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Social Capital is Positively Associated with Self-rated Health Among Chinese Adolescents

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A B S T R A C T

This study examines the relationship between self-rated health and social capital among Chinese adolescents and aims to understand the influence of family, neighborhood, and school connections on adolescents' perceived health. This cross-sectional study involved 501 secondary school students (217 males, 284 females, 15–19 years old). Self-perceived health was rated on a five-point scale divided into 'good health' and 'bad health'. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated to assess the association between good self-rated health and social capital in family, neighborhood and school. Gender, self-perceived socioeconomic status, psychological distress and body mass index were considered in the analysis using multivariate logistic regression. The results indicate a robust correlation between good self-rated health and increased family social capital (OR 2.99; 95% CI: 1.78 to 5.00), increased neighborhood trust (OR 2.42; 95% CI: 1.56 to 3.76), and increased informal social control (OR 1.74; 95% CI: 1.07 to 2.83). Conversely, no statistically significant correlation was found between good self-rated health and school social capital. These findings underscore the central role of family and neighborhood social capital in shaping the self-rated health of Chinese adolescents.

Key words: *social capital, self-rated health, adolescents, family dynamicy, Chinese culture*

Introduction

Adolescence is a critical phase characterized by significant physical, psychological, and social changes[1–3]. During this developmental phase, individuals establish and maintain social relationships that can have a lasting impact on their health and well-being[4–6]. The complicated developmental processes of adolescence, including identity formation, peer influence, and the pursuit of autonomy, highlight the importance of understanding the role of social capital in shaping health perceptions[7,8]. Social capital is conceptualized as the network of relationships between people within a community that enables society to function efficiently[9]. It is a vital resource used by individuals and groups for mutual benefit and is characterized by the sharing of norms, values and agreements that facilitate cooperation within or between groups[10,11]. These benefits include social relationships, i.e. the direct connections between individuals that provide support and facilitate the flow of information; social networks, i.e. the broader connections that individuals forge within and across communities[12] and supportive environments, i.e. the spaces — both physical and social — that enhance the quality of these interactions and relationships[13,14]. In addition, a sense of belonging and social cohesion emerges as critical outcomes of robust social capital, which promotes the stability of a community and the well-being of its members by supporting unified social participation and reducing conflict[15,16]. As adolescents pass through this dynamic stage, the quality of their social relationships become a crucial factor influencing their attitudes toward health and the development of health-related behaviors[17–19].

The link between social capital and adolescent health is based on the central role that social relationships play in mitigating stressors and promoting positive mental

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health outcomes[20]. Adolescents who have strong social capital often benefit from a supportive network that promotes emotional well-being and provides a buffer against the challenges associated with this transitional phase[21–23]. In addition, the sense of belonging and social cohesion that results from high social capital can help adolescents adopt healthier behaviors[24], as they are more likely to make positive lifestyle choices when they are involved in a supportive social environment[25]. These behaviors include increased physical activity, healthier eating habits and better sleep habits, all of which are crucial to maintaining good health[26]. Furthermore, the intricate interplay between these social dynamics and adolescents' self-rated health gains particular importance in the context of Chinese sociocultural dynamics[27]. Chinese adolescents likely experience a complex interplay of social factors that contribute to their self-rated health in the context of their unique sociocultural environment[28–30]. Research suggests that social capital and the nature and strength of social ties forged during adolescence may form the basis for long-term health outcomes[31–33]. The study of social capital in this population is particularly relevant given the collectivist nature of Chinese society and the potential influence of social networks on adolescents' perceptions of health[34,35]. In the context of adolescent health, social capital becomes a crucial determinant influencing various aspects of well-being, such as the development of health behaviors, psychological well-being, and overall health status[36–40]. Building on this foundation, this study aims to investigate the relationship between social capital and self-rated health among Chinese adolescents.

Extending the existing literature[41–43], this study hypothesizes that there is a positive relationship between social capital and self-rated health among Chinese adolescents. The theoretical basis for this hypothesis includes mechanisms by which social capital promotes health, such as providing emotional and practical support for coping with stress and building resilience[20,44], fostering a sense of belonging and community cohesion that increases self-esteem and psychological well-being[45,46] and promoting health-promoting behaviors through shared norms and values such as regular physical activity, healthy eating, and adequate sleep[47]. These combined mechanisms suggest that higher levels of social capital are associated with better health outcomes. However, few studies have simultaneously examined the contribution of different sources of social capital to youth health. The presence of strong social ties, supportive relationships and a sense of community may contribute to a more positive perception of health. Conversely, a lack of social capital or strained social relationships may be associated with poorer self-rated health outcomes. Through an in-depth examination of social capital in the context of Chinese adolescents, this study aims to contribute valuable insights into understanding the complex relationship between social factors and health outcomes at this crucial developmental stage.

Materials and Methods

Participants

This study conducted a comprehensive empirical investigation of the demographic composition of secondary school students in Beijing, a major urban center in the People's Republic of China with a population of over 20 million people. To ensure a representative sample, a total of 30 secondary schools were initially identified from the city's school database. The schools were randomly selected using a computer-generated list of numbers that corresponded to the unique identifier of each school in the database. This random selection was intended to minimize selection bias and improve the generalizability of the study results. The study targeted all students who were actively enrolled in the 2020/21 school year.

A cohort of 501 high school students between the ages of 15 and 19 took part in the study. This group included 217 male and 284 female students with an average age of 16.6±1.0 years and an average body mass index of 22.7±6.6 kg/m2. Ethical approval was obtained from the Institutional Review Board of the prestigious Beijing Sport University. In addition, the parents of the participating students gave prior consent by signing an informed consent form. Each individual student also confirmed their consent to participate by signing the appropriate consent form.

