

Correlates of Exercise Participation In Adolescents

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Introduction

- Unlike every other age group, the health status of adolescents has declined, rather than improved, during the past several decades.
- Numerous national commissions and panels have highlighted the rising concern about adolescents' health and the urgent need for research to both guide interventions and inform public policy.
- More and more health workers, educators, and parents are expressing serious concern over the health and fitness of the nation's children.

- Adolescents today are smoking younger, exercising less, and eating more saturated fats than ever before - unhealthy habits that can increase the risk of obesity, heart disease, diabetes, and other chronic diseases.
- By the age of 12, 30-60% of adolescents in the United States exhibit at least one risk factor for cardiovascular disease.
- Adolescent obesity is a serious public health problem affecting nearly 25 percent of all North American children

- Physical activity has been associated with a wide range of beneficial health outcomes in adults.
- Physical activity during childhood and adolescence may have a positive impact on growth, development, psychological, and emotional outcomes; which may continue into adulthood.
- For that reason, exercise was the key behavior examined in this study as an important factor in maintaining adolescents health.

Purpose

- The purpose of this study was to determine how well selected variables based on the Health Promotion Model explain exercise participation among adolescents age 10 to 19.

Conceptual Framework

- The conceptual framework that guided this study was based on the Health Promotion Model (HPM).
- HPM has been used as a theoretical framework to identify behavioral perspectives that motivate individuals to engage in health-promoting behavior.



■ Individual Characteristics & Experiences

Biological:
age
gender
BMI

Sociocultural:
race

Psychological:
depression

Behavior-Specific Cognitions & Affect

Perceived Health Status

Interpersonal Influences:
Perceived Relationship with parents.

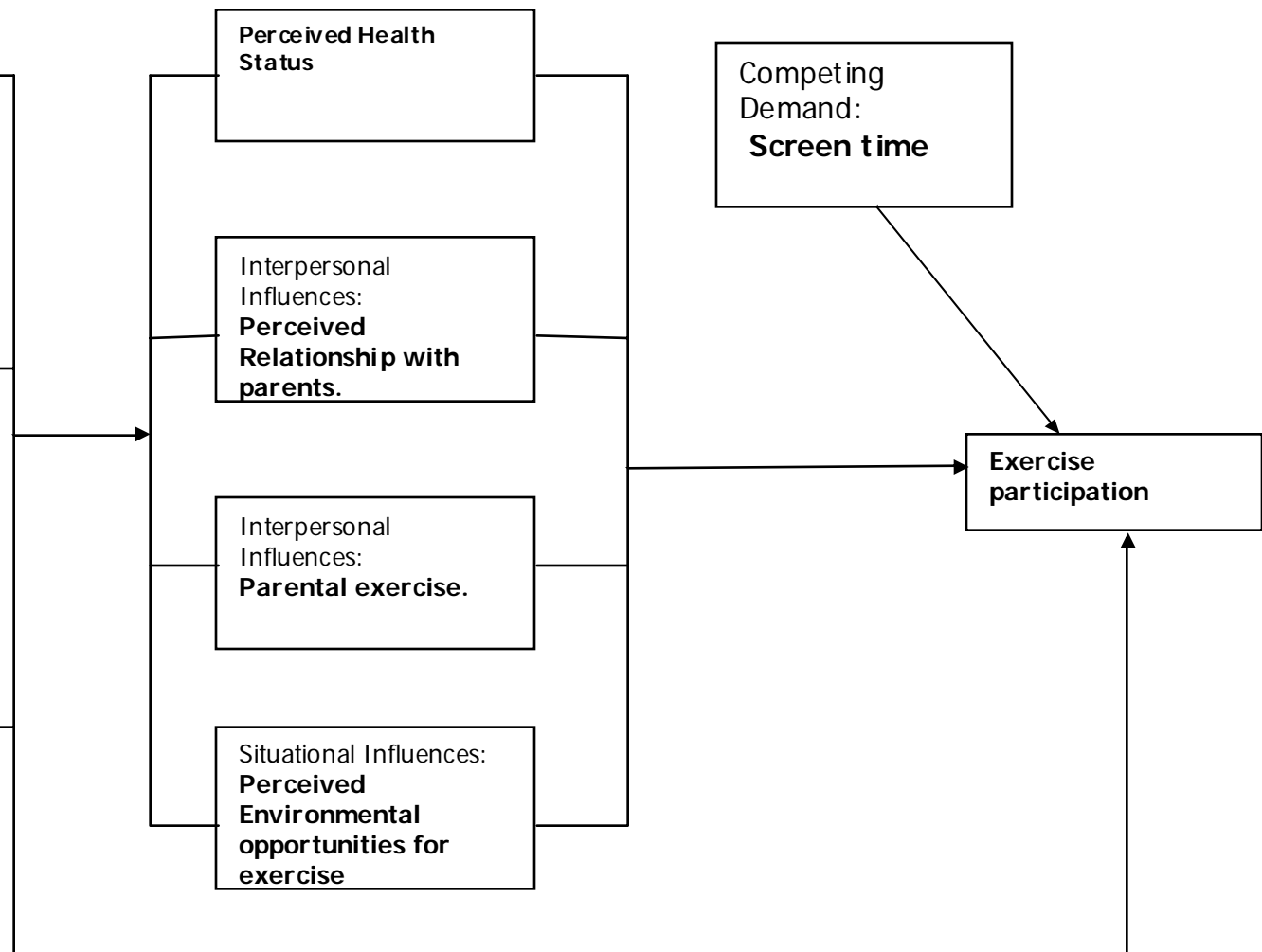
Interpersonal Influences:
Parental exercise.

