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Social Mechanisms for Weight-related Behaviors among Emerging Adults

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Abstract

Objective: The purpose of this research was to qualitatively assess young people's perceptions about how friends' impact eating and physical activity (PA) behaviors.

Methods: Emerging adults (N=52; mean age=18.7±0.6 years; 50% female) attending a large 4-year college campus in the southwest were enrolled in focus groups (N=10). Following saturation, the research team met to establish consensus and co-create a codebook from which two researchers independently coded each focus group. Coders continually discussed themes to ensure consistency of coding.

Results: Initially, youth reported that their friends' did not influence their eating/PA. The major social facilitators identified by students were encouragement, social cues, celebrations, shared experiences, pressure.

Conclusion: Several social facilitators impacted eating and PA. These factors should be considered when designing obesity interventions with emerging adults.

Keywords

focus groups; social facilitators for eating and physical activity; emerging adults

The stage of life after adolescence but before adulthood, otherwise known as emerging adulthood, is one of the most rapid times of growth and development; starting college amplifies the social and behavioral changes during this stage of life.¹ During this time, emerging adults are left to navigate this next chapter of life without the direct supervision

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Human Subjects Approval Statement

Consent was obtained from all subjects in this study. The Arizona State University Institutional Review Board approved the protocols and procedures carried out in this study.

Conflict of Interest Declaration

The authors declare they have no conflicts of interest to disclose.

and guidance of their parents. The period of emerging adulthood is a time for extreme personal growth and this rate of change may be even more pressing and challenging for college students, who often move away from home to embark on this new journey. Emerging adulthood is also a time period for forming new habits² and developing new viewpoints on the world around them.³ The views that college students harbor prior to entering college are largely developed during adolescence; during college, students challenge these preconceived ideas and often leave college with a completely different perspective.³

Eating and physical activity (PA) behaviors are also areas that change upon entering college. Poor eating and PA behaviors commonly seen amongst this population could be largely attributed to the college transition as freshmen are left to make their own decisions on what to eat and when and how to be physically active. In high school, some students may have played sports or participated in athletic clubs and in the shuffle to college life lose this 'community' in which they were a part.^{4, 5} When coming to college, students are exposed to numerous dining options that may not have been as readily available to them before such as unlimited meal plans in dining halls. Undesirable eating behaviors and suboptimal levels of PA among college students have been associated with excess weight gain.^{1, 6, 7} Public health efforts have emphasized childhood obesity and chronic disease prevention in adults,⁸ but no major investments have been made in preventing obesity among emerging adults.

Social development and growth of complex friend relationships are hallmarks of emerging adulthood.⁹ As youth emerge into adulthood, they become more involved and intimate with friends, increasingly sharing thoughts and feelings and supporting expansion of personal beliefs and ideas.⁹ Research has long-established that friends and peers are influential in adolescent health behaviors, particularly for unhealthy behaviors such as alcohol/drug use, disordered eating, and risky sexual behaviors.¹⁰⁻¹³ Some research has suggested that friends and peers can play a role in less-risky, and possibly health-promoting, behaviors such as eating and PA. These studies have suggested that friends' and peers' behaviors are linked to adolescents' healthy and unhealthy eating and PA behaviors.¹⁴⁻¹⁶ However, the driving forces behind how friend and adolescent behaviors are related remains unclear.¹⁷ While the influence of peers and friends on eating and PA behaviors among adolescents has been explored in multiple studies, these behaviors and social networks among college students remains largely unstudied. A richer understanding of the mechanisms behind which college students are connected with these weight-related behaviors remains critical for preventing excess weight gain during this life stage.

