

Parents' learning support and school attitudes in relation to adolescent academic identity and school performance in nine countries

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Abstract

An important question for parents and educators alike is how to promote adolescents' academic identity and school performance. This study investigated relations among parental education, parents' attitudes toward their adolescents' school, parental support for learning at home, and adolescents' academic identity and school performance over time and in different national contexts. Longitudinal data were collected from adolescents and their parents in nine countries (China, Colombia, Italy, Jordan, Kenya, the Philippines, Sweden, Thailand, and the United States). When adolescents were 16 years old, their mothers (N=1083) and fathers (N=859) provided data. When adolescents were 17 years old, 1049 adolescents (50% girls) and their mothers (N=1001) and fathers (N=749) provided data. Multiple-group path analyses indicated that, across cultures, higher parent education was associated with better adolescent school performance. Parents' attitudes toward their adolescents' school and parent support for learning in the home were not associated with adolescents' school performance but were associated with academic identity. The findings suggest somewhat different pathways to school performance versus academic identity. Implications for helping parents and educators in different countries promote adolescents' academic identity and achievement are discussed.

Keywords Parents' learning support · Parents' school attitude · Adolescent · Academic identity · School performance · Cross-cultural

Introduction

Parents play a key role in influencing their child's academic attitudes and school performance. School performance generally represents outcomes that indicate the extent to which a student has accomplished targeted goals that were the focus of activities in instructional contexts,

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particularly at school. Therefore, school performance is important to adolescent's outcomes in life as it sets the stage for future college and career opportunities that have long-term implications for success in adulthood (Kirkcaldy et al., 2004; Suldo et al., 2008). Many studies look at ways to improve school performance, especially in adolescents, because of their upcoming college and career decisions (e.g., Pandey et al., 2018). Critical to adolescents' school performance is their academic identity, or the extent to which they are invested in academics (Hawkins, 2005). Parents can shape their adolescents' academic identity either by motivating them to succeed or pushing adolescents away from high academic attainment by a lack of concern for academics (Pinquart & Ebeling, 2020). During adolescence, youth struggle with issues related to identity development, including their academic identity, which might affect their school performance. As theorized by Erikson (1950), it is during the "identity versus identity confusion" stage that adolescents start to explore and develop a healthy sense of identity.

In western literatures, relations between parents' support and adolescents' school performance and academic identity are well documented. However, there may be special considerations, not yet understood, in how adolescents explore issues of academic identity in different cultural contexts around the world. The present study aims to understand parents' educational attainment, parents' attitudes toward their adolescents' schools, and parental support for learning in the home in relation to adolescents' school performance and academic identity in nine countries.

Parents' involvement in education and support for learning in the home

Parental involvement in their adolescents' education can be defined in several ways. Abdullah et al. (2011) defined parental involvement in education in terms of the activities happening between parents and adolescents or between parents and teachers at school that may impact adolescents' educational outcomes and development. Fishel and Ramirez (2005) defined parental involvement in more general terms and referred to it as parents' participation in their adolescents' education with the purpose of promoting their academic and social success. Parents can be involved in their adolescents' education in various ways, such as supporting daily activities of their adolescents at home (e.g., reading, writing activities, checking homework) and outside the house (e.g., taking them to museums and other educational and scientific places) (Oswald et al., 2018). Another form of involvement is to be active participants in school activities and routines, such as being in touch with teachers about adolescents' academic progress and skills, volunteering in extracurricular school activities, or helping with school events (VanValkenburgh et al., 2021).

Parents' involvement in education and the ways parents can support learning at home change as their children develop. As their children become adolescents, parents may recognize their adolescents' need for more independence and, therefore, decrease school involvement to gratify adolescents' need for independence (Author, 2019). A meta-analysis of 75 studies revealed that parental involvement in education changes in nature when children reach adolescence (Boonk et al., 2018). Time spent on direct activities, such as helping with homework, learning, or reading together, is less frequent and also does not produce the intended results or outcomes. Instead, indirect activities like setting high expectations are more beneficial, as long as they are not perceived by the young person as being controlling. The role of parental expectations in influencing adolescents' academic progress has received considerable

attention from researchers mostly in western countries. In general, parental expectations have been found to play a significant role in adolescents' academic success. Adolescents whose parents hold high expectations achieve better in school, receive higher scores on standardized tests, and stay in school longer than those whose parents hold relatively low expectations (Davis-Kean, 2005; Davis-Kean et al., 2019; Pearce, 2006; Vartanian et al., 2007).

Parents' involvement in education and support for learning in the home are important for adolescents and their success in school (Boonk et al., 2018; Westerman, 2012). For example, parental academic involvement fosters adolescents' academic motivation (Marchant et al., 2001; Wang & Cai, 2015), positive attitudes toward school (Topor et al., 2010; Westerman, 2012), and higher self-determination (Ricard & Pelletier, 2016). Motivation, attitudes, and self-determination are, in turn, related to more persistence in school and ultimately to better academic achievement (Grolnick et al., 2014).

Parents' attitudes toward education

Parents who have more positive attitudes toward learning are also more involved in their adolescents' education (Mahamood et al., 2012). Parents with more positive attitudes toward education are more likely to check on adolescents' schoolwork, attend school academic programs, advise their adolescents in education-related matters, guide and monitor adolescents' study habits, talk with adolescents about school and academic progress, show interest in school activities, and express appreciation for teachers' hard work. Parents' attitudes toward education play vital roles in adolescents' learning, school performance, and academic orientation (Scanlon et al., 2019). When parents are involved in schoolwork, such as supporting school learning through reading at home, adolescents have greater academic success, higher school attendance, and higher selfesteem (Michigan Department of Education, 2002). Students whose parents have a positive attitude toward learning and education perform better in school than students whose parents have a negative attitude towards learning and education (Quiocho & Daoud, 2006).

