

PSYCHOSOCIAL CORRELATES OF PHYSICAL ACTIVITY IN UNIVERSITY STUDENTS

Ashlee Powell

Mentor: James F. Sallis , Ph.D.

The current study was done to assess the associations between physical activity in college students and their GPA, amount of social support, perceived barriers, work hours, and walking for transportation. Sixty-eight college students were given a questionnaire, which asked their level of physical activity, the amount of social support they feel they have, how perceived barriers affect them and the amount of walking that they do to go various places. Once data were collected participants were placed into either the active or inactive category. Of the participants in this study forty-one were active and twenty-seven were inactive. Social support and perceived barriers differed significantly by activity group, but the other variables did not. These data can be used to determine what makes some students more active than others and what can be done to help more students become active.

Physical activity is important for promoting good physical and mental health (USDHHS, 1996). Most adults do not meet physical activity guidelines, and young adulthood is a time of rapid decline in activity. Understanding the correlates of physical activity can help in the development of more effective programs, and there is a need to understand correlates at different stages of life. A person may need to change his or her activity goals, overcome different barriers, and use different resources to become or remain active at different points in life (Calfas et al., 1994). “While there are many opportunities for physical activity programs on college campuses, programs could be developed that also prepare students to continue regular physical activity after graduation. Physical education, health science, and psychology departments and student health services could all be involved in such efforts (Calfas et al., 1994).

Past research on correlates of physical activity have included mostly theoretically-based psychosocial variables, including social support and perception of barriers (Trost et al., 2003). However, it is also useful to measure other variables of interest. For example, students who work more may lack time to be active. Those who walk more for transportation may also be more active in their leisure time. Academic achievement is an important topic for university students, but it is unclear whether physical activity would help reduce stress and help them study or take time away from academic pursuits. It is useful to examine both theory-based and novel, age-appropriate correlates of physical activity. The purpose of the present study was to test hypotheses that active university students work less, perceive more barriers, report more social support, walk more for transportation, and have higher GPA's than inactive students.

Methods

Participants

The participants in this study were 68 students recruited from summer classes at San Diego State University. Of these participants 27% were male and 73% were female. The mean age of participants was 23.5 years (sd=3.51). The education level of participants varied: 66.2% of the participants were college seniors, 2.9% were sophomores, 25% were juniors and 4.4% were graduate students. In the study 46% were Caucasian, 25% were Hispanic, 5% were African-American, 12% Asian-American, 5% Pacific Islander, and 3% were other. Of the participants 83.8% were single, 13.2% were married and 2.9% were divorced. For living arrangements, 95.6% of participants did not live on campus and 5.4% lived on campus. 96% of students had their own transportation and 6% did not have their own car.

The mean GPA of participants was 3.10 (sd=.36). The mean number of units being taken by participants in the summer semester was 6.12 (sd=2.72). The mean work hours of participants was 25.1 (sd=16.8). Participants' height ranged from 59 to 74 inches with a mean of 65.7 (sd=10.46). The weight of participants ranged from 102lbs to 240lbs with a mean of 163 (sd=17).

Psychosocial Correlates of Physical Activity

Procedure

For this study I first wrote a proposal and got IRB approval from San Diego State University to conduct the research. Once I received IRB approval I then contacted instructors to get permission to hand out surveys to their students. Once I got permission from instructors I went to classes and made an announcement asking students to voluntarily fill out the survey. Those who volunteered filled out the survey after class so that no class time would be interrupted. Participants were asked to fill out a survey that was a part of a student research project. They were told that they would be filling out a short confidential survey, which dealt with the amount of physical activity that one participates in. Physical activity is defined as a person who stated being active in their leisure time at least 20 minutes a time for at least 3 times per week.

Measures

Most survey measures were taken from previous validated surveys. Stage of Change for Exercise (Marcus et.al, 1992) was used to determine how active or inactive a person is. It was recoded as Active (3+ exercise sessions per week) or Inactive (0-2 sessions per week). A three item scale was used to determine the amount of social support from friends (Sallis et al., 1987). Participants rated how often each of 17 barriers prevented them from being active (Calfas et al., 1994). New survey items were developed to assess GPA, hours worked, and frequency of walking to 10 destinations.

Analysis

Analyses of covariance (ANCOVA) was used to compare active and inactive university students on psychosocial variables, adjusting for age and gender. Dependent variable = Active vs. Inactive, Independent Variables = psychosocial and novel measures. Psychosocial measures were the amount of social support and barriers a person feels inhibit them from doing physical activity. Novel measures, which were those that have not been tested for correlation to physical activity were work hours, GPA, and walking for transportation.

Results

Tables 1, 2, and 3 describe distributions of the social support, barriers, and walking for transportation, respectively.

The strongest association with activity status was with perceived barriers [$F(1,63) = 28.42, p < .001$], and the effect size was 31.08% of the variance. Social support was also significant [$F(1,66) = 9.31, p < .003$], and the effect size was 12.35% of the variance. The other variables were not significantly related to student activity status, but work hours accounted for 1.5% of the variance, walking for transportation had an effect size of 0.74%, and GPA had an effect size 0.034%.

