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EMPIRICAL RESEARCH

Parent-Child Discrepancy in Educational Aspirations and Depressive Symptoms in Early Adolescence: A Longitudinal Study

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Abstract

Adolescents may have educational aspirations that are different from their parents' educational aspirations for them, and such discrepancy may affect adolescents' psychological adjustment. This longitudinal study examined how parent-child discrepancy in educational aspirations relate to depressive symptoms in early adolescents, both concurrently and prospectively, when controlling for parents' depressive symptoms. Moreover, parent and child gender differences in the effects were explored. Data were collected from 3799 students (52.0% boys; $M_{age} = 10.78$) and their fathers and mothers when the students were in fifth and seventh grade over 2 years. Polynomial regression with response surface analysis was used to analyze the effects of parent-child aspiration discrepancy on depressive symptoms separately in four parent-child gender dyads. Cross-sectional results demonstrated that for all parent-child gender dyads, congruently higher aspirations were related to lower depressive symptoms, and greater incongruence in aspirations was related to higher depressive symptoms. Moreover, for parent-son dyads, adolescents whose aspirations were lower than those of their parents reported higher depressive symptoms than adolescents whose aspirations were higher than those of their parents. However, longitudinal results further showed that, for father-son dyads only, congruently higher aspirations were related to increased depressive symptoms over time, while for parent-daughter dyads only, greater incongruence in aspirations was related to increased depressive symptoms over time. The findings support the importance of considering parent-child discrepancy when exploring the role of educational aspirations in adolescents' psychological adjustment and call for a more detailed and rigorous analysis and interpretation of this relationship.

Keywords: Educational aspirations · Depressive symptoms · Discrepancy · Gender difference · Response surface analysis

Introduction

Depression is one of the leading causes of illness and disability among adolescents. Even among adolescents aged 11–14 years, the prevalence of depressive disorders is approximately 5~12% (Kwong et al., 2019). Moreover, depressive symptoms in early adolescence are associated with an increased risk of later recurrence and other mental disorders (Aronen & Soininen, 2000). Therefore, it is important to identify protective and risk factors for depressive symptoms in early adolescence. Interestingly, adolescents' educational aspirations, which refer to desires or ideal goals regarding future educational attainment (Yamamoto & Holloway, 2010), have been found to be a double-edged sword for depressive symptoms. Some studies have proposed aspirations as a motivator and identified their protective role for depressive symptoms (Almroth et al., 2018; Mossakowski, 2011), while other studies have adopted aspirations as a stressor and found reverse effects (Gerard & Booth, 2015; Kiang et al., 2015). Some researchers suggest that whether adolescents' educational aspirations are motivators or stressors depends on their discrepancy with parents' educational aspirations (Agliata & Renk, 2009). However, how the discrepancy between parents' and children's educational aspirations relates to

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adolescents' depressive symptoms is not fully understood. This study aims to investigate the cross-sectional and longitudinal effects of parent-child discrepancy in educational aspirations on the depressive symptoms of early adolescents.

Discrepancy in Educational Aspirations and Adolescent Psychological Adjustment

Adolescence is considered a critical period for identity formation. According to identity control theory (Burke & Stets, 2009), psychological distress results from a continual and unresolved discrepancy between environmental input and an individual's identity standard. This discrepancy can lead to distress regardless of whether the input is more positive or negative than the identity standard, and the greater the discrepancy, the greater the distress. Identity discrepancy theory extends identity control theory by further distinguishing two types of identity standards, aspirations (the ideal self) and obligations (the ought self), and proposes that discrepancy with respect to aspirations results in depressive symptoms, while discrepancy with respect to obligations results in anxiety symptoms (Large & Marcussen, 2000). With regard to education-related identity, adolescents' educational aspirations can be regarded as the ideal self (identity standard), and parents' educational aspirations for adolescents can be regarded as the environmental input for adolescents. Thus, parent-child discrepancy in educational aspirations should be considered a noteworthy risk factor for depressive symptoms in early adolescence.

During early adolescence, one of the major and challenging events is the transition from primary to secondary school. The primary-secondary school transition is a time of stress for early adolescents (Evans et al., 2018), perhaps especially in several Asian countries. For example, in the Chinese educational system, the primary-secondary school transition is the first time that students experience school tracking, which occurs around the same time as the onset of puberty (between Grade 6 and Grade 7, approximately 12–13 years old). The type of school tracking in the Chinese educational system is characterized by a "high impact of placement on future academic careers" (Trautwein et al., 2006, p. 789). Being tracked into a relatively low-achievement school at the secondary school level reduces a student's chances of entering higher education and thereby reduces the likelihood of fulfilling high educational aspirations. Accordingly, the period of the primary-secondary school transition may be a time in which aspiration discrepancy has strong effects on depressive symptoms of early adolescents.

Discrepancies between parents' and adolescents' educational aspirations are not uncommon. Approximately half of adolescents hold different educational aspirations from those of their parents; some have higher aspirations than their parents, while others are lower (Lv et al., 2018). However, research on the relationship between parent-child discrepancy in educational aspirations and adolescent psychological adjustment is quite scarce. One study defined this discrepancy as a mismatch between parents' and children's educational aspirations and found that the mismatch was linked with lower emotional well-being among middle school students (Rutherford, 2015). Another study further divided the mismatch into two types: those in which parents but not children had university aspirations and those in which children but not parents had university aspirations (Almroth et al., 2019). This study found that adolescents in both mismatch groups did not have increased odds of high internalizing symptoms, when compared with situations in which both adolescents and their parents had university aspirations. Only one study focused on the effect of discrepancy in educational aspirations on depressive symptoms (Gallagher, 2016). That study treated the discrepancy as the difference value between how strongly the adolescent wanted to go to college and how strongly the adolescent perceived that his or her parent would be disappointed if he or she did not graduate from college. The raw difference value was transformed into two variables, "parent higher" and "parent lower", which separately represented the degree to which perceived parental aspirations were higher or lower than the adolescent's aspirations. The study showed that both father higher and father lower discrepancy in college aspirations were positively related to increased depressive symptoms, while only mother higher discrepancy was positively related to increased depressive symptoms.

Although different measures and methods have been used to study parent-child discrepancy in educational aspirations and inconsistent results have been obtained, existing studies have three important implications for future research. First, the direction of the discrepancy should be considered and investigated. Second, it is necessary to distinguish and study aspiration discrepancies with fathers and with mothers. Third, both the short- and long-term effects of discrepancy on adolescent depressive symptoms need to be explored.

Nevertheless, several important issues remain unresolved. First, two of the above studies found that incongruence in educational aspirations was associated with more psychological distress (Gallagher, 2016; Rutherford, 2015); however, whether incongruence in different directions may have differentially negative effects has not been tested. The results of one of the two studies appear to indicate that the parent higher discrepancy might be more harmful than the parent lower discrepancy (Gallagher, 2016), but this issue was not directly examined. Second, no research has

examined how the level of congruent aspirations affects depressive symptoms when parents and adolescents have the same level of educational aspirations. Similar to adolescents' educational aspirations, parents' educational aspirations function as sources of both academic pressure and academic support for adolescents (Gerard & Booth, 2015; Ma et al., 2018). On the one hand, congruent but very low aspirations between parents and children may not result in academic pressure for adolescents, but this situation indicates that both the parent and the child hold a pessimistic view of the child's competence and future. On the other hand, even high-achieving students experience academic pressure when their parents or they themselves hold very high aspirations (Peterson et al., 2009) since the opportunity to enter graduate school is quite limited. Accordingly, a nonlinear relationship can be expected between the level of congruent aspirations and depressive symptoms. There may be a point before which higher aspirations relate to lower depressive symptoms and after which higher aspirations begin to relate to higher depressive symptoms. There is indirect evidence suggesting a curvilinear U-shaped relationship between cortisol, a reliable indicator of stress, and depressive symptoms in youth (Ford et al., 2019). Therefore, it is necessary to focus on the degree of congruence, the direction of incongruence, and the degree of incongruence between parents' and children's educational aspirations when examining the effect of discrepancy on depressive symptoms.

