



# Social Capital, Self-Efficacy, and Healthy Identity Development among Chinese Adolescents with and without Economic Disadvantages

Ying Liu <sup>1</sup> · Steven Sek-yum Ngai<sup>2</sup>

Accepted: 14 September 2020 / Published online: 20 September 2020  
© Springer Science+Business Media, LLC, part of Springer Nature 2020

## Abstract

This study analyzed the mediating role of self-efficacy in the relationship between social capital and healthy identity development. In addition, it examined differences between adolescents from families with and without economic disadvantages regarding the role of family, school and peer social capital, and self-efficacy on identity development. A total of 571 students in grades 10 through 12 from 22 high schools whose families faced economic difficulties and 1047 school peers whose families were without economic difficulties anonymously completed a series of measures about family, school and peer social capital, self-efficacy, and healthy identity development. Our data suggested that family, school, and peer social capital were simultaneously positively associated with healthy identity development for youth with family economic difficulties; while for youth without family economic difficulties, only school social capital had a direct effect on adolescents' healthy identity development. Furthermore, self-efficacy mediated family and school social capital for both groups of young people. Findings suggest the importance of investing in self-efficacy and social capital to promote healthy identities in youth development. In addition, the presented differences in the mechanism for impoverished and non-impoverished groups have implications for service design for different groups of young people. This study underscores the importance of considering both ecological and internal resources when identifying protective factors for youth development and the need to compare the mechanisms among youth from families with and without economic difficulties. It also suggests a few new avenues for future research.

**Keywords** Poverty · Self-efficacy · Social capital · Identity · Adolescent

## Highlights

- Comparative study on the roles of social capital, self-efficacy, and healthy identity development among youth from families with and without economic difficulties.
- Family, school, and peer social capital were positively associated with healthy identity development for youth from families with economic difficulties.
- Only school social capital had a direct effect on adolescents' healthy identity development for youth without family economic difficulties.
- Family and school social capital influences healthy identity development through self-efficacy.

---

✉ Ying Liu  
yingilu@gzhu.edu.cn

<sup>1</sup> Department of Sociology, School of Public Administration, Guangzhou University, Guangzhou, PR China

<sup>2</sup> Department of Social Work, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong, PR China

Developing a healthy identity is a critical developmental task during adolescence. During this stage of development, individuals seriously question their personal characteristics, values, and purpose in life (Erikson 1968). If they can successfully navigate these concerns, the result will be a healthy identity and better psychological and mental health outcomes (Chen et al. 2007; Chen and Yao 2010; Erikson 1968; Tsang et al. 2012). If they are unable to, they may experience identity crises that can, unfortunately, extend

into adulthood. Having a clearly delineated identity means that individuals have an unequivocal commitment to certain goals and values (Waterman 1984). Identity development for adolescents involves facilitating the exploration of and commitment to self-definition, reducing discrepancies between their self-perceptions and what others think of them, and fostering a coherent role in goals, social roles, and relationships (Schwartz and Petrova 2018; Tsang et al. 2012). Having clear identity components about their specific skills, beliefs, or attitudes can give individuals a distinct direction, purpose, and meaning in life (Chen and Yao 2010), and these may also function as resources for individuals to negotiate social membership, status, and other societal assets (Schwartz 2001). An adolescent who can achieve a clear and coherent identity is more likely to have a higher sense of well-being (Schwartz and Petrova 2018), greater life satisfaction (Vecchio et al. 2007), a better health-related quality of life (Chen and Yao 2010), fewer psychological symptoms (Chen et al. 2007), and fewer behavioral problems (Schwartz and Petrova 2018). Therefore, it is essential to identify the underlying mechanisms that may affect adolescent development of a healthy identity in order to offer practical suggestions for promoting such development.

Social capital refers to resources inherent in social relations (Coleman 1988). Factors of social capital in families, schools, and among peers have been found to be significantly associated with the psychosocial development of youth (Gatti and Tremblay 2007; Liu and Ngai 2019; Parcel and Dufur 2001). According to social control theory, successive interaction between an individual and his/her social surroundings influences the development and consolidation of personal identity (Schwartz 2001). The development of identities comprises two opposing yet complementary processes. On the one hand, it includes an individual process of differentiation, asserting the individual's uniqueness; on the other hand, it involves dynamic social processes such as integration, connecting with others, and aligning with social and institutional rules (Adams and Marshall 1996). In order to develop a mature identity, individuals' psychological needs and social demands need to be balanced (Chen et al. 2007).

Existing studies have indicated the impact of social capital on healthy identity development among youth. According to social development theory, significant others in the individual's social environment (such as parents, teachers, peers, etc.) who can provide needed support play a critical role in nurturing and aiding the individual to explore "who I am" in order to develop a social identity (La Guardia 2009; Tsang et al. 2012). The more involvement, structure, and support of autonomy that parents and teachers provide, the easier it is for children to achieve coherent understanding about themselves and to develop positive identities

(La Guardia 2009). School is important for youth identity development, as teachers' expectations and a supportive classroom climate can unintentionally impact an adolescent's identity, and other school organizations and teachers can intentionally organize explorative learning experiences to facilitate youth identity development (Verhoeven et al. 2018). Brown (2017) found that through the composition of the teachers and peers at school and interpersonal interaction with teachers and peers, school can influence the ethnic identity development of immigrant students. During adolescence, peer social capital may be more influential for individuals' social identities, while school may play the central role in encouraging youth to develop academic, and later, career identities (La Guardia 2009). Perceived support from classmates reduces adolescents' internalizing behaviors such as withdrawal, somatic complaints, and anxiety and/or depression (Attar-Schwartz et al. 2019). However, few studies have considered the impact of social capital on healthy identity development in multiple social contexts simultaneously, and which social capital variable has the strongest impact on youth identity development remains unknown.

Self-efficacy is the personal belief in oneself and one's ability to perform certain activities, and this is the most fundamental factor determining people's understanding of themselves (Bandura 1977). Higher efficacy expectation may be positively related to more-positive outcome expectations and may attain a higher level of positive identity. Since identity development includes two opposing yet complementary processes—differentiation and integration—when investigating the predicting variables for youths' healthy identity development, we need to consider predictors not only at social-institutional levels but also at personal traits level (Schwartz 2001). Self-efficacy is one of the personal intrapsychic characteristics that may influence the exploration of identity (Berzonsky 1989; Waterman 1990). Koumoundourou et al. (2012) found that self-efficacy about career decisions affects adolescents' vocational identity. A number of recent studies indicated that self-efficacy is positively associated with identity development; however, those studies mainly focused on vocational identity (Menon 2020; Yang and Li 2018) and active fat identity (Meadows and Bombak 2019). Studies focusing on youths' positive identity development are still rare.

As adolescents exist within the social environment, they acquire self-efficacy from their interactions with others. As Bandura's (1997) study indicated, social influences (such as mastery experiences, vicarious experiences, social persuasion, etc.) are sources of one's self-efficacy. Perceived social support from family and friends was positively associated with belief in self-efficacy among incarcerated adolescents (Tangeman and Hall 2011). Babicky and Seebauer's (2016) research indicates that social capital

promotes ones' adaptive capacity by facilitating the formal and informal communication of risk and coping options and by providing emotional assistance. A study focused on psychological health and self-efficacy of senior middle-school students soon after a May 2008 earthquake in Wenchuan, China found that social support significantly predicted self-efficacy (Yang et al. 2010). The better the adolescents' perception of their family relationships, the more likely they were to have a higher level of self-efficacy and more positive beliefs about their ability to cope with severe situations and crises (Borchet et al. 2020). Additionally, a previous study has indicated that social capital and its proxy variables (peer support, kinship support and general support of others) were positively correlated with self-efficacy among Chinese high school students in Beijing (Han et al. 2015). Another study focused on first-year university students and found that self-efficacy can be enhanced by social capital from supportive mentors/teachers and peers. Feedback from instructors could enhance students' mastery experiences, interactions with peers could provide trusting relationships, and collaboration among students could increase the focus of student's motivations and coping skills (Brouwer et al. 2016).

