



How are Family Resources and School Resources Related to Low-Income Adolescents' Psychological Adjustment? The Moderating Role of Belief in a Just World

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Abstract

We examined the ways low-income adolescents' family resources, school resources, and belief in a just world, served to predict their subjective well-being, propensity for depression, and problem behaviors. One hundred and ninety-four low-income Chinese adolescents completed self-reported questionnaires. The results found that family resources interacted with school resources in predicting subjective well-being and depression, with resources made available through schools diminished the detrimental effects of low levels of family resources. Moreover, the relationship between the different sources of resources and psychological adjustment was moderated by the adolescents' belief in a just world. The belief in a just world enhanced the positive effects of high levels of school resources on subjective well-being and depression only among adolescents with relatively high family resources. The belief in a just world buffered the negative effects of low levels of school resources that contributed to problem behaviors. This study identified school resources and belief in a just world, which are potentially malleable, as protective factors related to low-income adolescents' psychological adjustment. The results have important implications for future studies and interventions.

Keywords Low-income adolescents · Family resources · School resources · Belief in a just world · Psychological adjustment

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1 Introduction

Adolescents from low-income families are at a high risk for depression, problem behaviors, and compromised well-being (Duncan et al., 2017). These risks could be caused by insufficient resources in the adolescents' families and schools (e.g. food insecurity, inadequate housing, and low quality of school buildings; Huston & Bentley 2010). Although researchers have studied the separate impacts of family and school resources on adolescents' adjustment (Ferguson et al., 2013), less research has examined the ways that the two sets of resources might interact. Moreover, despite the difficulties associated with economic disadvantage, many adolescents have proven to be resilient and avoided serious adaptation problems. One possible protective factor is the belief in a just world; adolescents could interpret stressful events as positive and cope effectively when faced with adverse situations (Levine et al., 2017; McParland & Eccleston, 2013). Understanding how family resources, school resources, and just-world beliefs are related to low-income youth psychological adjustment has important implications for improving education and welfare policy, and promoting raising healthy youth even in economically disadvantageous contexts. Therefore, the present study aimed to explore the effects of family resources, school resources, and their interaction on low-income adolescents' subjective well-being, depression, and problem behaviors. The moderating effects of belief in a just world on the relationship between resources and adjustment were also examined.

1.1 Family Resources, School Resources, and Adjustment in Low-Income Adolescents

As primary proximal contexts in which adolescents are embedded, bioecological theory asserts that characteristics of and experiences in home and school will affect adolescents' growth and adjustment (Bronfenbrenner & Morris, 2006). Family resources (for example, living space, electrical appliances, and food supply) have proved to be linked with children and adolescents' adjustment (Huston & Bentley, 2010), correlated with higher levels of subjective well-being (Gross-Manos, 2017) and lower levels of problem behaviors (Sweeting & Hunt, 2015). Empirical studies also found that greater school resources (for example, teaching quality, institutional environment) had a positive impact on improved academic performance (Xie & Zhang, 2018) and behavioral and emotional outcomes (Aldridge & McChesney, 2018; Wang & Degol, 2016) among adolescents.

Moreover, it is possible that family and school resources jointly shape the development of adolescents and an important question for low-income adolescents may be whether or not a good school diminishes the detrimental effects of family adversity. Previous study has examined the effects of interactions between school and family environments and found that school physical quality attenuated the negative effects of low parental attachment and involvement on students' delinquent behavior (Hoffmann & Duffer, 2008). Conducted among 15-year-old Chinese adolescents, one study found that school resources could reduce academic achievement gaps caused by family socioeconomic status (Hou & Shen, 2014). Although these studies

suggested the protective role of school resources, how family resources and school resources jointly shape adolescents' psychological adjustment, especially among low-income sample, still remain unclear.

1.2 The Moderating Role of Belief in a Just World

Numerous studies have identified psychosocial factors that protect low-income adolescents from the adverse effects of limited resources. One potentially vital protective factor is one's belief in a just world, which refers to the basic conviction that the world is a fair and just place in which people get what they deserve and deserve what they get (Lerner, 1980). One's beliefs about the fairness of the world enables people to trust in the justice of their fate and promotes investment in their own future (Hafer & Bègue, 2005). When confronted with stressful conditions, people with a strong belief in a just world have demonstrated an ability to reframe and interpret negative experiences in a positive light, to maintain meaning and order in their lives, and cope effectively with unfair situations (Levine et al., 2017; McParland & Eccleston, 2013). Therefore, it is hypothesized that belief in a just world represents an essential personal resource which helps to foster a sense of well-being and serve as protection against limited resources.

