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The Association Between Socio-Demographic and Socio-Economic Factors and Meeting the Recommended Physical Activity Guidelines in Older Adults in the U.S.

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Abstract

This study aimed to identify socio-economic and demographic factors associated with meeting the recommended physical activity (PA) guidelines for older adults. This analytical, cross-sectional study used data from the 2022 NHIS including 8189 older adults (≥65 years). Compliance with aerobic and strengthening PA guidelines was the main outcome variable. Covariates included sex, education, income, relationship status, race, housing stability, urban/rural county, health status and region. Unadjusted and adjusted log regression analyses calculated odd ratios (OR) and 95% confidence intervals (CI). Only 14.4% (n=1235) of older adults met the PA guidelines. Odds of complying decreased by 40% in NH single/multiple races (OR 0.6; 95 CI 0.4-1.0). Men had higher odds (OR 1.4; 95 CI 1.2-1.6) of adhering than women. Compared with bachelor graduates, odds of adhering were 1.4 (95 CI 1.2-1.7) in graduate participants, 0.3 (95% CI 0.2-0.4) less than HS, 0.4 (95% CI 0.3-0.5) HS, and 0.7 (95% CI 0.6-0.8) some college. The odds decreased by 40% for those with an income-to-poverty ratio threshold <1 (OR 0.6; 95 CI 0.4-0.9), 1-1.99 (OR 0.6; 95 CI 0.4-0.7), and 2-3.99 (OR 0.6; 95 CI 0.5-0.8) compared with ≥5. Healthcare providers should develop targeted interventions to meet individuals' unique circumstances, addressing these inequities.

Keywords: physical activity guidelines; socioeconomic factors; sociodemographic factors; cross-sectional study; exercise

1. Introduction

Despite the many gains people could have from physical activity, most people in the United States remain insufficiently active; in other words, non-compliant with recommended physical activity guidelines, putting them at unnecessary risk for diseases and specific conditions. It has been found that older age is one of the predictors of noncompliance with recommended PA guidelines in the US; in other words, most older adults are sedentary [1,2]. As age increases, the probability of compliance with recommended physical activity guidelines decreases as a general trend, showing that older adults are the least likely to comply with said guidelines, making them the population of interest for this research [3-9].

Physical activity guidelines for the elderly—adults older than 65 years— include multi-component physical activity, which comprises balance, aerobic, and muscle-strengthening exercises. Adjusting their level of physical activity to their fitness level and functional ability is also suggested [10].These exercises would aid the elderly, as they are at increased risk of falling, and having better strength, balance, and cardiorespiratory function could aid in reducing this risk, and if they still fall, the risk of injury would be lower [1]. It could also decrease the risk of mortality, cardiovascular disease mortality, and cancer mortality [11]. Older adults (≥60 years) who stay physically active also

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enjoy healthier aging, better quality of life, improved cognitive function, quality of life, and reduced rehospitalization rates [12, 13].

It has been shown by previous scientific research that there are some differences in compliance with PA guidelines based on gender, educational levels, relationship status, race/ethnicity and birthplace [2-16]. Although some research exists on the levels of physical activity of older adults, not much has been explored in the United States population, especially not focusing specifically on the socioeconomic and sociodemographic factors that affect their ability to comply with physical activity recommendations, which is a gap in the literature that the present research will aim to address.

The purpose of this study was to identify socioeconomic and sociodemographic factors associated with older adults' ability to meet the recommended physical activity guidelines for aerobic and strengthening activity. It was hypothesized that different socioeconomic and sociodemographic statuses would affect older adults' compliance with recommended physical activity guidelines.

2. Materials and Methods

Study Design and Population

This study utilized an analytical cross-sectional design and consisted of a secondary analysis of data obtained from the 2022 National Health Interview Survey (NHIS). The National Health Interview Survey (NHIS) used a stratified, multistage sample design. Using a multistage probability sampling method, the survey randomly selected households, excluding certain groups like active-duty military and institutionalized individuals (those living in correctional facilities, nursing homes, and psychiatric hospitals) from all individuals living across the country that lived in any of the 50 states of the District of Columbia. Since certain criteria had to be met for the interview, only fixed or stable households were selected. This excluded, thus, people living in the streets who suffer from homelessness and those outside of the country. This method allows for the representative sampling of households and non-institutional group quarters. For the household selection, to streamline operations and reduce costs, the NHIS used geographically clustered sampling. This method divided the population into smaller clusters based on defined areas, such as counties or metro regions, using more than 300 clusters of addresses in determined well-defined geographic areas. Face-to-face interviews were conducted throughout 2022, with 27,651 adults participating— one adult older than 18 randomly selected from each household in the sample— achieving a 47.7% response rate. The study followed ethical guidelines and reporting standards for observational studies [2, 17].