Additionally, self-efficacy may function as a mediator for the relationship between contextual factors and adolescents' development outcomes. Hill and Roberts's (2019) study of 167 adolescents ages 11–19 years old found that self-efficacy mediated the relation between the parent–child relationship and academic performance. Yap and Baharudin's (2016) study of 802 Malaysian high school students found that academic self-efficacy and social self-efficacy mediated the relationship between parental involvement and positive affect, and that academic self-efficacy mediated parental involvement and adolescent life satisfaction. However, whether self-efficacy can function as a mediator between social capital and healthy identity development has yet to be explored.

Poverty may increase the vulnerabilities of adolescents' psychosocial well-being (Shek 2004), mental health (Funk et al. 2012; Reiss 2013), school achievement (Brooks-Gunn and Duncan 1997), and behavioral adjustment (Reynolds and Crea 2016). Adolescents growing up in poverty are more likely to lack resources related to nutrition, access to health care, adequate and safe housing, and cognitively stimulating materials and experiences, among others (Bradley and Corwyn 2002). With few career choices, low self-worth, and a multitude of financial barriers, adolescents from families with lower socioeconomic status may have less tangible and intangible capital for obtaining positive identity capital for their overall development (Côté and Allaha 1996). Families with economic difficulties are more likely to suffer from instability (Lichter et al. 2002) and stress (Conger and Donnellan 2007). Thus, it may be more

difficult for adolescents from disadvantaged backgrounds to develop a clear and positive sense of self (Schwartz 2001).

Besides the disadvantaged perspective, some studies have identified several protective factors that help young people from impoverished families to survive and achieve success in life. For example, Stansfeld et al. (2004) found that family cohesion and warm parent–adolescent relationships buffered distress related to poverty. Parents and adolescents' stronger endorsement of positive beliefs about adversity in Chinese culture were positively related to adolescent adjustment and psychosocial well-being in vulnerable situations (Shek 2004). For example, the proverb *chi de ku zhong ku, fang wei ren shang ren* (hardship increases stature) emphasizes that the experience of poverty may increase ones' coping abilities and provide a chance for one to become a stronger person. Another example is *qiong ren de hai zi zao dang jia* (Children from families with poverty manage household affairs early). As families suffering from poverty usually face multiple difficulties, such as having a family member suffering from disease that result in a financial burden and a burden of caring for the sick family member. In other families, adults may not be able to provide academic and career guidance for their children due to not having obtained much education themselves. At a very early age, children from an impoverished family have learned to take care of their family.

Chinese families, especially those with economic hardships, have distinct socializing patterns with parents playing a prominent role in providing emotional support for their adolescent children (Lam et al. 2004). Thus, for adolescents who come from poverty may experience their family social capital playing a stronger role in promoting their children's identity development. Additionally, youth from economically disadvantaged families may receive more attention from teachers because they are usually identified as “needy students” at on a school management level. Schools hold regular meetings to encourage students have positive beliefs about poverty and studying hard. In these meetings, teachers usually tell students to study hard in order to improve their lives. Encouragement from teachers may facilitate positive identity development. Social constructs about “needy students” being inferior may make lead to the psychological dislocation of students from economically disadvantaged families (Wang and Deng 2011; Zhou 2015), while the acceptance of their peers may relieve some of this stress (Haung and Yang 2014).

Our previous study revealed that there are different effects of family, school, and peer social capital, and self-efficacy on the prosocial involvement of youth between impoverished and non-impoverished youth (Liu and Ngai 2019). However, the study focused only on the developmental domain in prosocial involvement and did not provide enough evidence about the effect of social capital and

self-efficacy on other developmental domains. Further studies are needed to understand the different effects of social capital and self-efficacy on healthy identity development for youth from families with and without economic difficulties. Future studies in this area will offer opportunities to provide adequate services to young people with different family backgrounds.

To date, systematic and comprehensive studies that integrate social capital variables from multiple contexts (family, school, and peer interaction) and explore their effects on youth healthy identity development have been rare. Contradictory findings on which source of social capital has the most fundamental impact for youth development, and the lack of research in the domain of healthy identity development also warrants attention. According to the differentiation and integration perspective, identity development could be influenced by both social/institution factors and personal traits, so it is important to consider both variables at both levels, which has not been evaluated in the previous studies. Thus, in the present study, we tested the mediating mechanisms of self-efficacy on the link between adolescents' social capital from multiple contexts (including family, school, peer, and community) and healthy identity development. In addition, we compared the differences between adolescents from families facing economic difficulties and those from families without such difficulties. Based on the literature reviewed above, we proposed four hypotheses: (i) family, school, and peer social capital have significant positive associations with adolescents' healthy identity development; (ii) the strength of the impact of different social capital variables differs; (iii) self-efficacy mediates the relation between social capital variables and healthy identity development; and (iv) the mechanism for promoting development of healthy identities is different for adolescents from families with and without economic difficulties.

## Method

### Participants

This study was conducted in Zhongshan, a medium-sized city in Guangdong, China. We chose it as our research site because several recent studies have been conducted in large cities such as Beijing, Shanghai, Guangzhou, and Shenzhen, and considering the relative poverty theory, it was worthwhile to gain more understanding about the situation for adolescents growing up in medium-sized cities, where the gap between rich and poor is not as large as it is in these large cities. In order to compare the differences between these mechanisms for youth from families with and without economic disadvantages, we collected two sub-groups for

the data. We applied a population study to collect data for the poor group sample. Students in the funding list of the governmental education allowance scheme “Shang Xue Yi” (“Easy to School”) project were invited to participate in this study. Students from families with a household income under 400 RMB (\$56 USD) per person per month or with special economic difficulties and disparities (confirmed through home visits by a government representative) were qualified for the allowance. In total, 79.1% of the students from the list participated in the survey. Students from 22 high schools in Zhongshan participated in this study. For the non-poor group sample, we applied multistage cluster random sampling to obtain a non-impooverished peer sample from the same schools. We first randomly selected a grade in the school, and then randomly selected a class. All students in the selected class were invited to participate in the survey.

The final sample was comprised of 1618 participants (571 from families with economic difficulties and 1047 from families without economic difficulties). Students were enrolled in grades 10–12, with boys representing 32.6% of the participants in the poor group and 45.1% in the non-poor group. Within the poor-group sample, only 53.2% of the students had parents who were living together, 9.7% experienced divorced or separated parents, 32.6% had widowed parents, 4.5% were orphans; while within the non-poor group sample, 91.3% had parents living together, 6.8% experienced divorced or separated parents, 1.8% had widowed parents, and 0.2% were orphans. Regarding parents' education levels, 13.4% of the poor-group sample had fathers who had achieved a high school degree or above, while the percentage of the non-poor group was 36.8%. For mothers achieving a high school degree, the percentage was 7.3% in the poor group versus 28.4% in the non-poor group. In the poor group sample, 6.7% of students' fathers had long-term unemployment (versus 0.4% in the non-poor group), and 2.3% reported that their mothers had long-term unemployment (versus 0.4% in the non-poor group). Within the poor group sample, the monthly household income for most adolescents was under 3000 RMB (21.1% at 0–900 RMB, 46.1% at 1000–1999 RMB, and 24.6% at 2000–2999 RMB); while only 19.2% of the non-poor group sample reported a monthly household income under 3000 RMB. Within the poor group sample, for the causes of family financial difficulties, 57.6% reported “family with low-income or no regular income sources,” 54.1% reported “lack of family labor,” 39.8% reported “comes from single-parent families,” 30.2% “family members are ill and financial medical burden is heavy,” 24.1% reported “family member is ill and needs long-term care,” 20.6% reported “number of children in school is high,” 8.7% reported “indebted,” and 4.2% were orphaned and needed financial support.