Self-rated health

Self-rated health was assessed with one question in a standardized questionnaire in which participants were asked to rate their perception of their health. The answers were classified on a 5-point Likert scale from 1 (very poor) to 5 (very good). To increase analytical accuracy, the scale was dichotomized, with a reassigned value of 1 indicating poor health. This category included responses categorized as "very poor"," "poor" and "neither poor nor good". A new value of 2, on the other hand, stands for a good state of health and includes the answers "good" and "very good". Self-rated health is a widely used variable in public health studies due to its ease of use. Extensive empirical data supports its utility as a reliable predictor of both mortality and health care utilization in the adult population[48–51]. The application of self-rated health extends particularly to studies of adolescents[52–55].

Social capital indicators

This study focused on the nuanced facets of individual perceptions of social capital in the domains of family, neighborhood, and school[56–58]. To assess family social capital, participants answered the specific item: "Do you feel that your family understands you and gives attention to you?"[59–61]. This single item is designed to capture a core component of family social capital — emotional support and attention — that is critical to adolescent development. Despite its simplicity, previous research[62–65] has shown

that such direct questions are effective indicators of family social capital because they focus on important relational aspects that significantly influence well-being. The neighborhood social capital survey included two questions: "Do you feel that people in your neighborhood trust each other (neighborhood trust)?" and "Do you feel that your neighbors intervene to criticize someone's deviant behavior during high school (informal social control)?"[66,67]. These questions were chosen because trust and informal social control are fundamental elements of social capital in the neighborhood and reflect the degree of cohesion and collective efficacy within the community. Trust in neighbors and willingness to enforce social norms are indicative of a supportive and connected neighborhood environment, which has been shown to have a positive impact on health outcomes[68,69].

The analysis of school social capital included responses to two questions: "Do you feel that teachers and students at your school trust each other (vertical trust at school)?" and "Do you feel that students at your school cooperate with each other (reciprocity at school)?" These items address the key dimensions of social capital in schools, with a focus on trust and cooperative behavior, which are essential to fostering a positive educational environment. Trust between teachers and students and among students facilitates effective learning and emotional support, which are critical components of school social capital[70]. The categorical representations of the social capital variables, which were collected through responses on a Likert scale from 1 (strongly disagree) to 5 (strongly agree), were subjected to a binarization process. The reclassification resulted in a new value of 1, which includes the responses "strongly disagree"," "disagree" and "neither agree nor disagree" and indicates a low level of social capital. Conversely, the answers "agree" and "strongly agree" were assigned a new value of 2, indicating high social capital. This careful categorization increases the accuracy of this investigation on the different dimensions of social capital perceptions.

Covariates

The consideration of potential mediators in this study included body mass index (BMI), which was determined using self-reported height and weight measurements. A discriminatory scoring system was used, classifying responses in the ≥25 kg/m2 range as indicating a high BMI and thus distinguishing students with an elevated BMI from their peers with lower BMI values. To ensure methodological rigor, socioeconomic status (SES) was examined as a potential confounding variable[71]. SES was operationalized based on both parents' occupations at the time of the study, and self-perceived SES was divided into three levels — high SES, medium SES, and low SES. Further refinement was made by binarizing into high/medium (responses in the 2–4 range) and low (responses in the 5–6 range) SES categories.

Psychological distress, which was identified as an additional potential confounding factor, was assessed using the 6-item Kessler scale[72]. Each item on the scale was scored on a continuum from 0 (never) to 4 (always). The total score for the 6 items ranged from 0 to 24, with lower scores indicating less psychological distress. The scale had high internal reliability, as evidenced by a Cronbach's alpha value of 0.86. A dichotomous scoring ranging from 0–12 or 13+ was used, allowing for effective differentiation between students with and without significant psychological distress[72,73]. The scale was then dichotomized using a new value of 1 for high psychological distress and a new value of 2 for low psychological distress within the 0–24 scale range.

An important finding is a statistically significant gender difference in psychological distress observed through the interaction between psychological distress and gender ($p<0.001$). This observation underscores the nuanced interplay between psychological well-being and gender dynamics within the population studied.

Statistical Analysis

Data analysis was performed using SPSS 24.0 software (SPSS Inc., Chicago, IL, USA). Descriptive statistics, including frequencies, were calculated to illustrate the distribution of the variables considered. A multivariate logistic regression analysis was performed to examine the relationships between the dependent variable, self-rated health status, and the independent variables, which included social capital, psychological distress, and sociodemographic factors. The independent variables were selected on the basis of their theoretical relevance and previous research findings demonstrating their potential influence on self-rated health. Odds ratios (ORs) and corresponding 95% confidence intervals (95% CIs) were calculated to quantify the strength and precision of these relationships. The regression model was systematically constructed in several steps. First, univariate analyses were conducted to identify significant predictors of self-rated health. Variables that showed a statistically significant relationship in the univariate analyses ($p<0.05$) were included in the multivariate model. Subsequently, each group of independent social capital variables was included separately in the regression model, with the socio-demographic and psychological distress variables serving as covariates. This stepwise approach made it possible to assess the individual and combined effects of the dimensions of social capital on self-rated health.

The regression model was systematically constructed by introducing each cluster of independent social capital variables separately, with sociodemographic and psychological distress variables serving as covariates. To comprehensively examine the relationships, all variables were included together in the regression model, which allowed for a holistic examination of the interplay between the dependent variable and all independent variables. Hypothesis tests were conducted using the Wald chi-square test for each predictor variable to assess its significance within the model. Statistical significance was set at a

p-value of less than 0.05 to ensure a strict criterion for interpreting the results.

The present paper was structured according to the guidelines of the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) statement checklist to ensure transparency and completeness in the presentation of the research methodology and results. This systematic approach increases the credibility and reproducibility of study results within the scientific community.

Results

A gender-specific analysis in Table 1 shows that the percentage of people reporting good self-rated health is higher for men (71.9%) than for women (61.3%). It is worth noting that around 35% of the total sample reported poor health. It is important to emphasize that the prevalence of mental disorders is relatively the same for boys and girls. In addition, a general observation shows that the average body mass index (BMI) is higher in men than in women (20.7 vs. 17.3).

