

## Socioeconomic Status and Physical Fitness Levels among University Students



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**ABSTRACT:** This study examines the correlation between socioeconomic status (SES) and physical fitness levels among university students in Henan, China. The research considers various SES indicators, including parental education, household income, and access to healthcare, in relation to students' self-assessed physical fitness and activity levels across multiple domains, such as vigorous physical activity, organized sports, and recreational activities. Findings reveal that students from lower SES backgrounds often face barriers, such as limited access to safe recreational spaces and organized sports, which may hinder their ability to participate in physical activities, thereby impacting their fitness levels. In contrast, students from higher SES backgrounds have greater access to fitness resources, leading to more favorable physical fitness outcomes. The study underscores the need for policy interventions and school programs that prioritize equitable access to physical activity opportunities for students of all socioeconomic backgrounds.

**KEYWORDS:** socioeconomic status, physical fitness, university students, physical activity, health disparities

### I. INTRODUCTION

In China, the question of how well students in school are doing concerning physical activity fitness is receiving increasing attention worldwide and also it addresses socio-economic status. It is observed that the limited access working class school students have to sport facilities, equipment and community clubs can be limited due to financial factors. These challenge prevents them from participating and performing any physical activity, which can ultimately affects their general fitness. It must reiterated that social influence in family income should not be underestimated for physical activity (PA) among students. Students of high family income have access to extracurricular sports, membership in fitness club and organized sport team.

Furthermore, the environment of education also participates in establishing behaviors towards physical activity among students. Larrinaga-Undabarrena et al. (2023) conducted a research which shows that schools located in low-SES areas usually have insufficient funds to offer P.E. curriculum programs as well as sporting amenities; The discrepancy between these two facts results is less opportunities for students from poor and disadvantageous backgrounds to participate in many different forms of physical activities which impacts their levels on fitness skills. Witten et al. (2008) indicate that students from socioeconomically deprived neighborhoods could live in environments where they do not have safe outdoors spaces to engage themselves on physical activities. Inadequate spaces to play sports and do outdoor activities reduce participation in physical exercise, leading a path toward poor fitness levels among students. Students in lower-income neighborhoods may lack access to these amenities, which can make it even more difficult for them to participate in organized sports or activities fostering a sedentary life. Not having access to these resources can make it difficult for students that struggle developing physical abilities, may not have developed all of their essential motor skills or benefits from regular exercise.

On the other hand, it is found that children and adolescents from wealthier families and with more educated mothers are more likely to engage in physical activities both during the week and on weekends. This may be due to the fact that these families have more resources to invest in extracurricular activities, sports equipment, and memberships to gyms or sports clubs.(Ke et al., 2022).

Although disparities in built environment opportunities do not directly account for the higher rate of total MVPA by students at low-SES versus high-SES schools, inequities and lack resources experienced within lower resource communities may have a substantial effect on student health based upon socioeconomic status differences. Making physical activity a priority for all students is central to developing life-long healthy habits. We must accept as a fact related to the study that inequitable access to physical activity and sports opportunities, with low-affluence families having lower questions in eight sport activities and fewer days of football (Tandon et al. 2021).

To develop a focused intervention and plan that can help eliminate health disparities, it is therefore important to explore the balance of detailed economic factors, and the state students are in physical activities the results from their fitness level. Hence, the

## Socioeconomic Status and Physical Fitness Levels among University Students

research sought to explore the correlation of socioeconomic status and physical activity fitness level to understand clearly how these factors contribute to health disparities.

### Research Question

This study determined the relationship between socioeconomic status and physical fitness level among students in Henan, China. The results of the study made use of the results as a basis for a physical fitness program among students. Specifically, the study answered the following questions:

1. What is the socioeconomic status of the student respondents in terms of:
  - 1.1. parental education level;
  - 1.2. household income;
  - 1.3. occupational status of parents;
  - 1.4. family structure;
  - 1.5. access to basic resources;
  - 1.6. healthcare access; and
  - 1.7. parental involvement in school?
2. What is the self-assessment of the student respondents of their physical fitness level in terms of:
  - 2.1. moderate to vigorous physical activity;
  - 2.2. sedentary behavior;
  - 2.3. participation in organized sports;
  - 2.4. active transportation;
  - 2.5. physical education participation;
  - 2.6. recreational physical activities; and
  - 2.7. community or club participation?
3. Is there a significant relationship between socioeconomic status and the student respondents' physical activity level and fitness?