The main inclusion criteria for this study were age of 65 years or over and participation in the 2022 NHIS. Participants were excluded from the analysis if they had missing data in any of the NHIS items measuring the independent variable, dependent variables, and covariates relevant to this study. Participants were also excluded if they gave one of the following responses to any of the relevant NHIS items: "Don't know," "Not ascertained," or "Refused." The final number of participants for the analysis was 8189.

Measurements/Variables

The main outcome variable was meeting the guidelines for aerobic and strengthening activity. Meeting the guidelines for aerobic activity was defined as doing at least 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) of moderate-intensity per week, or 75 minutes (1 hour and 15 minutes) to 150 minutes (2 hours and 30 minutes) of vigorous-intensity aerobic physical activity per week, or an equivalent combination. Strengthening activity was defined as activities of moderate or greater intensity that involve all major muscle groups on two or more days a week. Older adults, specifically, should do multicomponent physical activity that includes balance training as well as aerobic and muscle-strengthening activities, adjusting their fitness level depending on their capacity and safety to complete them, being as physically active as possible [1].

The main independent variables for this explorative study were socioeconomic and sociodemographic factors such as age (65-74 and 75-85), sex (male vs. female), educational level (less

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than High School, High School graduate, some college no degree/Associate degree, Bachelor's degree —BA, AB, BS, BBA—, and graduate degree —Master's or Doctorate—), ratio of family income to poverty threshold (less than 1.00, 1.00-1.99, 2.00-3.99, 4.00-4.99, and 5.00 or greater), relationship status (married/living with a partner together as an unmarried couple and neither/no partner), race (Hispanic, non-Hispanic white only, non-Hispanic Black/African American only, non-Hispanic other single and multiple races), delayed access to healthcare based on insurance (yes or no), housing stability (less than a year, 1 to 3 years, 4 to 10 years, more than 10 years), urban/rural classification of the county participants lived (large central metro, large fringe metro, medium and small metro, or nonmetropolitan), household region (Northeast, Midwest, South, or West), and health factors such as certain chronic conditions (COPD, emphysema, or chronic bronchitis, arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia, dementia, or Alzheimer's disease), diabetes, cancer, and myocardial infarction— all dichotomized in yes or no.

Statistical Analysis

This study used descriptive analysis to analyze the frequency distribution of the qualitative variables. A bivariate analysis (chi-square) was employed to compare frequency distributions according to the main outcome variable. Collinearity diagnostics were used to test the correlation between variables. Unadjusted and adjusted log regression analyses were used to calculate odd ratios and 95% confidence intervals. Stata software was used for all statistical analyses.

Ethical Considerations

The study protocol was presented to the Internal Review Board (IRB) of the Florida International University Herbert Wertheim College of Medicine for approval. However, IRB approval was waved as this study was not considered a human subject study as it used secondary de-identified data. No live persons were involved in this study.

3. Results

From a total of 8189 participants that were included in the study, 14.4% (n=1235) met the recommended guidelines for both aerobic and strengthening physical activity, and 85.6% (n=6954) did not.

Table 1 presents the distribution of the characteristics of the sample of adults according to whether they met or not the recommended physical activity guidelines for aerobic and strength activities. It was found there was a statistically significant difference in the prevalence of adherence to the recommended physical activity guidelines according to sex, race, age, education level, the ratio of family income to poverty threshold, relationship status, urban/rural classification for the county, household region, having chronic respiratory conditions, having some form of arthritis gout, lupus, or fibromyalgia, having dementia/Alzheimer's, and having diabetes. Males (17.4%) complied more with the guidelines than females (11.9%; $p<0.001$). Hispanic participants (9.6%) had a lower level of compliance compared to non-Hispanic white (15.7%), non-Hispanic black (10.5%), and other single and multiple races (10.8%), $p<0.001$. In addition, participants who were 65-74 years old (16.7%) had a 5.8% higher percentage of compliance compared to those who were 75-85 years old (10.9%), $p<0.001$. Moreover, participants who completed a graduate degree (30.3%) had a higher prevalence of adherence than those who completed a Bachelor's degree (22.9%), some college or associate's degree (13.9%), high school (7.3%), and less than high school (4.3%), $p<0.001$. In addition, while the prevalence of participants that complied with both guidelines with a ratio of family income to poverty threshold of 5.00 or greater was 24.2%, those with a 4.00-4.99 had a prevalence of 17.3%, 2.00-3.99 (10.7%), 1.00-1.99 (7.5%), and less than 1.00 (6.9%), $p<0.001$. Participants who were married or lived with a partner (16.4%) had a 5.1 % higher prevalence of compliance compared to those without a partner (11.3%), $p<0.001$. Also, participants who lived in non-metropolitan areas (10.8%) complied less with the guidelines than those in medium and small metro (14.1%), large fringe metro (15.8%),