## Procedure

The study procedures were approved by the Survey and Behavior Research Ethics Committee of the authors' affiliated university. The survey was conducted at school. Written informed consent was obtained from the students and their teachers prior to the study. Questionnaires were given to students and teachers to review before they signed a consent form, and participation was voluntary. Students were informed that they could withdraw from the study at any time with no repercussions. The questionnaire was self-administered and took 30–40 min for students to complete.

## Measurements

Since most of the measurements were used for the first time with the target population, to establish a valid measure for each variable, the researchers first conducted an EFA analysis. Indicators with factor loadings above 0.50 in at least one subsample (poor group or non-poor group) remained in the study. The following section presents the final measurements that we used for analysis.

### Family social capital ( $\alpha = 0.89$ )

Researchers used three subscales to assess family social capital in the previous 6 months: structural family social capital, cognitive social capital, and parental supervision. The first two subscales were based on the family social capital questionnaire developed by Lau and Li (2011). The measurement of structural family social capital includes seven items reflecting adolescents' perceptions of time their parents spend discussing important issues with them (such as their health, relationships with classmates/friends, relationships with teachers, etc.) and four items about things their parents do with them (such as reading, shopping, sports, playing). It adopted a five-point scale (1 = *Never*, 2 = *Once or twice a term*, 3 = *Once a month*, 4 = *Several times a month*, 5 = *At least once a week*). Scores were highly reliable ( $\alpha = 0.87$ ).

Cognitive family social capital was measured by four items, with responses given on a five-point scale. It consists of questions asking about the degree to which participants agree or disagree, including, "my parents understand me"; "my parents care about me"; "my parents respect my opinion"; and "I trust my parents." Scores were relatively reliable ( $\alpha = 0.73$ ).

The third subscale measures used the 1990 National Educational Longitudinal Study (Hoffmann and Dufur 2008), which includes five questions and asks about participants' perceptions of their parental supervision (from 1 = *Never know* to 5 = *Always know*) ( $\alpha = 0.77$ ).

### School social capital ( $\alpha = 0.89$ )

School social capital in the previous 6 months was measured by two subscales: school quality and teacher–student educational interaction. School quality represents the resources that can help promote school cohesion, trust, and consociation within the school (Hoffmann and Dufur 2008). It includes questions about the extent to which respondents agree or disagree with statements such as "teachers care about their students"; "teachers can be trusted"; and "I enjoy my school life." Adolescents gave their responses based on a five-point Likert-type scale. The reliability was considered relatively high ( $\alpha = 0.75$ ).

Bassani's (2006) measure on teacher–student educational interaction was also included to assess social capital in teacher–student relationships. Statements for students included: "the teachers care about my studies"; "the teachers give me chances to express my ideas"; "the teachers teach me with patience"; "the teachers are willing to help me with a lot of things"; and "the teachers offer help with my studies." The response options range from 1 (*Strongly disagree*) to 5 (*Strongly agree*). The reliability for this subscale was high ( $\alpha = 0.89$ ).

### Peer social capital ( $\alpha = 0.82$ )

Peer social capital was assessed by mutual help and trust among peers in the previous 6 months. The Chinese version of the Perceived Social Support Scale (Wang et al. 1999) was used to measure mutual help among peers ( $\alpha = 0.84$ ). This measurement was translated from the subscale, which assesses peer social support in the Multidimensional Scale of Perceived Social Support (Zimet et al. 1988). Trust among peers was also an indicator of peer social capital used in the previous study (Lau and Li 2011), which adopted two questions to measure trust toward friends and classmates ( $\alpha = 0.57$ ).

### Self-efficacy ( $\alpha = 0.66$ )

The self-efficacy subscale of the Chinese Positive Youth Development Scale (CPYDS) (Shek et al. 2007) was used to assess the adolescents' skills about coping and mastery during the previous 3 months. There are seven items in the original version; while based on the EFA results, only four items were included in the analysis. Responses demonstrated the extent to which participants agreed or disagreed with the following statements: "I have little control of things that happen in my life"; "I do not have any solutions for some of the problems I am facing"; "I cannot do much to change things in my life"; and "When I face life difficulties, I feel helpless." Adolescents gave responses based on a five-point Likert-type scale where higher scores represent greater

self-efficacy. The three items that were deleted before analysis were: “I can finish almost everything that I am determined to do”; “I believe things happening in my life are mostly determined by me”; and “I feel my life is determined by others and fate.”

### Healthy identity development ( $\alpha = 0.76$ )

There are three main aspects of identity, including image identity, personal identity, and social identity (Chen et al. 2007). We adopted the clear and positive identity subscale in the Chinese Positive Youth Development Scale (CPYDS) (Shek et al. 2007) to measure participants’ healthy identity development in the previous month. It covers aspects of personal, social, and image identity. The original subscale comprises seven statements focusing on adolescents’ perceptions about themselves; however, according to the EFA results, the statement “I am a filial person” may involve a moral judgment and was not included for further analysis. The questionnaire used a five-point Likert-type response format with values ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Examples of items include: “I can do things as well as others”; “I feel that I am welcomed by others”; and “I am satisfied with my body and appearance.”

### Demographics

Demographics included in this study were gender (1 = *Female*; 0 = *Male*), year (which means grade level in school), key school (which indicates the school type, 1 = *Key school*; 0 = *Non-key school*), single child (1 = *Yes*; 0 = *No*), single-parent family or orphan (1 = *Yes*; 0 = *No*), family human capital (indicated by paternal and maternal educational level), and parental unemployment (1 = *At least one parent with long-term unemployment*; 0 = *Both parents without long-term unemployment*).

### Data Analyses

This study applied multigroup structural equation modeling (SEM) with a maximum likelihood (ML) estimation using AMOS 22.0. We applied this method because it can test an entire system of hypotheses simultaneously (Bowen and Guo 2011), which is suitable for testing mediation effects among multiple latent variables. Additionally, it has the advantage of evaluating measurement errors during the analysis, which makes the results more accurate (Byrne 2001). SEM takes a confirmatory approach to examining the extent to which the hypothesis model is consistent with the data. In alignment with Hu and Bentler (1999) and Kline (2011), we utilized a combination of chi-square, CFI, IFI, TLI, RMSEA and SRMR to estimate the model fit.

In the multiple-group comparative analysis, we first equalized all factor loadings, paths, and covariances across the groups; then we released the path constraints one at a time to determine whether releasing equality constraints would significantly improve the model’s fit. Through this method, we identified those paths with significant differences between the two sub-groups. Finally, bootstrapping was performed with the bias-corrected confidence intervals method in Amos to test the indirect effects hypothesized in the model. As bootstrapping needs complete data and none of our variables have missing data greater than 5%, we applied regression imputation before bootstrapping.