Table 1. Amount of Social Support a Participant Receives

	Never	Rarely	Sometimes	Often	Very Often
Friends did activity with participant(%)	25	25	23.5	19.1	7.4
Friends Offered to do Activity with participant(%)	22.1	21	29.4	15	13.2
Friends encouraged participant to do activity(%)	28	16.2	22.1	27	7.4

Table 2. Perceived Barriers

	Never	Rarely	Sometimes	Often	Very Often
Conscious of Looks(%)	53	24	16	7	0
Lack of Interest (%)	27	30	28	12	3
Lack of Self-Discipline(%)	10	18	38	20	13
Lack of time (%)	3	10	35	27	25
Lack of Energy (%)	4	22	44	19	10
Lack of Company (%)	45	28	13	9	5
Lack of Enjoyment for exercise (%)	35	32	24	4	4
Discouragement (%)	58	27	13	0	2
Lack of Equipment (%)	57	22	13	7	0
Bad Weather Conditions (%)	56	21	22	2	0
Lack of Skill (%)	74	16	9	2	0
Lack of Facilities/Space (%)	65	18	10	6	2
Lack of Knowledge on How to Exercise (%)	71	15	10	4	0
Lack of Good Health (%)	65	22	12	0	2
Fear of Injury (%)	82	10	8	0	0
Lack of Money (%)	75	10	9	3	3
Lack of Transportation (%)	87	9	2	2	2

Table 3. Participants' Frequency per Week of Walking from Home for Physical Activity

	Mean	Std. Deviation
Days Walked to Food Store	2.0	5
Days Walked to Retail Store	0.7	3
Days Walked to School	1.6	5.2
Days Walked to Bank	0.5	2
Days Walked to Post Office	0.1	0.5
Days Walked to Restaurant	1.6	5
Days Walked to Gym	2	5
Days Walked to Park	1.3	3
Days Walked to Public Transportation	0.7	4
Days Walked to Work	0.4	4

Discussion

Two of five psychosocial variables that were tested were related to Physical Activity. Those two, social support and barriers, were among the most commonly studied psychosocial correlates. Therefore the present study confirms previous studies. This project investigated some novel variables, but they were not found to be related to students' physical activity.

When participants' amount of work hours were looked at, those who worked more hours seemed to be less active. However there was not a large difference between work hours. Those who were inactive only worked 4 hours more than those who were active. When participants' GPA was looked at there was no difference at all between those who were active and those who were inactive. It appears that being physically active neither helps students with their grades nor takes too much time away from their studies. Even though walking for transportation was expected to be related to being active in leisure time, there was no significant result. This may mean that people who walk for transportation do not necessarily do leisure exercise.

Social support was found to be a strong factor in the amount of physical activity that a person participates in. Having friends encourage or offer to do activity with them seemed to be very helpful in the regularity of these students' physical activity. Social support explained 10% of the variance, which is substantial. When barriers were looked at as a correlate, those participants who said that barriers never affected them were more active than participants who said some of the barriers seemed to have an effect. Those participants who were inactive seemed to allow more barriers to affect them. The 31% of the variance explained was very large.

Limitations of the study were the small sample size, and summer school students are not representative of the overall student population. Some strengths of the study were that we used mainly published measures, this is a very important topic for student health, the sample collected was diverse, and we used analyses that was adjusted for age and gender. Priorities for future studies would be to use larger samples, examine more variables, and include mix of students who live on and off campus. In conclusion, the research was significant because it studied a very important topic for students' health.

Psychosocial Correlates of Physical Activity

The main findings were that previously studied psychosocial variables, social support and perceived barriers, were found to be highly related to student Physical Activity. Results suggest that these variables should be targeted for change in programs designed to increase college students' physical activity.

References

- Calfas, K.J., Sallis, J.F., Lovato, C.Y., Campbell, J. (1994). Physical Activity and Its Determinants before and after College Graduation. *Medicine, Exercise, Nutrition, and Health*, Volume 3, (pp323-334)
- Marcus, B.H., Rossi, J.S., Shelby, V.C., Niaura, R.S., Abrams, D.B. (1992). The stages and process of exercise adoption and maintenance in a worksite sample. *Health Psychology*, Volume 11, (pp 386-395)
- Sallis, J.F., Hovell, M.F., Hofstetter, C.R. et.al. (1989). A multivariate study of determinants of physical exercise in a community space. *Preventive Medicine*, Volume 18, (pp20-34)
- Sallis, J.F., Johnson, M.F., Calfas, K.J., Caparosa, S., Nichols, J.F. (1997). Assessing Perceived Physical Environment Variable That May Influence Physical Activity. *Research Quarterly for Exercise and Sport*: Vol 68, (pp345-351)
- Trost, S.G., Owen, N., Bauman, A.E., Sallis, J.F., Wendy, B. (2002). Correlates of adults' participation in physical activity: review and update. *Medicine & Science in Sports & Exercise*, Volume 34, (pp1996-2001).