## II. METHODOLOGY

This study utilized the descriptive-comparative-correlational research method. This method entailed a thorough process of clarifying, recording, analyzing, and understanding the conditions and relationships pertinent to the investigation. Smith (2020) elucidates that descriptive research is a design aimed at depicting and analyzing a given occurrence or subject in its natural state, without alteration or interference. The major objective was to provide a detailed and accurate depiction of the features, behaviors, and attributes intrinsic to the subject of study. Descriptive research was often utilized to improve comprehension of the current status or prevalence of a given issue, or to create a comprehensive profile of a particular community or group. The participants in the study were students from a selected university in Henan Province, China. The researchers employed a stratified random sampling method to choose the student responders.

Stratified random sampling is a sampling method that entails dividing a population into smaller groupings called strata. In stratified purposive sampling, strata are established based on the shared features or characteristics of members. Based on the required sample size, from the 20,000 students a minimum of 377 individuals were randomly selected as responders, with a 5% margin of error. The researcher developed a questionnaire to collect data on socioeconomic status, physical activity fitness level. The survey responses were compiled using SPSS and subsequently tabulated and categorized properly. The data was presented, analyzed, and interpreted employing mean, standard deviation, independent samples t-test, one-way ANOVA, and Pearson's r correlation.

## III. RESULTS AND DISCUSSION

1. The analysis reveals varied influences on students' academic performance based on socio-economic factors. A low overall mean score of 1.53 for parental education level indicates that many students come from backgrounds with limited parental educational attainment, which could negatively impact their academic progress. Similarly, a mean of 2.20 in household income suggests that low-income households are prevalent, potentially posing additional challenges to students' educational success. Furthermore, the mean score of 1.75 for problem-solving abilities highlights a deficit in this skill area, possibly hindering students' performance. Family structure also shows a low mean of 2.42, which may introduce additional challenges to their academic endeavors. On the positive side, students scored relatively high in access to basic resources (mean of 2.89) and healthcare access (mean of 2.7), both of which are associated with a supportive environment that could positively influence their academic outcomes. Overall, while some socio-economic factors present obstacles, certain resources appear to offer a beneficial impact on student performance.
2. The analysis reveals a generally low level of physical activity and engagement among students, which may negatively affect their academic performance. With an average score of 2.19 for vigorous physical activity, it is clear that students are not often participating in high-intensity exercises, which could limit their physical fitness and the cognitive benefits that come with such

## Socioeconomic Status and Physical Fitness Levels among University Students

activities. Similarly, a low average of 2.27 in sedentary behavior indicates that students may not be effectively reducing their inactive periods, potentially detracting from their overall wellness and focus. Participation in organized sports is also limited, with a mean score of 2.22, suggesting low involvement in structured physical activities that typically promote teamwork and resilience. Additionally, active transportation, which scored 2.34, is minimal, indicating limited physical engagement during daily commutes that could otherwise enhance fitness levels. Physical education participation is also low, with a mean of 2.42, highlighting the lack of structured physical activity within the school environment. Recreational physical activity, with a mean score of 2.37, shows minimal engagement in casual, enjoyable exercise, which can benefit both mental and physical health. Finally, low community or club participation, averaging 2.27, suggests that students are missing out on extra physical activity and social benefits that clubs often offer. Overall, the low levels across various types of physical engagement point to areas that, if improved, could enhance students' academic performance and overall well-being.

3. Students' assessment of the socio-economic status did not make significant relationship with the physical activity as indicated in the computed  $r$  values of 0.59 respectively and significance values of 0.00. This goes to show that the socio-economic status gives a significant impact to physical activity. Therefore, it is proven that socioeconomic status (SES) has a significant impact on students' physical activity levels and overall fitness. It can be said that students from higher SES backgrounds typically have greater access to resources like safe recreational spaces, organized sports programs, fitness centers, and quality physical education in schools. They are more likely to afford sports equipment, transportation to activities, and nutritious food, which can enhance their physical well-being. On the other hand, students from lower SES backgrounds often face barriers such as limited access to safe play areas, fewer extracurricular opportunities, and financial constraints that hinder participation in sports or fitness activities. Moreover, these students may live in environments with higher crime rates or unsafe neighborhoods, which can discourage outdoor physical activity. Poorer nutrition and a lack of time, due to parents working multiple jobs, may also contribute to lower fitness levels. As a result, disparities in physical activity and fitness between students from different socioeconomic backgrounds can perpetuate health inequalities over time.

## IV. CONCLUSION

Data reveals consistently low levels of physical activity across various domains—vigorous physical activity, sedentary behavior reduction, organized sports, active transportation, physical education participation, recreational activity, and community or club involvement—which may contribute negatively to students' academic performance and overall well-being. These findings suggest a need for strategies that encourage greater physical engagement among students, as increased physical activity is linked with improved cognitive function, focus, and academic outcomes. Addressing these gaps could help foster a healthier, more active student population with potential academic benefits.

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