In addition, two other important issues that can help to promote a better understanding of the relationship between parent-child discrepancy in educational aspirations and depressive symptoms are of concern. The first issue is gender differences in the pattern of the relationship. As revealed by a previous study (Gallagher, 2016), father-child and mother-child discrepancy in educational aspirations seem to have different effects on adolescents' depressive symptoms in some cases. This may be because fathers and mothers interact with their children differently and play different roles in child development. Moreover, the child's gender may have an effect. On the one hand, girls have shown greater susceptibility to depressive symptoms (Salk et al., 2017) because they are more vulnerable to risk factors (Hyde et al., 2008). Thus, girls may be more sensitive than boys to aspiration discrepancy with their parents. On the other hand, the perspective of same-sex role models proposes that children are more likely to select their same-sex parent, rather than the opposite-sex parent, as a model for identification (Knafo & Schwartz, 2009); therefore, adolescents may be more sensitive to aspiration discrepancy with same-sex parents. The second issue is whether the parent-child discrepancy in educational aspirations has a unique effect on adolescents' depressive symptoms beyond parents' depressive symptoms. Parents' depressive symptoms are known to be associated with children's depressive symptoms (Hale et al., 2020). Furthermore, parents' depressive symptoms are related to problematic parenting behaviors (Cheung & Theule, 2019) and poor parent-child interactions (Ponnet et al., 2013). These factors are all possible causes of discrepancy between parents and children (De Los Reyes & Kazdin, 2005). Accordingly, the role of parents' depressive symptoms should be controlled.

Approach to Studying Discrepancy

The limited studies and inconsistent results on the effect of parent-child discrepancy in educational aspirations on adolescent depressive symptoms clearly highlight the need for a more appropriate approach to studying discrepancy. On the one hand, the mismatch method used by two previous studies results in the loss of important information about the degree of subtle difference between parents' and children's aspirations. On the other hand, the validity of the difference scores method used by one previous study has been challenged by several researchers due to issues including but not limited to reduced reliability, confounded effects, and untested constraints (Edwards, 2002; Laird & De Los Reyes, 2013). A recommended alternative is polynomial regression with response surface analysis, which can not only avoid psychometric problems but also apply to a wider range of research questions (Edwards, 2002; Laird & De Los Reyes, 2013). Polynomial regression offers the opportunity to simultaneously examine the independent contribution of two predictors (e.g., parents' aspirations and children's aspirations) and how the congruence and incongruence between the two predictors relate to outcomes (e.g., adolescent depressive symptoms). Response surface analysis can further analyze and visualize the relationships between combinations of the two predictors and outcomes in a three-dimensional space. Specifically, it can be used to simultaneously examine how the degree of congruence between two predictors, the direction of incongruence between two predictors, and the degree of incongruence between two predictors relates to outcomes.

Current Study

The purpose of this study was to explore how parent-child discrepancy in educational aspirations relate to depressive symptoms among early adolescents, both concurrently and prospectively, after controlling for parents' depressive symptoms and to explore parent and child gender differences in these effects. Attention is focused on the period of the primary-secondary school transition, when early adolescents may experience more pressure from aspiration discrepancy. The study first examined how the level of

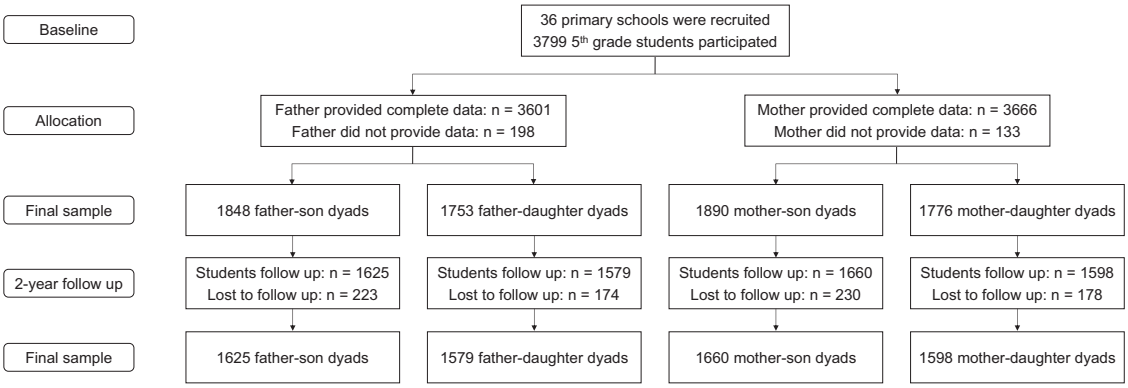

Fig. 1 Flow chart of participants

educational aspirations relates to depressive symptoms when parent and child reports of educational aspirations are in congruence. It was hypothesized that there would be a U-shaped relationship between congruent aspirations and depressive symptoms, with both lower and higher aspirations relating to higher depressive symptoms concurrently and to increased depressive symptoms prospectively. Then, the study examined how the direction of the incongruence between parent and child reports of educational aspirations relates to depressive symptoms. It was hypothesized that adolescents whose aspirations were lower than those of their parents, compared to adolescents whose aspirations were higher than those of their parents, would have higher depressive symptoms concurrently and increased depressive symptoms prospectively. The study also examined how the degree of incongruence relates to depressive symptoms and hypothesized that adolescents with greater incongruence would have higher depressive symptoms concurrently and increased depressive symptoms prospectively. Given the exploratory nature and lack of existing research, no specific hypotheses were made regarding gender differences.

Methods

Participants and Procedure

The participants were from an ongoing subproject of the Child Academic and Psychological Development Study (CAPS) (Bi et al., 2021; Guo et al., 2021). In November 2016, the subproject recruited 36 primary schools in Hebei Province, where the per capita gross domestic product (GDP) is ranked 19th out of 31 provinces in China. All fourth-grade students of these schools and their parents were invited to participate and were followed every 6 months. In September 2019, students moved from 36 primary schools to 18 secondary schools and were followed every year. At each time point, students completed a self-report questionnaire in the classroom under the supervision of two trained researchers, and their fathers and mothers completed a self-report questionnaire separately at home. All procedures were approved by the Institutional Review Board of the Collaborative Innovation Center of Assessment toward Basic Education Quality, Beijing Normal University. Written informed consent to participate in the study was obtained from the schools and parents.

Data for this study were drawn from two waves, the fifth grade in primary school (Time 1) and the seventh grade in secondary school (Time 2). A total of 3799 students ($M_{age} = 10.78$, $SD = 0.37$), 3601 fathers, and 3666 mothers participated at Time 1, and 3375 (88.9%) students participated at Time 2. Fig. 1 presents the flow of participants and the actual sample size. Approximately twenty percent of fathers (19.0%) and mothers (20.2%) had high school or higher levels of education. The median annual family income was between CNY 14,000 and CNY 30,000, which was lower than the Chinese national average level (according to the data from the National Bureau Statistics of China, the national per capita disposable income in 2017 was CNY 25,974, and the average number of people per household was 2.62 people/household; thus, the national average annual family income was approximately CNY 68,000).