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and large central metro (15.7%) areas, p = 0.003. Those living in the West (17.5%) had higher levels of adherence than those in the South (12.5%), Midwest (14.8%), and Northeast (13.9%), p=0.001.

Table 1. Characteristics of the sample of adults older than 65 according to compliance with the recommended physical activity guidelines for aerobic and strength activities.

Meets aerobic and strength physical activity guidelines			
	Does not meet either (N=6954) %	**Meets both (N=1235) %**	**p-value**
Marital/Partner Status			< 0.001
Single	83.6	16.4	
Married/with partner	88.7	11.3	
Age			< 0.001
65-74	83.3	16.7	
75-85	89.1	10.9	
Delayed care due to Insurance			0.078
Yes	90.5	9.5	
No	85.5	14.5	
Race			< 0.001
Hispanic	90.4	9.6	
NH white	84.3	15.7	
NH black	89.5	10.5	
Other single/multiple races	89.2	10.8	
Education level			
Less than High School	95.7	4.3	
High School	92.7	7.3	
Some college/Associate's	86.1	13.9	< 0.001
Bachelor's degree	77.1	22.9	
Graduate degree	69.7	30.3	
Ratio of family income to poverty threshold			
Less than 1.00	93.1	6.9	
1.00-1.99	92.5	7.5	< 0.001
2.00-3.99	89.3	10.7	
4.00-4.99	82.7	17.3	
5.00 or greater	75.8	24.2	
Time living in a house			
Less than a year	88.3	11.7	
1 to 3 years	83.7	16.3	0.291
4 to 10 years	85.9	14.1	
more than 10 years	85.7	14.3	
Diabetes			
Yes	92.5	7.48	< 0.001
No	83.9	16.1	
Urban/Rural County			
Large central metro	84.3	15.7	
Large fringe metro	84.2	15.8	0.003
Medium and small metro	85.9	14.1	
Nonmetropolitan	89.2	10.8	
Cancer			
Yes	85.6	14.4	0.958
No	85.6	14.4	

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COPD, emphysema, or chronic bronchitis			
Yes	94.4	5.6	< 0.001
No	84.7	15.3	
Household region			
Northeast	86.1	13.9	
Midwest	85.2	14.8	0.001
South	87.5	12.5	
West	82.5	17.5	
Arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia			
Yes	87.8	12.2	< 0.001
No	83.6	16.4	
Dementia or Alzheimer's			
Yes	96.6	3.4	< 0.001
No	85.2	14.8	
Heart attack			
Yes	90.0	10.0	0.002
No	85.2	14.8	

Table 2 shows the adjusted logistic regression results for the factors associated with meeting the recommended physical activity guidelines for aerobic and strengthening activity.

Age, gender, educational level, income, and household region were predictors of meeting the physical activity recommendations in the adjusted model. Adjusted logistic regression analysis showed the odds of complying with the guidelines decreased by 30% in participants aged 75-85 (OR 0.70; 95% CI 0.61-0.82) and by 35% in non-Hispanic single/multiple races (OR 0.65; 95% CI 0.43-0.98). Men had 1.4 times higher odds (OR 1.40; 95% CI 1.21-1.62) to meet guidelines than women. Compared with bachelor graduates, the odds of adhering to the guidelines were 1.42 (95% CI 1.15-1.74) in graduate participants, 0.28 (95% CI 0.18-0.42) in those with less than High School, 0.38 (95% CI 0.30-0.48) for those who graduated from High School and, 0.68 (95% CI 0.55-0.82) for those with some college education. The odds decreased by 40% for those with an income-to-poverty ratio threshold of <1 (OR 0.60; 95% CI 0.42-0.86), 1-1.99 (OR 0.55; 95% CI 0.43-0.71), and 2-3.99 (OR 0.63; 95% CI 0.53-0.76) compared with 5 or greater. Living West raised odds by 33% (OR 1.33; 95% CI 1.09-1.63) compared with South residents.