Parents' attitudes toward education vary across different ethnic, cultural, and socioeconomic groups (Bogunovi & Poloving, 2007; Breen & Goldthorpe, 1997). In part, differences in parents' attitudes toward education may reflect structural barriers to education that some cultural groups have experienced (Schneider & Arnot, 2018) or to culture-level values placed on education and school performance relative to other pursuits (Schwartz, 2012). According to different sociodemographic cultural, educational, and socioeconomic conditions, home and school environments and parents vary in preferred types of involvement in supporting children's learning. Parents with lower levels of education, for example, may be less involved at school as they might feel less confident about communicating with school personnel due to lack of knowledge of the schooling system and familiarity with educational vocabulary, or their own negative educational experiences (Cardona et al., 2009).

Adolescents' academic identity and school performance

Identity is a way to address the question "who am I?" Individuals construct their identity throughout life. Identity encompasses religion, gender, ethnicity, economic background, family, and a host of other personological domains. In identity theory, an identity is "the

categorization of the self as an occupant of a role and an incorporation of the meanings and expectations associated with that role and its performance" (Stets & Burke, 2000, p. 225). Individuals can have a sense of identity across multiple domains of their life. Academic identity is the extent to which academic pursuits and outcomes form the basis for an individual's global self-evaluation and self-esteem (Howard, 2003). Academic identity is a dimension of self-concept that is central to school performance and school performance motivation. It is also related to individuals' commitment to a standard of excellence, the inclination to persevere in the face of challenges, eagerness to learn, and perceptions of academic ability (Osborne, 1997; Voelkl, 1996, 1997).

Many factors influence the ways in which adolescents view themselves academically (Fairbanks & Broughton, 2003). The ethnicity sociodemographic and socioeconomic backgrounds of students play an integral role in their education-related beliefs and behaviors (Boykin & Toms, 1985). Academic identity can affect how adolescents navigate the school environment, including actions and choices students make that might directly affect their educational outcomes such as school performance, intellectual engagement, learning goals, motivation, and educational and occupational aspirations (Howard, 2003). However, academic identity not only affects school performance; school performance also affects academic identity, as adolescents who perform better in school often develop a better academic self-concept, motivation, and goals that strengthen academic identity (Kaplan & Flum, 2010; Wigfield & Wagner, 2005).

Adolescents' school performance and parenting across cultures

Research on parental support of learning, adolescents' academic identity, and school performance across cultures is essential for understanding how cultural factors may influence these dynamics. Cross-cultural studies contribute to our knowledge of the diverse ways in which families from different cultural backgrounds approach education. Studies have explored how parental involvement in education differs across cultures. Some cultures may emphasize direct involvement, such as helping with homework, whereas others may prioritize indirect involvement, such as fostering a home environment that values education.

Parental attitudes and expectations regarding academic achievement can significantly impact adolescents' academic identity. In some cultures, there may be strong emphasis on and pressure to achieve academic success, whereas in others, alternative skills and values may be prioritized (Ishak et al., 2012). In addition, communication styles within families vary across cultures, influencing how parents and adolescents discuss academic matters. Some cultures may encourage open communication about educational goals and challenges, whereas others may have more hierarchical communication patterns. For example, parental support and involvement in China are associated more with control and less strongly with independence and autonomy than in the United States. However, parenting styles positively predict school performance in both countries (Cheung & Pomerantz, 2011). Parenting styles impact adolescents' motivation, academic self-concept, and overall school performance (Thakre & Shet, 2020). Moreover, cultural attitudes toward autonomy and independence may affect adolescents' development of academic identity. Some cultures may value individual initiative (Cattelino et al., 2019), whereas others may prioritize communal or family-oriented approaches to education (Al-Rawwad et al., 2016).

When studying both the education system and parenting styles and practices in some Asian countries, they are found to emphasize academic achievement (Ishak et al., 2012). Chinese students, for example, are among the best performing on international achievement tests (UNESCO, 2018). In Colombia, which can be taken as an example of Latino cultures, the cultural values are considered collectivistic more than individualistic (Guilamo-Ramos et al., 2007). The findings of a study conducted in Colombia revealed a positive association between good parent-child relationships and children's perception of positive school environments (Vélez et al., 2012). Research in Italy reveals the important role of parental support of learning in promoting adolescents' school performance and adjustment (Berti et al., 2016).

Education and parenting practices in Jordan are influenced by the Arabic and Islamic culture (Takash & Al-Hassan, 2014); while children are to be protected and cherished, they have in return to respect their parents' authority and to put the interests of the family first (Oweis et al., 2012). Families see education as an investment with a high rate of return and will do whatever they can to send their children to college. Parental support and involvement in learning positively influence Jordanian adolescents' social adjustment and academic performance (Al-Rawwad et al., 2016). Studies in Kenya find that authoritative parenting is associated with better academic achievement and that students perform better when parents monitor closely their learning and school work at home (Kosgei & Keter, 2016; Odongo et al., 2016). Cross-cultural research in this field is ongoing, and scholars aim to uncover both universal and culture-specific patterns.

Education systems in each participating country

Countries included in the present study vary in how well they perform on international tests (i.e., PISA, TIMSS); some of them are among the best whereas others are among the worst (UNESCO, 2018). Factors affecting the results on these tests are largely out of the students' hands. For example, in Colombia, only 11% of the students attending public schools are able to attend one full day in school per week (OECD, 2016). Some other countries involved in this study put a great deal of weight on high-stakes testing and entrance exams throughout the education levels. For example, in Jordan the Tawjihi exam is the only factor in whether students are accepted to college, and the Kenya Certificate of Primary Education score determines students' admission to selective secondary boarding schools. Parents in some of these countries support their children in various ways and spend lots of effort and money to help their children pass such exams.

The countries in the present study share many similarities in the compulsory years of education in their school systems. For example, China implements 9-year compulsory education covering primary and junior secondary school. In Colombia, the first 9 years are mandatory, covering primary and junior secondary school, as well. In Italy, compulsory education covers 10 years of schooling from the age of 6 to 16. In Jordan, compulsory education covers 10 years of schooling starting from first grade to grade 10. In Kenya, compulsory and free primary education runs from ages 7 to 14, while secondary schooling for ages 14–18 is free but not compulsory. In the Philippines, compulsory education is free of charge and is compulsory for ages 6 to 18. In Sweden, all education is free of charge and is compulsory for ages 6 to 16. In Thailand, education is compulsory for 9 years starting from first grade. In the United States, there is no nationwide standard for the number of compulsory years of education; however, in most states, compulsory education typically covers ages 5 or 6 to 16.