Measures

Educational aspirations

At Time 1, fathers and mothers separately reported their educational aspirations for their children using the item "How far in school do you hope that your child will go?" Adolescents reported their own educational aspirations using the item "How far in school do you hope that you will go?" Both items were responded to on a 6-point scale (1 = primary school or below, 2 = lower secondary school, 3 = upper secondary school, 4 = junior college degree, 5 = bachelor's degree, and 6 = master's degree or above). Since only a few parents and

adolescents selected "primary school or below" (fewer than 1%), the original 6-point scale was transformed to a 5-point scale ranging from 1 (lower secondary school or below) to 5 (master's degree or above).

Adolescents' depressive symptoms

At Times 1 and 2, adolescents completed the Chinese version of the 27-item Children's Depression Inventory (CDI-C) (Kovacs, 1992; Yu & Li, 2000). Participants were asked to choose one of three statements that best described their feelings during the past 2 weeks, and responses were scored quantitatively on a scale of 0 (the absence of symptoms) to 2 (definite symptoms). The total score ranged from 0 to 54. Cronbach's alpha was 0.89 and 0.87 at Times 1 and 2, respectively.

Parents' depressive symptoms

At Time 1, fathers and mothers separately completed the depression subscale of the 21-item Depression Anxiety Stress Scales (DASS-21, Lovibond & Lovibond, 1995). Participants were asked to indicate the extent to which they experienced each of the symptoms depicted in the items during the previous week on a 4-point Likert-type scale between 0 (did not apply to me at all) and 3 (applied to me very much, or most of the time). The total score ranges from 0 to 21. The Cronbach's alpha was 0.91 for fathers and 0.92 for mothers.

Covariates

Students' age, gender and family background, such as family income and parent's education, were reported by parents at Time 1. Family income was coded on a 10-point scale ranging from less than ¥3600 to more than ¥500,000. Parents' education was coded on the same 5-point scale as educational aspirations.

Data Analyses

During the primary-secondary school transition, 424 of the 3799 students who participated at Time 1 did not participate at Time 2 and thereby had missing values for adolescents' depressive symptoms at Time 2. Attrition analyses revealed that students who did not participate at Time 2 showed lower levels of fathers' and mothers' education ($t_{father} = -3.14$, $p < 0.01$; $t_{mother} = -3.33$, $p < 0.01$) and higher levels of depressive symptoms at Time 1 ($t = 3.03$, $p < 0.01$) than those who did. No significant differences emerged in parents' educational aspirations and depressive symptoms; adolescents' age, gender, or educational aspirations; or family income. Missing data were handled using multiple imputation method with 20 iterations. All subsequent analyses were conducted on the imputed data, and pooled results were reported. Descriptive statistics and bivariate correlations of the main study variables were conducted. Children's gender differences in the main study variables were tested by independent-sample t tests, and the differences in the distribution of parent-child discrepancy in educational aspirations were tested by Chi-square tests.

Polynomial regression with response surface analysis (Edwards, 2002; Laird & De Los Reyes, 2013) was used to first examine the effect of parent-child discrepancy in educational aspirations on depressive symptoms at Time 1 and then to examine the effects of discrepancy on depressive symptoms at Time 2 after controlling for depressive symptoms at Time 1. Adolescents' age, family income, and parents' education and depressive symptoms were treated as control variables. The analyses were conducted separately for father-son, father-daughter, mother-son, and mother-daughter dyads.

Specifically, a polynomial regression equation was established first: $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + e$ (1), where Z is the adolescent's depressive symptoms, X is parents' aspirations, and Y is adolescents' aspirations. Then, the regression coefficients (b_0 to b_5) were transformed into four response surface parameters (a_1 to a_4) to examine how the congruence and incongruence between X and Y relate to Z. Two parameters assessed the effect of congruence, with a_1 ($a_1 = b_1 + b_2$) assessing whether Z is higher when X and Y are congruently positive than when congruently negative, and a_2 ($a_2 = b_3 + b_4 + b_5$) assessing whether there is curvilinearity in the relationship. Two other parameters assessed the effect of incongruence, with a_3 ($a_3 = b_1 - b_2$) assessing how the direction of the incongruence ($X > Y$ or $X < Y$) is related to Z and a_4 ($a_4 = b_3 - b_4 + b_5$) assessing how the degree of the incongruence is related to Z. All control variables were standardized at zero before analyses. Parents' and adolescents' educational aspirations were standardized at the midpoint (=3, junior college degree) of the scale of educational aspirations (range from 1 to 5) to facilitate interpretation, as suggested by Edwards (2002). All analyses were conducted using SPSS (IBM SPSS Statistics 25, Chicago, IL).

Results

Preliminary Analyses

Descriptive statistics and bivariate correlations of the main study variables are presented in Table 1. The median was 4 (bachelor's degree) for fathers', mothers', and adolescents' aspirations. The mode was 4 (bachelor's degree) for fathers' and mothers' aspirations and 5 (master's degree or above) for adolescents' aspirations. As shown in Table 1,

Table 1 Descriptive statistics and bivariate correlations

Variables	*M* (*SD*)		*t*-test	1	2	3	4	5	6	7	8	9	10	11
	Boy	Girl												
1. Adolescent's gender T1	–	–		–										
2. Adolescent's age T1	10.71 (0.38)	10.67 (0.36)	2.99**	−0.05**	–									
3. Family income T1	4.21 (1.87)	4.06 (1.85)	2.50*	−0.04*	−0.09***	–								
4. Father's education T1	1.28 (0.66)	1.29 (0.70)	−0.73	0.01	−0.13***	0.22***	–							
5. Mother's education T1	1.30 (0.70)	1.31 (0.70)	−0.59	0.01	−0.13***	0.25***	0.68***	–						
6. Father's depressive symptoms T1	6.48 (8.88)	5.92 (8.58)	1.94	−0.03	0.03	−0.10***	−0.07***	−0.07***	–					
7. Mother's depressive symptoms T1	6.40 (8.99)	6.06 (8.85)	1.14	−0.02	0.08***	−0.10***	−0.06***	−0.07***	0.56***	–				
8. Father's aspirations T1	4.14 (0.96)	4.19 (0.87)	−1.61	0.03	−0.09***	0.10***	0.13***	0.12***	−0.13***	−0.14***	–			
9. Mother's aspirations T1	4.12 (0.95)	4.14 (0.89)	−0.63	0.01	−0.10***	0.14***	0.15***	0.17***	−0.14***	−0.16***	0.60***	–		
10. Adolescent's aspirations T1	4.03 (1.14)	4.17 (1.00)	−3.86***	0.06***	−0.06***	0.11***	0.13***	0.15***	−0.11***	−0.10***	0.41***	0.41***	–	
11. Adolescent's depressive symptoms T1	13.91 (8.32)	12.31 (7.87)	6.10***	−0.10***	−0.01	−0.05**	−0.09***	−0.09***	0.13***	0.17***	−0.16***	−0.18***	−0.24***	–
12. Adolescent's depressive symptoms T2	14.30 (9.15)	15.05 (9.50)	−2.30*	0.05*	−0.02	−0.02	−0.02	0.00	0.08***	0.12***	−0.09***	−0.10***	−0.09***	0.53***

Adolescent's gender was a categorical variable coded as boy = 0 and girl = 1. T1 = Time 1 (fifth grade), T2 = Time 2 (seventh grade)

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

independent-sample *t* tests showed that boys were slightly older and had a higher level of family income than girls but had a lower level of aspirations than girls. Furthermore, boys had higher depressive symptoms than girls at Time 1 but had lower depressive symptoms than girls at Time 2.