We used four criteria to avoid multicollinearity problems in the model: first, the standardized regression weights being more than +1 or less than -1 indicates multicollinearity; second, no paths should have significantly larger standard errors than those of the unstandardized regression weights; third, the standardized correlation between the two parameter estimates should be smaller than 0.800; and the variance estimates for all variables should be positive.

## Results

### Descriptive Analyses

Table 1 provides descriptive statistics and correlations among key variables. Consistent with our expectations, social capital from different social contexts (i.e., family, school, peer, and community), self-efficacy, and healthy identity development were positively correlated with each other. No significant differences were found in healthy identity development and family social capital between the poor and the non-poor groups, while the poor group showed significantly higher school social capital ( $t = 6.71, p < 0.001$ ) and peer social capital ( $t = 2.58, p < 0.010$ ) but lower self-efficacy ( $t = -2.08, p < 0.050$ ) than the non-poor group.

### Testing the Hypotheses

Measurement invariance needs to be achieved before performing multiple-group SEM. The multiple-group measurement model with factor loadings and covariance constrained to be equal across groups fit the data well ( $\chi^2(302, N: \text{poor} = 571, \text{non-poor} = 1047) = 607.931, \chi^2/df = 2.013, CFI = 0.956, IFI = 0.956, TLI = 0.950, RMSEA = 0.025, SRMR = 0.040$ ). There was no significant decrease of chi-square value from the freely estimated model to the constrained model ( $\Delta\chi^2 = 40.381, \Delta df = 28, p > 0.050$ ), suggesting a good measurement invariance for the latent variables across the poor and non-poor groups.

**Table 1** Correlation matrix and descriptive statistics for the key variables

Variable	Poor group					Non-poor group										
	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Family social capital	571	3.37	0.69	–					1047	3.42	0.70	–				
2. School social capital	571	4.04	0.67	0.51***	–				1047	3.80	0.73	0.48***	–			
3. Peer social capital	571	3.94	0.56	0.42***	0.30***	–			1047	3.86	0.64	0.46***	0.62***	–		
4. Self-efficacy	571	2.95	0.82	0.33***	0.29***	0.22***	–		1047	3.04	0.80	0.39***	0.36***	0.34***	–	
5. Healthy identity	571	3.54	0.67	0.52***	0.55***	0.47***	0.49***	–	1047	3.49	0.71	0.32***	0.49***	0.38***	0.44***	–

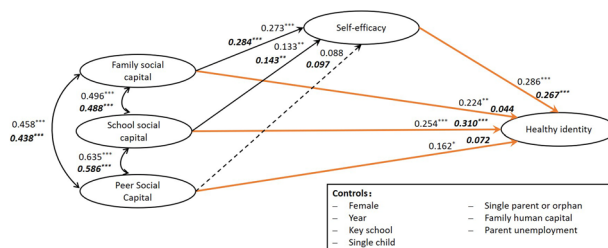
\*\*\**p* < 0.001

The multiple-group SEM model was tested using the following steps: first, by constraining the factor loadings, paths, and covariance to be equal across the poor and non-poor groups; second, by releasing equality path constraints one at a time to determine whether the release of constraints could significantly improve the fit, with significant improvement in the chi-square index indicating a significant difference between groups existing in the coefficient for the path; third, by releasing the paths with significant differences and obtaining the final model for analysis. Results indicated that there were significant differences in the four paths: the paths from social capital variables (1. family social capital; 2. school social capital; and 3. peer social capital) to healthy identity development; and 4. the path from self-efficacy to healthy identity development. The final model indicated a good fit for the data ( $\chi^2$  (499, N: poor = 571, non-poor = 1047) = 1040.094,  $\chi^2/df$  = 2.084, CFI = 0.929, IFI = 0.930, TLI = 0.915, RMSEA = 0.026, SRMR = 0.046).

The results indicated that there was no multi-collinearity problem in the model. First, all standardized regression weights ranged from 0.004 to 0.001, and no standardized regression weight was greater than +1 or less than -1. Second, all the correlations coefficients between variables were no larger than 0.635 (<0.800). Third, standard errors of the unstandardized regression weights for all the paths ranged from 0.027 to 0.137, with no path having much larger standard errors than other paths in the model. No negative variance was observed in the model.

Figure 1 shows the standardized pathway coefficients. The standardized direct, indirect, and total effects are presented in Table 2. The total variance in healthy identity development explained by this model was 50.9 and 34.5%, respectively, for the poor and non-poor groups.

The results partially supported hypothesis (i): for students from families suffering from economic difficulties, improvement in their family, school, and peer social capital was positively correlated to their development of a healthy identity ( $\beta$  = 0.224, *p* < 0.010;  $\beta$  = 0.254, *p* < 0.001;  $\beta$  = 0.162, *p* < 0.050, respectively). For youth from families



**Fig. 1** Multiple-group SEM of self-efficacy as a mediator between family, school, peer social capital and healthy identity. The coefficients in regular print and those in bold and italics represent, respectively, the results for the poor and non-poor samples. The coefficients shown are standardized path coefficients. \**p* < 0.050. \*\**p* < 0.010. \*\*\**p* < 0.001

without economic difficulties, only school social capital had a positive correlation with healthy identity development ( $\beta$  = 0.310, *p* < 0.001). Neither the association between family social capital and healthy identity development was significant ( $\beta$  = 0.044, *p* > 0.050), nor was the association between family social capital and healthy identity development ( $\beta$  = 0.072, *p* > 0.050). These findings supported hypothesis (ii), indicating the variance of the strength of the impact from social capital variables from family, school, and peer interaction on healthy identity development. School social capital might be the strongest determining factors in promoting the development of healthy identity.

The findings also partially supported hypothesis (iii): self-efficacy functioned as a mediator for the relationship between family social capital and healthy identity development and between school social capital and healthy identity development; however, the mediation effect of self-efficacy on the relationship between peer social capital and healthy identity development was not significant. Results from the coefficients for all the paths between the variables indicated that self-efficacy was significantly positively associated with healthy identity development ( $\beta$  = 0.286 for youth from economically disadvantaged families and  $\beta$  = 0.267 for youth from families without economic

**Table 2** Standardized direct, indirect, and total effects of the independent variables on adolescents' healthy identity

Independent variable	Healthy identity							
	Poor group				Non-poor group			
	Simple direct <sup>a</sup>	Direct	Indirect	Total	Simple direct <sup>a</sup>	Direct	Indirect	Total
Family social capital	0.298**	0.224**	0.078**	0.302**	0.128*	0.044	0.076**	0.120*
School social capital	0.299**	0.254**	0.038**	0.292**	0.345**	0.310**	0.038**	0.348**
Peer social capital	0.178*	0.162*	0.025	0.187*	0.101	0.072	0.026	0.098
Self-efficacy		0.286**		0.286**		0.267**		0.267**
Female	-0.129**	-0.087*	-0.047**	-0.134**	-0.178**	-0.129**	-0.047**	-0.176**
Year of study	0.012	0.029	-0.019	0.010	0.068*	0.071*	-0.002	0.069*
Key school	-0.059	-0.063*	0.003	-0.060	-0.049	-0.052*	0.003	-0.049
Single child	0.031	0.036	-0.014	0.023	-0.078*	-0.061	-0.013	-0.074*
Single-parent family or orphan	-0.012	0.001	-0.011	-0.009	-0.041	-0.039	-0.005	-0.044
Family human capital	0.026	0.029	0.003	0.032	0.085*	0.079	0.005	0.084
Parent unemployment	0.029	0.012	0.017	0.029	0.010	0.004	0.006	0.010

$N = 571$  for poor group and  $N = 1047$  for non-poor group. Bootstrap sample size = 2000

\* $p < 0.050$ . \*\* $p < 0.010$

<sup>a</sup>The simple direct effects refer to the direct effects of independent variables on the dependent variable without the indirect effects

disadvantages,  $p < 0.001$ ). Additionally, family social capital was positively related to self-efficacy ( $\beta = 0.273$  for youth from economically disadvantaged families and  $\beta = 0.284$  for youth from families without economic disadvantages,  $p < 0.001$ ); school social capital was also positively related to self-efficacy ( $\beta = 0.133$  for youth from economic disadvantages families and  $\beta = 0.143$  for youth from families without economic disadvantages,  $p < 0.010$ ); while peer social capital did not have a significant effect on self-efficacy ( $\beta = 0.088$  for youth from economically disadvantaged families and  $\beta = 0.097$  for youth from families without economic disadvantages,  $p > 0.050$ ).