Indeed, previous studies have shown that belief in a just world was associated with improved psychological well-being (Dalbert, 2001). For example, individuals with stronger beliefs had positive moods (Nudelman et al., 2016) and exhibited lower levels of delinquent behavior (Liu et al., 2020). Weak beliefs in a just world could be a risk factor for psychological adjustment and linked to depression, anxiety, low self-esteem, and decreased positive behavior (Nesbit et al., 2012; Otto et al., 2006; Pearl & Dovidio, 2015). Furthermore, research has shown that belief in a just world served as a protective factor against adversity, including unfair or negative events (Levine et al., 2017; Nesbit et al., 2012; Nudelman et al., 2016), discrimination (Pearl & Dovidio, 2015), and interpersonal distress (Poon & Chen, 2014).

However, an alternative hypothesis also exists; people who believe in a just world could have worse psychological outcomes when faced with adversity (Levine et al., 2017). According to worldview verification theory, inconsistencies between experiences and beliefs produce psychological threat and may predict worse outcomes (Major & Townsend, 2012). While no research has examined the effects of beliefs in a just world in the context of inadequate family and school resources, studies have evidenced that disadvantaged adolescents with strong beliefs in a just world reported more problem behavior if they perceived discrimination towards the disadvantaged group to which they belonged (Lan et al., 2018). Similarly, one study found that people who experienced an unfair outcome, who believed in a fair world, and believed that the decision process was unfair, had higher stress reactivity than the people whose belief was consistent with experience (Lucas et al., 2016).

How might low-income adolescents' belief in a just world affect the way that they respond to inadequate family and school resources? Belief in just world might serve to predict better outcomes and buffer the negative effects of adversity if belief in a just world would help adolescents to cope. Conversely, belief in a just world might

predict worse outcomes if the difficulty of having one's beliefs violated give rise to negative psychological outcomes.

1.3 The Current Research

The current study aimed to examine the interactive effects between family resources and school resources on psychological adjustment (including subjective well-being, depression, and problem behavior), and the moderating role of belief in a just world in the association between resources and adjustment among Chinese low-income adolescents. We hypothesized that (1) school resources would diminish the negative effects of inadequate family resources on adolescents' adjustment, and (2) strong just-world beliefs would buffer against the negative impacts of insufficient resources on adolescents' adjustment.

2 Method

2.1 Participants

Our sample included 194 Chinese pre-teens and teenagers in the fourth through ninth grades from low-income families. The mean age of the sample was 12.42 years (range from 9 to 16, $SD=2.00$); 45.4% were boys and 51.0% were girls. Participants reported the highest level of educational completed by their parents, 4.1% had a primary school education, 42.8% had a secondary school education, 42.3% had completed high school, and 7.2% had received some level of college education. 19.1% of the participants' families had more than one child.

2.2 Procedures

Participants were recruited from low-income families in Tianjin, a megacity in northern China. Using a nonrandomized convenience sampling method, we first contacted local community in Tianjin, three of which agreed to participate in the study. Then, local community committee selected candidate participants from the filed-and-registered poor household, which need to be reviewed and approved by the local government. All candidate participants were notified that their participation is completely voluntary and they have the right to withdraw at any time. Only those provided informed consent from both students and their caregivers were finally included in the current study. Finally, 194 adolescents were included in the current study, and 29.9% of participants received a minimum living allowance. Data collection was conducted one-by-one in participants' home. Each participant completed self-reported questionnaires at home in the presence of at least one of their caregivers. The study protocol was approved by the Institutional Review Board at ***.

2.3 Measures

2.3.1 Family Resources

Family resources were measured using Household Economic Index (Bi et al., 2008). The scale includes thirteen items that tap the physical environment of the home and the food usually available at home, including bathroom, kitchen, own bedroom, refrigerator, TV, washing machine, air conditioner, computer, milk, fruit, vegetables, eggs, and meat. Participants rated on a two-choice scale of either present (scored as 1) or absent (scored as 0). According to the importance and cost of each item (for example, have one's own bedroom are important for adolescents and usually costs more than any other items), the scores was differentially weighted¹ and their sums were finally used. The selection of specific resources and corresponding weighting have been used in Chinese low-income children and adolescents and proved to be an effective assessment of family resources (Bi et al., 2008).