Statistical analysis using the chi-square test revealed no significant evidence of gender differences in the proportion of people reporting good self-rated health, as shown in Table 1. This careful examination of demographic and health-related indicators contributes to a nuanced understanding of gender differences within the population studied.

Table 2 provides an in-depth examination of the complex relationship between self-rated health and various dimensions of social capital. The analysis shows a significant relationship between self-rated health and certain aspects of family and neighborhood social capital. In particular, good self-rated health shows a robust correlation with increased familial social capital (OR 2.99; 95% CI: 1.78 to 5.00), increased trust in the neighborhood (OR 2.42; 95% CI: 1.56 to 3.76) and increased informal social control (OR 1.74; 95% CI: 1.07 to 2.83). In contrast, no statistically significant correlation was found between good self-rated health and school social capital.

When all social capital domains were integrated into the model (Model 4), the positive association between good self-rated health and increased family social capital persisted (OR 1.91; 95% CI: 1.06 to 3.45), along with per-

TABLE 1

DESCRIPTIVE STATISTICS

Variables	Total	Males *n*=217 (56.7%)	Females *n*=284 (43.3%)	*p* value
Self-rated health				
Poor	171 (34.1)	61 (28.1)	110 (38.7)	0.01
Good	330 (65.9)	156 (71.9)	174 (61.3)	
BMI				
Not overweight	407 (81.2)	172 (79.3)	235 (82.7)	0.32
Overweight	94 (18.8)	45 (20.7)	49 (17.3)	
Psychological distress				
Low	291 (58.1)	89 (41.0)	121 (42.6)	0.72
High	210 (41.9)	128 (59.0)	163 (57.4)	
Social capital **Family support**				
Low	75 (15.0)	31 (14.3)	44 (15.5)	0.71
High	426 (85.0)	186 (85.7)	240 (84.5)	
Neighborhood trust				
Low	125 (25)	46 (21.2)	79 (27.8)	0.09
High	376 (75)	171 (78.8)	205 (72.2)	
Informal social control				
Low	372 (74.3)	153 (70.5)	219 (77.1)	0.09
High	129 (25.7)	64 (29.5)	65 (22.9)	
Vertical trust				
Low	92 (18.4)	40 (18.4)	52 (18.3)	0.97
High	409 (81.6)	177 (81.6)	232 (81.7)	
Reciprocity				
Low	66 (13.2)	28 (12.9)	38 (13.4)	0.88
High	435 (86.8)	189 (87.1)	246 (86.6)	

TABLE 2
ODDS RATIOS FOR GOOD SELF-RATED HEALTH AMONG CHINESE ADOLESCENTS

Variables	Model 1	Model 2	Model 3	Model 4
Family support				
Low				
High	2.99 [1.78–5.00]***			1.91 [1.06–3.45]*
Neighborhood trust				
Low				
High		2.42 [1.56–3.76]***		1.85 [1.13–3.04]*
Informal social control				
Low				
High		1.74 [1.07–2.83]*		1.67 [1.03–2.72]*
Vertical trust				
Low				
High			1.29 [0.64–2.59]	1.13 [0.54–2.34]
Reciprocity				
Low				
High			1.79 [0.81–3.95]	1.12 [0.48–2.61]
Gender				
Male				
Female	0.60 [0.41–0.89]*	0.65 [0.43–0.96]*	0.60 [0.41–0.89]*	0.63 [0.42–0.94]*
Age	1.04 [0.86–1.26]	1.05 [0.86–1.27]	1.04 [0.86–1.25]	1.04 [0.85–1.26]
SES (father)	0.97 [0.81–1.15]	0.94 [0.79–1.13]	0.95 [0.80–1.13]	0.95 [0.80–1.14]
SES (mother)	1.18 [0.98–1.42]	1.18 [0.98–1.41]	1.18 [0.98–1.41]	1.19 [0.99–1.43]
BMI				
Not overweight				
Overweight	0.53 [0.33–0.86]**	0.49 [0.30–0.79]**	0.58 [0.36–0.92]*	0.48 [0.30–0.79]**
Psychological distress				
High				
Low	0.90 [0.31–1.33]	0.85 [0.57–1.27]	0.91 [0.62–1.35]	0.81 [0.54–1.21]

***p<0.001; **p<0.01; *p<0.05; OR – odds ratio; CI 95% confidence interval. These four models were examined in a sequence of four logistic regression models
Model 1: Examine association between family social capital and youth self-rated health adjusting for gender, body mass index, self-perceived socioeconomic status and psychological distress.
Model 2: Examine association between neighborhood social capital and youth self-rated health adjusting for gender, body mass index, self-perceived socioeconomic status and psychological distress.
Model 3: Examine association between school social capital and youth self-rated health adjusting for gender, body mass index, self-perceived socioeconomic status and psychological distress.
Model 4: Examine association between all social capital variables and youth self-rated health adjusting for gender, body mass index, self-perceived socioeconomic status and psychological distress.

sistent correlations with increased trust in the neighborhood (OR 1.85; 95% CI: 1.13 to 3.04) and increased informal social control (OR 1.67; 95% CI: 1.03 to 2.72). These nuanced results contribute to a comprehensive understanding of the differentiated interplay between self-rated health and various dimensions of social capital and shed light on the different effects of family, neighborhood and school contexts on health perceptions in the population studied.

Discussion

Understanding the intricate interconnection between social capital and self-rated health among Chinese adolescents is of paramount importance in the broader context of public health research[74–78]. Adolescence, characterized by dynamic psychosocial and physical development, is a crucial period in which social influences play a crucial role in shaping health perceptions. Examining the relationships between the various dimensions of social capital — particularly in the context of family, neighborhood and school — and self-rated health provides valuable insights into the nuanced factors that contribute to adolescents' well-being.