The present study

A way of understanding parents' educational attainment, support for learning in the home, and attitudes toward their adolescents' school in relation to adolescents' school performance and academic identity across cultures, parents and adolescents in nine countries that varied widely in their educational ecosystems were examined. That is, these selected countries vary on several sociodemographic dimensions, including predominant ethnicity/ethnicity, predominant religion, economic indicators, and indices of adolescent well-being, providing the opportunity to understand education and parenting in more diverse contexts than what can be found in most of the literature. For example, on the Human Development Index, a composite indicator of a country's status concerning health, education, and income, participating countries range from a rank of 4 to 147 (Human Development Report, 2014). The infant mortality rate in Kenya is 18 times higher than the infant mortality rate in Sweden (World Bank, 2016). In the Philippines, 23% of the population falls below the international poverty line, whereas in Italy, Sweden, and the United States, less than 1% of the population meets this poverty threshold (UNICEF, 2010). Countries in the study also vary in psychological domains. For example, the United States is highly individualistic, whereas other participating countries, such as China, Colombia, and Thailand, are among the least individualist countries in the world (Hofstede, 2001).

Although relations of parental support for learning and attitudes toward schools with academic school performance have been well documented in Western populations, the present study is unique in testing relations between parental support for learning and attitudes toward school and adolescents' academic identity and performance across cultures that have been largely neglected in the literature. The cultural groups included in this study are underrepresented in parenting and education literature. Reviews and meta-analyses find that the majority of research on parenting and education is conducted in the United States (e.g., 90% of studies in the Boonk et al., 2018 meta-analysis). The global literature is in need of studies investigating parental support, parenting styles and practices, and school performance of adolescents with samples that are diverse and represent different cultures around the world. The aim of this study was to investigate relations among parents' educational attainment, parental attitudes toward their adolescents' school, parental support for their adolescents' learning at home, and adolescents' academic identity and school performance across cultures and over time. It is hypothesized that parental support for learning at home and more positive attitudes toward adolescents' schools would be linked to adolescents' stronger academic identity and better school performance over time. In addition, these relations were examined whether they are unique to particular cultural contexts or generalizable across contexts.

Method

Overview of Parenting Across Cultures (PAC) project

The Parenting Across Cultures (PAC) project was developed to advance understanding and knowledge of parenting and child adjustment in diverse countries and cultures around the world. The project is an international longitudinal collaboration among researchers in nine countries: China, Colombia, Italy, Jordan, Kenya, the Philippines, Sweden, Thailand, and the United States. Over 1400 families from 13 cultural groups were assessed annually through interviews with children, mothers, and about parent-child relationships, children's adjustment, cultural values, and attitudes and beliefs. More details about the sample and measures are available on the project website: www.parentingacrosscultures.org. Variables relevant to the present research questions were assessed when the child participants were ages 16 and 17.

Participants

Participants included adolescents, mothers, and fathers who were initially recruited through letters sent from schools when adolescents were 8.56 years old, on average (SD=0.66), as part of the Parenting Across Cultures project; the exception was in Chongqing, China, where students were recruited at a later time point (M_{age} = 15.27, SD=0.59). Families were recruited from Chongqing, China (n=114); Medellín, Colombia (n=111); Naples, Italy (n=103); Rome, Italy (n=113); Zarqa, Jordan (n=114); Kisumu, Kenya (n=100); Manila, Philippines (n=120); Trollhättan/Vänersborg, Sweden (n=130); Chiang Mai, Thailand (n=120); and Durham, NC, United States (n=107 Black, n=99 Latinx, n=109 white). Sampling focused on including families from the majority ethnic group in each country; two exceptions were in Kenya where Luo was sampled (3rd largest ethnic group, 13% of population) and in the United States Black, Latinx, and white families where included. Students from public and private schools were recruited to enhance economic diversity, and it was aimed to recruit families' whose income ranged from low to high, in proportions that represented each city of recruitment. Most parents were married (80%) and biological parents (96%); nonresidential/non-biological parents also provided data.

Data for the present study were from waves 8 and 9 of the larger study when measures to address the research questions were available. At wave 8, when adolescents (N=1081; 52% female) were 16.35 years of age on average (SD=0.99), their mothers (N=1083, M_{age} = 45.2 years, SD_{age} = 6.44, $M_{education}$ = 12.90 years, $SD_{education}$ = 4.25) and their fathers (N=859, M_{age} = 48.79 years, SD_{age} = 7.51, $M_{education}$ = 12.76 years, $SD_{education}$ = 4.36) provided data. At wave 9, when adolescents were 17.79 years of age on average (SD=1.03), 1049 adolescents (50% girls) and their mothers (N=1001) and fathers (N=749) provided data. At wave 8 of data collection, 72% of families who participated at year 1 continued to provide data; participants who provided wave 8 data did not differ from those who did not provide wave 8 data on parents' age, parents' education, or child gender at wave 1.

Procedure

A forward- and back-translation and cultural adaptation procedure was used (Erkut, 2010), and measures were administered in the predominant language of each country: Mandarin Chinese (China), Spanish (Colombia and the United States), Italian (Italy), Arabic (Jordan), Dholuo (Kenya), Filipino (the Philippines), Swedish (Sweden), Thai (Thailand), and American English (the United States and the Philippines). Meetings were held to resolve any item-by-item ambiguities in linguistic or semantic content. Translators were fluent in English and the target language. In addition to translating the measures, translators noted items that did not translate well, were inappropriate for the participants, were culturally insensitive, or elicited multiple meanings, and they suggested improvements (Peña, 2007). Discrepant items were modified after discussions between the translators.

Assessments lasting 1.5–2 h were conducted each year after parent consent and child assent in participant-chosen locations. Participants chose to complete measures orally or in writing. Adolescents were given small gifts or monetary compensation for their participation, and parents were given modest financial compensation, families were entered into drawings for prizes, or modest financial contributions were made to adolescents' schools. University institutional review boards in each country approved the procedures.