Fathers' and mothers' aspirations were positively associated with adolescents' aspirations and negatively associated with adolescents' depressive symptoms at Times 1 and 2. Adolescents' aspirations were negatively associated with their depressive symptoms at Times 1 and 2. In addition, fathers' and mothers' depressive symptoms were positively associated with adolescents' depressive symptoms at Times 1 and 2. Adolescents' gender, parents' education, and family income were somewhat associated with adolescents' depressive symptoms.

Parent-Child Discrepancy in Educational Aspirations

Table 2 presents the distribution of the parent-child discrepancy in aspirations. As shown in Table 2, nearly half of the parent-child dyads showed incongruence in educational aspirations and in different directions. Chi-square tests showed significant differences between father-son and father-daughter dyads ($\chi^2(2) = 8.04$, $p < 0.05$) and between mother-son and mother-daughter dyads ($\chi^2(2) = 12.24$, $p < 0.01$) in the discrepancy. Specifically, compared with fathers and mothers with daughters, fathers and mothers with sons were more likely to hold higher aspirations than their children but less likely to hold the same aspirations as their children. There were no significant differences between father-son and mother-son dyads or between father-daughter and mother-daughter dyads.

Effects of Parent-Child Discrepancy in Educational Aspirations on Depressive Symptoms at Time 1

Table 3 presents the results of polynomial regression with response surface analysis, and Fig. 2 illustrates the lines of perfect agreement (X = Y) and incongruence (X = −Y). Figures S1–S4a illustrate the 3D plot of the model (see Appendix 1).

Table 2 Distribution of parent-child discrepancy in educational aspirations

	Father-child dyads		Mother-child dyads	
	Son	Daughter	Son	Daughter
Parent > Child	481 (26.0%)	390 (22.2%)	503 (26.6%)	385 (21.7%)
Parent = Child	918 (49.7%)	940 (53.6%)	916 (48.5%)	926 (52.1%)
Parent < Child	449 (24.3%)	423 (24.1%)	471 (24.9%)	465 (26.2%)

Regarding the effect of congruence between parents' and children's aspirations, for both father-son and father-daughter dyads, when children's aspirations were congruent with their fathers' aspirations, higher aspirations significantly predicted lower depressive symptoms (son: $a_1 = -2.08$, $p < 0.001$; daughter: $a_1 = -1.31$, $p < 0.001$), and this relationship was linear (son: $a_2 = 0.19$, $p = 0.35$; daughter: $a_2 = 0.10$, $p = 0.64$) (Fig. 2a, b). Similarly, for both mother-son and mother-daughter dyads, when children's aspirations were congruent with their mothers' aspirations, higher aspirations significantly predicted lower depressive symptoms (son: $a_1 = -2.45$, $p < 0.001$; daughter: $a_1 = -1.66$, $p < 0.001$), and this relationship was linear (son: $a_2 = 0.30$, $p = 0.12$; daughter: $a_2 = 0.25$, $p = 0.24$) (Fig. 2c, d).

Regarding the effect of the direction of incongruence, for father-son dyads but not father-daughter dyads, children whose aspirations were lower than those of their fathers reported higher depressive symptoms than children whose aspirations were higher than those of their fathers (son: $a_3 = 1.37$, $p < 0.001$; daughter: $a_3 = 0.42$, $p = 0.43$) (Fig. 2e, f). Similarly, for mother-son but not mother-daughter dyads, children whose aspirations were lower than those of their mothers reported higher depressive symptoms than children whose aspirations were higher than those of their mothers (son: $a_3 = 1.08$, $p < 0.01$; daughter: $a_3 = 0.47$, $p = 0.33$) (Fig. 2g, h).

Regarding the effect of the degree of incongruence, for both father-son and father-daughter dyads, greater discrepancy between fathers and children predicted higher depressive symptoms (son: $a_4 = 1.78$, $p < 0.001$; daughter: $a_4 = 1.61$, $p < 0.001$) (Fig. 2e, f). Similarly, for both mother-son and mother-daughter dyads, greater discrepancy between mothers and children predicted higher depressive symptoms (son: $a_4 = 1.59$, $p < 0.001$; daughter: $a_4 = 0.87$, $p < 0.01$) (Fig. 2g, h).

Effects of Parent-Child Discrepancy in Educational Aspirations on Change in Depressive Symptoms from Time 1 to Time 2

Table 3 presents the results of polynomial regression with response surface analysis, and Fig. 3 illustrates the lines of perfect agreement (X = Y) and incongruence (X = −Y). Figures S1–S4b illustrate the 3D plot of the model (see Appendix 1).

Regarding the effect of congruence between parents' and children's aspirations, for father-son dyads but not father-daughter dyads, when children's aspirations were congruent with their fathers' aspirations, higher aspirations significantly predicted increased depressive symptoms (son: $a_1 = 0.69$, $p < 0.05$; daughter: $a_1 = -0.24$, $p = 0.54$), and this relationship was nonlinear (son: $a_2 = -0.52$, $p < 0.05$;

Table 3 Polynomial regression with response surface results for the parent-child congruence and incongruence in educational aspirations as predictors of depressive symptoms

Polynomial Regression Coefficients	Father-child dyads B (SE)				Mother-child dyads B (SE)			
	Son		Daughter		Son		Daughter	
	Depressive symptoms T1	Depressive symptoms T2	Depressive symptoms T1	Depressive symptoms T2	Depressive symptoms T1	Depressive symptoms T2	Depressive symptoms T1	Depressive symptoms T2
Constant	15.09 (0.40)***	6.14 (0.56)***	13.20 (0.41)***	6.86 (0.57)***	15.29 (0.40)***	6.10 (0.56)***	13.50 (0.41)***	7.06 (0.58)***
Adolescent's age T1	−0.45 (0.20)*	−0.02 (0.20)	−0.25 (0.18)	−0.02 (0.19)	−0.64 (0.20)**	−0.02 (0.20)	−0.19 (0.17)	−0.08 (0.19)
Parent's education T1	−0.36 (0.20)	0.07 (0.20)	−0.40 (0.18)*	0.45 (0.20)*	−0.25 (0.19)	0.32 (0.19)	−0.36 (0.19)	0.55 (0.21)**
Family income T1	−0.01 (0.19)	0.16 (0.20)	−0.03 (0.19)	−0.01 (0.21)	0.03 (0.19)	0.10 (0.20)	0.01 (0.19)	−0.05 (0.21)
Parent's depressive symptoms T1	0.56 (0.19)**	0.11 (0.19)	1.04 (0.19)***	0.21 (0.22)	0.76 (0.19)***	0.23 (0.20)	1.37 (0.18)***	0.39 (0.21)
Adolescent's depressive symptoms T1	—	0.62 (0.02)***	—	0.63 (0.03)***	—	0.62 (0.02)***	—	0.62 (0.03)***
Parent's aspirations (b_1)	−0.36 (0.26)	0.31 (0.29)	−0.44 (0.32)	−0.58 (0.35)	−0.69 (0.26)**	0.11 (0.28)	−0.60 (0.30)*	−0.29 (0.36)
Adolescent's aspirations (b_2)	−1.73 (0.26)***	0.38 (0.26)	−0.86 (0.32)**	0.35 (0.35)	−1.77 (0.25)***	0.40 (0.27)	−1.06 (0.30)***	0.43 (0.33)
Parent's aspirations squared (b_3)	0.27 (0.15)	−0.24 (0.16)	0.33 (0.17)	0.22 (0.19)	0.35 (0.15)*	−0.10 (0.16)	0.16 (0.16)	0.09 (0.18)
Parent's aspirations × Adolescent's aspirations (b_4)	−0.80 (0.16)***	−0.10 (0.17)	−0.76 (0.20)***	−0.15 (0.22)	−0.65 (0.16)***	−0.06 (0.16)	−0.31 (0.20)	−0.33 (0.22)
Adolescent's aspirations squared (b_5)	0.72 (0.17)***	−0.18 (0.19)	0.53 (0.20)**	0.28 (0.22)	0.60 (0.17)**	−0.26 (0.18)	0.40 (0.20)*	0.37 (0.22)
Surface Tests Coefficients								
a_1	−2.08***	0.69*	−1.31***	−0.24	−2.45***	0.51	−1.66***	0.14
a_2	0.19	−0.52*	0.10	0.35	0.30	−0.43	0.25	0.13
a_3	1.37***	−0.07	0.42	−0.93	1.08**	−0.29	0.47	−0.73
a_4	1.78***	−0.32	1.61***	0.64†	1.59***	−0.30	0.87**	0.78*