The family unit, considered the cornerstone of social structure during adolescence, has a significant impact on various aspects of adolescent development, including the formation of personal values, coping mechanisms, and social support networks. This study, which examines the

nuanced interplay between family dynamics and self-rated health among Chinese adolescents, provides results that are consistent with expected outcomes. Specifically, a significant association was found between good self-rated health and increased family social capital (OR 2.99; 95% CI: 1.78 to 5.00). These findings align with the existing literature on this topic and support existing perspectives. Possible mechanisms behind this correlation include the provision of emotional support and practical help, which can reduce stress and promote a sense of security and belonging in adolescents[79–81]. In addition, families with high social capital often communicate more effectively, which promotes adolescents' problem-solving skills and resilience[82]. Furthermore, family social capital can improve adolescents' access to resources and opportunities that contribute to better health outcomes, such as healthier diets, regular physical activity, and access to health services[83,84]. In line with the work of previous studies[85–87], this study confirms the recognized importance of family influence on adolescent well-being. The family, which serves as the primary context for the development of social bonds and emotional security, is of particular importance for health perceptions. Echoing the sentiments, the results of this study highlight the enduring influence of family relationships on adolescents' psychosocial development[88,89]. This emotional resilience and support contribute significantly to positive health outcomes as adolescents navigate the challenges and transitions characteristic of this stage of life. The role of the family as a crucial support system is particularly evident in Chinese culture, where strong family ties are deeply rooted. Furthermore, these results are consistent with cross-sectional studies which emphasizes the universal importance of family relationships for adolescent health[90]. Understanding the multifaceted impact of family on adolescents health therefore not only enriches the scientific discourse, but also emphasizes the importance of targeted interventions that strengthen family connections for the overall well-being of Chinese adolescents.

Together with family influence, the immediate neighborhood environment proves to be a decisive social factor during adolescence that can either strengthen or hinder adolescents' health. In this study, the complex relationship between neighborhood social capital and self-rated health among Chinese adolescents is seamlessly consistent with the expected results. In particular, a significant correlation in which good self-rated health is associated with increased trust in the neighborhood was observed (OR 1.85; 95% CI: 1.13 to 3.04). The results were not surprising, as the sense of trust, support and cohesion within a neighborhood fosters a supportive environment and gives adolescents a sense of belonging and security. This positive social capital helps to reduce stress levels, improve mental health and increase the likelihood of engaging in health-promoting behaviors. In addition, the informal social control mechanisms within a well-connected community can positively influence health outcomes. The shared sense of responsibility and mutual support in the neighborhood can lead to a positive feedback loop that promotes the individual and collective well-being of Chinese adolescents. Consistent with previous studies[67,91] the findings of this study highlight the universal importance of neighborhood relationships in shaping adolescent health. These studies not only increase the robustness of this study's results, but also demonstrates that the influence of neighborhood dynamics on health perceptions transcends cultural boundaries. This study aligns with the perspectives presented[92,93], who emphasize the role of social capital in community health. The observed positive association between good self-rated health and increased trust in the neighborhood is consistent with the theoretical framework proposed by these authors. In addition, the findings obtained from this study are consistent with the findings[94,95], who further emphasize the positive association between neighborhood social capital and individual health outcomes. The association between good self-rated health and increased trust in the neighborhood uncovered in this study's results points to a potential avenue for positive health interventions. This highlights the potential effectiveness of strategies aimed at strengthening community cohesion and trust.

This study takes a different turn when it looks at the area of school social capital. Surprisingly, a statistically significant correlation in these results was not found, which deviates from expectations and prompts further reflection. This result is in contrast to the expected role of school social capital, which is often considered crucial for adolescents' health perceptions. The lack of a significant correlation between school social capital and self-rated health in this study could have several reasons. One possibility is the variation in the socioeconomic backgrounds of the study participants, which could influence their perception of social capital in the school environment. In addition, differences in school culture and policies at the schools studied could lead to different levels of social capital that cannot be easily captured by a single measure. Another factor to consider is students' individual personality traits and social skills, which could affect their ability to build and maintain social relationships in the school context. Furthermore, the complexity of social dynamics in schools, including peer relationships, teacher-student interactions, and extracurricular activities, could contribute to the observed differences. These results contrast with the research findings[74,75,96,97] which show a strong positive correlation between school social capital and adolescents' self-rated health. The discrepancy between our results and those of other studies illustrates the complex and context-dependent nature of social capital in the school environment. For example, one of the study[98] emphasize the role of school policies and programs in promoting social capital, while some studies[99] focus on the influence of peer support and teacher-student relationships. Also, some studies emphasize the importance of extracurricular activities in building social capital[100,101], while some examines the broader cultural context in which these relationships emerge[102]. Our findings suggest that these factors may interact in complex ways that are not fully captured by existing measures of school social capital. In contrast

to this study, the results seem to contradict the findings of other authors. For example, the previous research[6,87,103–105] indicates a strong positive correlation between school social capital and self-rated health in adolescents. However, the results of this study paint a different picture, as no statistically significant correlation was found. This deviation from expectations underlines the complexity of social capital at school level and the fact that different factors can manifest themselves differently in different environments. Possible reasons for the lack of correlation in this study could be differences in the socioeconomic background of the study participants, different perceptions of social capital among students, or unique contextual factors influencing the school environment. In addition, the complexity of building and maintaining social capital in the school environment as well as the role of individual personalities and social dynamics could contribute to the observed deviation from the expected correlations. To fully decipher the complex relationships, future research should consider a qualitative approach to examine students' life experiences and the qualitative aspects of social interactions in the school context.

