

Race/ethnic and Gender Differences in Depression: The Role of Social Support and  
Leisure Time Physical Activity

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## Race/ethnic and Gender Differences in Depression: The Role of Social Support and Leisure Time Physical Activity

### Abstract:

Recent research has suggested that both social networks and physical activity are on the decline in the U.S. While current research has focused on the importance of social support for physical and psychological well-being, few studies have looked specifically at the link between social networks and types of physical activity among specific demographic groups. I use the National Health and Nutrition Examination Survey (NHANES 2005-2006) to examine the relationship between social networks and social support in leisure time physical activity (LTPA) by race/ethnicity and sex. Specifically, I draw on a health lifestyle perspective to examine the role of social support and networks on LTPA differences. Next, I examine how emotional and friendship support and specific activity types are linked to depression outcomes in the U.S. population of adults age 40 and older.

Recent research has suggested that both social networks and physical activity are on the decline in the U.S. While current research has focused on the importance of social support for physical and psychological well-being, few studies have looked specifically at the link between social networks and physical activity on mental health. Physical activity is one component of an overall health lifestyle and is linked with positive physical and mental health outcomes. Engagement in physical activities is linked to social and cultural preferences influenced by material resources (Bourdieu 1984; Cockerham 2004; Cockerham and Abel 1994). Health behaviors are not simply individual endeavors, but rather, a form of collective behaviors or collective lifestyles that are linked to social support and social networks.

Social support involves an exchange between individuals or groups. It incorporates several important concepts including: emotional concern, instrumental aid, access to information, and appraisal (House 1981). Several studies have linked social support and health outcomes. For example, several studies have linked the relative importance of social support to mortality and morbidity (House et al. 1982; Blazer 1982; Kawachi et al. 1992; Rogers 1996). Further research has focused on the relationship between social support, stress, and mental health (Cohen and Wills 1985; Thoits 1995; Turner et al. 1983). Research has also consistently found that a positive relationship between physical activity and mental health (Paluska and Schwenk 2000; Taylor et al. 1985). Following, participation in both the amount of exercise and the types of physical activities are likely to be associated with social support and social networks, and are likely have important implications for mental health.

## **Aim**

Building on a rich research history, I use a health lifestyle approach to examine the interactive relationship between social networks and physical activity on depression by race/ethnicity and gender for U.S. adults.

## **Data**

Data for this research comes from the most recently available National Health and Nutrition Examination Survey 2005 to 2006. NHANES 2005-2006 is a complex multistage sampling frame that provides nationally representative data of the health status of the noninstitutionalized United States population. Both non-Hispanic blacks and Mexican Americans are oversampled in the survey. Individuals were asked to complete a home interview that was administered by trained bilingual interviewers, a follow-up medical examination, and provide blood and urine samples for laboratory analyses. We examine individuals aged 40 and above, which includes 3,056 people. Data are primarily derived from the current health status, depression screen, and the physical activity individual file.

The dependent variable in this research is depression. Depression is measured in the NHANES 2005-2006 through the Patient Health Questionnaire 9 (PHQ-9), a reliable and valid measure of depression based on the DSM-IV. The variable is coded dichotomously as depressed and not depressed, determined by a PHQ-9 severity scale of 10 or higher. I will also analyze the severity of depression. Social support includes information regarding the existence of emotional and financial support. Number of friends is included as a measure of network support. The need for more support and the amount of needed support will also be included in the models. Physical activity is

included as a continuous measure of the amount of leisure time moderate and vigorous activity. Additional consideration will be given to the different types of physical activities. Control variables include sex, age (continuous), ethnicity (non-Hispanic white, non-Hispanic black, and Mexican American), income (\$10,000 categories), completed education status (categorical), and marital status (never married, currently married or cohabitating, never married).

### **Methodological Approach and Preliminary Results**

Preliminary analysis shows the correlations between each of the social support and physical activity variables. As indicated in Table 1, physical activity is significantly associated with the number of friends, emotional support, financial support, the amount of additional support needed. Table 2 shows significant differences in social support and physical activities between depression status groups. Depressed individuals have significantly fewer friends, a lower frequency of financial support, a higher frequency of a need for more support, and a higher need for additional social support. The depressed group also indicates lower amounts of both moderate and vigorous physical activity. Building on this preliminary work and unreported regression analysis, I intend to explore the interactive effects of social support and physical activity, with special attention on race/ethnicity and gender. I will include logistic and multinomial regression models to explore the severity of depression. I also intend to use the NHANES objectively measured physical activity data to further specify the physical activity variables into physical activity typologies.

Table 1. Correlations of Social Support and Physical Activities; U.S. Adults Ages 40 and Over

	1	2	3	4	5	6
Social Support						
1). Number of Friends	-					
2). Emotional Support [Yes/No]	0.12***	-				
3). Financial Support [Yes/No]	0.11***	0.27***	-			
4). Need for More Support [No/Yes]	-0.08***	-	-0.13***	-		
5). Amount of Support Needed [None, A Little, Some, A Lot]	-0.07***	0.13***	-0.08***	0.89***	-	
Physical Activity						
6). Moderate Physical Activity	0.10***	0.08***	0.11***	-0.03	-0.05***	-
7). Vigorous Physical Activity	0.05**	0.03	0.07***	-0.01	-0.11***	0.28***

Table 2. Social Support and Physical Activity by Depression Status; U.S. Adults Ages 40 and Over

	<i>No Depression</i>	<i>Depression</i>	<i>p</i>
Social Support			
Number of Friends	7.02	3.84	p<0.001
Emotional Support [Yes/No]	0.92	0.89	n.s.
Financial Support [Yes/No]	0.77	0.55	p<0.001
Need for More Support [No/Yes]	0.2	0.69	p<0.001
Amount of Support Needed [None, A Little, Some, A Lot]	0.09	0.95	p<0.001
Physical Activity			
Moderate Physical Activity	0.59	0.4	p<0.001
Vigorous Physical Activity	0.45	0.23	p<0.001