b_1–b_5 depict coefficients of the polynomial regression equation, and a_1–a_4 depict coefficients of the response surface test. Specifically, a_1 represents how the degree of agreement between parents' and adolescents' aspirations is related to adolescents' depressive symptoms, and a_2 represents the curvature of this line; a_3 represents how the direction of discrepancy between parents' and adolescents' aspirations is related to adolescents' depressive symptoms, and a_4 represents how the degree of discrepancy is related to adolescents' depressive symptoms

†$p < 0.10$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

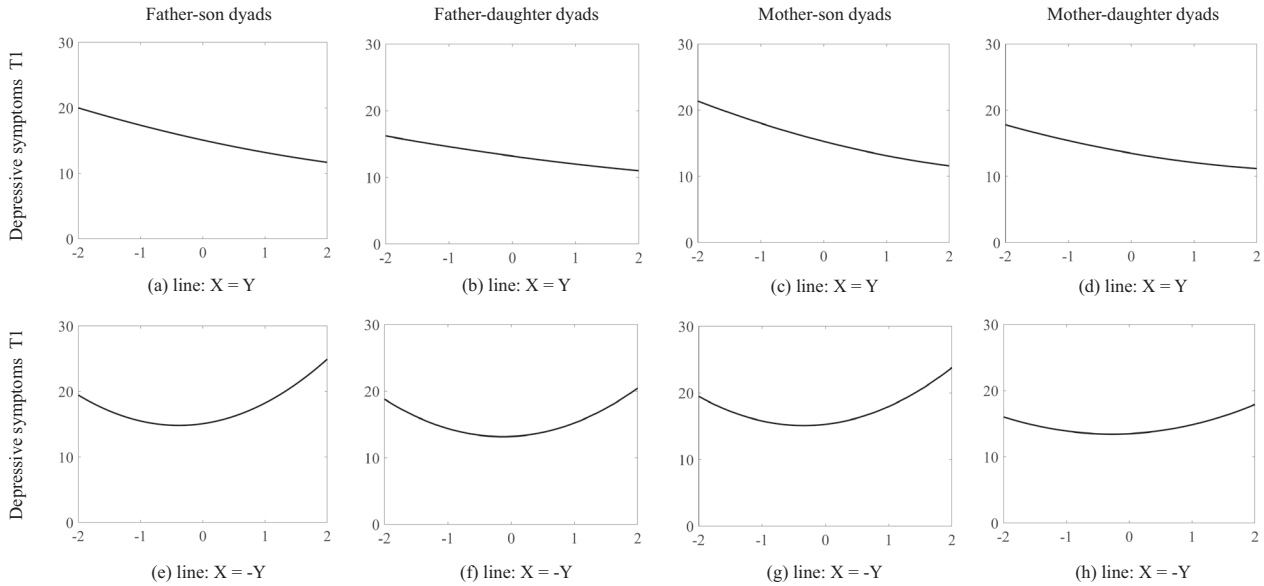

Fig. 2 Congruence and incongruence lines regarding the effects of educational aspiration discrepancy on depressive symptoms at Time 1. **a**, **e** Father–son dyads, **b**, **f** father–daughter dyads, **c**, **g** mother–son dyads, and **d**, **h** mother–daughter dyads

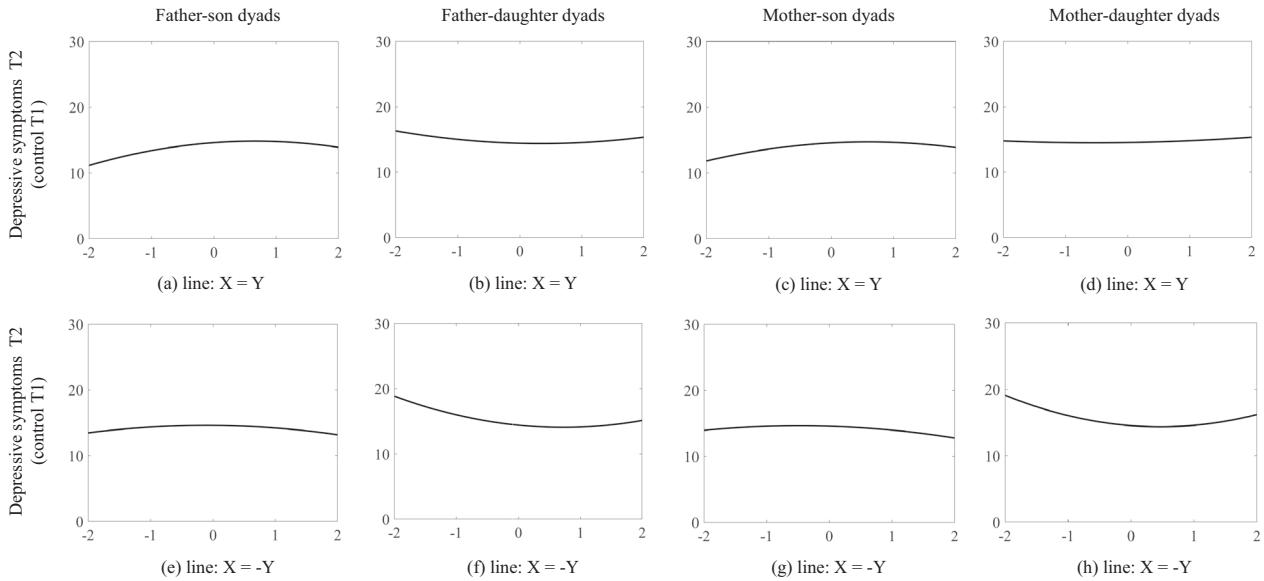

Fig. 3 Congruence and incongruence lines regarding effects of educational aspirations discrepancy on change in depressive symptoms from Time 1 to Time 2. **a**, **e** Father–son dyads, **b**, **f** father–daughter dyads, **c**, **g** mother–son dyads, and **d**, **h** mother–daughter dyads

daughter: $a_2 = 0.35$, $p = 0.11$) (Fig. 3a, b). However, for both mother-son and mother-daughter dyads, the level of aspirations did not significantly predict change in depressive symptoms (son: $a_1 = 0.51$, $p = 0.14$; daughter: $a_1 = 0.14$, $p = 0.74$) (Fig. 3c, d).