The indirect effects were estimated using 2000 bootstrapping samples. Results were deemed significant when the 95% CI did not include zero. The pathway representing “family social capital  $\rightarrow$  self-efficacy  $\rightarrow$  healthy identity development” (the indirect effect = 0.078, 95% CI = 0.042 to 0.135 for poor group and the indirect effect = 0.044, 95% CI = 0.041 to 0.128 for non-poor group) and the pathways representing “school social capital  $\rightarrow$  self-efficacy  $\rightarrow$  healthy identity development” (the indirect effect = 0.038, 95% CI = 0.010 to 0.079 for poor group and the indirect effect = 0.038, 95% CI = 0.012 to 0.074 for non-poor group) were significant ( $p < 0.010$ ). However, there was no significant effect for the pathways representing “peer social capital  $\rightarrow$  self-efficacy  $\rightarrow$  healthy identity development” (the indirect effect = 0.025, 95% CI = -0.004 to 0.063 for poor group and the indirect effect = 0.026, 95% CI = -0.005 to 0.065 for non-poor group). Thus, only family and school social capital were shown to have significant indirect effects on healthy identity development through self-efficacy,

while the mediation effect of self-efficacy between peer social capital and healthy identity development was not significant.

The results of a multiple-group SEM indicate that there were significant differences for some of the paths in the model between adolescents from family with and without economic difficulties, which supports hypothesis (iv) in our study. On the one hand, school social capital had a stronger positive effect on healthy identity development for those who came from families without economic difficulties ( $\beta = 0.310$ ,  $p < 0.001$ ) than for those suffering from poverty ( $\beta = 0.254$ ,  $p < 0.001$ ). There was a significant positive direct effect of family social capital on youth healthy identity development ( $\beta = 0.224$ ,  $p < 0.010$ ) for youth from economically disadvantaged families, while the effect was not significant for those without family economic difficulties ( $\beta = 0.044$ ,  $p > 0.050$ ). The effect of peer social capital on healthy identity development was significantly positive for adolescents from families with economic difficulties ( $\beta = 0.162$ ,  $p < 0.050$ ), while it was not significant for adolescents who did not experience family economic difficulties ( $\beta = 0.072$ ,  $p > 0.050$ ). On the other hand, the effect of self-efficacy on healthy identity development was significantly stronger for the group with family economic difficulties ( $\beta = 0.286$ ,  $p < 0.001$ ) than those without ( $\beta = 0.267$ ,  $p < 0.001$ ).

Among the direct effects of all the determining variables on developing healthy identity, for adolescent from families with economic difficulties, self-efficacy was the strongest determining factor, and the second-strongest determining factor was school social capital. Whereas for youth who



come from families without economic difficulties, school social capital had the strongest direct effect on youth's healthy identity development. When considering the total effects, family social capital had the strongest effect for adolescents who was from families with economic difficulties, while school social capital was consistently the strongest determining factor for non-poor group.

Regarding demographic variables, girls were found to be more likely to have disadvantages in developing a healthy identity; moreover, the negative direct effect of being female on forging a healthy identity was significantly stronger for non-poor group. As they entered higher years of academic study, the adolescents from families without economic disadvantages were more likely to develop a healthy identity, while this association was not significant for youth from families with economic disadvantages. For youth who do not suffer from their family's economic difficulties, being a single child has a negative simple direct effect on their identity development, but the effect was not significant after considering the mediation effect of self-efficacy. Family human capital was found to have a positive effect on developing a healthy identity for non-poor group, while the effect was not significant after considering the mediation effect of self-efficacy. No significant effect of single-child and family human capital was observed among the students in poor group sample. In addition, students who studies in key schools had more difficulties developing a healthy identity, but the effect was very small. Parental unemployment did not have any significant effect on healthy identity development.

## Discussion

This study extends the existing research by investigating the effects of social capital from multiple contexts (family, school, and peer) on healthy identity development simultaneously and contributes to the “system or personal” debates on youth identity development. The comparison of the model between youth from families with and without economic difficulties further provides insights for future service development for promoting youths' healthy identity development, reminding service providers of the differing needs of adolescents from families with and without economic difficulties.

Congruent with our hypothesis (i), our results indicate that for adolescents from economically disadvantaged families, social capital variables, as social-institutional factors, have positive direct effects on developing a healthy identity. This is consistent with social development theory, which suggested that significant others, such as family, school, and peers, could provide risk and protective factors for youths' identity development (Tsang et al. 2012).

However, the results of the non-poor sample did not support hypothesis (i) thoroughly. Only school social capital had a significant, direct positive effect on youth healthy identity development, while family and peer social capital did not have significant direct effects. This may be because our participants were in high school, and in Chinese society, most adolescents' highest priority at this stage is to attain high levels of academic success, so the construction of adolescents' identities depends heavily on appraisal from teachers. However, for students from families with economically difficulties, although school is still the most important sources for developing a healthy identity, family and peer social interaction were also important. Family poverty is usually accompanied by disabled or seriously ill family members or brothers and sisters in need of care, which requires adolescents from impoverished families to take more responsibilities at home. Being a helpful family member may be an important source of constructing a positive identity for students who come from families with economic difficulties. Additionally, higher levels of peer social capital may result in better social integration, and for those students who were labeled as members of a disadvantaged group, possessing peer social capital may mean being accepted by peers, which may contribute positively to their healthy identity development.

The findings of this study supported hypothesis (ii), suggesting that the strength of the effects is different between social capital variables in different contexts. For both groups of young people, school social capital has the strongest direct effect among social capital variables on the development of healthy identities. This is consistent with previous literature showing that school was the most important socializing institution for adolescents (Wu et al. 2011). For high school students, school activities may be important sources for learning about their social roles and gaining knowledge about themselves, while teachers' responses and support may also play a critical role in recognizing these identities (La Guardia 2009). These findings also support Schwartz and Petrova's (2018) view on the importance of investing in the educational system and increasing adult–youth collaborative opportunities in order to promote youth identity construction.

