Social conversation and its relationship to sleep behavior among college students

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ABSTRACT

Sleep health is compromised during the college years; college students have shortened sleep duration and often keep inconsistent sleep schedules. One strong predictor that has been identified in previous research on college student sleep is dysfunctional beliefs like worry and perceived lack of control. Less understood are the contributing factors to these dysfunctional beliefs. This paper draws on a social science perspective to examine how college students talk about sleep and how these conversations relate to beliefs and intentions to sleep. In a 2-step mixed-methods design, this study explores conversations among college students about sleep and how these conversations relate to sleep-related cognitions and behaviors (n = 301). College students report frequently talking about sleep-damaging topics (staying up late, daytime sleepiness), and this discussion is associated with lower cognitive beliefs about behavioral control and lower intention to sleep. Regression results show a negative relationship between sleep behaviors and sleep-damaging conversations ($\beta = -0.41$; $P < .001$). Perceived control over sleep patterns was strongly associated with sleep behavior ($\beta = 0.46$; $P < .001$), and evidence was found that this belief might partially mediate the relationship between sleep-damaging talk and behavior. Implications for sleep education and promotion efforts on college campuses are offered.

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Sleep difficulties and deprivation are well documented among college populations.[1,2] Evidence suggests that dysfunctional beliefs about sleep strongly predict poor sleep in college,[3] yet little attention has been paid to how beliefs—functional or dysfunctional—form. This paper takes a social science approach to explore pathways through which beliefs about sleep form among college populations. Specifically, this paper examines how college students talk about sleep and how these conversations relate to cognitions about sleep.

Drawing attention to beliefs about a behavior is one way to understand when behavior is (or is not) performed. Research from a range of health contexts shows this to be true. Research has found beliefs like self-efficacy (a person's perception of their ability to perform the behavior) and social norms (perceptions others are performing the behavior) predict health behaviors like cancer screening[4] and fruit consumption.[5] Research has also examined sleep and beliefs

that college student populations hold about sleep. Unfortunately, when it comes to sleep and college student populations in particular, the literature has focused on dysfunctional beliefs about sleep, like worry and perceived lack of control. Dysfunctional beliefs have been found to be strongly, negatively related to sleep in college students,[3] but we know little about beliefs that might be functional for healthful sleep. Similarly less well understood are the processes and ways beliefs about sleep form. This paper addresses these gaps by taking a broader view of sleep-related beliefs that include functional and dysfunctional beliefs and also by examining one potential way sleep beliefs form.

It is argued that our cognitions about behavior emerge from observations of others and from conversation with others.[6] Social observation and conversation are argued to be consequential social processes where we learn concepts or reaffirm old beliefs.[7,8] College students are embedded in rich social and communication networks, conversing with friends, acquaintances, and family online and via social media like Twitter, Facebook, and Instagram in addition to face-to-face interactions.[9] Research examining college student conversations has found students report frequently discussing health with others and view the information received from these interactions as credible and trustworthy.[10] Perhaps these social interactions are one way information is collected about sleep, and beliefs—functional or dysfunctional—emerge.

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This paper offers a new perspective, whereby sleep medicine is joined with social science to address the issue of sleep deprivation in college student populations. Using mixed methodology, this paper identifies common conversation characteristics and sleep-related beliefs specific to college students through focus groups, then examines the prevalence of these factors using population-based survey methods to examine the relationship between social conversation and sleep-related beliefs and intentions. A better understanding of how beliefs about sleep form could influence the development of more effective behavioral change interventions.

A social science perspective on sleep belief formation in college

Although some research has emphasized dysfunctional cognitions, this paper examines functional and dysfunctional beliefs about sleep and how these cognitions form. Specifically examined is how college students discuss sleep and how these conversations matter for beliefs. Drawing on a distinction made elsewhere between "promoting" behaviors (eg, things that offer benefits to one's health, like eating fruits and vegetables) and "damaging" behaviors (eg, things that impinge upon one's health, like insufficient sleep),[11] this paper argues that when it comes to sleep, some conversation might be "promoting" for sleep, whereas other conversation might be "damaging" for sleep. For instance, students might discuss healthy sleep routines or good sleep hygiene techniques (hereafter termed "sleep-promoting conversation"). On the other hand, some conversation might address staying up late or sleeping in on the weekends (hereafter termed "sleep-damaging conversation").