Regarding the effect of the direction of incongruence, for both father-son and father-daughter dyads, the direction did not significantly predict change in depressive symptoms (son: $a_3 = -0.07$, $p = 0.88$; daughter: $a_3 = -0.93$, $p = 0.11$) (Fig. 3e, f). Similarly, for both mother-son and mother-daughter dyads, the direction did not significantly predict change in depressive symptoms (son: $a_3 = -0.29$, $p = 0.50$; daughter: $a_3 = -0.73$, $p = 0.18$) (Fig. 3g, h).

Regarding the effect of the degree of incongruence, for father-daughter dyads but not father-son dyads, greater discrepancy between fathers and children predicted increased depressive symptoms (son: $a_4 = -0.32$, $p = 0.30$; daughter: $a_4 = 0.64$, $p = 0.09$) (Fig. 3e, f). Similarly, for

mother-daughter dyads but not mother-son dyads, greater discrepancy between mothers and children predicted increased depressive symptoms (son: $a_4 = -0.30$, $p = 0.28$; daughter: $a_4 = 0.78$, $p < 0.05$) (Fig. 3g, h).

Discussion

A significant association between adolescents' educational aspirations and depressive symptoms has been reported, but with inconsistent results. It has been suggested that this disagreement may be due to not considering the role of parents' educational aspirations. Theoretically and practically, psychological distress might result from the discrepancy between parents' and adolescents' educational aspirations rather than adolescents' educational aspirations per se. Accordingly, this study investigated the cross-sectional and longitudinal effects of parent-child discrepancy in educational aspirations on the depressive symptoms of early adolescents, after controlling for the potential confounding effect of parents' depressive symptoms. By using polynomial regression with response surface analysis, this study simultaneously examined how the degree of congruence, the direction of incongruence, and the degree of incongruence relate to depressive symptoms. Moreover, to obtain a more detailed picture of these effects, parent and child gender differences were further considered.

Associations between Congruence in Educational Aspirations and Depressive Symptoms

Previous studies of the effect of parent-child discrepancy in educational aspirations on adolescent psychological adjustment have mainly focused on how the incongruence between parents' and children's aspirations relates to outcomes. Little attention has been given to the question of how the level of congruent aspirations relates to psychological adjustment when parents and children hold the same aspirations. Both previous studies and the current results showed that approximately half of the parent-child dyads shared the same educational aspirations. A U-shaped relationship was originally hypothesized in this study between congruent aspirations and depressive symptoms. However, the cross-sectional and longitudinal analyses produced inconsistent results, neither of which fully supported the hypothesis. Specifically, the cross-sectional result found a negative linear relationship between congruent aspirations and depressive symptoms for all parent-child gender dyads, while the longitudinal result revealed a positive nonlinear relationship between congruent aspirations and change in depressive symptoms over time, but only for father-son dyads.

Whether high educational aspirations have a positive or negative effect on the depressive symptoms of adolescents is a matter of debate. The present findings indicate that when parents and children hold the same aspirations, although higher aspirations seem to relate to lower current depressive symptoms for all parent-child gender dyads, they also relate to future increased depressive symptoms for father-son dyads only. Individual's unrealistic optimism (e.g., aspirations) is useful and necessary for mental health since it can make people feel good in the moment (Taylor & Brown, 1999). Especially when parents also have high aspirations, it may not only enhance the identity formation process of adolescents but also imply parents' confidence and hope for adolescents' academic pursuits (Gerard & Booth, 2015). Moreover, in this study, the adolescents had just entered fifth grade at Time 1. This is a time when adolescents are usually optimistic about their academic competencies and have not experienced strong academic pressure and competition (Muenks et al., 2018). Accordingly, in the short term, high aspirations seem to be a motivator rather than a stressor for adolescents when they do not experience the primary-secondary school transition.

However, in the long term, high aspirations no longer have a protective effect on the change in depressive symptoms in all parent-child gender dyads. One possible reason may be that when adolescents experience the primary-secondary school transition, they become more realistic about their academic competencies and learn more about the intensity of competition (Muenks et al., 2018) and thereby realize that congruent but high educational goals may not be easy to achieve. Thus, the positive effect as a motivator and the negative effect as a stressor may be offset. Another possible reason may be that educational aspirations reflect "ideal goals" rather than "concrete goals" (Yamamoto & Holloway, 2010). Since the "ideal" involves an unrealistic and unattainable meaning, aspirations (compared with expectations, which indicate the realistic beliefs or judgments) may be regarded by adolescents and parents as having less possibility and necessity of realization. Accordingly, the protective effect of high aspirations on depressive symptoms may not be long lasting.

Moreover, in the long term, for father-son dyads, congruent and high aspirations, relative to congruent but low aspirations, relate to a higher increase in depressive symptoms. Boys usually take their father as their model for identification (Lamb, 2010). Moreover, boys have lower aspirations for higher education than girls and appear to gradually fall behind girls in academic achievement during the primary to secondary school transition (Fu et al., 2016). Accordingly, when entering secondary school, congruently high aspirations with fathers become a stressor, especially for boys, and have a long-term negative effect on the depressive symptoms of boys. Furthermore, an interesting

finding is that the positive relationship between congruent aspirations and an increase in depressive symptoms is nonlinear, and the saddle point is 0.66 (between "0 = junior college degree" and "1 = bachelor's degree"). Specifically, with an increase in congruent aspirations, depressive symptoms increased before "junior college degree" but then decreased slightly after "bachelor's degree". One possible explanation is that a bachelor's or higher degree is not necessary for most occupations and is usually associated with high-skilled and professional occupations, such as medical doctors and scientists. If a father and son both hold such high aspirations, it may indicate that they are confident about the child's academic competencies and the family's resources for support and have a clear plan for the child's future. Therefore, the stress from congruent and very high aspirations for sons may be alleviated but limited.

Associations between Incongruence in Educational Aspirations and Depressive Symptoms

Although a few previous studies have explored the negative effect of incongruence in educational aspirations on adolescents' psychological adjustment (Gallagher, 2016; Rutherford, 2015), whether incongruence in different directions has differential effects remains unclear. Both previous studies and the current results showed that approximately a quarter of adolescents held higher aspirations than their parent, and another quarter held lower aspirations than their parent. Thus, this study examined how the direction of incongruence and the degree of incongruence relate to depressive symptoms. The cross-sectional results showed that for parent-son dyads, greater incongruence was concurrently related to higher depressive symptoms, and incongruence in the direction in which adolescents were lower than parents was more harmful than incongruence in the opposite direction for current depressive symptoms. For parent-daughter dyads, greater incongruence was also concurrently related to higher depressive symptoms, but the discrepancies in both directions had similarly negative effects on current depressive symptoms. The longitudinal results further revealed that only the effects found in parent-daughter dyads were still present. Specifically, greater incongruence was related to increased depressive symptoms over time, and the discrepancies in both directions resulted in similar degrees of increase in depressive symptoms.

The relatively stable and robust finding of the negative effect of incongruence in aspirations on girls' depressive symptoms, on the one hand, is consistent with the proposition of identify theories that discrepancy with respect to aspirations in both directions would result in depressive symptoms (Burke & Stets, 2009; Large & Marcussen, 2000). On the other hand, the finding is also consistent with and can be explained by the fact that girls are more likely than boys to have characteristics that make them uniquely vulnerable to depressive symptoms during adolescence (Hyde et al., 2008). During the socialization process, girls are expected to be compliant, agreeable, and dependent because of gender role norms (Trautner & Eckes, 2000), which makes them more concerned with environmental input (e.g., parents' aspirations for the child) and more sensitive to the incongruence between environmental input and their own identity standard (e.g., their own aspirations). Thus, for girls only, the parent-child discrepancy, regardless of its direction (parents' aspirations are higher or lower than children's aspirations), has a significant effect on the increase in depressive symptoms over 2 years.