A limited number of studies have qualitatively assessed young people's perceptions and attitudes about how their friends impact their eating and PA behaviors. The only study to the authors' knowledge to qualitatively examine adolescents' perceptions and attitudes about their friends' impact on their eating and PA behavior was a study recently published in a Peruvian sample.¹⁸ In this study, subjects reported that they shared low-nutrient, energy-dense foods with their friends and suggested peer influence on body size.¹⁸ Of the qualitative studies examining eating and PA behaviors among college students, there has not been a specific focus on social influence, but rather the focus of the articles have been to identify the determinants¹⁹⁻²² of and the barriers²³ to engaging in healthy eating and PA behaviors. Often in these studies, social support is indicated as a barrier and support to

healthy eating and PA.^{19–22, 24} For example, in focus group research, Deliens and colleagues reported that students pointed to social support and peer pressure for influences on eating choices.²¹ Additionally, students indicated that living in residence halls was a source for both healthy and unhealthy eating behaviors.²¹ Greaney et al. reported that social support was both a barrier and enabler to healthy weight, where social support resulted in positive PA behaviors and social pressure resulted in unhealthy eating.²⁴ Given the slim findings on the social determinants for eating and PA behaviors among college students particularly among peers, there is a need to purposefully and qualitatively assess the perceptions of how and by which mechanisms friends and peers influence eating and PA behaviors.

We know that perceptions are clouded by one's own experience;²⁵ however, perceptions may also result in changing of behaviors, particularly for emerging adults adapting to college life. Capitalizing on the recent changes in environment, social, and behavioral changes that occur in the first year of college, we sought to assess perceptions of the mechanisms by which friends and peers impact eating and PA in college freshmen. Findings from this study may guide future empirical studies assessing the mechanisms by which friends impact behaviors as well as intervention studies utilizing social networks to change health behaviors.

METHODS

College freshmen living in residence halls were recruited to participate in focus groups. Focus groups were held until saturation. Subjects were recruited using flyers and emails sent by community mentors (otherwise known as residence assistants) and the on-campus health advocates. In order to assess a more general college population, residence halls that housed health majors were excluded from participation. Subjects met at a common space in their respective residence hall.

Focus groups (N=10) were conducted by trained research staff for approximately 90 minutes. A trained undergraduate research assistant took notes at each session. All focus groups were digitally recorded and later transcribed by trained research staff. Focus group questions were designed using an interpretative approach within the context of the social cognitive theory,²⁶ which addresses personal, social/environmental, and behavioral factors that predict behaviors and health outcomes. Examples of questions can be found in Table 1. The Arizona State University Institutional Review Board approved all study protocols.

Data Analysis

Data were coded independently until data saturation was reached and no new codes emerged. The research team established consensus and co-created a codebook from which two researchers independently coded each focus group. Each focus group was coded and discussed to assess differences in coding and identify new codes. Inter-rater coding between the two coders ranged from 78.8–100% (mean=96.5%). An axial process was used to identify themes in the data. We also coded for the type of people (social context) involved in the behaviors. All coding was conducted in NVivo qualitative data analysis software (QSR International Pty Ltd. Version 10, 2012).

RESULTS

A total of 52 college freshmen living in one of nine residence halls participated (mean age=18.7±0.6 years; 50% female; 41.8% non-white). Major themes related to social influence of nutrition and PA-related behaviors emerged. The main theme addressed social facilitators to eating and physical activity. While discussing the social facilitators, two additional themes emerged including environmental facilitators, and personal factors. Subthemes also emerged from each theme related to nutrition and PA-related behavior (see Table 2 for themes, subthemes, and examples).

Social Facilitators

Overall, social facilitators for eating behaviors were related to unhealthy eating, while social facilitators for PA were related to healthy physical activity behaviors. There were a number of sub-themes that arose related to social facilitators including lack of influence, encouragement, social cues, celebrations, shared (new) experiences, and pressure.

Lack of influence.—Initially, subjects denied that their friends and peers influenced their eating behaviors and PA behaviors (n=164 references): “Very little, I don’t think they really influence what I eat.” Yet, for many as they asserted the lack of influence, details on how they were influenced arose as the discussion progressed: “I wouldn’t really say my friends influence me as far as the gym goes...I guess they kind of do in the sense where they tell me I should go more often...”