2.3.2 School Resources

School resources were measured with Educational Resource Index (Shen & Liu, 2015). It consists of seven items designed to assess the quantity and quality of education-related resources owned by students in school. Examples include: (1) Satisfaction with the school environment (i.e. air, noise, buildings, space, and green plants) on a 0–5 scale from *satisfied with none* to *satisfied with all*. (2) School facilities (i.e. computer room, music room, sports equipment, reading room, and playground) on a 0–5 scale from *have none of the facility* to *have all the facilities*. (3) The number of students in a classroom on a 1–5 scale from *less than 20* to *more than 80*. (4) Classroom size on a 1–5 scale from *very crowded* to *very spacious*. (5) Teaching quality on a 1–5 scale from *poor quality* to *high quality*. (6) Teacher mobility on a 1–3 scale from *high mobility* to *low mobility*. (7) Amount of learning materials on a 1–4 scale from *none* to *sufficient*. Confirmatory factor analysis determined that the seven items were well-loaded on a single factor, $\chi^2=1.385$, CFI=0.971, TLI=0.954, RMSEA=0.046. The seven items proved to be a valid measures of school resources. To create the school resources composite, the items were converted to z scores separately, and their sums were used to obtain an average score.

2.3.3 Belief in a Just World

The adolescents' belief in a just world was measured using the translated Chinese version (Wu et al., 2011) of the General Belief in a Just World subscale (Dalbert, 2001). The subscale includes six items, with questions such as, "I think the world basically is a just place." Participants responded on a 1–6 scale from *strongly*

¹ The weights are as follows: bedroom 20, bathroom 15, kitchen 15, refrigerator 7, TV 7, washing machine 7, air conditioner 7, computer 12, milk 2, fruits 2, vegetables 2, eggs 2, and meat 2.

disagree to strongly agree. The average score was used. Cronbach's alpha for the sample was 0.79.

2.3.4 Depression

Depression was measured using the Chinese version (Yang et al., 2014) of the Beck Depression Inventory-II (Beck et al., 1996), which proved to be a reliable measure of depression among Chinese adolescents. The scale consists of 21 multiple choice items, with responses that range in intensity (0=I do not feel sad, 1=I feel sad, 2=I am sad all the time and I can't snap out of it, and 3=I am so sad or unhappy that I can't stand it). The average score was used. Cronbach's alpha for the sample was 0.87.

2.3.5 Subjective Well-Being

Subjective well-being was measured using the Chinese version (Wang et al., 1999) of the Cantril Ladder (Cantril, 1965), which proved to be a reliable measure of depression among Chinese adolescents. In this single-item scale, participants were asked to rate how well they feel about life on a 0–10 scale from *extremely unhappy* to *extremely happy*.

2.3.6 Problem Behavior

Problem behavior was measured using the Chinese adapted version (Fang et al., 1996) of the Youth Self-Report (YSR; Achenbach & Edelbrock 1987). The scale includes 12 items such as “lies, cheats,” “drink alcohol,” and “truant.” The scale ranges from 1 (never) to 4 (always) and has been proven to be a reliable measure among Chinese adolescents (Shen & Liu, 2015). The average score was used. Cronbach's alpha for the sample was 0.90.

2.3.7 Covariates

According to previous research (Coley et al., 2018; Leventhal et al., 2015), we controlled for key demographic factors to adjust for confounding effects. Covariates included youth age, gender, parents' highest educational level (primary school, secondary school, high school, or college education), and number of children in household (1, 2, 3, or 4 or more).

2.4 Analyses

Analyses were conducted using SPSS 21. First, the effects of family resources, school resources, and the two-way interaction (family resources \times school resources) was examined, with all covariates considered. Second, the moderating effects of belief in a just world were measured with a regression model that used a three-way interaction term (family resources \times school resources \times belief in a just world) as

well as two two-way interaction terms (family resources \times belief in a just world, and school resources \times belief in a just world). All variables were standardized prior to a calculation of the interaction terms. Additionally, non-significant interactions were removed from the regression model according to the example provided by Dawson (2014). If there were significant interactions, a simple slope analysis was conducted using the PROCESS tool (Hayes, 2013) in SPSS to determine the nature of the interactions.