Consistent with hypothesis (iii), the results showed that self-efficacy mediated the relationship between social capital (among family and at school) and healthy identity development. The findings indicate that self-efficacy is a strong determining factor for youth identity development. This finding coincides with the individual-difference perspective of identity development proposed by Berzonsky (1989). Individuals' characteristics about solving problems and making decisions create individual differences in identity. According to the identity capital model, self-efficacy as an intrapsychic characteristic can be an

important resource for one's identity development (Côté 1996, 1997). Moreover, the findings also align with self-determination theory, which suggests that identities are adopted in the service of autonomy, competence, and relatedness (La Guardia 2009). A sense of competency and relationships with significant others are essential factors for one's identity development. These findings are consistent with previous studies (Babcicky and Seebauer 2016; Borchet et al. 2020; Yang et al. 2010) suggesting that family social capital and school social capital have significant direct effects on promoting self-efficacy. However, in our study, peer social capital also had a significant positive relationship with self-efficacy. Thus, self-efficacy may only function as a mediator between social capital and healthy identity in family and school social contexts, and peer social capital may not have an impact on healthy identity development through self-efficacy. This finding is not consistent with a previous study in Beijing that suggested that peer social capital could facilitate self-efficacy among senior middle school students (Han et al. 2015). That may be because as compared with their framework, we also considered support from teachers. Maybe when students reach the university level, peer social capital becomes more influential to their motivations and coping skills (Brouwer et al. 2016). However, at this stage, their coping abilities may still be learned from their interactions with important adults, such as parents and teachers.

Finally, the significant differences in the pathways between the poor and then non-poor group suggested different needs and development situations for the adolescents from families with and without economic difficulties. This finding supports hypothesis (iv). Although the results of the poor group are in line with most social capital studies (Dufur et al. 2008; Lau and Li 2011; Wu et al. 2011) showing that family, school, and peer social capital have significant direct effects on young people's development, only school social capital has a significant direct positive effect on identity development for the non-poor group. This finding, therefore, offered two insights: first, institutional factors in schools are important for adolescents' identity development; second, young people from economically disadvantaged families still rely on parental and peer feedback to develop their identity compared to their non-poor peers. The following reasons may explain this: first, being more concerned about preventing their children from feeling inferior to others, parents in families with economic hardships may try their best to provide a decent life for their children (Lam et al. 2004); second, families in poverty emphasized the transition of positive cultural beliefs related to poverty to their children, which promotes adolescents' better adjustment (Shek 2004); third, adolescent identity development relies more on the significant others in their lives (La Guardia 2009), and those who come from families

with economic disadvantages may also care about their peers' perceptions of them. This is consistent with the previous study on the prosocial behavior of adolescents from economically disadvantaged families, which noted that their helping behaviors come from egalitarian values (Piff et al. 2010). For adolescents who come from poverty, respect from and acceptance by their peers are important for them to develop healthy identities.

Furthermore, in response to the debates on "system or personal" for youth identity development, for young people from families with economic difficulties, self-efficacy was the strongest determining factor of their healthy identity development, while for their non-poor peers, school social capital was more influential. This means that believing in one's capability to organize and manage the situation at hand is more important for youth from economically disadvantaged families to construct positive perceptions about themselves. That may be because in the adolescent stage, the construction of their identity is related to exploring "who I am" and "my future role in society." For adolescents who come from economically disadvantaged families they may have more concerns about their future. They also learn from school that if they succeed academically and inherent talents, they will find a good job and be able to help their families rise out of poverty. Thus, the feeling of being capable to deal with their situations is important for developing a healthy identity for adolescents from families with economic disadvantages. For students growing up in a family environment that does not need to worry about their future livelihood, although feeling capable is important for their positive evaluation of themselves, their positive identity development may be more reliant on their school social capital. Having good connections with teachers may mean being recognized as a promising student and thus developing a positive self-identity. Additionally, we observed from our data that students from families with economic difficulties had higher levels of school social capital than their peers ( $t = 6.709, p < 0.001$ ). That may be because in the Chinese education system, students who receive an educational allowance from the government are treated as students with special needs, and teachers may pay more attention to them, while for those students without family economic disadvantages, as China has an educational system with large classes, teacher-youth educational interactions may be scarcer and more meaningful resources for youth identity development.

By integrating the social capital theory and the self-efficacy theory, this study tested the mediating roles of self-efficacy in the relationship between social capital variables and healthy identity development. It provides a comprehensive view on how social capital from different social contexts influences the development of healthy identities simultaneously and how these social capitals indirectly

affect identity development through self-efficacy. Differences in the mechanism between the poor and non-poor groups also suggest different needs and the use of social capital due to family poverty.

The results of this study have some implications for policies and practices. First, improving self-efficacy can promote healthy identity development in youth, especially for young people from families with economic difficulties. Thus, social workers at a community youth center or a school social worker can consider designing some social group work programs targeted to promote youth self-efficacy. For example, some interpersonal groups, leadership groups, volunteering groups, and adventure groups that can improve youth self-efficacy through experiential learning can be included in the service design. Additionally, when working with adolescents from impoverished families, social workers and teachers can devote some effort to encouraging students' confidence and facilitating their capacity to cope with difficult situations. Second, investing in school social capital, by promoting positive teacher-student interactions and relieving teacher's workload so that they can have more energy to care and encourage students in the large class educational systems can also help students develop a healthy identity. School social workers/counselors can also be an important resource for promoting a supportive school environment, and helping students develop positive adult-youth connections at school. Schools and teachers can intentionally organize different types of explorative learning experiences to facilitate adolescents' trying out new aspects of their identity, reaffirming existing self-understandings, and reflecting on self-understandings (Verhoeven et al. 2018). Last but not least, for adolescents who are suffering from family economic difficulties, practitioners need to pay more attention to improving their parent-child relationships and peer networks. When working with adolescents from economically disadvantaged families, practitioners need to have a perspective that includes the student's family when doing their evaluations and interventions. Improving parental support and positive connections with their family can help adolescents from economically disadvantaged families feel capable of dealing with their situations and developing a positive identity. Additionally, practitioners also need to consider peers' influence and supportive peer networks as being an important part of social integration for youth with family economic disadvantages.

### Limitations and Future Research Directions

Although this study offers many contributions, there are several inherent limitations to be acknowledged. First, the study was conducted in a school setting, while there are, indeed, adolescents not enrolled in school who may be more

disadvantaged. Thus, it is advisable that future studies take into consideration young people who leave school at an early age. Second, this study relied exclusively on students' self-reporting, while information from teachers and parents may also have been beneficial for understanding problems. Third, due to the cross-sectional design, the researchers cannot make causal conclusions. The method used to deal with this problem is adding a time scale. When measuring healthy identity development, the study's researchers asked about the students' experiences during the previous month; for self-efficacy, researchers made the time scale the previous 3 months; and for the social capital variables, the time scale was the previous 6 months. However, longitudinal studies are still needed to further test the mediation effects of the temporal sense. In addition, the data collected for this study were from a middle-income city in China, while nationwide data are needed to compare different areas before the results can be generalized. Furthermore, this study relies on quantitative data, while in-depth interviews would be valuable for fully understanding the perceptions and personal experiences of adolescents in developing their identities. Finally, future ecologically relevant scientific research may integrate the system and individual level factors to further evaluate their impact on youth development in different domains. Also, it would be valuable to identify differences in the mechanisms for youth from families with and without economic disadvantages. This study examined the social capital of the parents, and it is important for future studies to differentiate the investment of social capital from fathers and from mothers separately. Regarding identity development, fathers and mothers may play different roles for sons and for daughters.

**Author Contributions** Y.L. designed and executed the study, analyzed the data, and wrote the first draft. S.S.Y.N. supervised the study and revise the paper. All authors read and approved the final manuscript.

**Funding** This study was funded by The Foundation for Young Talents in Higher Education of Guangdong (Grant No. 2016WQNCX122) and The Madam Tan Jen Chiu Fund, Department of Social Work, The Chinese University of Hong Kong.

### Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Ethical Approval** All procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The authors' affiliated university provided IRB approval for the study.