Nevertheless, this study is subject to certain limitations. Firstly, the regional differences in socio-economic, cultural and educational development in China may affect the generalizability of the results. Beijing, as the capital, has a relatively high level of socio-economic and cultural development, which contributes to the overall higher socio-economic status of families. However, there are differences between the 16 districts and the different high schools in Beijing. To increase the representativeness of the sample size, future studies should consider greater geographical diversity and conduct more comprehensive analyses. Second, the self-reported family socioeconomic status and health assessments of high school students are susceptible to individual perception bias. The ongoing effects of the Covid-19 pandemic further complicate the matter, as a noticeable decline in community and school-organized activities affects students' self-assessment of their health. In addition, due to the limited scope and complexity of the survey, the initial measurement of social capital was conducted using a one-point scale for the dimensions of family and community. Given the multidimensional nature of social capital, this approach is recognized as a limitation of the study. For future research, it is recommended to use a more robust, multidimensional scale that can capture the different aspects of social capital more comprehensively. This would include multiple indicators for different dimensions of social capital such as networks, norms and social trust, increase the validity of the results and allow for more robust conclusions. In further research projects, a broader and more diverse group of participants combined with a differentiated investigation of contextual influences would be essential for a more thorough understanding of the complex relationships.

Conclusion

The positive correlation found in this study between increased social capital, in both the family and neighborhood context, and improved adolescent health offers valuable starting points for future scientific research. The plausible association with the strong family ties prevalent in China suggests that future research should examine the complicated dynamics of family relationships and their impact on health outcomes in more detail. The recognition of the family as a key support system in difficult situations, where its members provide crucial assistance, prompts the inclusion of family-related variables in further studies. This observed relationship between social capital, particularly in the family and neighborhood, and improved health underscores the need for a more nuanced examination of cultural influences. Future scientific research should focus on the multifaceted role of family and neighborhood ties in promoting adolescent well-being in China's unique cultural context and contribute to a more comprehensive understanding of health dynamics in this population.

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REFERENCES

1. JOSHI S, MARDIK S, VERMA P, RAJAGOPALAN H, SIDDIQUI MH, LACHYAN A, Eur J Nutr Food Saf, 15 (2023) 41. doi: 10.9734/ejnfs/2023/v15i111354. — 2. VINOGRADOV S, CHAFEE MV, LEE E, MORISHITA H, Neuropsychopharmacology, 48 (2023) 168. doi: 10.1038/s41386-022-01451-w. — 3. YOON Y, EISENSTADT M, LEREYA ST, DEIGHTON J, Eur Child Adolesc Psychiatry, 32 (2023) 1569. doi: 10.1007/s00787-022-01961-4. — 4. GÓMEZ-LÓPEZ M, VIEJO C, ORTEGA-RUIZ R, Int J Environ Res Public Health, 16 (2019) 2415. doi: 10.3390/ijerph16132415. — 5. MANCHANDA T, STEIN A, FAZEL M, Int J Environ Res Public Health, 20 (2023) 2160. doi: 10.3390/ijerph20032160. — 6. YUEN M, WU L, Curr Psychol, (2023). doi: 10.1007/s12144-023-05164-1. — 7. ALIVERNINI F, BIANCHI D, CAVICCHIOLO E, MANGANELLI S, COZZOLINO M, LUCIDI F, PARK N, Youth Soc, 55 (2023) 947. doi: 10.1177/0044118X211035956. — 8. GUDI-MINDERMANN H, WHITE M, ROCZEN J, RIEDEL N, DREGER S, BOLTE G, Environ Res, 233 (2023). doi: 10.1016/j.envres.2023.116485. — 9. CARMEN E, FAZEY I, ROSS H, BEDINGER M, SMITH FM, PRAGER K, MCCLYMONT K, MORRISON D, Ambio, 51 (2022) 1371. doi: 10.1007/s13280-021-01678-9. — 10. DIAS GP, SILVA ME, VIANA FLE, Cleaner Logist Supply Chain, 11 (2024). doi: 10.1016/j.clscn.2024.100151. — 11. HIDALGO G, MONTICELLI JM, VARGAS BORTOLASO I, J Soc Entrep, 15 (2024) 182. doi: 10.1080/19420676.2021.1951819. — 12. GUERRERO LARA L, FEOLA G, DRIESSEN P, J Rural Stud, 106 (2024). doi: 10.1016/j.jrurstud.2024.103197. — 13. LOPES F, CORDOVIL R, NETO C, Front Psychol, 9 (2018) 2198. doi: 10.3389/fpsyg.2018.02198. — 14. RÍOS-RODRÍGUEZ ML, ROSALES C, LORENZO M, MUINOS G, HERNÁNDEZ B, Front Psychol, 12 (2021). doi: 10.3389/fpsyg.2021.644763. — 15. DA COSTA S, MARTÍNEZ-MORENO E, DÍAZ V, HERMOSILLA D, AMU-