3 Results

3.1 Descriptive Analyses

Table 1 presents means, standard deviations, and correlations for the study variables as well as covariates. The correlations indicated that family resources, school resources, and belief in a just world were significantly associated with adolescents' adjustment. Problem behavior represented an exception as it was not associated with family resources. Boys displayed more problem behaviors than girls. The number of children in a household was positively associated with depression and negatively associated with resources in the family and school.

3.2 Interactive Effects Between Resources in the Family and School

The effects of resources in the family and school, as well as their impact on adolescents' adjustment appear in Table 2. Family resources were negatively associated with depression; school resources were positively associated with all three outcomes. Furthermore, family and school resources significantly interacted to predict subjective well-being (see Fig. 1A) and depression (see Fig. 1B). Among adolescents with high school resources, there was no significant association between family resources and subjective well-being ($B = -0.14$, $t = -0.70$, $p = .48$) and depression ($B = -0.01$, $t = -0.39$, $p = .70$); specifically, they had high levels of subjective well-being and low levels of depression overall. Among adolescents with low school resources, there was a significant association between family resources and subjective well-being ($B = 0.52$, $t = 2.71$, and $p = .001$) and depression ($B = -0.12$, $t = -3.46$, and $p < .001$); specifically, compared to adolescents with higher family resources, adolescents with lower family resources had lower subjective well-being and higher depression. The results suggested that school resources buffered the detrimental effects of limited family resources.

3.3 The Moderating Effects of Belief in a Just World

Table 3 presents the effects of resources in family and school and a belief in a just world on adolescents' adjustment. First, school resources were associated with higher subjective well-being and lower depression. This result confirmed the main effects of school resources observed in the previous analysis. Second, the main

Table 1 Descriptive statistics and correlations among study variables

Variable	Range	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1 Subjective well-being	[0~10]	8.24	1.97	—									
2 Depression	[0~3]	0.32	0.38	-0.37***	—								
3 Problem behavior	[1~4]	1.30	0.44	-0.29***	0.41***	—							
4 Family resources	[2~100]	67.18	19.52	0.17*	-0.30***	-0.07	—						
5 School resources	[-2~1]	0	0.54	0.38***	-0.35***	-0.30***	0.13	—					
6 Belief in a just world	[1~6]	4.37	1.00	0.36***	-0.45***	-0.37***	0.15*	0.31***	—				
7 Gender	[0, 1] [†]	0.47	0.50	-0.03	-0.03	0.15*	-0.07	0.03	0.01	—			
8 Age	[9~16]	12.42	2.00	0.06	-0.11	0.04	0.09	-0.02	-0.02	0.03	—		
9 Parent education	[1~5] [‡]	2.57	0.77	0.06	-0.05	-0.01	-0.02	0.07	-0.02	-0.04	0.08	—	
10 Number of children	[1~4]	1.28	0.66	-0.07	0.22**	0.11	-0.16*	-0.17*	-0.04	-0.02	-0.23**	-0.23**	—

[†] For gender, 0 = female, 1 = male. [‡] For parent education, 1 = primary school or below, 2 = secondary school, 3 = high school, 4 = college degree, 5 = bachelor degree or above

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

Table 2 Two-way interactions of family resources and school resources on psychological adjustment

Variable	Subjective well-being		Depression		Problem behavior	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1		0.02		0.06*		0.06*
Gender (Female=0)	-0.01		-0.03		0.19*	
Age	0.10		-0.09		0.01	
Parent education	0.02		0.02		0.01	
Number of children	0.05		0.09		0.12	
Step 2		0.17***		0.15***		0.05*
Family resources	0.10		-0.19*		-0.03	
School resources	0.37***		-0.28**		-0.22**	
Step 3		0.03*		0.03*		—
Family resources \times School resources	0.19*		0.17*		—	