Measures

Parents' attitudes toward adolescents' school When adolescents were 16 years old, on average, their mothers and fathers reported on their attitudes toward their adolescents' school using seven items that have been used in the Program for International Student Assessment (2012; e.g., "I am happy with the content taught and the instructional methods used in my child's school," "Most of my child's school teachers seem competent and dedicated"). Each item was rated on a 4-point scale from 1 = strongly agree to 4 = strongly disagree. Items were averaged to create a scale ($\alpha = 0.94$ for father report and 0.94 for mother report). Fathers' and mothers' attitudes were highly correlated (r = .51, p < .001) so were averaged to create a composite variable reflecting parents' attitudes toward their adolescents' schools.

Support for learning in the home When adolescents were 16 years old, on average, their mothers and fathers reported on their support for learning in the home using seven items that have been used in the Program for International Student Assessment (2012; e.g., "I discuss with my child how school can be applied in everyday life," "I discuss how well my child is doing at school"). Each item was rated on a 5-point scale from 1 = hardly ever to 5 = every day or almost every day. Items were averaged to create a scale ($\alpha = 0.80$ for father report and 0.73 for mother report). Fathers' and mothers' attitudes were significantly correlated (r = .39, p < .001) so were averaged to create a composite variable reflecting parents' support for learning in the home.

Adolescents' academic identity When adolescents were 17 years old, on average, they reported on their own academic identity using seven items from Osborne (1997; e.g., "Being a good student is an important part of who I am," "I put a great deal of myself into some things at school because they have special meaning or interest for me"). Each item was rated on a 7-point scale from 1 = strongly disagree to 7 = strongly agree, with items reverse coded as needed so higher numbers reflect stronger academic identity. Items were averaged to create a scale ($\alpha = 0.86$).

Adolescents' school performance When adolescents were 16 years old and again when they were 17 years old, on average, fathers and mothers reported on adolescents' school performance in reading, writing, math, social studies, science, and other subjects. Items were from the performance in academic subjects section of the Child Behavior Checklist (Achenbach, 1991). Parents rated performance in each subject on a 4-point scale from 1=failing to 4=above average. Items were averaged to create a scale (α ranged from 0.88 to 0.90 across time points and reporters). Fathers' and mothers' reports were highly correlated at age 16 (r=.73) and age 17 (r=.75) so were averaged to create a composite at each age. **Parent education** The highest level of education completed by the mother or father (in number of years) was included as a covariate in all analyses.

Analytic plan

The primary model tested the associations among the independent variables: parent education, parents' positive attitudes about their adolescents' school, and parents' learning support when adolescents were age 16 with the dependent variables: adolescents' school performance and academic identity assessed 1 year later. School performance measured at age 16 was included as a covariate. All variables were entered into the model in a single step. In addition to estimating the paths between the independent and dependent variables, the model estimated the correlation between parents' attitudes toward their adolescents' school and support for learning in the home, and between adolescents' school performance and academic identity. See Fig. 1 for an illustration of the primary model. Descriptive statistics and correlations among the primary study variables are presented in Tables 1 and 2, respectively.

To account for the cross-national nature of our sample, a multiple group framework was used to iteratively test the equality of parameters in the primary model across countries to identify the best-fitting model. Study site was identified as the grouping variable (for the US sample, Black, Latinx, and white participants were identified as separate groups).

In the first analysis, all parameters were constrained to be equal across cultural groups. Fit of the fully constrained model was then systematically compared to the fit of models with



Fig.1 Primary model for analysis. Age 16 refers to wave 8 of data collection; age 17 refers to wave 9 of data collection



Fig. 1 (continued)

paths selectively freed to vary across cultural groups using chi-square difference tests. Following Cheung and Rensvold (2002), if the differences in χ^2 values for the two models were nonsignificant, and the change in CFI ≤ 0.01 , the model reasonably considered to fit well across groups. In all models, full information maximum likelihood (FIML; Larsen, 2011) within Mplus 8 (Muthen & Muthen, 2017) was used to account for missing data. A model was considered to have good fit if the χ^2 test was non-significant (p > .05), the CFI and TLI ≥ 0.95 , the RMSEA ≤ 0.06 , and the SRMR ≤ 0.08 (Kline, 2011), but a greater weight was given to the incremental fit indices than to the significance of the χ^2 because the χ^2 value is known to be sensitive to sample size (Cheung & Rensvold, 2002).

Results

To start, model fit statistics for two versions of the final model were estimated and compared: one in which all parameters were fixed across countries and one in which all parameters were free to vary across countries. The fixed model yielded significantly worse model fit than the free model (see Table 3). However, the model fit statistics for the free model were also not suitable. After iterations and comparisons of model fit, results indicated that the best-fitting model was one in which the (a) correlation between the outcome variables (school performance and academic identity) was fixed across countries; (b) the paths among parent education, parent school attitudes, and parent learning support with adolescents' school performance and academic identity were fixed across countries; (c) school performance at age 16 was free to vary across countries; and