No statistically significant associations between complying with both guidelines was observed regarding having cancer, the time living in a house, and delaying medical care due to unaccepted insurance in the unadjusted model. Therefore, these variables were not included in the final adjusted exploration analysis.

Table 2. Adjusted and unadjusted association factors with meeting the recommended physical activity guidelines for aerobic and strengthening activity.

	Meeting both guidelines	
Characteristics	**Unadjusted OR (95% CI)**	**Adjusted OR (95% CI)**
Partner Status		
Married/ With partner	Ref.	Ref.
Single	0.6 (0.6-0.7)	1.0 (0.9-1.2)
Age		
65-74	Ref.	Ref.
75-85	0.6 (0.5-0.7)	0.7 (0.6-0.8)

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Sex		
Male	1.6 (1.4-1.8)	1.4 (1.2-1.6)
Female	Ref.	Ref.
Race		
Hispanic	0.6 (0.4-0.8)	0.9 (0.7-1.3)
Black NH	0.6 (0.5-0.8)	1.0 (0.7-1.4)
Other single and multiple races	0.7 (0.4-0.9)	0.6 (0.4-1.0)
White NH	Ref.	Ref.
Education		
< High school	0.2 (0.1-0.2)	0.3 (0.2-0.4)
High school	0.3 (0.2-0.3)	0.4 (0.3-0.5)
Some college/associate	0.5 (0.4-0.7)	0.7 (0.6-0.8)
Bachelor	Ref.	Ref.
Graduate	1.5 (1.2-1.8)	1.4 (1.2-1.7)
Ratio of family income to poverty threshold		
<1.00	0.2 (0.2-0.3)	0.6 (0.4-0.9)
1.00-1.99	0.3 (0.2-0.3)	0.6 (0.4-0.7)
2.00-3.99	0.4 (0.3-0.4)	0.6 (0.5-0.8)
4.00-4.99	0.7 (0.5-0.8)	0.9 (0.7-1.1)
5.00 or greater	Ref.	Ref.
Urban/Rural classification for counties		
Large central metro	Ref.	Ref.
Large fringe metro	1.0 (0.8-1.2)	1.0 (0.8-1.2)
Medium and small metro	0.9 (0.7-1.1)	0.9 (0.7-1.1)
Nonmetropolitan	0.7 (0.5-0.8)	0.8 (0.6-1.1)
Household region		
Northeast	1.1 (0.9-1.4)	1.0 (0.8-1.2)
Midwest	1.2 (1.0-1.5)	1.2 (1.0-1.5)
West	1.5 (1.2-1.8)	1.3 (1.1-1.6)
South	Ref.	Ref.
COPD, emphysema, or chronic bronchitis		
Yes	0.3 (0.2-0.5)	0.5 (0.3-0.6)
No	Ref.	Ref.
Arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia		
Yes	0.7 (0.6-0.8)	0.8 (0.7-1.0)
No	Ref.	Ref.
Dementia or Alzheimer's		
Yes	0.2 (0.1-0.5)	0.3 (0.1-0.8)
No	Ref.	Ref.
Diabetes		
Yes	0.4 (0.3-0.5)	0.5 (0.4-0.7)
No	Ref.	Ref.
Infarction		
Yes	0.6 (0.5-0.8)	0.8 (0.6-1.1)
No	Ref.	Ref.
Cancer		

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Yes	1.0 (0.9-1.2)	-
No	Ref.	-
Delayed medical care due to unaccepted insurance?		
Yes	0.6 (0.4-1.1)	-
No	Ref.	-
Time living in a house		
< 1 year	0.8 (0.6-1.1)	-
1-3 years	1.2 (0.9-1.5)	-
4-10 years	1.0 (0.8-1.2)	-
>10 years	Ref.	-

4. Discussion

Overall Results

This study's findings highlighted the differences in adherence to recommended physical activity guidelines in adults older than 65 years old, influenced by various socioeconomic and sociodemographic factors, as well as certain health conditions. Among the factors that were shown to be associated with compliance with both aerobic and strengthening physical activity guidelines were sex, age, race, educational level, ratio of family income to poverty threshold, household region, having chronic respiratory conditions (COPD, emphysema, or chronic bronchitis), having some form of arthritis gout, lupus, or fibromyalgia, having dementia or Alzheimer's, and having diabetes.