TIO A, PADOAN S, MÉNDEZ D, ETCHEBEHERE G, TORRES A, TELLETXEA S, GARCÍA-MAZZIERI S, Front Psychol, 11 (2020). doi: 10.3389/fpsyg.2020.604412. — 16. SILVEIRA S, HECHT M, ADLI M, VOELKLE MC, SINGER T, Front Psychiatry, 13 (2022). doi: 10.3389/fpsyt.2022.804763. — 17. CASALE M, SOMEFUN O, HAUPT R, DESMOND C, SHERR L, CLUVER L, Soc Sci Med, 326 (2023). doi: 10.1016/j.socscimed.2023.115899. — 18. LEVULA A, WILSON A, HARRÉ M, Qual Life Res, 25 (2016) 1725. doi: 10.1007/s11136-015-1200-7. — 19. PAEK HJ, HOVE T, Health Commun, 27 (2012) 727. doi: 10.1080/10410236.2011.616627. — 20. DUH-LEONG C, DREYER BP, HUANG TTK, KATZOW M, GROSS RS, FIERMAN AH, TOMOPOULOS S, DI CAPRIO C, YIN HS, Acad Pediatr, 21 (2021) 594. doi: 10.1016/j.acap.2020.09.013. — 21. JONSSON KR, BUSFIELD J, SÖDERGREN M, KAREN M, ADJEI NK, Int J Environ Res Public Health, 17 (2020) 3420. doi: 10.3390/ijerph17103420. — 22. MCLEAN L, GAUL D, PENCO R, Int J Ment Health Addict, 21 (2023) 2101. doi: 10.1007/s11469-021-00710-z. — 23. POPAT A, TARRANT C, Clin Child Psychol Psychiatry, 28 (2023) 323. doi: 10.1177/13591045221092884. — 24. GOODMAN ML, TEMPLE JR, ELLIOTT AJ, SEIDEL SE, GITARI S, RAIMER-GOODMAN LA, J Fam Violence, 38 (2023) 407. doi: 10.1007/s10896-022-00391-9. — 25. DE FREITAS BHBM, GAÍVA MAM, DIOGO PMJ, BORTOLINI J, Arch Psychiatr Nurs, 43 (2023) 92. doi: 10.1016/j.apnu.2022.12.012. — 26. MIN S, MASANOVIC B, BU T, MATIC RM, VASILJEVIC I, VUKOTIC M, LI J, VUKOVIC J, FU T, JABUCANIN B, BUJKOVIC R, POPOVIC S, Front Psychol, 12 (2021). doi: 10.3389/fpsyg.2021.803421. — 27. ALWAH AAQ, AL-ATTAR A, WEI T, J Hous Built Environ, 38 (2023) 2581. doi: 10.1007/s10901-023-10054-w. — 28. KIM Y, LEE H, LEE H, LEE M, KIM S, KONLAN KD, Heliyon, 9 (2023) e20738. doi: 10.1016/j.heliyon.2023.e20738. — 29. WANG X, LU C, NIU L, Front Public Health, 11 (2023). doi: 10.3389/fpubh.2023.1268775. — 30. XU J, WANG H, LIU S, HALE ME, WENG X, AHEMAITIJIANG N, HU Y, SUVEG C, HAN ZR, Dev Psychol, 59 (2023) 1346. doi: 10.1037/dev0001538. — 31. EDYBURN KL, BERTONE A, RAINES TC, HINTON T, TWYFORD J, DOWDY E, Sch Psychol Rev, (2021). doi: 10.1080/2372966X.2021.2024767. — 32. GORE R, Int J Health Policy Manag, 12 (2023) 1. doi: 10.34172/ijhpm.2022.7152. — 33. TAIBI D, SCIFO L, BRUNO N, FULANTELLI G, Sustainability, 15 (2023) 172726. doi: 10.3390/su151712726. — 34. WU Q, XIE B, CHOU CP, PALMER PH, GALLAHER PE, JOHNSON CA, Am J Community Psychol, 45 (2010) 1. doi: 10.1007/s10464-009-9284-2. — 35. YUEN S, TANG G, Soc Mov Stud, 22 (2023) 706. doi: 10.1080/14742837.2021.2011189. — 36. HU W, CHENG Y, DU R, Int J Environ Res Public Health, 19 (2022) 11956. doi: 10.3390/ijerph191911956. — 37. HUNDUMA G, DEYESSA N, DESSIE Y, GEDA B, YADETA TA, Psychol Res Behav Manag, 15 (2022) 503. doi: 10.2147/PRBM.S347261. — 38. RAVA J, HOTEZ E, HALFon N, Curr Probl Pediatr Adolesc Health Care, (2023). doi: 10.1016/j.cppeds.2023.101436. — 39. WOLFF GH, SHEN C, Social Science Computer Review, 42 (2024) 1338. doi: 10.1177/0894439323122. — 40. ZHANG L, JUNG EH, Universal Access Inform Soc, 21 (2022) 657. doi: 10.1007/s10209-021-00795-2. — 41. BORGES CM, CAMPOS ACV, VARGAS AD, FERREIRA EF, KAWACHI I, BMC Res Notes, 3 (2010). doi: 10.1186/1756-0500-3-338. — 42. HIBINO Y, TAKAKI J, OGINO K, KAMBAYASHI Y, HITOMI Y, SHIBATA A, NAKAMURA H, Environ Health Prev Med, 17 (2012) 44. doi: 10.1007/s12199-011-0218-x. — 43. LI W, YANG S, LI J, LI Z, YAN C, GUI Z, ZHOU C, J Affect Disord, 298 (2022) 1. doi: 10.1016/j.jad.2021.11.016. — 44. SANTOSA A, NG N, ZETTERBERG L, ERIKSSON M, Front Public Health, 8 (2020). doi: 10.3389/fpubh.2020.581078. — 45. CHAI L, Am J Health Promot, 38 (2024) 325. doi: 10.1177/08901171231204472. — 46. LUQUE-SUÁREZ M, OLMOS-GÓMEZ MDC, CASTÁN-GARCÍA M, PORTILLO-SÁNCHEZ R, Healthcare, 9 (2021) 3. doi: 10.3390/healthcare9030359. — 47. ABDELaziz EM, ELSHARKAWY NB, MOHAMED SM, Front Public Health, 10 (2022). doi: 10.3389/fpubh.2022.859819. — 48. MENNIG EF, SCHÄFER SK, ESCHWEILER GW, RAPP MA, THOMAS C, WURM S, BMC Geriatr, 23 (2023). doi: 10.1186/s12877-023-03861-x. — 49. REN W, XING Y, TARIMO CS, HE R, LIANG Z, Int J Equity Health, 22 (2023). doi: 10.1186/s12939-023-01895-6. — 50. TANG H, YUAN D, GUO C, Global Transitions, 5 (2023) 125. doi: 10.1016/j.glt.2023.08.002. — 51. ZHENG W, LIANG Y, LEE WS, KO Y, Int J Environ Res Public Health, 20 (2023) 43369. doi: 10.3390/ijerph20043369. — 52. DE SALES ÉNB G, BARBOSA FILHO VC, MACIEL GP, DE CASTRO VHS, DE BASTOS PO, VIEIRA NFC, Child Care Health Dev, (2023). doi: 10.1111/cch.13125. — 53. DONNELLY P, HEALY C, PARADIS K, HORGAN P, MCKAY MT, J Adolesc, 95 (2023) 157. doi: 10.1002/jad.12106. — 54. HETLEVIk Ø, VIE TL, MELAND E, BREIDABLIK HJ, JAHANLU D, Scand J Public Health, 47 (2019) 37. doi: 10.1177/1403494818772212. — 55. PADILLA-MOLEDO C, FERNÁNDEZ-SANTOS JDR, IZQUIERDO-GÓMEZ R, ESTEBAN-CORNEJO I, RIO-COZAR P, CARBONELL-BAEZA A, CASTRO-PIÑERO J, Int J Environ Res Public Health, 17 (2020) 72413. doi: 10.3390/ijerph17072413. — 56. GRILO SA, SANTELLI JS, NATHANSON CA, CATALLOZZI M, ABRAIDO-LANZA A, ADELMAN S, HERNANDEZ D, J Racial Ethn Health Disparities, 10 (2023) 427. doi: 10.1007/s40615-022-01234-5. — 57. HOOLIHAN EC, THOMAS KJ, Soc Psychol Educ, 23 (2020) 1609. doi: 10.1007/s11218-020-09596-6. — 58. LONG K, RENBARGER R, Educ Res, 52 (2023) 144. doi: 10.3102/0013189X221141409. — 59. BAYCAN T, ÖNER Ö, Ann Reg Sci, 70 (2023) 779. doi: 10.1007/s00168-022-01112-2. — 60. CAO D, ZHOU Z, LIU G, SHEN C, REN Y, ZHAO D, ZHAO Y, DENG Q, ZHAI X, Int J Equity Health, 21 (2022). doi: 10.1186/s12939-022-01642-3. — 61. PUCCIA E, MARTIN JP, SMITH CAS, KERSAINT G, CAMPBELL-MONTALVO R, WAO H, LEE R, SKVORETZ J, MACDONALD G, Int J STEM Educ, 8 (2021) 1. doi: 10.1186/s40594-021-00277-0. — 62. ALVAREZ EC, KAWACHI I, ROMANI JR, Sociol Health Illn, 39 (2017) 5. doi: 10.1111/1467-9566.12506. — 63. HMIMOU A, KAICER M, EL KETTANI Y, Qual Quant, (2023). doi: 10.1007/s11135-023-01794-6. — 64. LU N, XU S, ZHANG J, Int J Environ Res Public Health, 18 (2021) 11516. doi: 10.3390/ijerph18115516. — 65. XU Z, ZHANG W, ZHANG X, WANG Y, CHEN Q, GAO B, LI N, Front Public Health, 10 (2022). doi: 10.3389/fpubh.2022.772601. — 66. LOWN J, Abolitionist Perspect Soc Work, 1 (2023) 1. doi: 10.52713/apsw.v1i1.6. — 67. NOVAK D, SUZUKI E, KAWACHI I, BMJ Open, 5 (2015) 6. doi: 10.1136/bmjopen-2014-007184. — 68. LAGAERT S, SNAPHAAN T, VYNCKE V, HARDYNS W, PAUWELS LJ, WILLEMS S, Int J Environ Res Public Health, 18 (2021) 4. doi: 10.3390/ijerph18041526. — 69. TAO Y, YANG J, CHAI Y, Int J Environ Res Public Health, 17 (2020) 1. doi: 10.3390/ijerph17010013. — 70. HRABÉCZY A, CEGLÉDI T, BACSKAI K, PUSZTAI G, doi: 10.3390/educsci. — 71. FOSTER H, POLZ P, MAIR F, GILL J, O'DONNELL CA, BMJ Open, 11 (2021) 5. doi: 10.1136/bmjopen-2020-042212. — 72. CLARK KD, FLENTJE A, SEVELIUS JM, DAWSON-ROSE C, WEISS SJ, Public Health, 217 (2023) 81. doi: 10.1016/j.puhe.2023.01.017. — 73. WANG X, SVALINA F, MIEZIENE B, Collegium Antropologicum, 47 (2023) 1. doi: 10.5671/ca.47.1.6. — 74. GU J, ZHU R, Int J Environ Res Public Health, 17 (2020) 23. doi: 10.3390/ijerph17239108. — 75. HU XY, HU MW, Front Public Health, 9 (2021). doi: 10.3389/fpubh.2021.763246. — 76. NOVAK D, EMELJANOVAS A, MIEZIENE B, ŠTEFAN L, KAWACHI I, Global Health Action, 11 (2018) 1. doi: 10.1080/16549716.2018.1477470. — 77. PAN H, WU J, Int Soc Work, 63 (2020) 1. doi: 10.1177/0020872818776048. — 78. ZHU Y, GAO J, NIE X, DAI J, FU H, Int Health, 11 (2019) S64. doi: 10.1093/inthealth/ihz041. — 79. MELKMAN EP, Br Educ Res J, 50 (2024) 2. doi: 10.1002/berj.3911. — 80. SULIMANI-AIDAN Y, MELKMAN E, Child Fam Soc Work, 27 (2022) 4. doi: 10.1111/cfs.12918. — 81. SULIMANI-AIDAN Y, TAYRI-SCHWARTZ T, Children Youth Serv Rev, 120 (2021). doi: 10.1016/j.childyouth.2020.105773. — 82. QI C, YANG N, Front Psychol, 14 (2023). doi: 10.3389/fpsyg.2023.1279577. — 83. MOLLBORN S, MODILE A, Soc Sci Med, 293 (2022). doi: 10.1016/j.socscimed.2021.114648. — 84. QUICK V, DELANEY C, ECK K, BYRD-BREDBENNER C, Nutrients, 13 (2021) 5. doi: 10.3390/nu13051428. — 85. BOELE S, BÜLOW A, BELTZ AM, DE HAAN A, DENISSEN JJ, KEIJSERS L, Sci Rep, 13 (2023) 1. doi: 10.1038/s41598-023-43294-5. — 86. BOTELHO GUEDES F, CERQUEIRA A, GASPAR S, GASPAR T, MORENO C, GASPAR DE MATOS M, Children, 9 (2022) 2. doi: 10.3390/children9020200. — 87. PECHMANN C, CATLIN JR, ZHENG Y, J Consum Psychol, 30 (2020) 149. doi: 10.1002/jcpy.1136. — 88. LIN WH, YI CC, J Early Adolesc, 39 (2019) 426. doi: 10.1177/0272431618770785. — 89. SEAY DM, IVANOVA MY, NICKERSON AB, GODLESKI SA, SCHUETZE P, EIDEN RD, Advers Resilience Sci, 4 (2023) 151. doi: 10.1007/s42844-023-00090-4. — 90. BAMFORD J, LEAVEY G, ROSATO M, DIVIN N, BRESLIN G, CORRY D, BMJ Open, 13 (2023) 6. doi: 10.1136/bmjopen-2023-071999. — 91. NOVAK D, DOUBOVA SV, KAWACHI I, Public Health, 135 (2016), 48. doi: 10.1016/j.puhe.2016.02.002. — 92. ASPILLAGA C, ALFARO J, CARRILLO G, INOSTROZA C, ESCOBAR K, VILLARROEL A, Child Indic Res, 15 (2022) 511. doi: 10.1007/s12187-021-09903-3. — 93. MARQUEZ J, HUMPHREY N, BLACK L, WOZMIRSKA S, Soc Psychiatry Psychiatr Epidemiol, 2023. doi: 10.1007/s00127-023-02531-y. — 94. MAR-