Site	Variable	Ν	Min.	Max.	Mean	SD
China—Chongqing	Youth academic identity	106	3.22	5.67	4.70	0.45
	Age 16 youth school performance	112	1.00	4.00	3.04	0.53
	Age 17 youth school performance	100	1.75	4.00	3.01	0.49
	Fathers' school attitudes	113	1.00	2.43	1.53	0.46
	Mothers' school attitudes	113	1.00	2.86	1.54	0.46
	Fathers' learning support	113	1.29	5.00	3.54	0.80
	Mothers' learning support	113	1.57	5.00	3.66	0.77
	Fathers' education years	102	3.00	24.00	11.79	3.71
	Mothers' education years	103	2.00	24.00	11.00	4.09
Colombia	Youth academic identity	79	2.33	3.67	2.87	0.34
	Age 16 youth school performance	80	1.60	4.00	3.31	0.57
	Age 17 youth school performance	78	1.33	4.00	3.12	0.52
	Fathers' school attitudes	67	1.00	3.43	1.55	0.63
	Mothers' school attitudes	78	1.00	3.00	1.51	0.53
	Fathers' learning support	72	1.14	5.00	3.71	0.82
	Mothers' learning support	79	2.00	5.00	3.96	0.79
	Fathers' education years	72	2.00	22.00	10.04	4.97
	Mothers' education years	78	2.00	25.00	10.33	4.83
Italy—Naples	Youth academic identity	77	2.33	5.67	4.61	0.66
J	Age 16 youth school performance	86	1.67	4.00	3.19	0.46
	Age 17 youth school performance	72	2.67	4.00	3.32	0.39
	Fathers' school attitudes	66	1.00	3.29	1.87	0.53
	Mothers' school attitudes	83	1.00	4.00	2.00	0.66
	Fathers' learning support	66	2.29	5.00	3.79	0.69
	Mothers' learning support	84	2.71	5.00	4.06	0.48
	Fathers' education years	66	5.00	24.00	11.89	4.60
	Mothers' education years	84	3.00	23.00	11.19	4.63
Italv—Rome	Youth academic identity	101	2.33	5.67	4.43	0.67
···· y	Age 16 youth school performance	101	2.00	4.00	3.13	0.34
	Age 17 youth school performance	97	2.50	4.00	3.11	0.30
	Fathers' school attitudes	76	1.00	3.00	2.17	0.46
	Mothers' school attitudes	97	1.00	3.57	2.12	0.48
	Fathers' learning support	77	1.86	5.00	3.49	0.65
	Mothers' learning support	100	2.14	5.00	3.79	0.61
	Fathers' education years	75	7.00	29.00	14.20	4.51
	Mothers' education years	100	5.00	23.00	14.00	4.15
Iordan	Youth academic identity	102	2.89	5 67	4 59	0.61
Jordan	Age 16 youth school performance	102	1.00	4 00	3.48	0.74
	Age 17 youth school performance	102	1.00	4 00	3 52	0.76
	Fathers' school attitudes	96	1.00	3 57	2 33	0.70
	Mothers' school attitudes	101	1.00	4 00	2.35	0.67
	Fathers' learning support	06	1.00	5.00	2.30	0.02
	Mothers' learning support	101	1.00	5.00	3 56	0.01
	Fathers' education vears	0/	1.00	24.00	13.63	3 20
	radiers education years	94	+.00	24.00	15.05	5.50

Table 1 Descriptive statistics for primary study variables

Table 1 (continued)

Site	Variable	Ν	Min.	Max.	Mean	SD
	Mothers' education years	97	4.00	20.00	13.19	2.38
Kenya	Youth academic identity	75	4.00	5.67	5.31	0.42
	Age 16 youth school performance	86	2.00	4.00	3.25	0.44
	Age 17 youth school performance	70	1.33	4.00	3.00	0.62
	Fathers' school attitudes	72	1.00	4.00	1.70	0.96
	Mothers' school attitudes	86	1.00	4.00	1.69	1.03
	Fathers' learning support	72	2.00	5.00	4.14	0.75
	Mothers' learning support	86	2.00	5.00	4.14	0.64
	Fathers' education years	73	4.00	19.00	12.26	3.37
	Mothers' education years	86	0.00	20.00	11.24	4.05
Philippines	Youth academic identity	85	2.00	6.14	4.96	0.62
	Age 16 youth school performance	86	2.00	4.00	3.29	0.54
	Age 17 youth school performance	84	2.10	4.00	3.33	0.47
	Fathers' school attitudes	61	1.00	3.00	1.58	0.45
	Mothers' school attitudes	86	1.00	4.00	1.54	0.59
	Fathers' learning support	61	1.86	5.00	3.74	0.85
	Mothers' learning support	86	2.00	5.00	3.97	0.67
	Fathers' education years	61	4.00	23.00	13.41	3.94
	Mothers' education years	86	4.00	28.00	13.19	3.89
Sweden	Youth academic identity	78	3.44	5.67	4.76	0.55
	Age 16 youth school performance	78	2.00	4.00	3.48	0.44
	Age 17 youth school performance	90	2.25	4.00	3.40	0.44
	Fathers' school attitudes	60	1.00	3.00	2.00	0.45
	Mothers' school attitudes	74	1.00	4.00	2.05	0.56
	Fathers' learning support	60	1.86	4.57	3.44	0.63
	Mothers' learning support	74	2.43	5.00	3.58	0.56
	Fathers' education years	55	9.00	20.00	14.07	2.85
	Mothers' education years	62	10.00	21.00	15.05	2.79
Thailand	Youth academic identity	87	3 56	5 56	4 63	0.44
Thunund	Age 16 youth school performance	83	2 33	4 00	3 19	0.39
	Age 17 youth school performance	87	2.33	4 00	3.19	0.41
	Fathers' school attitudes	61	1.00	3 14	1 70	0.51
	Mothers' school attitudes	78	1.00	3.14	1.76	0.51
	Fathers' learning support	61	1.00	5.00	3.62	0.82
	Mothers' learning support	78	1.00	5.00	3 70	0.64
	Fathers' education years	61	4.00	18.00	12 59	3.81
	Mothers' education years	77	4.00	19.00	12.39	4 19
US Black	Youth academic identity	70	3.44	5.67	12.71	0.50
05-Diack	Age 16 youth school performance	80	1.40	4.00	3.25	0.52
	Age 17 youth school performance	72	1.40	4.00	3.16	0.52
	Eathers' school attitudes	16	1.00	3.86	1.88	0.52
	Mothers' school attitudes	40 86	1.00	<i>1</i> 00	1.00	0.04
	Fathers' learning support	00 16	1.00	4.00 5.00	3.00	0.00
	Mothers' learning support	40 02	1.43	5.00	2.00	0.04
	moments rearning support	00	1.00	5.00	5.05	0.0/