Main Findings

Male participants were more likely to comply with the guidelines than their female counterparts. These results have been supported by previous research, which has shown that women tend to have lower adherence to physical activity guidelines [8-10, 14]. Similarly, in Scheers' study, males were found to be more likely to comply with guidelines than females [12]. Sun's study also found that women were less likely to be regularly active [13]. An explanation for this finding that previous research suggests is that men appear to practice physical activity for enjoyment while women are more likely to get involved in it for the improvement of their health or appearance, so those who do not think they need to exercise might have lower chances of complying with recommended physical activity levels [18]. In this study, it was found as well that participants who belonged to non-Hispanic single and multiple races were less likely to meet the recommended guidelines than non-Hispanic white, non-Hispanic black, and Hispanic participants, which is supported by previous research that found Asian men to be less likely to engage in sufficient physical activity compared to white men [19]. Another study also found non-work physical activity to be lower in other races— not including blacks and Hispanics— compared to non-Hispanic whites and work physical activity to be lower in Asians relative to non-Hispanic whites [20]. This might be explained, as previous research suggests, by the fact that minority individuals typically reside in areas with lower access to physical activity-promoting resources compared to their white counterparts, which may contribute to these differences in adherence to guidelines [19]. In addition, it was found that more participants who were 65-74 years old complied with both physical activity guidelines compared to those who were 75-85 years old. This can be supported by previous research findings in which older age was associated with lower compliance [2, 7-13]. This might be because, as people age, they often experience a decline in physical health, including reduced muscle strength, joint issues, and chronic conditions that make physical activity more challenging. Additionally, older adults may face increased mobility limitations and a higher risk of falls, which can discourage them from engaging in physical activities. Social factors, such as reduced social support and fewer opportunities for physical activity, could also play a role.

Moreover, participants who completed a graduate degree were more likely to comply with the guidelines for both types of physical activity than those with a Bachelor's, who were more likely to

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comply than those with a lower educational level. These results aligned with previous research which also found that lower educational levels were associated with lower compliance with physical activity guidelines [2, 7-12, 15]. The reason for this might be that education can increase awareness about the health benefits of regular exercise, leading to more informed lifestyle choices. Additionally, higher educational attainment is often associated with a better socioeconomic status, providing greater access to resources such as gyms, recreational facilities, and safe environments for physical activity. People with higher education levels may also have more flexible work schedules and better work-life balance, allowing them more time to engage in physical activities. Furthermore, social networks and peer influences within higher-educated groups often prioritize health and fitness, encouraging individuals to maintain an active lifestyle.

Furthermore, it was found that those further from the poverty threshold had higher compliance with physical activity guidelines, a finding that aligns with previous studies, which have also linked individual poverty to lower activity levels. Other studies have also found that participants with higher incomes tend to engage more in physical activity [15, 2]. Correspondingly, another result obtained in previous studies was that those participants with lower incomes had lower adherence to physical activity guidelines [9, 7]. This could be explained by the fact that lower-income neighborhoods often have fewer resources and infrastructure to support physical activity. Additionally, individuals with lower incomes may face time constraints due to longer working hours, multiple jobs, and family responsibilities, leaving them with less time for exercise. Financial barriers, such as the cost of gym memberships, sports equipment, and fitness classes, can also limit opportunities for physical activity. Furthermore, lower-income individuals may have less access to health education and awareness about the benefits of physical activity.

Among the findings, it was shown that participants who lived in the West complied more with the guidelines than those living in the South. These results are like those found in another study in which results showed that living near the western coast was linked to a higher likelihood of meeting the recommended physical activity levels in England [21]. Some reasons behind this could be western coastal areas having more walkable sites like parks, beaches, trails, in addition to having milder climates, promoting year-long physical activity engagement in comparison to hotter, humid areas that could deter exercise.

Secondary Outcomes

In addition to the socioeconomic and sociodemographic factors included for analysis, this research included additional health variables that were beyond the primary goal of the study to expand on existing knowledge about how different health conditions may affect compliance with recommended physical activity guidelines. The results indicated that those who had been told to have chronic obstructive pulmonary disease, emphysema, or chronic bronchitis, those who had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia, those with dementia or Alzheimer's disease, and those with diabetes, were less likely to comply with the recommended physical activity guidelines. It is supported by previous research that patients diagnosed with diabetes have a lower prevalence of recommended physical activity levels [22]. However, most previous studies have only discussed engaging in physical activity as a therapy for these health conditions rather than how it impacts compliance with recommended physical activity guidelines, which makes it challenging to support the obtained results. Nonetheless, these results can be explained by the fact that individuals with chronic conditions such as COPD, emphysema, chronic bronchitis, arthritis, rheumatoid arthritis, gout, lupus, fibromyalgia, dementia, Alzheimer's, or diabetes often face significant barriers to physical activity compliance. These conditions can cause symptoms such as pain, fatigue, shortness of breath, and reduced mobility, making physical activity more challenging, less enjoyable, and even impossible in some cases. Additionally, these individuals may be at a higher risk of injury or exacerbation of their condition during physical activity, which can lead to fear and avoidance of exercise.