Encouragement.—Encouragement and support was a significant social facilitator (n= 131 references) for PA and was discussed in each focus group, especially through the power of suggestion: “Like if I were not too psyched to go exercise, I’m much more likely to go exercising if someone brings it up first. Like if I’m tired, but [my] friend is like ‘Hey, let’s go exercise’ then I’ll be like ‘OK. Yeah.’” For a few students, encouragement arose when discussing eating behaviors: “One of my friends tried changing my diet... drink less soda, and eat less junk food. Because I like eating a lot of junk food and drinking a lot of soda. But I guess now that I think about it, I did try...well, actually, I have stopped drinking soda.”

Social cues.—In each of the focus groups, students described how their friends’ choices inspired their own choices (n=497 references), particularly with unhealthy eating behaviors: “I usually start off pretty healthy and then a friend gets a slice of pizza. It’s like one slice of pizza ‘oh that’s not going to kill me. I’ll have one too.’” Although, for a few, social cues facilitated healthy eating: “...if someone was eating a salad and there were like five of us at a table, I’d probably be more likely to go get a salad...” and PA “...They just start out in workout clothes and wear them all day. So they can take a pit stop at the gym...”

Celebrations.—The use of food as celebration was a common topic that emerged related to eating behaviors, but did not come up at all in reference to PA (n=72 references). Students reported eating to celebrate when they did well (or poorly) in class and for other random occasions. It seemed as though celebrations were used as justifications to eat unhealthy food: “... whenever something good happens you’re like let’s go eat. It’s a natural reaction to go like eat something.”

Shared (new) experiences.—Subjects reported that much of the PA behaviors they were participating in was due to a desire to spend time with their friends/peers (n=154 references): “It just makes me want to work out longer, because they’re like there. So they are like ‘oh let’s do this machine next’ and I’m like ‘ok.’ Just because we’re hanging out.” Subjects also reported that one way of exploring new friendships was to go eat: “I feel like when I’ve met so many new people and they’ve asked me to go to lunch. And like when that happens, I always say yes even when I wasn’t hungry.” Not only did subjects report eating as a social activity, almost everyone reported an apparent aversion to eating alone. For example, one student stated: “Yeah, only if I’m desperate. If I texted 20 people and they’ve already eaten, I’ll go alone.”

Pressure: The subjects alluded to feeling pressure related to eating and PA, particularly in how they might be perceived by their friends and peers for eating healthfully or not being physically active (n=39 references). “None of my friends want me to eat healthy... The people I hang out with that a lot of it is just caring about, dude let’s just eat. So, salads or anything that’s kind of for me to do and hide from them.” Students also reported pressure to behave a certain way to conform to the university’s reputation for having attractive students: “And ASU is like known for having some of the hottest people. So I think, like everyone knows that. And just like the whole social life and night life, I think contribute... It’s just all those factors just make, personally for me, really high expectations.”

Environmental Facilitators

While discussing the social challenges and facilitators to healthy eating and behaviors, students addressed environmental facilitators. Living on a large college campus introduced both positive and negative factors promoting eating and PA behaviors.

Facilities and Access—Each of the focus groups discussed the dining halls and gyms on campus and how they impacted their eating and PA behaviors (n=242 references). Students reported eating in the dining halls and other university eateries with their friends, but indicated that they would like more variety and affordability related to the healthy options available to them. Subjects also discussed how dining halls led to overconsumption: “... I go in there with the intention of eating and getting out and it ends up being like, like a 30-minute sprawl. We’re kind of just hanging out. ‘Maybe I’ll try this. Maybe I’ll try this.’ And taking a bite of everything turns into a dish of everything on our plate. And you end with like five plates. And everybody’s embarrassed and feels bad.”

Subjects also shared that the high availability of unhealthy foods around the campus was particularly salient for late-night eating: “You have food across the street. You have yogurt place and Domino’s is open 24/7 now... Jimmy John’s doesn’t have an official closing time, so it’s one of those where like late night snacks... it’s not just snacks anymore. Now it’s like official late night meals. Like it’ll be 3 am and we can order pizza and bread sticks and cinnamon sticks.”

Campus size.: Subjects indicated that the campus was large and thus generally supportive of PA, but was not mentioned in terms of eating (n=62 references). They reported that walking

to and from other dorms and classes gave them a good bit of exercise during the day: “The way it’s designed, is optimal for walking places,” and another comments, “a lot of my friends live on the opposite side of campus, so I literally walk a mile. Like at least 2–3 miles a day in just going back and forth...”