QUEZ J, QUALTER P, PETERSEN K, HUMPHREY N, BLACK L, J Public Health (United Kingdom), 45 (2023) 663. doi: 10.1093/pubmed/fdad053. — 95. SHARECK M, AUBÉ E, SERSLI S, Int J Environ Res Public Health, 20 (2023) 8. doi: 10.3390/ijerph20085474. — 96. CARRILLO-ALVAREZ E, ANDRÉS A, RIERA-ROMANÍ J, NOVAK D, RODRIGUEZ-MONFORTE M, COSTA-TUTUSAUS L, GUERRA-BALIC M, Front Psychol, 13 (2022). doi: 10.3389/fpsyg.2022.964689. — 97. KUURDOR EDM, TANAKA H, KITAJIMA T, AMEXO JX, SOKEJIMA S, Int J Environ Res Public Health, 19 (2022) 21. doi: 10.3390/ijerph192114018. — 98. CHIMA ABIMBOLA EDEN, ONYEBUCHI NNEAMAKA CHISOM, IDOWU SULAIMON ADENIYI, Int J Sci Res Archive, 11 (2023) 139. doi: 10.30574/ijsra.2024.11.2.0372. — 99. KILDAY JE, RYAN AM, J Appl Dev Psychol, 92 (2024). doi: 10.1016/j.appdev.2024.101649. — 100. BOAT AA, POPARAD H, SEWARD MD, SCALES PC, SYVERTSEN AK, Adolescent Res Rev, 2024. doi: 10.1007/s40894-024-00235-1. — 101. ISAC C, IORDACHE AMM, BALTADOR L, COCULESCU C, NITĂ D, Sustainability (Switzerland), 15 (2023) 11. doi: 10.3390/su15118708. — 102. CARTER KM, HETRICK AL, CHEN M, HUMPHREY SE, MORGESON FP, HOFFMAN BJ, J Manag, 50 (2024) 122. doi: 10.1177/01492063231179405. — 103. BUERGER S, HOLZER J, YANAGIDA T, SCHOBER B, SPIEL C, School Ment Health, 15 (2023) 611. doi: 10.1007/s12310-023-09574-1. — 104. CILAR L, ŠTIGLIC G, KMETEC S, BARR O, PAJNKIHAR M, J Adv Nurs, 76 (2020) 2023. doi: 10.1111/jan.14408. — 105. RUDOLF R, LEE J, Child Indic Res, 16 (2023) 917. doi: 10.1007/s12187-022-10005-x.