Site	Variable	Ν	Min.	Max.	Mean	SD
	Fathers' education years	39	1.00	26.00	13.03	3.86
	Mothers' education years	77	2.00	23.00	13.81	3.83
US—White	Youth academic identity	81	2.89	5.67	4.74	0.65
	Age 16 youth school performance	94	2.00	4.00	3.70	0.40
	Age 17 youth school performance	80	2.00	4.00	3.65	0.44
	Fathers' school attitudes	62	1.00	3.00	1.83	0.57
	Mothers' school attitudes	91	1.00	3.00	1.71	0.53
	Fathers' learning support	62	2.29	5.00	3.55	0.63
	Mothers' learning support	91	1.86	4.71	3.42	0.61
	Fathers' education years	57	2.00	26.00	16.46	4.80
	Mothers' education years	83	3.00	25.00	16.29	4.62
US—Latinx	Youth academic identity	63	3.67	5.67	4.83	0.51
	Age 16 youth school performance	65	2.20	4.00	3.20	0.41
	Age 17 youth school performance	63	2.00	4.00	3.22	0.40
	Fathers' school attitudes	38	1.00	3.71	1.74	0.55
	Mothers' school attitudes	63	1.00	4.00	1.65	0.62
	Fathers' learning support	38	1.71	5.00	3.49	0.82
	Mothers' learning support	63	1.43	5.00	3.73	0.66
	Fathers' education years	38	5.00	20.00	10.76	3.66
	Mothers' education years	63	3.00	20.00	10.14	4.03
Full sample	Youth academic identity	1049	2.00	6.14	4.60	0.77
	Age 16 youth school performance	1106	1.00	4.00	3.29	0.52
	Age 17 youth school performance	1032	1.00	4.00	3.26	0.52
	Fathers' school attitudes	853	1.00	4.00	1.83	0.63
	Mothers' school attitudes	1078	1.00	4.00	1.82	0.66
	Fathers' learning support	859	1.00	5.00	3.63	0.78
	Mothers' learning support	1083	1.00	5.00	3.77	0.71
	Fathers' education years	819	1.00	29.00	12.90	4.25
	Mothers' education years	1031	0.00	28.00	12.76	4.36

Table 1 (continued)

The averages of mothers' and fathers' school attitudes, school support, and education were used for the final analyses

(d) the correlation between parent school attitudes and parent learning support was not estimated. Table 3 reports comparisons of model fit statistics for the fully constrained, fully freed, and final models.

Once an appropriately fitted model was identified, results from the analyses were examined. Across cultures, higher parent education was associated with better adolescent school performance (B=0.01, SE=0.003, p=.001). However, neither positive parent attitudes (B=0.011, SE=0.021, p=.596) nor parent learning support (B=0.009, SE=0.017, p=.601) were associated with adolescents' school performance. Parent education was not associated with academic identity (B=-0.002, SE=0.004, p=.587), but more positive parent attitudes (B=0.076, SE=0.032, p=.018) and greater parent learning support (B=0.053, SE=0.026, p=.044) were associated with greater academic identity among adolescents. The association between adolescents' school performance and academic identity

	1	2	ю	4	5	9	7	8	6	10
1. Youth academic identity		0.14	0.17	-0.06	- 0.03	0.12	0.06	0.14	0.09	0.10
2. Age 16 youth school performance		I	0.71	-0.12	-0.19	0.08	0.03	0.26	0.31	0.08
3. Age 17 youth school performance				-0.06	-0.10	0.04	0.02	0.28	0.30	0.05
4. Fathers' school attitudes					0.51	-0.19	-0.17	0.07	0.06	-0.06
5. Mothers' school attitudes					I	-0.11	-0.12	0.03	0.05	-0.03
6. Fathers' learning support							0.39	0.01	0.001	-0.07
7. Mothers' learning support								-0.08	-0.07	-0.02
8. Fathers' education years									0.66	0.01
9. Mothers' education years									I	-0.02
10. Youth gender										

Test	Model	Value	df	p-value	90% CI (LB, UB)
χ^2	Fixed	410.71	147	< 0.001	
	Free	184.76	48	< 0.001	
	Final	90.022	77	0.147	
	Difference test	Value	df	C.V. (<i>p</i> < .005)	
	$\Delta \chi^2$ (fixed-free)	225.95	99	140.169	
	$\Delta \chi^2$ (fixed-final)	320.688	70	104.215	
	$\Delta \chi^2$ (final-free)	94.738	29	53.672	
RMSEA	Fixed	0.144		< 0.001	0.128, 0.161
	Free	0.182		< 0.001	0.155, 0.21
	Final	0.046		0.55	0, 0.081
CFI	Fixed	0.683			
	Free	0.836			
	Final	0.984			
SRMR	Fixed	0.261			
	Free	0.123			
	Final	0.077			

Table 3 Comparison of model fit statistics across the fixed, free, and final multiple group models

 $\Delta \chi^2$ = difference in chi-square value; 90% CI (LB, UB) = 90% confidence interval with lower bound and upper bounds; C.V. = critical value as obtained by a chi-square distribution table. In the final model, the correlation between the outcome variables (school performance and academic identity) was fixed across countries, the paths among parent education, parent school attitudes, and parent learning support with adolescents' school performance and academic identity were fixed across countries, school performance at age 16 was free to vary across countries, and the correlation between parent school attitudes and parent learning support was not estimated

was not significant (B=0.01, SE=0.006, p=.067). Figure 2 illustrates the final model with the significant and non-significant paths. The association between school performance at age 16 with school performance and academic identity at age 17 varied across countries. Generally, higher school performance at age 16 was associated with higher school performance at age 17 across all countries. Higher school performance at age 16 was associated with greater academic identity at age 17 in Rome, Kenya, Sweden, Jordan, and among US Latinx, but not in Naples, Philippines, Thailand, the United States (Black and white participants), Colombia, and China. All statistics are recorded in Table 4 of the supplement.

Discussion

The aim of this study was to investigate relations among parental attitudes toward their adolescents' school, parental support for adolescents' learning at home, and parent education with adolescents' academic identity and school performance across nine cultures and over time. It is hypothesized that positive parental attitudes toward adolescents' school, parent education, and parental support for adolescents' learning at home would be linked to higher levels of academic identity and school performance over time.