**Informed Consent** Informed consent was obtained from all individual participants included in the study. As the survey was administered at a

school setting, inform consent was also obtained from school representatives, usually the school administrator or the participants' teachers.

**Publisher's note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## References

- Adams, G. R., & Marshall, S. K. (1996). A developmental social psychology of identity: understanding the person-in-context. *Journal of Adolescence*, *19*, 429–442. <https://doi.org/10.1006/jado.1996.0041>.
- Attar-Schwartz, S., Mishna, F., & Khoury-Kassabri, M. (2019). The role of classmates' social support, peer victimization and gender in externalizing and internalizing behaviors among Canadian youth. *Journal of Child and Family Studies*, *28*, 2335–2346. <https://doi.org/10.1007/s10826-017-0852-z>.
- Babicky, P., & Seebauer, S. (2016). The two faces of social capital in private flood mitigation: opposing effects on risk perception, self-efficacy and coping capacity. *Journal of Risk Research*, *20*(8), 1017–1037. <https://doi.org/10.1080/13669877.2016.1147489>.
- Bandura, A. (1977). Self-efficacy: towards a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4).
- Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York: W.H. Freeman.
- Bassani, C. (2006). A test of social capital theory outside of the American context: family and school social capital and youths' math scores in Canada, Japan, and the United States. *International Journal of Educational Research*, *45*, 380–403. <https://doi.org/10.1016/j.ijer.2007.03.001>.
- Berzonsky, M. D. (1989). Identity style: conceptualization and measurement. *Journal of Adolescent Research*, *4*, 268–282. <https://doi.org/10.1177/074355488943002>.
- Borchet, J., Lewandowska-Walter, A., Połomski, P., Peplirńska, A., & Hooper, L. M. (2020). We are in this together: retrospective parentification, sibling relationships, and self-esteem. *Journal of Child and Family Studies*. <https://doi.org/10.1007/s10826-020-01723-3>.
- Bowen, N.K., & Guo, S. (2011). *Structural equation modeling*. Oxford University Press.
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*, 371–399. <https://doi.org/10.1146/annurev.psych.53.100901.135233>.
- Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children*, *7*(2), 55–71. <https://doi.org/10.2307/1602387>.
- Brouwer, J., Jansen, E., Flache, A., & Hofman, A. (2016). The impact of social capital on self-efficacy and study success among first-year university students. *Learning & Individual Differences*, *52*, 109–118. <https://doi.org/10.1016/j.lindif.2016.09.016>.
- Brown, C. S. (2017). School context influences the ethnic identity development of immigrant children in middle childhood. *Social Development*, *26*(4), 797–812. <https://doi.org/10.1111/sode.12240>.
- Byrne, B. M. (2001). Structural equation modeling with AMOS, EQS, and LISREL: comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing*, *1*, 55–86. [https://doi.org/10.1207/S15327574IJT0101\\_4](https://doi.org/10.1207/S15327574IJT0101_4).
- Chen, K. H., Lay, K. L., Wu, Y. C., & Yao, G. (2007). Adolescent self-identity and mental health: the function of identity importance, identity firmness, and identity discrepancy. *Chinese Journal of Psychology*, *49*(1), 53–72. <https://doi.org/10.6129/CJP.2007.4901.04>.
- Chen, K. H., & Yao, G. (2010). Investigating adolescent health-related quality of life: from a self-identity perspective. *Social Indicators Research*, *96*, 403–415. <https://doi.org/10.1007/s11205-009-9483-0>.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *The American Journal of Sociology*, *94*, S95–S120. <https://doi.org/10.1086/228943>.
- Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology*, *58*, 175–199. <https://doi.org/10.1146/annurev.psych.58.110405.085551>.
- Côté, J. E. (1996). Sociological perspectives on identity formation: the culture-identity link and identity capital. *Journal of Adolescence*, *19*, 417–428. <https://doi.org/10.1006/jado.1996.0040>.
- Côté, J. E. (1997). An empirical test of the identity capital model. *Journal of Adolescence*, *20*, 577–597. <https://doi.org/10.1006/jado.1997.0111>.
- Côté, J.E., & Allaha, A. (1996). *Generation on hold: coming of age in the late twentieth century*. New York University Press. <https://doi.org/10.2307/2077298>.
- Dufur, M. J., Parcel, T. L., & McKune, B. A. (2008). Capital and context: Using social capital at home and at school to predict child social adjustment. *Journal of Health and Social Behavior*, *49*, 146–161. <https://doi.org/10.1177/002214650804900203>.
- Erikson, E.H. (1968). *Identity, youth, and crisis* (1st ed.). W. W. Norton. <https://doi.org/10.1001/archpsyc.1969.01740230123023>.
- Funk, M., Drew, N., & Knapp, M. (2012). Mental health, poverty and development. *Journal of Public Mental Health*, *11*, 166–185. <https://doi.org/10.1108/17465721211289356>.
- Gatti, U., & Tremblay, R. E. (2007). Social capital and aggressive behavior. *European Journal on Criminal Policy and Research*, *13*, 235–249. <https://doi.org/10.1007/s10610-007-9059-y>.
- Han, J., Chu, X. Y., Song, H. C., & Li, Y. (2015). Social capital, socioeconomic status and self-efficacy. *Applied Economics & Finance*, *2*(1), 1–10. <https://doi.org/10.11114/ae.v2i1.607>.
- Haug, C. & Yang, K. (2014). Peng bei xin li hu zhu zai pin kun da xue sheng xin li bang fu zhong de ying yong yan jiu [The application of peer psychological assistance in the psychological assistance of poor college students]. *Jiao Yu Zhi Ye [Education and Vocation]*, (023), 100–101. <https://doi.org/10.3969/j.issn.1004-3985.2014.23.044>.
- Hill, K.A., & Roberts, D.D. (2019). Parent–adolescent communication and social impacts on Black American adolescents' academic well-being. *Journal of Child and Family Studies*, 1–13. <https://doi.org/10.1007/s10826-019-01497-3>.
- Hoffmann, J. P., & Dufur, M. J. (2008). Family and school capital effects on delinquency: substitutes or complements? *Sociological Perspectives*, *51*, 29–62. <https://doi.org/10.1525/sop.2008.51.1.29>.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*, 1–55. <https://doi.org/10.1080/10705519909540118>.
- Kline, R.B. (2011). *Principles and practice of structural equation modeling* (3<sup>rd</sup> ed.). *Methodology in the social sciences*. Guilford.
- Koumoundourou, G. A., Kounenou, K., & Stivara, E. (2012). Core self-evaluations, career decision self-efficacy, and vocational identity among Greek adolescents. *Journal of Career Development*, *39*, 269–286. <https://doi.org/10.1177/0894845310397361>.
- La Guardia, J. G. (2009). Developing who I am: a self-determination theory approach to the establishment of healthy identities. *Educational Psychologist*, *44*, 90–104. <https://doi.org/10.1080/00461520902832350>.
- Lam, C. M., Lam, M. C., Shek, D. T. L., & Tang, V. M. Y. (2004). Coping with economic disadvantage: a qualitative study of Chinese adolescents from low-income families. *International*

