents’ prevention focus and restrictive responsive parenting style reduce parents’ preference for positively framed messages. Future study should further explore whether parents’ regulatory focus is the underlying antecedents of children’s regulatory focus.

Last but not least, this study also linked parenting style and regulatory focus to self-regulation outcomes. As a concept

first conceptualized to explain children's social adjustment (Baumrind, 1967), parenting styles are shown to play an important role in influencing adolescents' self-regulation (e.g., Piko & Balázs, 2012). Our results support the mediator role of regulatory focus in the relationship between parenting behavior and adolescents' well-being. Maternal emotional warmth exerts its effects on adolescents' life satisfaction and social adjustment through enhanced promotion focus, whereas paternal harsh discipline increases adolescents' negative social adjustment through enhanced prevention focus. Together with previous findings supporting individuals' chronic regulatory focus as an organizing force around which different constructs of personality are integrated (Manczak et al., 2014), our results highlight the role of children's regulatory focus in understanding the impacts of parenting on children's development, and future research should further explore this issue.

A few limitations need to be considered when explaining the above findings. First, since all of our data are self-reported by adolescents, the assessments, for example, of life satisfaction and social adjustment may have been affected by the social desirability effect. Second, even though this study collects two waves of data and supports the longitudinal association of parenting styles on regulatory focus, a longitudinal study with more waves of data (e.g., a three-wave longitudinal design) can further suggest a causal relationship between regulatory focus and well-being. Finally, besides parenting behavior, other factors, such as teacher and peer influences may also contribute to shaping adolescents' regulatory focus and need to be examined further.

Despite these limitations, the present study is unique in providing evidence for the developmental assumption of RFT in Chinese culture for the first time. Our findings suggest that maternal emotional warmth positively predicted adolescents' promotion focus, whereas paternal harsh discipline positively predicted adolescents' prevention focus. Additionally, promotion focus mediated the relationship between maternal emotional warmth and life satisfaction and positive and negative social adjustment, whereas prevention focus mediated the relationship between paternal harsh discipline and negative social adjustment.

Data Availability Statements The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Declarations

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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