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

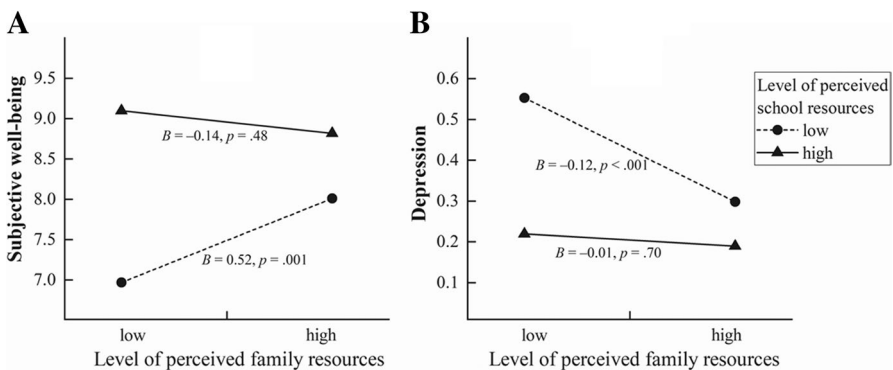


Fig. 1 The interactive effects of family resources and school resources on subjective well-being and depression. High and low values correspond to ± 1 SD of the mean, respectively

effects of belief in a just world were significant; weak belief was associated with lower subjective well-being, greater incidence of depression symptoms, and more problem behaviors. Moreover, there were significant moderating effects of belief in a just world on the associations between resources and adjustments.

3.3.1 Subjective Well-Being

The three-way interaction between family resources, school resources, and belief in a just world was marginally significant. A simple slope analysis indicated that belief in a just world significantly moderated the relationship between school resources and subjective well-being among the adolescents with high family resources (see Fig. 2A). Specifically, those with a strong belief in a just world appeared to respond

Table 3 Three-way interactions of family resources, school resources, and belief in a just world on psychological adjustment

Variable	Subjective well-being		Depression		Problem behavior	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1		0.02		0.05 ⁺		0.06 [*]
Gender (Female = 0)	-0.03		-0.05		0.15 [*]	
Age	0.10		-0.09		0.02	
Parent education	-0.01		0.05		-0.02	
Number of children	0.08		-0.01		0.04	
Step 2		0.20 ^{***}		0.29 ^{***}		0.14 ^{***}
Family resources	0.04		-0.04		0.01	
School resources	0.31 ^{***}		-0.17 [*]		-0.08	
Belief in a just world	0.17 [*]		-0.31 ^{***}		-0.30 ^{***}	
Step 3		0.03		0.11 ^{***}		0.11 ^{***}
Family resources × School resources	-0.09		-0.12		-0.13	
Family resources × Belief in a just world	0.02		0.27 ^{***}		0.12	
School resources × Belief in a just world	0.12		-0.07		0.32 ^{***}	
Step 4		0.02 ⁺		0.05 ^{***}		—
Family resources × School resources × Belief in a just world	0.25 ⁺		-0.39 ^{***}		—	

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

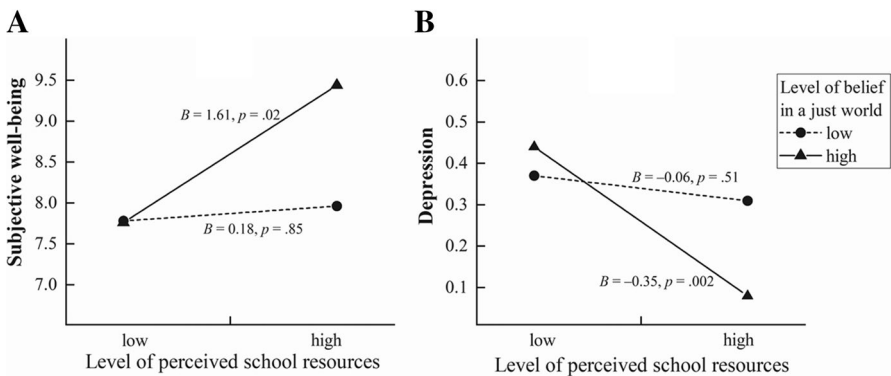
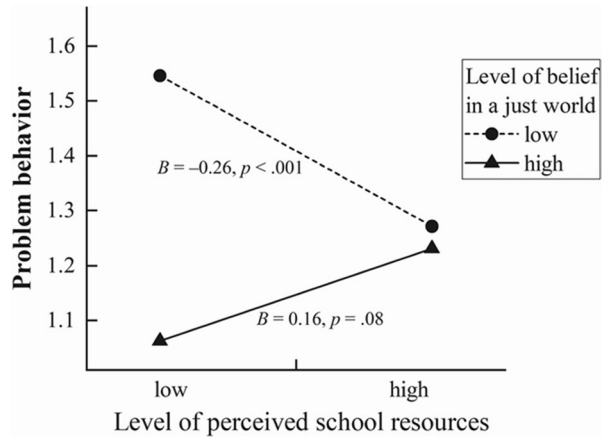