Situational Influences:
Perceived Environmental opportunities for exercise

Health Promotion Behavior

Competing Demand:
Screen time

Exercise participation



Research Questions

1. What are the distributions of *individual characteristics and experience* factors (age, gender, race, BMI, and depression) among the sampled adolescents?
2. What are the distributions of perceived health status, perceived relationship with parents, parental exercise, perception of environmental opportunities for exercise, screen time among the sampled adolescents?
3. To what extent do selected *individual characteristics and experience* factors, *behavior-specific cognitions and affect* factors, and competing demands factor in the proposed conceptual model explain exercise participation?

Methodology

- *Design:*

- A descriptive correlational design was used to examine the relationship between individual characteristic/experience factors, behavior-specific cognition/affect factors, competing demands factor and the self-reported exercise participation of the sampled adolescents.

- *Sample:*

- Convenience sample of 300 adolescents between ages 10 to 19.

- *Setting & Data Collection:*

- Subjects were recruited from an outpatient pediatric clinic of a children's hospital

Results

- Description:

- *The sample for this study was comprised of 300 (195 or 65% females and 105 or 35% males) adolescents ages 10 to 19.*
- *The majority of the adolescents were Black (n = 177 or 59%) and White (n = 89 or 30%) but four other races were represented.*
- *Most of the sample (n = 238 or 79%) were between ages 13 to 17 years*

- BMI:

	<u>Frequency</u>	<u>Percentage</u>
- ≤ 5 th	7	2%
- > 5 th to ≤ 15 th	8	3%
- > 15 th to < 85 th	132	46%
- ≥ 85 th to < 95 th	65	23%
- ≥ 95 th	75	26%

- Depression:

	Mean	S.D	Actual Range	Possible Range
- Total (N=300)	14.20	3.96	6-24	6-24
- Females (n=195)	14.70	3.80	6-24	6-24
- Males (n=105)	13.25	4.08	6-23	6-24

■ Exercise Participation:

- In general, 170 (57%) of the sampled adolescents reported that their doctor or nurse had discussed their exercise habits with them.

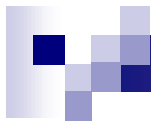
	Mean	S.D	Actual Range
Total (N=300)	32.85	16.22	2-82
Females (n=195)	31.29	16.38	2-82
Males (n=105)	35.98	15.52	6-68

Differences Between Males & Females

- Nine t-tests were conducted for descriptive purposes to determine differences in means for males and females on all independent variables and the dependent variable.
- There were significant gender differences for age ($t = 2.08, p < .05$), depression level ($t = -3.06, p < .002$); and exercise participation ($t = -2.47, p < .05$) (see Table 14).
- Males were significantly younger ($M = 15.0$) than females ($M = 15.5$), less depressed ($M = 13.25$) than females ($M = 14.70$), and reported more exercise participation ($M = 35.98$) than females ($M = 31.17$).