Personal Factors

In discussing how friends and peers impacted eating and PA behaviors, individual (personal) factors arose as another theme. While many topics such as stress and lack of time for healthy eating and PA were mentioned by a few students, lack of finances/money and how that related to eating and PA choices was a major subtheme for personal factors (n=262 references): “I don’t want to sound like a stereotypical college student, but you go anywhere, what compares to Ramen? Less than \$1...what’s the price of any healthy choice, like \$4, especially here where everything priced is jacked up...” Students wanted to capitalize on the amount of food they could get for their money, finding the “specials” at restaurants such as two for one, buy one get one free, and 0.50 cent wings as well as taking advantage of the gym access included in their student fees.

Social Context

Subjects described with whom their behaviors took place. Most often friend groups were discussed (N=622 references), followed by roommates (N=144 references), and close friends (N=82 references). Families (N=54 references), significant others (N=25 references), and new friends (N=18 references) were mentioned less often.

DISCUSSION

The purpose of this study was to examine emerging adults’ perceptions on how their friends, peers, and social norms impact their eating and PA behaviors during their first year of college in order to identify mechanisms by which friends influence behaviors and identify areas for obesity prevention. We found several social facilitators among friends/peers that impacted these behaviors among our uniquely diverse sample; however, these social facilitators occurred within the context of being a college student living in a large university with limited income (environmental and personal factors), aligning with a socio-ecological framework. While other studies have examined barriers to healthy eating and PA among emerging adults including social support,^{18–22} this is the first study to dive deeper into understanding the social facilitators among friends that impact daily eating and PA habits among U.S. college students. Results can be used to design interventions to improve eating and PA during this critical life stage, as well as design empirical studies to better understand the way in which social facilitators impact health behaviors.

The developmental stage of subjects and the context in which they live was pervasive throughout the focus groups, which is supported by others’ findings.^{24, 27} The emerging adults described the context of being a college student and how those conditions impacted their eating and PA choices: being on their own for the first time, dealing with stressful class schedules, and limited incomes. Subjects discussed the striking transition to becoming a college student and all of the freedom and choices that came with the opportunity. Subjects

initially denied being influenced by their friends and peers, asserting independence in their thinking. It was only later when they were asked to reflect on the process of their choices when they described how their friends and peers impacted them. Developmental researchers have long documented this pattern of thinking among adolescents and emerging adults.^{28–30} It is critical that programs targeting health behaviors consider the developmental stage and awareness level of their subjects. When intervening with emerging adults, practitioners need to consider that youth are not always cognizant of why they make certain eating and PA choices; perhaps these findings provide additional support to creating built environments where healthier choices are the default. Additionally, helping youth to become more mindful of how they are influenced by their friends in their eating and PA behaviors may help them to make healthier choices.

Social support is often examined in the literature as it relates to eating and PA among college students.^{24, 31, 32} As this study identified, social support is just one aspect of social influence. In fact, findings from this study indicate that the most salient social facilitator for this age group may be the importance of shared social experiences, particularly among friend groups and roommates. Currently, the literature suggests that among adolescents, similarities in overweight/obesity within social networks are a result of homophily (ie, youth choose friends like themselves),^{33, 34} rather than a contagion effect (ie, youth develop the behaviors of their friends). These qualitative data suggest that homophily is not at play; instead, emerging adults appear to conform their behaviors to those around them. Friend groups were the primary source of interactions around eating and PA followed by roommates. Being a college freshman provides the opportunity for new experiences to be shared with friends. Almost all of the subjects discussed not wanting to eat alone or go to the gym alone. While eating together occurred frequently, rarely did the subjects mention healthy eating habits among their friends. Health practitioners working with emerging adults to prevent obesity may consider creating programs to capitalize on the importance of shared social experiences among friend groups and roommates to promote healthy eating and PA. For example, dining halls could have “healthy nights” where residents could bring friends to the dining hall for healthy eating. Additionally, residence halls and colleges could create a “buddy system” to match students’ interests and PA preference for going to the gym as they move into the residence halls.