Fig. 2 The interactive effects of school resources and belief in a just world on subjective well-being and depression among adolescents with high family resources, respectively. High and low values correspond to ± 1 SD of the mean, respectively

to the beneficial effects of school resources ($B = 1.61, t = 2.32, p = .02$) but not those with a weak belief in a just world ($B = 0.18, t = 0.34, p = .85$). The results suggested that belief in a just world enhanced the positive effects of school resources on subjective well-being among adolescents with high family resources.

Fig. 3 The interactive effects of school resources and belief in a just world on problem behavior. High and low values correspond to ± 1 *SD* of the mean, respectively



3.3.2 Depression

The three-way interaction was significant. Similarly, the simple slope analysis indicated that belief in a just world significantly moderated the relationship between school resources and depression among the adolescents with high family resources (see Fig. 2B). Specifically, school resources were associated with lower depression in combination with a strong belief in a just world ($B = -0.35$, $t = -3.10$, $p = .002$) but not with a weak belief in a just world ($B = -0.06$, $t = -0.66$, $p = .51$). The results suggested that belief in a just world enhanced the beneficial effects of school resources in decreasing depression among the adolescents with high family resources.

3.3.3 Problem Behaviors

Although there was no significant three-way interaction that predicted problem behaviors, a significant two-way interaction of school resources and belief in a just world emerged (see Fig. 3). School resources were associated with more problem behaviors among the adolescents with a weak belief in a just world ($B = -0.26$, $t = -4.46$, $p < .001$) but not among the adolescents with a strong belief in a just world ($B = 0.16$, $t = 1.33$, $p = .08$). The result suggested that belief in a just world buffered the negative effects of limited school resources on adolescents' problem behaviors.

4 Discussion

For adolescents from low-income families, how their psychological adjustment is affected by external resources and internal beliefs has been the focus of researchers. The current study extends previous research by finding that school resources buffered the negative effects of limited family resources, which indicating the importance of improving the school physical environment for low-income adolescents'

development. Moreover, the study corroborated with previous research that belief in a just world acted as a protective factor, and extended the findings to a sample of Chinese low-income adolescents.

4.1 Family Resources, School Resources, and Adjustment in Low-Income Adolescents

The first aim of our study was to examine the effects of resources in family and school on low-income adolescents' psychological adjustment. We found that school resources were significantly associated with subjective well-being, depression, and problem behaviors, whereas family resources were only associated with depression among low-income adolescents. These results highlighted the central role of school in affecting adolescents' mental and behavioral health, which was consistent with previous studies (Aldridge & McChesney, 2018; Wang & Degol, 2016).

Moreover, family resources and school resources jointly predicted the low-income adolescents' outcomes. On the one hand, among the adolescents with high school resources, family resources were not associated with subjective well-being and depression, suggesting that high school resources protected adolescents from the negative effects of low family resources on subjective well-being and depression. This result proved consistent with findings from previous studies that showed school contexts could represent a protective factor for adolescents who faced adversity in their families (Han et al. 2017; Hou & Shen 2014). On the other hand, among the adolescents with low school resources, lower family resources were associated with lower subjective well-being and higher depression, indicating that limited resources from school and family were somewhat accumulative (Evans et al., 2013). The aggregation of contextual risk experienced by the low-income adolescents made them more likely to be maladaptive.

4.2 The Protective Effects of Belief in a Just World

The second aim of this study was to examine the moderating effects of belief in a just world among low-income adolescents. First, belief in a just world was directly associated with improved psychological well-being. Higher levels of belief in a just world were associated with higher levels of well-being, lower depression, and less problem behavior. Moreover, belief in a just world significantly moderated the relationship between resources and psychological adjustment. According to resilience theory (Luthar et al., 2000), belief in a just world acts as a protective factor instead of a risk factor. These findings were consistent with previous studies (Dalbert, 2001; Pearl & Dovidio, 2015; Poon & Chen, 2014), indicating that belief in a just world is a personal resource and extended the findings to a sample of low-income adolescents.