Parental learning support at home and parents' positive attitudes toward their adolescents' school were not associated with adolescents' school performance but were associated with stronger academic identity among adolescents across cultures. Because the nature of parents' involvement in education changes when children reach adolescence,



Fig. 2 Final model for analysis. After various iterations and comparisons of model fit, results indicated that the best-fitting model was one in which the (a) correlation between the outcome variables (school performance and academic identity) was fixed across countries; (b) the paths among parent education, parent school attitudes, and parent learning support with adolescents' school performance and academic identity were fixed across countries; (c) school performance at age 16 was free to vary across countries; and (d) the correlation between parent school attitudes and parent learning support was not estimated. Black paths represent significant paths (p > .05). Age 16 refers to wave 8 of data collection

with less time spent on activities such as doing homework or reading together (Boonk et al., 2018), parental support for learning at home might not directly impact school performance but instead be manifested in adolescents' academic identity. This interpretation is consistent with previous research demonstrating that parental academic involvement fosters motivational orientation, positive attitudes toward school, and higher self-determination in adolescent students (e.g., by encouraging their aspirations and favoring their interests; Marchant et al., 2001; Ricard & Pelletier, 2016; Topor et al., 2010; Wang & Cai, 2015; Westerman, 2012).

In contrast to the findings for parents' attitudes toward their children's schools and support for learning in the home, across cultures, parents' own education level was related to adolescents' school performance but not to adolescents' academic identity. Perhaps more highly educated parents implicitly convey to adolescents the importance of education, model attitudes and behaviors that stem from more education, and help adolescents perform better in school (Kremer et al., 2019). Moreover, parents who have succeeded academically have achieved an important personal goal, and may be more likely to foster skills and behaviors in their children to navigate pathways to success by modeling behaviors linked to school success, praising and rewarding their adolescent's

at age 16 with dependent variables school performance and academic identity at age 17 Colombia School performance 0.317 0.112 Academic identity 0.013 0.103 Colombia School performance 0.532 0.096 Academic identity -0.104 0.067 Italy—Naples School performance 0.693 0.056 Academic identity 0.295 0.193	0.005 0.899 <0.001 0.12 <0.001 0.127
academic identity at age 17 Academic identity 0.013 0.103 Colombia School performance 0.532 0.096 Academic identity -0.104 0.067 Italy—Naples School performance 0.693 0.056 Academic identity 0.295 0.193	0.899 <0.001 0.12 <0.001 0.127
ColombiaSchool performance0.5320.096Academic identity-0.1040.067Italy—NaplesSchool performance0.6930.056Academic identity0.2950.193	<0.001 0.12 <0.001 0.127
Academic identity -0.104 0.067 Italy—Naples School performance 0.693 0.056 Academic identity 0.295 0.193	0.12 <0.001 0.127
Italy—Naples School performance 0.693 0.056 Academic identity 0.295 0.193	<0.001 0.127
Academic identity 0.295 0.193	0.127
readenite identity 0.255 0.155	
Italy—Rome School performance 0.646 0.1	< 0.001
Academic identity 0.778 0.198	< 0.001
Jordan School performance 0.95 0.046	< 0.001
Academic identity 0.412 0.072	< 0.001
Kenya School performance 0.784 0.158	< 0.001
Academic identity 0.248 0.118	0.036
Philippines School performance 0.632 0.074	< 0.001
Academic identity -0.148 0.125	0.236
Sweden School performance 0.759 0.063	< 0.001
Academic identity 0.441 0.165	0.007
Thailand School performance 0.659 0.102	< 0.001
Academic identity 0.189 0.104	0.068
US—Black School performance 0.491 0.086	< 0.001
Academic identity 0.134 0.153	0.381
US—Latinx School performance 0.576 0.099	< 0.001
Academic identity 0.328 0.136	0.016
US—White School performance 0.896 0.093	< 0.001
Academic identity 0.346 0.21	0.099
Full SampleSchool performance0.7330.023	< 0.001
Academic identity 0.214 0.048	< 0.001

budding abilities. Additionally, more highly educated parents might have occupations that pay well, enabling them to provide more material resources and opportunities, such as lessons or tutoring outside of school, that help adolescents perform better in school (Zhang & Bray, 2018). In contrast, less educated parents might withdraw from further academic challenges and consequently might not model positive behaviors or attitudes toward schools and education, in general. In addition, they might not be in a position to afford supplementary learning opportunities for their children.

Not surprisingly, better school performance at age 16 was associated with better school performance at age 17 across all countries. In addition, better school performance at age 16 was associated with stronger academic identity at age 17, but only in some cultures (Rome, Kenya, Sweden, Jordan, and among US Latin American x) and not others (Naples, Philippines, Thailand, the United States (African American and European American participants), Colombia, and China). This might be explained with what was reported in the literature regarding some cultural groups. For example, Sorbring and Lansford (2019) and Quiocho and Daoud (2006) reported that Jordanian and US Latin American parents, respectively, place a great deal of importance on their children's academic success because they view academic school performance as a means to acquire wealth, higher social status, and personal advancement. In Sweden, adolescents are expected to be treated with respect and taught about their rights in school (Sorbring & Gurdal, 2011); Swedish parents and

teachers alike are expected to encourage young people's agency and promote adolescents' involvement in decisions about their lives. These messages from parents might reflect directly on students' self-concept and motivation which, in turn, impact their academic identity. Chinese and Thai parents who have been characterized as having high academic expectations for their children and being highly involved in education have an authoritative parenting style that includes both supportiveness and control and have been found to promote students' mastery goals and, ultimately, academic school performance in China as in other countries (Xu et al., 2018) but may have limited effect on academic identity. This might be also true for Thai parents, especially those who live in urban areas; "success" is a must and students often are pressured to attend tutoring schools or participate in activities that promote academic success (Yokubon, 2012). However, other traditional Thai parents tend to believe that education is the responsibility not of parents but of teachers or schools, considering them the experts in the field of education (Yaimanee, 2004).

Researchers have long described how adolescents' academic identity is influenced by many factors, including cultural, and ethnicity backgrounds as these factors play an integral role in students' beliefs, practices, and expectations for education (Boykin & Toms, 1985; Fairbanks & Broughton, 2003).