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DRUŠTVENI KAPITAL POZITIVNO JE POVEZAN SA SAMOPROCJENOM ZDRAVLJA KINESKIH ADOLESCENATA

S A Ž E T A K

Ova studija ispituje odnos između samoprocjene zdravlja i društvenog kapitala među kineskim adolescentima i ima za cilj razumjeti utjecaj obiteljskih, susjedskih i školskih veza na percipirano zdravlje adolescenata. Ovo presječno istraživanje obuhvatilo je 501 učenika srednjih škola (217 mladića, 284 djevojke, 15-19 godina). Samoprocjena zdravlja ocjenjivana je na ljestvici od pet stupnjeva podijeljenoj na 'dobro zdravlje' i 'loše zdravlje'. Omjeri izgleda (OR) i 95% intervali pouzdanosti (CI) izračunati su kako bi se procijenila povezanost između samoocjenjivanja dobrog zdravlja i socijalnog kapitala u obitelji, susjedstvu i školi. Spol, socioekonomski status, psihološki stres i indeks tjelesne mase uključeni su u analizu pomoću multivarijatne logističke regresije. Rezultati ukazuju na snažnu korelaciju između samoprocjene dobrog zdravlja i povećanog obiteljskog socijalnog kapitala (OR 2,99; 95% CI: 1,78 do 5,00), povećanog povjerenja u susjedstvu (OR 2,42; 95% CI: 1,56 do 3,76) i povećane neformalne društvene kontrole (OR 1,74; 95% CI: 1,07 do 2,83). Suprotno tome, nije pronađena statistički značajna korelacija između dobre samoprocjene zdravlja i socijalnog kapitala škole. Ovi nalazi naglašavaju središnju ulogu socijalnog kapitala obitelji i susjedstva u oblikovanju samoprocjene zdravlja kineskih adolescenata.