Subjects discussed the importance of social cues in decision making such as being enticed by unhealthy foods that their friends chose at dining halls and going to the gym more often because of seeing people in workout clothes. Social cues have been shown to be a powerful tool for promoting healthy behaviors. Research has demonstrated that the modeling of healthy PA behaviors among strangers can be effective in getting others to engage in the desired behavior. For example, Adams et al. reported that the odds of using stairs in an airport increased significantly if either a random person or a trained researcher first used the stairs.³⁵ Additionally, Leahey et al. observed significantly higher efforts to lose weight among overweight subjects if their social connections were also attempting to lose weight.³⁶ Van Dyck and colleagues, also described the importance of modeling for active transport among a longitudinal sample of Flemish college students: less perceived modeling of active transport was related to decreased active transport among participating students.³⁷ Modeling healthy behaviors among college students may be another way to establish healthier habits at

this life stage. For example, residence hall assistants could be trained to model healthy behaviors and create programming that promotes healthy eating and PA for the students under their care.

Limitations

Limitations of this study should be considered when interpreting findings. Subjects in the study were from a single university; students at other universities may experience shifts in their eating and PA differently. However, we were able to include a diverse population (by sex, race/ethnicity, and major) in our sample. Generalizability of findings may also be limited in that we asked about social facilitators, and students who were willing to participate in focus groups may be socially different from those who did not participate. Despite these limitations, this study adds critical perspective to the literature on social influences of eating and PA behaviors and provides information to inform future interventions. College freshmen undergo significant changes in their environment, social networks, and behaviors. This was the first study to assess young people's own perceptions on how their eating and PA are impacted by their friends and peers.

IMPLICATIONS FOR HEALTH BEHAVIOR OR POLICY

While other qualitative studies have broadly addressed weight-related outcomes of college students, these current qualitative results provide further depth in the foundation for understanding how friends and peers impact weight-related behaviors among young people beyond “social support”. When intervening with emerging adults, health practitioners may want to consider that youth are not always cognizant of why they make certain eating and PA choices. Friends and peers are clearly important in these weight-related behaviors, as such, interventions to improve healthy eating and promote PA may want to incorporate developmental and social dynamics in health promotion activities:

- The creation of developmentally appropriate interventions that promote healthy choices in the face of peer influence are needed.
- Students reported fearing being the “weird one” when practicing healthy behaviors. As health professionals, we need to continue to work on normalizing healthy choices, particularly during this transitional portion of the life course. Engaging popular students, dyads, and/or friend groups in modeling healthy behaviors may have impact on the larger student population.
- Creating interventions that incorporate mindfulness/awareness techniques to enhance youth understanding of how they may be influenced by friends in their eating and PA behaviors would likely impact the success of programming.

As with any intervention, especially with vulnerable populations, the social and economic status of the college students should be considered when designing programming with friends and peers.

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Table 1.

Example of questions for type of social impact on eating, activity, and/or weight

Focus group question topics	Social Cognitive Theory construct	Example questions
Friendship closeness	Observational learning	Think of a friend that you spend a lot of time with. How similar are your eating and physical activity habits to that person?
Social learning	Observational learning	What changes have you noticed in your activity levels since the beginning of the year?
Shared routines	Facilitation	Think about a situation in which you and your friends celebrate with food together. Please describe this situation and how it occurs
Social norms & pressure	Social persuasion	What kinds of pressures, if any, do you feel to be a certain weight because of your friends' weights?
Shared environments	Situation	Think about your eating and physical activity in the dorms and on campus. How does eating in the dining halls with friends influence your eating?

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Table 2.

Themes and subthemes in perceptions of influences of eating and PA among college freshmen (N=52)

Theme	Associated subtheme
Social facilitators	Lack of influence
	Encouragement
	Social cues
	Celebrations
	Shared (new) experiences
	Pressure
Environmental facilitators	Facilities and access
	Campus size
Personal factors	Finances/money

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