Attention must also be paid to the finding of concurrent associations between incongruence and depressive symptoms in parent-son dyads, although the long-term effect was not significant. One previous study also found that parent higher discrepancy could be more harmful than parent lower discrepancy for adolescents' depressive symptoms (Gallagher, 2016). The current study further revealed that the direction effect only temporarily appeared in boys. A possible explanation for the direction effect is that boys are generally less diligent and self-disciplined in learning and have relatively poor academic performance compared with girls (Duckworth & Seligman, 2006; Fu et al., 2016). Therefore, it is more difficult for boys who have set lower educational goals for themselves to achieve the higher goals that their parents set for them. Thus, the discrepancy in which parents have higher aspirations than children may produce more distress for boys for a time. However, when controlling for prior depressive symptoms, incongruence is no longer related to subsequent depressive symptoms in boys. This may be because when entering adolescence, boys are more likely than girls to have positive cognitive styles in response to negative events and become more optimistic about the future (Seginer, 2009), both of which could decrease boys' chances of developing depressive symptoms.

Limitations and Implications

Several limitations should be noted. First, because the sample was recruited from a moderately economically developed area in China where education and filial piety are highly valued, the generalizability of the results is limited. Second, the results may not generalize to children of same-sex couples, who could not be included in this study. Third, adolescents' and parents' depressive symptoms were self-reported and not based on clinical interviews. However, these symptoms were what the respondents experienced, and self-reported depressive symptoms have been found to correlate well with the clinical diagnosis of depression (Timbremont et al., 2004). Fourth, a one-item measure of educational aspirations, although widely

used in large-scale survey research, does not capture the specific ideals of educational attainment. It is likely that the disagreement between parents and adolescents is not about whether to go to university but which universities or majors are appropriate. Fifth, considering that educational aspirations are somewhat unrealistic and uncertain, research is needed to examine whether adolescents' depressive symptoms may be affected by the parent-child discrepancy in educational expectations, which refer to realistic beliefs and judgments about children's future educational attainment. Finally, despite the longitudinal design, the interpretation of causality is limited because of the possible reciprocal relations between aspiration discrepancy and depressive symptoms.

Despite these limitations, the study has several strengths. Focusing on parent-child discrepancy and using an appropriate statistical approach provides a better understanding of whether high educational aspirations are protective or risk factors for depressive symptoms during early adolescence. Furthermore, the longitudinal design enables an examination of the effects of aspiration discrepancy on changes in depressive symptoms, thus leading to a better understanding of how long the effects last. Additionally, both parent's and child's gender were considered, and quite different patterns were found.

The findings also have important implications. Both previous studies and the present results demonstrated the prevalence of incongruence between parents' and adolescents' aspirations and the negative associations of such incongruence with adolescents' psychological adjustment, especially for girls. Moreover, the present results further revealed the risk of congruent but low aspirations between parents and adolescents for adolescents' current psychological distress and the potential risk of congruent and high aspirations between fathers and sons for the worsening of psychological distress. Educators and practitioners should be aware that the degree of congruence and incongruence in educational aspirations between parents and children may be potential causes of psychological maladjustment in early adolescents. In addition, parents and adolescents should be encouraged to have open discussions and reach agreement regarding future educational goals. Schools should also provide educational career guidance so that adolescents can better prepare for their future.

Conclusion

Despite extensive literature on the effects of adolescents' or parents' educational aspirations on adolescents' depressive symptoms, how the discrepancy between parents' and adolescents' aspirations relates to depressive symptoms has not been fully explored. To address this gap, the current study examined the cross-sectional and longitudinal effects of the congruence and incongruence between parents' and adolescents' aspirations on the depressive symptoms of early adolescents after controlling for parents' depressive symptoms. Moreover, parent and child gender differences in the effects were considered. The findings showed that discrepancies between parents' and adolescents' aspirations were common and related to adolescents' depressive symptoms. Interestingly, the cross-sectional and longitudinal analyses produced inconsistent results. The more robust results from longitudinal analyses revealed that the congruently higher aspirations were related to increased depressive symptoms over time but only for father-son dyads, and the greater incongruence in aspirations was related to increased depressive symptoms over time but only for parent-daughter dyads. These findings suggest that relatively high and congruent aspirations between fathers and sons and incongruence between parents' and daughters' aspirations seem to be prospective risk factors for the development of depressive symptoms in early adolescents. The findings also support the importance of considering the congruence and incongruence between parents and children when exploring the associations between educational aspirations and depressive symptoms. Future research can test the mechanism and generalization of the effects of aspiration discrepancy on depressive symptoms.

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Data Sharing and Declaration The datasets generated and analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethical Approval All procedures performed in the present study were in accordance with the recommendations of the Research Ethics Committee of the Beijing Normal University and with the Declaration of Helsinki.

Informed Consent Written informed consent was obtained from the involved schools and parents of the participated students.

References

Agliata, K. A., & Renk, K. (2009). College students' affective distress: The role of expectation discrepancies and communication. *Journal of Child and Family Studies*, *18*, 396–411. https://doi.org/10.1007/s10826-008-9244-8.

Almroth, M. C., László, K. D., Kosidou, K., & Galanti, M. R. (2018). Association between adolescents' academic aspirations and expectations and mental health: A one-year follow-up study. *The European Journal of Public Health*, *28*(3), 504–509. https://doi.org/10.1093/eurpub/cky025.

Almroth, M., László, K. D., Kosidou, K., & Galanti, M. R. (2019). Academic expectations and mental health in adolescence: A longitudinal study involving parents' and their children's perspectives. *Journal of Adolescent Health*, *64*(6), 783–789. https://doi.org/10.1016/j.jadohealth.2018.11.015.

Aronen, E. T., & Soininen, M. (2000). Childhood depressive symptoms predict psychiatric problems in young adults. *The Canadian Journal of Psychiatry*, *45*(5), 465–470. https://doi.org/10.1177/070674370004500507.

Bi, T., Zhang, T., He, S., Guo, X., Liu, C., Liu, X., & Luo, L. (2021). Trajectories of paternal self-efficacy for educational involvement in late childhood: Effects of fathers' time and energy. *Journal of Family Psychology*, *35*(8), 1171–1180. https://doi.org/10.1037/fam0000840.

Burke, P. J., & Stets, J. E. (2009). *Identity theory*. Oxford University Press.

Cheung, K., & Theule, J. (2019). Paternal depressive symptoms and parenting behaviors: An updated meta-analysis. *Journal of Child and Family Studies*, *28*(3), 613–626. https://doi.org/10.1007/s10826-018-01316-1.

De Los Reyes, A., & Kazdin, A. E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*, *131*(4), 483–509. https://doi.org/10.1037/0033-2909.131.4.483.

Duckworth, A. L., & Seligman, M. E. P. (2006). Self-discipline gives girls the edge: Gender in self-discipline, grades, and achievement test scores. *Journal of Educational Psychology*, *98*(1), 198–208. https://doi.org/10.1037/0022-0663.98.1.198.

Edwards, J. R. (2002). Alternatives to difference scores: Polynomial regression analysis and response surface methodology. In F. Drasgow & N. Schmitt (Eds.), *Measuring and analyzing behavior in organizations: Advances in measurement and data analysis* (pp. 350–400). Jossey-Bass.

Evans, D., Borriello, G. A., & Field, A. P. (2018). A review of the academic and psychological impact of the transition to secondary education. *Frontiers in Psychology*, *9*, 1482 https://doi.org/10.3389/fpsyg.2018.01482.