For subjective well-being and depression, we found that belief in a just world enhanced the positive effects of school resources. Adolescents with a strong belief in a just world appeared to respond to the beneficial effects of school resources but not those with a weak belief in a just world. These findings corroborated previous

studies that emphasized the positive role of positive beliefs (Kaye-Tzadok et al., 2018; Park et al., 2018). For example, students who believe in a just world might focus on the positive aspects of their environments and thus have less negative mood and more faith in the belief that life will eventually work out well (Nudelman et al., 2016). Their positive outlook could help solidify the benefits of school resources and subsequently support the adolescents' psychological well-being (Aldridge & McChesney, 2018; Wang & Degol, 2016). However, the enhancing effect of belief in a just world only existed among adolescents with relatively high family resources. When adolescents experienced extreme material deprivation in the family, the enhancing effect of belief in a just world was no longer significant. This result replicated the protective-reactive pattern in resilience theory (Luthar et al., 2000). In this pattern, protective factors create greater advantages in positive conditions and the protective effect is dampened when faced with extreme adversity.

For problem behavior, belief in a just world buffered against the risk of limited school resources. Adolescents with a strong belief in a just world reported less problem behavior than those with a weak belief in a just world when the school resources were lacking. This result also confirmed the protective role of belief in a just world, as has been identified in empirical studies (Nesbit et al., 2012; Poon & Chen, 2014) and theoretical research (Dalbert, 2001). The buffering effect of belief in a just world may be due to its adaptive functions, such as providing an interpretive framework that helps adolescents approach a stressful situation as more of a challenge than a threat (Tomaka & Blascovich, 1994), developing a meaningful explanation for the situation (McParland & Eccleston, 2013), and maintaining their trust in life (Dalbert, 2001). Thus, adolescents with strong belief in a just world could be motivated to behave appropriately and avoid deviant behavior when faced with adversity.

4.3 Limitations and Implications

Several limitations need to be addressed in the current study. First, it is possible that family and school resources could influence adolescents' belief in a just world. However, we were unable to determine this possibility given the study's cross-sectional design. Future research could attempt to address this limitation using longitudinal design. Second, the current study was limited by a small sample size. The conclusion that school resources and belief in a just world could protect adolescents against adversity needs to be repeated in a larger sample. Moreover, adolescents from middle- and high-income families could have very different sets of resources available to them than the adolescents from low-income families that we studied. It would be worth demonstrating whether adolescents in middle- and high-income samples demonstrate the same or different results as those in a low-income sample. Third, we focused on general belief in a just world, which was proved to be endorsed strongly in a collectivistic culture. However, much of the relevant research distinguishes the belief in a personal just world, in which one is usually treated justly, from the belief in a general just world, in which people in general receive what they deserve. Considering that we only examined the role of a general belief in a just world, the results of our study cannot be assumed to generalize to personal belief in

a just world. Future research could test whether personal belief in a just world also would function as a protective factor and compare the effects of personal and general belief in a just world.

Despite these limitations, this study advances our understanding of low-income adolescents' psychological adjustment and highlights the need for improving belief in a just world and school resources. First, although regarded as a positive illusion, belief in a just world proved to be a protective resource enhancing the subjective well-being and decreasing depression and problem behavior in our sample. Adolescents' justice beliefs likely originate from various sources, such as intrinsic motives, social learning, and their actual living experiences (Dalbert & Sallay, 2004). To cultivate the belief in a just world among adolescents, the fairness of society and the world should be explicitly valued and enhanced. Shen and Liu (2015) suggested that in school education, teachers should emphasize that the world is a just place and people get what they deserve in the end. Furthermore, there is empirical evidence that justice atmosphere in school and society will solidify the effects of individual-level justice beliefs on personal well-being (Lucas et al., 2016), suggesting that promoting justice atmosphere in society is of great importance. Second, the findings that school resources could serve as a buffer against the negative impacts of inadequate family resources on subjective well-being and depression highlighted the importance of improving school resources to improve low-income adolescents' adjustment. Specifically, interventions to improve school resources could focus on both the actual physical environments (for example, establish a school library, increase subscriptions to various magazines and books, decrease students in each class) as well as their subjective satisfaction with physical environments.

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Declarations

Conflict of Interest We declare that there are no conflicts of interest with respect to the authorship or the publication of this article.

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