- Journal of Adolescent Medicine and Health*, 16, 343–357. <https://doi.org/10.1515/IJAMH.2004.16.4.343>.
- Lau, M., & Li, W. (2011). The extent of family and school social capital promoting positive subjective well-being among primary school children in Shenzhen, China. *Children and Youth Services Review*, 33, 1573–1582. <https://doi.org/10.1016/j.chilyouth.2011.03.024>.
- Lichter, D. T., Shanahan, M. J., & Gardner, E. L. (2002). Helping others? The effects of childhood poverty and family instability on prosocial behavior. *Youth & Society*, 34, 89–119. <https://doi.org/10.1177/0044118x02034001004>.
- Liu, Y., & Ngai, S. Y. (2019). The impact of social capital, self-efficacy, and resilience on the prosocial involvement of adolescents from families with and without economic disadvantages. *Child Indicators Research*, 12, 1735–1757. <https://doi.org/10.1007/s12187-018-9607-7>.
- Meadows, A., & Bombak, A. E. (2019). Yes, we can (No, you can't): weight stigma, exercise self-efficacy, and active fat identity development. *Fat Studies*, 8(2), 135–153. <https://doi.org/10.1080/21604851.2019.1550303>.
- Menon, D. (2020). Influence of the sources of science teaching self-efficacy in preservice elementary teachers' identity development. *Journal of Science Teacher Education*, 31(4), 460–481. <https://doi.org/10.1080/1046560X.2020.1718863>.
- Parcel, T. L., & Dufur, M. J. (2001). Capital at home and at school: effects on child social adjustment. *Journal of Marriage and Family*, 63, 32–47. <https://doi.org/10.1111/j.1741-3737.2001.00032.x>.
- Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010). Having less, giving more: the influence of social class on prosocial behavior. *Journal of Personality and Social Psychology*, 99, 771–784. <https://doi.org/10.1037/a0020092>.
- Reiss, F. (2013). Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. *Social Science & Medicine*, 90, 24–31. <https://doi.org/10.1016/j.socscimed.2013.04.026>.
- Reynolds, A. D., & Crea, T. M. (2016). Household stress and adolescent behaviours in urban families: the mediating roles of parent mental health and social supports. *Child & Family Social Work*, 21, 568–580. <https://doi.org/10.1111/cfs.12181>.
- Schwartz, S. J. (2001). The evolution of Eriksonian and Neo-Eriksonian identity theory and research: a review and Integration. *Identity*, 1, 7–58. <https://doi.org/10.1207/S1532706XSCHWARTZ>.
- Schwartz, S. J., & Petrova, M. (2018). Fostering healthy identity development in adolescence. *Nature Human Behaviour*, 2, 110–111. <https://doi.org/10.1038/s41562-017-0283-2>.
- Shek, D. T. L. (2004). Chinese cultural beliefs about adversity: its relationship to psychological well-being, school adjustment and problem behaviour in Hong Kong adolescents with and without economic disadvantage. *Childhood*, 11, 63–80. <https://doi.org/10.1177/0907568204040185>.
- Shek, D. T. L., Siu, A. M. H., & Lee, T. Y. (2007). The Chinese Positive Youth Development Scale: a validation study. *Research on Social Work Practice*, 17, 380–391. [https://doi.org/10.1007/978-94-007-0753-5\\_3557](https://doi.org/10.1007/978-94-007-0753-5_3557).
- Stansfeld, S. A., Haines, M. M., Head, J. A., Bhui, K., Viner, R., Taylor, S. J. C., Hillier, S., Klineberg, E., & Booy, R. (2004). Ethnicity, social deprivation and psychological distress in adolescents: school-based epidemiological study in east London. *British Journal of Psychiatry*, 185(3), 233–238. <https://doi.org/10.1192/bjp.185.3.233>.
- Tangeman, K. R., & Hall, S. R. (2011). Self-efficacy in incarcerated adolescents: the role of family and social supports. *Child & Youth Services*, 32, 39–55. <https://doi.org/10.1080/0145935X.2011.553580>.
- Tsang, S. K. M., Hui, E. K. P., & Law, B. C. M. (2012). Positive identity as a positive youth development construct: a conceptual review. *Scientific World Journal*, 2012, 1–8. <https://doi.org/10.1100/2012/529691>.
- Vecchio, G. M., Gerbino, M., Pastorelli, C., Bove, G. D., & Caprara, G. V. (2007). Multi-faceted self-efficacy beliefs as predictors of life satisfaction in late adolescence. *Personality and Individual Differences*, 43, 1807–1818. <https://doi.org/10.1016/j.paid.2007.05.018>.
- Verhoeven, M., Poorthuis, A.M.G., & Volman, M. The role of school in adolescents' identity development. A literature review. *Educational Psychology Review*, 31, 35–63. <https://doi.org/10.1007/s10648-018-9457-3>.
- Wang, Z. H., & Deng, Z. Q. (2011). Shen fen ren tong yu xin li cuo wei: Ji yu gao xiao “di er lei pin kun sheng” de shi zheng yan jiu [Identity and psychological dislocation: an empirical study based on “the second type of poor students” in Colleges and Universities]. *Chang Sha Li Gong Da Xue Bao: She Hui Ke Xue Ban [Journal of Changsha University of Science and Technology: Social Sciences]*, 25(4), 118–123. <https://doi.org/10.3969/j.issn.1672-934X.2010.04.021>.
- Wang, X. [Xiangdong], Wang, X. [Xilin], & Ma, H. (1999). *Xin li wei sheng ping ding liang biao shou ce [Manual of mental health assessment scale]* (enlarged ed.). Beijing: Zhong Guo Xin Li Wei Sheng Za Zhi She [Chinese Journal of Mental Health].
- Waterman, A.S. (1984). *The psychology of individualism*. Praeger.
- Waterman, A. S. (1990). Personal expressiveness: philosophical and psychological foundations. *Journal of Mind & Behavior*, 11(1), 47–73. <https://doi.org/10.1177/0022167890301007>.
- Wu, Q., Palinkas, L. A., & He, X. (2011). Social capital in promoting the psychosocial adjustment of Chinese migrant children: interaction across contexts. *Journal of Community Psychology*, 39, 421–442. <https://doi.org/10.1002/jcop.20443>.
- Yang, J., Yang, Y., Liu, X., Tian, J., Zhu, X., & Miao, D. (2010). Self-efficacy, social support, and coping strategies of adolescent earthquake survivors in China. *Social Behavior and Personality: An international journal*, 38(9), 1219–1228. <https://doi.org/10.2224/sbp.2010.38.9.1219>.
- Yang, Q., & Li, F. (2018). Du sheng zi nü zi wo xiao neng gan, zhuan ye ren tong ji zhi ye tong yi xing de guan xi [The Relationship of only child's self-efficacy, specialty identity and vocational identity]. *Zhong Guo Jian Kang Xin Li Xue Za Zhi [China Journal of Health Psychology]*, 26(3), 459–465. <https://doi.org/10.13342/j.cnki.cjhp.2018.03.039>.
- Yap, S. T., & Baharudin, R. (2016). The relationship between adolescents' perceived parental involvement, self-efficacy beliefs, and subjective well-being: A multiple mediator model. *Social Indicators Research*, 126, 257–278. <https://doi.org/10.1007/s11205-015-0882-0>.
- Zhou, F. (2015). Gao xiao pin kun sheng shen fen jian gou, qun ti ren tong yu ying dui ce lue [Identity construction and group identification of poverty-stricken college students and its coping strategies]. *Jiao Yu Xue Shu Yue Kan [Journal of Education]*, (05), 75–81. [http://en.cnki.com.cn/Article\\_en/CJFDTota1-YANG201505013.htm](http://en.cnki.com.cn/Article_en/CJFDTota1-YANG201505013.htm).
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of perceived social support. *Journal of Personality Assessment*, 52, 30–41. [https://doi.org/10.1207/s15327752jpa5201\\_2](https://doi.org/10.1207/s15327752jpa5201_2).