Ford, J. L., Boch, S. J., & Browning, C. R. (2019). Hair cortisol and depressive symptoms in youth: An investigation of curvilinear relationships. *Psychoneuroendocrinology*, *109*, 104376 https://doi.org/10.1016/j.psyneuen.2019.104376.

Fu, R., Chen, X., Wang, L., & Yang, F. (2016). Developmental trajectories of academic achievement in Chinese children: Contributions of early social-behavioral functioning. *Journal of Educational Psychology*, *108*(7), 1001–1012. https://doi.org/10.1037/edu0000100.

Gallagher, M. (2016). Adolescent-parent college aspiration discrepancies and changes in depressive symptoms. *Sociological Perspectives*, *59*(2), 296–316. https://doi.org/10.1177/0731121415589137.

Gerard, J. M., & Booth, M. Z. (2015). Family and school influences on adolescents' adjustment: The moderating role of youth hopefulness and aspirations for the future. *Journal of Adolescence*, *44*, 1–16. https://doi.org/10.1016/j.adolescence.2015.06.003.

Guo, X., He, S., Du, Z., Bi, T., & Luo, L. (2021). Gender differences in the intergenerational transmission process of educational aspirations in late childhood. *Sex Roles*, *85*(1), 100–112. https://doi.org/10.1007/s11199-020-01206-1.

Hale, W. W., Nelemans, S. A., Meeus, W. H., & Branje, S. J. (2020). A 6-year longitudinal study of adolescents and mothers depression symptoms and their perception of support and conflict. *Child Psychiatry & Human Development*, *51*(3), 407–415. https://doi.org/10.1007/s10578-019-00952-y.

Hyde, J. S., Mezulis, A. H., & Abramson, L. Y. (2008). The ABCs of depression: Integrating affective, biological, and cognitive models to explain the emergence of the gender difference in depression. *Psychological Review*, *115*(2), 291–313. https://doi.org/10.1037/0033-295X.115.2.291.

Kiang, L., Witkow, M. R., Gonzalez, L. M., Stein, G. L., & Andrews, K. (2015). Changes in academic aspirations and expectations among Asian American adolescents. *Asian American Journal of Psychology*, *6*(3), 252–262. https://doi.org/10.1037/aap0000025.

Knafo, A., & Schwartz, S. H. (2009). Accounting for parent-child value congruence: Theoretical considerations and empirical evidence. In U. Schönpflug (Ed.), *Cultural transmission: Psychological, developmental, social, and methodological aspects* (pp. 240–268). Cambridge University Press.

Kovacs, M. (1992). *Children's Depression Inventory*. Multi-Health Systems.

Kwong, A. S., Manley, D., Timpson, N. J., Pearson, R. M., Heron, J., Sallis, H., & Leckie, G. (2019). Identifying critical points of trajectories of depressive symptoms from childhood to young adulthood. *Journal of Youth and Adolescence*, *48*(4), 815–827. https://doi.org/10.1007/s10964-018-0976-5.

Laird, R. D., & De Los Reyes, A. (2013). Testing informant discrepancies as predictors of early adolescent psychopathology: Why difference scores cannot tell you what you want to know and how polynomial regression may. *Journal of Abnormal Child Psychology*, *41*(1), 1–14. https://doi.org/10.1007/s10802-012-9659-y.

Lamb, M. E. (2010). How do fathers influence child development? Let me count the ways. In M. E. Lamb (Ed.), *The role of the father in child development* (5th ed., pp. 1–26). Wiley.

Large, M. D., & Marcussen, K. (2000). Extending identity theory to predict differential forms and degrees of psychological distress. *Social Psychology Quarterly*, *63*(1), 49–59. https://doi.org/10.2307/2695880.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*(3), 335–343. https://doi.org/10.1016/0005-7967(94)00075-U.

Lv, B., Zhou, H., Liu, C., Guo, X., Zhang, C., Liu, Z., & Luo, L. (2018). The relationship between mother-child discrepancies in educational aspirations and children's academic achievement: The mediating role of children's academic self-efficacy. *Children and Youth Services Review*, *86*, 296–301. https://doi.org/10.1016/j.childyouth.2018.02.010.

Ma, Y., Siu, A., & Tse, W. S. (2018). The role of high parental expectations in adolescents' academic performance and depression in Hong Kong. *Journal of Family Issues*, *39*(9), 2505–2522. https://doi.org/10.1177/0192513X18755194.

Mossakowski, K. N. (2011). Unfulfilled expectations and symptoms of depression among young adults. *Social Science & Medicine*, *73*(5), 729–736. https://doi.org/10.1016/j.socscimed.2011.06.021.

Muenks, K., Wigfield, A., & Eccles, J. S. (2018). I can do this! The development and calibration of children's expectations for success and competence beliefs. *Developmental Review*, *48*, 24–39. https://doi.org/10.1016/j.dr.2018.04.001.

Peterson, J., Duncan, N., & Canady, K. (2009). A longitudinal study of negative life events, stress, and school experiences of gifted youth. *Gifted Child Quarterly*, *53*(1), 34–49. https://doi.org/10.1177/0016986208326553.

Ponnet, K., Wouters, E., Mortelmans, D., Pasteels, I., De Backer, C., Van Leeuwen, K., & Van Hiel, A. (2013). The influence of mothers' and fathers' parenting stress and depressive symptoms on own and partner's parent-child communication. *Family Process*, *52*(2), 312–324. https://doi.org/10.1111/famp.12001.

Rutherford, T. (2015). Emotional well-being and discrepancies between child and parent educational expectations and aspirations in middle and high school. *International Journal of Adolescence and Youth*, *20*(1), 69–85. https://doi.org/10.1080/02673843.2013.767742.

Salk, R. H., Hyde, J. S., & Abramson, L. Y. (2017). Gender differences in depression in representative national samples: meta-analyses of diagnoses and symptoms. *Psychological Bulletin*, *143*(8), 783–822. https://doi.org/10.1037/bul0000102.

Seginer, R. (2009). Future Orientation Sex Differences. In Seginer, R. (Ed.), *Future Orientation* (pp. 91–123). Springer. https://doi.org/10.1007/978-0-387-88641-1_4.

Taylor, S. E., & Brown, J. D. (1999). Illusion and well-being: A social psychological perspective on mental health. In R. F. Baumeister (Ed.), The self in social psychology (pp. 43–68). Psychology Press.

Timbremont, B., Braet, C., & Dreessen, L. (2004). Assessing depression in youth: relation between the Children's Depression Inventory and a structured interview. *Journal of Clinical Child and Adolescent Psychology*, *33*(1), 149–157. https://doi.org/10.1207/S15374424JCCP3301_14.

Trautner, H. M., & Eckes, T. (2000). Putting gender development into context: Problems and prospects. In T. Eckes & H. Trautner (Eds.), *The developmental social psychology of gender* (pp. 419–435). Lawrence Erlbaum.

Trautwein, U., Lüdtke, O., Marsh, H. W., Köller, O., & Baumert, J. (2006). Tracking, grading, and student motivation: Using group composition and status to predict self-concept and interest in ninth-grade mathematics. *Journal of Educational Psychology*, *98*(4), 788–806. https://doi.org/10.1037/0022-0663.98.4.788.

Yamamoto, Y., & Holloway, S. D. (2010). Parental expectations and children's academic performance in sociocultural context. *Educational Psychology Review*, *22*(3), 189–214. https://doi.org/10.1007/s10648-010-9121-z.

Yu, D., & Li, X. (2000). Preliminary use of the Children's Depression Inventory (CDI) in China. *Chinese Mental Health Journal*, *14*(4), 225–227.

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