Research Question Three

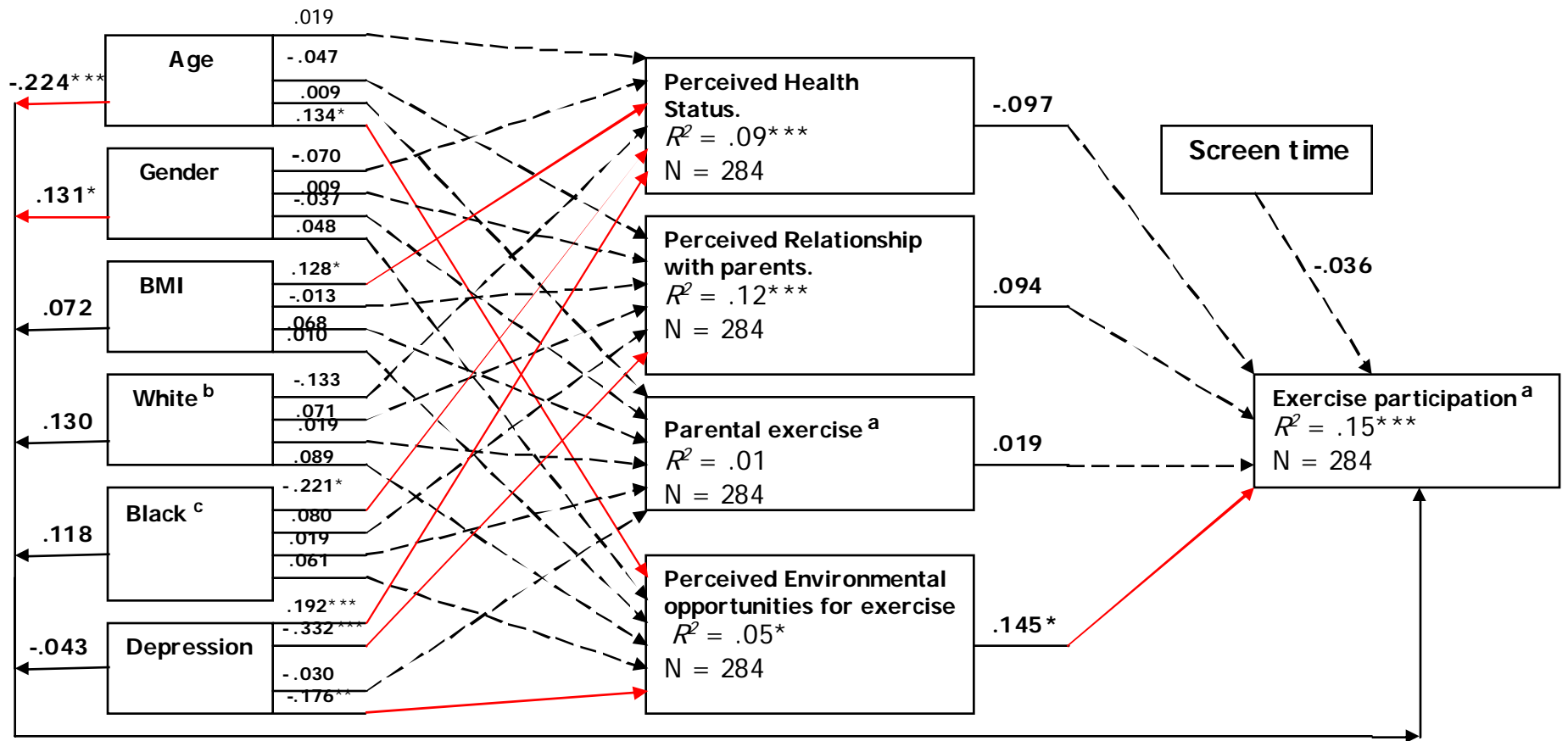
- To answer this question, to determine if variables in the conceptual framework explain exercise participation, a path analysis was conducted.
- The analysis for path model were calculated using two sets of ordinary least squares regression equations.