Individuals' culture and upbringing have profound effects on how they see the world and how they process information, including with respect to how parents and youth coming from different cultures view education and academic success.

Parents often communicate to their children the importance of education in sincere emotional ways that motivate adolescents to do their best and work hard trying to succeed in school, which might in turn affect their academic identity, especially in the final school years. Adolescents, in turn, can contribute to the family's efforts and well-being when they succeed in school because they can then secure a better job and better financial future for their family (Sorbring & Lansford, 2019).

Limitations and future directions

The study has some limitations. First, the study was limited to samples from one city in each country, except for two samples in Italy. Thus, the findings should not be interpreted as being nationally representative. The findings await replication with other samples to include families from other cities and rural areas in each country, as well as in other countries. Second, although mother, father, and adolescent reports were included to reduce the risk of same source biases, all data were self-reported rather than observed or determined through school records or standardized test scores. Third, all data were measured prior to the COVID pandemic, so it is important to bear in mind that parents' support for learning in the home likely became more important in relation to adolescents' school performance during the pandemic than it was prior to the pandemic.

However, the current study has numerous strengths, including the longitudinal design and availability application of multi-informant (mother, father, adolescent) data from nine countries. The current findings contribute to understanding parental factors, such as support for learning at home, attitudes toward school, and education that influence school performance and academic identity of adolescents in nine countries and over time. Future research should build on this research to understand other factors that influence adolescents' academic identity, especially across cultures. For example, variation in cultural norms about the value of education, peer groups that promote or discourage academic school performance, national differences in future education opportunities, and adolescents' perceptions of how likely they are to be able to attain higher education all may influence adolescents' academic identity. Because it was found that the association between school performance at age 16 and academic identity at age 17 varied across cultures, future research should examine factors that might shape academic identity earlier in life in each culture in an effort to help explain why school performance is differentially predictive of academic identity. In future research, it would also be worthwhile to disaggregate and analyze differences and similarities between mothers and fathers in relation to the links between learning support at home, attitudes toward school, and parents' educational attainment with school performance and academic identity. Furthermore, given the significant correlation of gender with academic identity and age 16 school performance, examining the role of gender in associations among parenting, school performance, and academic identity is a worthwhile future direction.

These findings and further research can help policy makers and practitioners to develop more effective parenting and school programs that can support understanding of factors influencing school performance and academic identity of students in diverse cultural groups and countries (Bornstein et al., 2022). Further multimethod research should be conducted, utilizing quantitative and qualitative research methodologies, to achieve a deeper understanding of the multidimensionality of parenting and how different social and cultural norms affect parenting practices and influence school performance and academic identity across cultures and over time. Qualitative data would supplement in-depth understanding and aid in interpretation of quantitative data.

Implications for parents and schools

Promoting better outcomes related to adolescents' school performance and fostering a positive academic identity involves collaboration between parents and schools in various cultures. Parents are advised to create a positive and supportive home environment that values learning and education. Parents can encourage a growth mindset, emphasizing that effort leads to improvement. Parents also should maintain open and regular communication with teachers to stay informed about their child's progress, challenges, and achievements. Parents should set realistic and achievable academic expectations for children, focusing on their individual strengths and progress rather than strict performance standards. Parents can help children develop effective study habits, time management skills, and organizational techniques and can provide a quiet space at home conducive to studying. To the extent that the school system allows, parents can participate in school activities such as attending parent-teacher conferences and other school events to engage with the school community and show children that education is a collaborative effort. Parents can also support children's involvement in extracurricular activities, but ensure a balance between academics and other interests to prevent overwhelming stress. Finally, parents can discuss and explore children's interests and potential career paths to help them see the relevance of education to their future goals.

Schools are advised to implement programs that encourage parental involvement. Schools can host workshops, seminars, and events that help parents understand the school system and how to support their child's education. Schools should also establish effective communication channels between teachers and parents, including regular newsletters, online portals, and other platforms to keep parents informed. Schools should implement differentiated instruction strategies to cater to the diverse learning styles and strengths of individual students as well as recognize and nurture different talents. Schools also should foster a positive and inclusive school culture that values diversity, respects individual differences, and promotes a sense of belonging among students. Schools should provide resources and support for the mental health and well-being of students, including educating both students and parents about the importance of mental health. Schools can collaborate with community resources to provide additional support for students, including tutoring services, mentorship programs, and access to educational materials. Finally, schools should provide ongoing professional development for teachers to enhance their skills in understanding and addressing the diverse needs of students. This includes cultural competence training. By fostering a collaborative and supportive relationship between parents and schools regardless of the culture, it is possible to create an environment where adolescents can thrive academically and develop a positive academic identity.

Conclusions

This study is the first longitudinal, cross-national study to examine how parents' educational attainment, attitudes toward their adolescents' school, and support for learning at home are related to adolescents' school performance and academic identity over time. The findings revealed somewhat different pathways to school performance and academic identity. Adolescents' school performance was more closely tied to parents' educational attainment, and adolescents' academic identity was more closely tied to parents' attitudes toward their schools and parents' support for learning in the home. Even if parents themselves have not attained high levels of education, parents' attitudes and support of learning can strengthen their adolescents' academic identity across cultures.

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Declarations

Competing interests The authors declare no competing interests.

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Current themes of research

Parent-child relationship, the child's adjustment, attitudes and beliefs, cultural values, and self-regulation among the children. Adolescents' reward-seeking, self-regulation, social information processing, academic identity, school performance, and risk-taking.

Selection of relevant publications

- Lansford, J. E., Rothenberg, W. A., Riley, J., Uribe Tirado, L. M., Yotanyamaneewong, S., Alampay, L. P., Al-Hassan, S. M., Bacchini, D., Bornstein, M. H., Chang, L., Deater-Deckard, K., Di Giunta, L., Dodge, K. A., Gurdal, S., Liu, Q., Long, Q., Malone, P. S., Oburu, P., Pastorelli, C., Skinner, A. T., Sorbring, E., Tapanya, S., & Steinberg, L. (2021). Longitudinal trajectories of four domains of parenting in relation to adolescent age and puberty in nine countries. Child Development, 92, e493-e512.
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