To understand the relationship between talk and sleep-related beliefs, this paper draws on the integrated model of behavioral prediction (IMBP).[12] The IMBP outlines several cognitive beliefs that together are argued to predict a discrete action like sleep. The theory holds that the strongest predictor of sleep (defined here as "sleeping for 7 to 8 hours at night") is behavioral intention. Behavioral intention is the general plan or cognitive map an individual has about a behavior.[12] According to Fishbein and Ajzen, intention is predicted by individual beliefs that a behavior confers benefits (attitude), others are practicing the behavior (social norm), and they themselves can practice the behavior (self-efficacy).[12,13] Fig. 1 displays the IMBP.

The IMBP is a useful framework for hypothesizing the relationship between sleep-related conversation and cognitions. For instance, it stands to reason that sleep-promoting conversation may be associated with beliefs that would support sleep health intention and behavior. Therefore, it is hypothesized that sleep-promoting conversation will be positively related to attitude (hypothesis 1A), social norm (hypothesis 2A), perceived behavioral control (hypothesis 3A), and behavioral intention (hypothesis 4A). On the other hand, for sleep-damaging conversation, it is hypothesized that talk about unhealthy sleep behaviors will be negatively associated with behavioral beliefs. Specifically, sleep-damaging conversation will be negatively associated with attitude (hypothesis 1B), social norm (hypothesis 2B), perceived behavioral control (hypothesis 3B), and behavioral intention to sleep (hypothesis 4B).

Behavior theory offers guidance on the behavioral beliefs, cognitions, and constructs that matter most to behavior.[15] According to the IMBP, through social conversation, the specific cognitions emerge that predict behavioral beliefs, including attitudes, social norm, and behavioral control. These 3 beliefs, according to Fishbein and Ajzen, predict intention, which, in turn, predict actual behavior. This study also will conduct a test of the theoretical model, including social conversation variables, to understand the relationships among conversation, belief, and intention, specifically, posing the research question: How are the IMBP constructs and social conversations about sleep related to intention to sleep and sleep behavior? (research question 1 [RQ1]).

Methods

This study used a mixed-methods approach whereby qualitative focus groups were conducted to identify characteristics of sleep-related conversations (n = 31), and then a population survey was conducted to quantitatively evaluate sleep conversations and their relationship to cognitions (n = 301). Sleep conversation characteristics identified during focus groups were tested quantitatively in the population closed-ended survey to understand behavioral beliefs about sleep among college students and how these beliefs related to social conversations on the topic. Both phases of this study and associated instruments were approved by the author's home institutional review board. Data collection was conducted on the campus of a large university in the Northeast United States.

Focus groups explore sleep-related conversation characteristics

Focus group data were collected to understand the qualities of the social conversation college students engage in about sleep. Focus group methodology offers the ability to collect salient responses to topics and research contexts that have not been previously explored.[16] In this manner, focus groups were used in the current study to identify conversation characteristics that could be measured in closed-ended fashion in the larger survey.

Focus group participants were recruited using the intercept method. Specifically, research assistants with clipboards stood outside a library on campus and approached students who were sitting in the lobby or on their way into the library and asked them whether they were able to participate in a focus group on sleep in college. Students who responded affirmatively were directed to the group study room where the focus groups were held. Once 4 to 6 students were recruited, the focus group began. There was never longer than a 10-minute wait between the time a student was recruited and the discussion began. While recruited students waited, they read and filled out the study consent form. Forty-seven students were approached, and 31 participated in focus groups (n = 31; 66%). Students were not compensated for their time but were offered a candy bar at the end of the focus group.

Focus group discussion was guided by the author and followed an open-ended interview protocol about sleep and with whom and
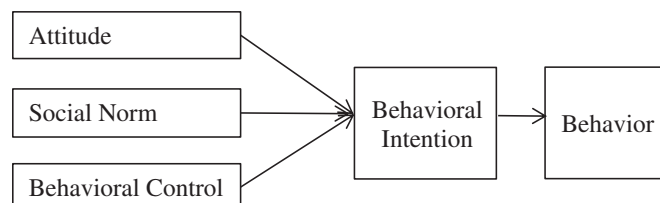

Fig. 1. Integrated model of behavioral prediction (IMBP) theoretical model and constructs by Fishbein and Yzer.[14]