Individual Characteristics & Experiences

Behavior-Specific Cognitions & Affect

Health Promotion Behavior



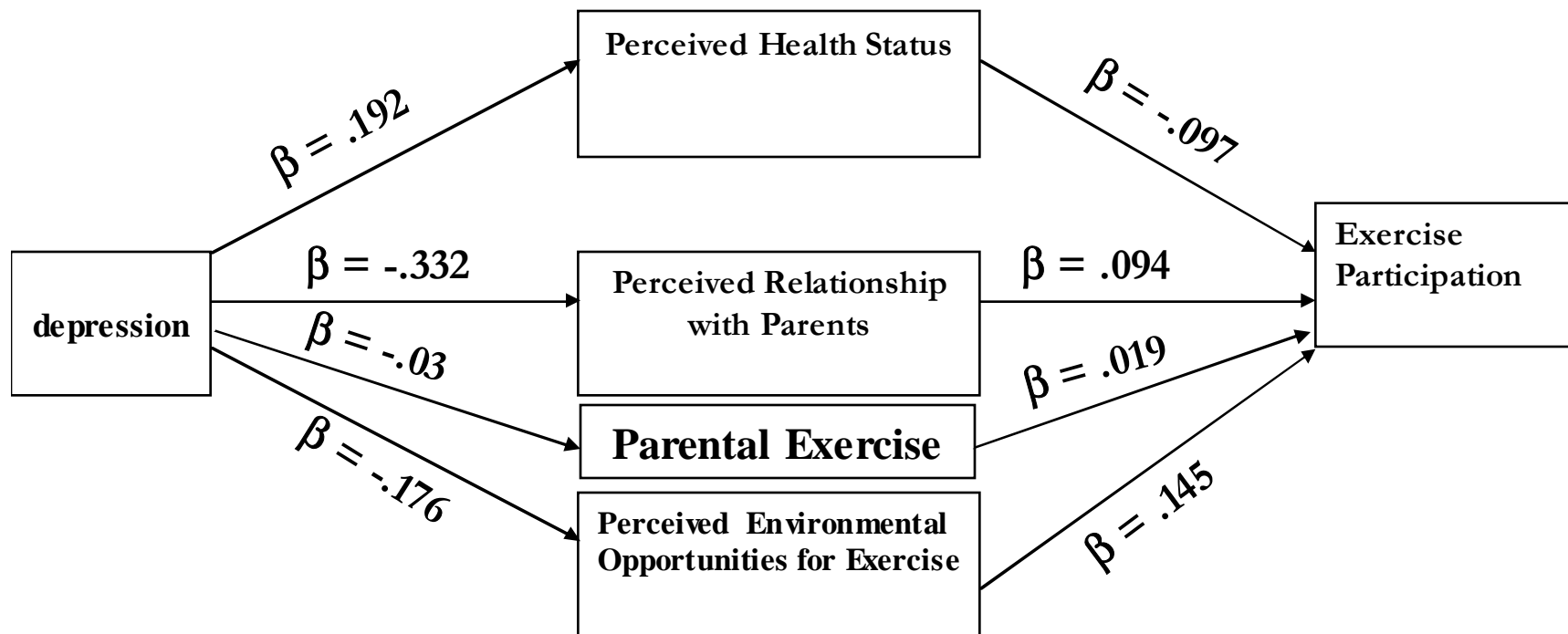
Indirect Effects

- The standardized path coefficients were used to derive the indirect effects within the model.
- The investigator calculated the indirect effects of individual characteristics/ experience factors (age, gender, BMI, race, and adolescents' depression) on exercise participation via behavior-specific cognitions and affect factors (perceived health status, relationship with parents, parental exercise, and environmental opportunities for exercise).

- The strongest total indirect effect of individual characteristic/experience factors on the dependent variable of exercise participation was depression ($\beta = -.10$).

Total Indirect Effect of depression on exercise participation was:

$$(.192 * -.097) + (-.332 * .094) + (-.03 * .019) + (-.176 * .145) = -.10$$



Model Testing for Females and Males

- Individual characteristics/experience factors, behavior-specific cognitions/ affect factors, and competing demands factor explained 18% of variance in exercise participation for female adolescents.
- While in male adolescents, individual characteristics/experience factors, behavior-specific cognitions/affect factors, and competing demands factor explained 10% of variance in exercise participation

- Female Model:

- older age was associated with lower exercise participation scores, $\beta = - .273, p < .001$.
- Higher perception of environmental opportunities for exercise was associated with higher exercise participation, $\beta = .180, p < .05$
- Adolescents who reported a strong relationship with parents reported higher exercise participation scores, $\beta = .146, p < .05$.

- Male Model:

- Surprising results showed that neither the individual characteristics/ experience factors nor the behavior-specific cognitions/affect factors had a significant association with exercise participation.

Implications

- Assisting adolescents to increase participation in exercise activities earlier in life is likely to increase their participation in exercise during their adult life.
- Health care disciplines can collaborate to design interventions to increase exercise among adolescents considering determinants of exercise participation identified by this study

- The exercise programs should try to match the skill level of participants with challenges that encourage skill development with fun activities not based exclusively on winning.
- Females need opportunities for them to participate in physical activities, and social environments that support their involvement in a range of physical activities.
- Studies supported that enhancing health status, psychosocial characteristics, and engagement in physical activity reduced hostility, aggression, and other negative emotions and elevated mood and increased self-esteem.

- Including parents/guardians in physical activity instructions, community physical activity programs, and encouraging them to support their children's participation in enjoyable physical activities is very important especially among female adolescents.
- Parental involvement in children's physical activity instructions and programs is a key to the development of a psychosocial environment that promotes physical activity among young people.

- The physical and social environments of adolescents should encourage and enable their participation in safe and enjoyable physical activities.
- These environments need to provide (a) access to safe spaces and facilities; (b) school spaces and facilities available to young people before, during, and after the school day, on weekends; (c) increased availability of facilities for physical activity (e.g., hiking, bicycling, fitness trails, public swimming pools, and parks and open spaces for recreation)

Recommendations

- Random & larger sample size.
- Variety of settings.
- Testing other variables that include socioeconomic status, psychosocial factors, self-efficacy, perceived benefit and barriers, and prior exercise behavior.

Conclusion

- The results of the analyses partially supported the proposed model.
- Amount of explained variance in exercise participation was statistically significant.
- In the Total model, younger age, male, and higher perception of environment opportunities for exercise were associated with more reported exercise participation.
- Younger age, close relationship with parents, and higher perception of environmental opportunities for exercise were associated with higher self-reported exercise participation among female adolescents .