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The Protective Effects of Parent-College Student Communication on Dietary and Physical Activity Behaviors

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Abstract

Purpose—Recent studies suggest that parents maintain influence as their adolescents transition into college. Advances in communication technology make frequent communication between parents and college students easy and affordable. This study examines the protective effect of parent-college student communication on student eating and physical activity behaviors.

Methods—Participants were 746 first-year, first-time, full-time students at a large university in the United States who completed a baseline and 14 daily web-based surveys.

Results—On days when students communicated with their parents for 30 minutes or more, they consumed fruits and vegetables, an additional 14%, more times and were 50% more likely to engage in 30 minutes or more of physical activity, consistent with a protective within-person effect.

Conclusions—Encouraging parents to communicate with their college-aged children could improve these students' daily eating and physical activity behaviors and should be explored as a relatively easy and affordable component of a student preventive intervention.

Keywords

Dietary behaviors; Physical activity; College students; Parents

The transition from adolescence to adulthood is an important period for establishing behavioral patterns that affect long-term health and chronic disease risk. However, only one in three college students consume a diet consistent with national recommendations across a variety of food groups [1]. Eating patterns are typically low in fruits and vegetables and high in fast food [2]. In addition, college students' physical activity declines from their first semester to their seventh semester [3].

To more fully understand possible protective factors for these two critical health behaviors within the college experience, it may be useful to understand the influence of significant others such as parents. A substantial body of literature underscores the importance of parental involvement in other key health domains such as substance use [4,5] and stress management [6]. The current study examines the protective effects of parent-college student communication on fruit and vegetable consumption and physical activity among first-time, first-semester students with the hypotheses that on days when students communicate with their parents they will eat vegetables and fruit more often and engage in physical activity compared to noncommunication days.

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Methods

Data used in the current analyses were drawn from the University Life Study, a longitudinal study of the daily life experiences of college students attending a large public university in the northeastern United States. A full description of the study, including participant recruitment and sample characteristics, is described elsewhere [7]. The University Life Study used a measurement burst design, with a baseline survey followed by 14 consecutive daily surveys each semester. Participants provided an electronic signature on an online consent form. The study was approved by the institution's institutional review board and was protected by a federal Certificate of Confidentiality. In total, 746 first-year, first-time students (65.6% response rate) completed the baseline survey. Completion rates for the daily surveys were high, with most (86%) participants completing at least 12 of the 14 daily surveys. The current study uses data from semester 1 only.

Daily communication with parents and physical activity

Each day, participants were asked, "From the time you woke up until you went to sleep, how much time did you spend doing the following activities?"—"Talking to/e-mailing/messaging with parent(s)" and "Working out/playing sports." These were two of 19 daily activities for which students were asked to provide time estimates; possible responses were "did not do," "did do for up to 30 minutes," "did do for 30 minutes to 60 minutes," "did do for 1 hour," and then increasing by hour increments to 10+ hours. Because *The Physical Activity Guidelines Advisory Committee Report* [8] indicated a number of health benefits resulting from at least 30 minutes of moderate to vigorous activity at least five days a week for adults, a dichotomous variable was created where 1 = engaged in 30 minutes or more contrasted with 0 = engaged in less than 30 minutes. The amount of time spent communicating with parents was recoded into three categories: (0) no time; (.5) less than 30 minutes; and (1) 30 minutes or more.

Dietary behaviors

Each of the 14 daily surveys included dietary items from the Youth Risk Behavior Survey [9]. Participants were instructed to answer for the previous day—for example, "This survey is about Friday [yesterday] from the time you woke up until you went to sleep." Students reported the number of times they ate "Fruit (not including fruit juice)," "Green salad," "Carrots," and "Other vegetables (not including green salads or potatoes)." Response options were 0, 1, 2, 3, 4, and 5+ times. Fruit, carrots, green salad, and other vegetable variables were summed for each day.

Two models, estimated with HLM 6.04, were used to predict the average number of times students consumed fruits and vegetables per day and the number of days students engaged in physical activity such as working out or playing sports for more than 30 minutes or more. A Bernoulli distribution was used for the dichotomous outcome of physical activity. Between-person differences in communication with their parents across the 14 days were entered into the model to account for typical levels of communication and thus to isolate the within-person association of communication on a given day. Across the 14 days of data collection, females communicated with their parents on more days than did males; therefore, sex was entered as a control variable.

Results

Among first-semester college students, the prevalence of parent-student communication was frequent. Across the 14 days surveyed, the mean number of days students communicated with their parents was 8.08 days (SD=4.42). First-year college students consumed fruits and

vegetables an average of 2.38 times per day. Students engaged in 30 minutes or more of moderate to vigorous physical activity on 3.37 days across the 14 days surveyed.

Within-person differences were found. Compared with days when students did not communicate with their parents, on days when students communicated for 30 minutes or more they consumed fruits and vegetables an additional .27 (14%) more times and were 50% more likely to engage in moderate to vigorous physical activity for 30 minutes or more (Table 1). Between persons, students who had more communication with their parents consumed fruits and vegetables more frequently, but did not engage in 30 minutes or more of physical activity on more days (Table 1). Male students consumed fruits and vegetables more frequently and were more likely to engage in physical activity (Table 1).

Discussion

Parent communication could directly or indirectly influence college students' eating and physical activity behaviors. Parents may directly remind students to eat a variety of healthy foods and engage in purposeful physical activity. Indirectly, communication with parents may remind students of shared values and internalized norms for health. Taken together, these possible mechanisms could be incorporated into a parent component of freshman orientation programs or online preventive interventions. The study had several limitations. The content of the communication was not measured nor was the fruit/vegetable serving size or physical activity intensity. Future research should examine how changes in communication are associated with changes in dietary and physical activity across the college career. Future efforts also should test the impact of programs designed to increase both the direct and indirect effects of parent-college student communication and changes in the quantity, quality, and content of communication as students progress through college. Many first-year college students indicate that they expect their parents to provide advice and assistance during the transition to college [10], so the timing of parent-focused programs and information should coincide with this important transition period. Investments in this critical period may prove to be particularly effective because establishing healthy routines during the first semester of college could change the trajectory of students' overall health, making this an ideal window for a preventive intervention.

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IMPLICATIONS AND CONTRIBUTION

The current study extends research on the protective effects of parent-student communication. A possible area of future study and intervention may involve encouraging parents to increase communication with their first-semester college students.

Table 1

Parent communication predicting number of times students consumed fruits and vegetables and number of days they engaged in 30 minutes or more of physical activity (worked out or played sports)

Fixed effects	Ate fruit and/or vegetables coefficient (SE) N = 693	Physical activity for 30 minutes or more OR [CI] N = 705
Average outcome over 14 days		
Intercept	1.73 (.16)***	.12 [.08, .16]***
Male	.30 (.14)*	2.76 [2.12, 3.59]***
Average parent communication	.82 (.29)**	1.53 [.87, 2.70]
Daily parent communication		
Intercept	.27 (.07)***	1.51 [1.19, 1.91]**

* $p < .05$.

** $p < .01$.

*** $p < .001$.