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Limitations

Naturally, our study has some limitations. Missing data and inaccuracies in the NHIS data set may affect the validity of the study findings. Furthermore, the NHIS, being a cross-sectional survey, does not permit the establishment of causal relationships. Additionally, since NHIS depends on self-reported information, the variables used in the models and the reported levels of physical activity may be subject to some degree of reporting bias. In addition, this study defined compliance with physical activity guidelines as adherence to both strengthening and aerobic guidelines and did not include separate categories for these individually, as the number of participants who fell into these categories was too small for analysis.

Despite its limitations, there are several strong aspects of this study. First, it focused on a population of high interest that was understudied and had been signaled previously in the context of this research. Furthermore, this research took into consideration a broad range of socioeconomic and sociodemographic factors, as well as various health conditions that influence physical activity, yielding a comprehensive set of results that can serve as a basis for future research.

Future Directions

Future studies have great potential for growing our grasp of exercise habits in older people, and for tackling the problems they find when keeping an active life. One important area of focus could be the conduction of longitudinal studies. These would be very helpful to track shifts in physical activity adherence among older people. They could furnish understandings into how certain people maintain or deviate from recommended physical activity levels across time and help uncover causal relationships. Furthermore, future investigations could benefit in incorporating qualitative research approaches. By conducting interviews, focus groups, and similar methods, researchers can gain a richer understanding of the barriers and facilitators affecting physical activity among older adults. This approach could shed some light upon personal, social, and environmental factors that either encourage or inhibit physical activity in this age group. Understanding their perspectives can also guide the creation of more greatly supportive interventions. Trans- or cross-regional or cross-cultural comparison may be another fruitful avenue for research. Researchers also could assess physical activity compliance through a lens of environmental, social, and policy factors across diverse regional, national, or cultural contexts among older adults. Such studies could show how societal norms, access to places to exercise, climate or government policies influence levels of physical activity. Based on these findings, interventions could be tailored to contexts, and best practices can be adopted from different cultures or regions. Studying physical activity compliance and barriers is just one focus of future work. Developing and evaluating interventions aimed at enhancing physical activity levels among groups that are low on compliance should also be a focus of future studies. Ultimately, future research in this field should take a comprehensive and inclusive approach, considering the diverse needs and circumstances of older adults. By combining longitudinal studies, qualitative methods, cross-cultural comparisons, and intervention evaluations, researchers can advance our understanding of how to promote physical activity effectively among older populations. As people age, this knowledge will play a critical role in maintaining their health, independence, and quality of life

5. Conclusions

The results obtained have contributed to the previous literature in that they focused on a particular population of interest, such as older adults, who were already known to be less compliant with physical activity. The analyses showed some new socioeconomic, sociodemographic, and health factors that were associated with lower compliance with physical activity and had not been discussed by previous research or that had not been discussed in detail. The results also showed various health conditions that affect compliance with recommended physical activity guidelines, which

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demonstrates the need for further exploration on this topic in other populations to design alternative manners in which physical activity goals could be attained despite presenting these conditions.

The importance of determining socioeconomic and sociodemographic factors affecting compliance with recommended physical activity guidelines relies in that with these results healthcare providers can develop targeted interventions and create personalized care plans to meet individuals' unique circumstances and disparities in physical activity among different socio-economic and demographic groups can be highlighted prompting efforts to address these inequities and improve public health, and factors that help older adults meet physical activity guidelines can be identified to contribute to the creation of preventive health strategies.

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Informed Consent Statement: Not applicable.

Data Availability Statement: The original data presented in the study are openly available in NHIS at https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHIS/2022/adult-codebook.pdf

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

ADL	Activities of daily living
CIs	Confidence intervals
COPD	Chronic obstructive pulmonary disease
HS	High School
NH	Non-Hispanic
NHIS	National Health Interview Survey
OR	Odds ratio
PA	Physical activity
Ref	Reference group
SES	Socioeconomic status

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