

COLLEGE STUDENTS' PERCEPTIONS OF HOW OTHERS IMPACT THEIR PERCEPTIONS AND BEHAVIORS RELATED TO CONTAGIOUS ILLNESSES DURING THE COVID-19 PANDEMIC

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Abstract: This study explored college students' perceptions about the influence of parents, friends, significant others, and media influencers on behaviors related to contracting contagious illnesses including COVID-19. Forty college students participated in qualitative interviews at one Midwestern university. Open coding, using a grounded theory approach, was used to determine key themes. Results indicated the majority of participants perceived parents and significant others as positive influences who followed safety precautions related to preventing illnesses (e.g., wore masks). Friends and media influencers were perceived as both positive and negative influences (e.g., did not wear masks). Results provide guidance for COVID-19 prevention messaging and interventions.

Key Words: Covid-19 Behaviors and Perceptions, Contagious Illnesses, Safety Habits, College Students

INTRODUCTION

In March of 2020 in the United States, many institutions of higher learning were forced to unexpectedly shut down their campus, moving students to an online learning setting and sending the residential students home. This was due to school campuses being a high-hazard condition for Coronavirus (SARS-COV-2, COVID-19) transmission (Centers for Disease Control and Prevention, [CDC] 2021a). Individuals with COVID-19 diagnoses who are symptomatic and asymptomatic can spread COVID-19, and uninfected individuals in close proximity are at high odds of becoming infected (CDC, 2021b). Many college-aged students were considered high risk for spreading COVID-19 (Alemany-Arrebola et al., 2020; Boehmer et al., 2020; Walke et al., 2020). Therefore, universities' public health measures were the suspension of in-person educational activities (Alemany-Arrebola et al., 2020; Lederer et al., 2020). As a result, most courses were delivered entirely online. This change from in-person to online classes affected college students' lifestyles and stress related to coping with COVID-19 (Grubic et al., 2020; Lederer et al., 2020). The current study was developed to examine how social influences impacted college students' perceptions and habits during the pandemic, and our literature review focused on how others close to students (e.g., parents, peers, significant others) and the media impact college students' health perceptions and habits.

Parents may maintain influence as their adolescents' transition into college. Small et al. (2011) conducted a survey with 746 first-year, full-time college students to examine the impact of parent-college student communication on alcohol behaviors. Findings indicated that parents might have a protective effect on alcohol behaviors, such that increased parent communication is associated with lower levels of drinking among first-year college students (Small et al., 2011). In the same vein, Zhen et al. (2021) surveyed 215 college students to understand their stress during COVID-19 and reported that parental support could attenuate some of stress students experienced during COVID-19. Findings showed that perceived support from parents, such as the degree to which parents provided information and advice, moderated the relationship between life disruptions and perceived stress related to COVID-19. This suggests positive influence of parental support on college students' health behaviors. However, studies are needed to explore whether parental influences are instrumental in college students following safety precautions during the COVID-19 pandemic, and the current study fills this knowledge gap.

Peer behaviors may shape college students' reactions, who mirror their friends and significant others' health beliefs and behaviors (Harmon et al., 2016; Patrick et al., 2011). The current study extends knowledge about college students' perceptions of peer influences on their COVID-19-related

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safety practices. For example, friends may engage in risk behaviors when socializing together (Mohr et al., 2005; Patrick et al., 2011). Further, friends and significant others may encourage positive health behaviors (Harmon et al., 2016; Patrick et al., 2011). Specifically, Harmon et al. (2016) found that significant others, and friends had a significant, positive impact on college students' diet and physical activity behaviors. Similarly, we anticipated that college students would report that perceptions of friends' and significant others' behaviors would influence their perceptions about contagious illnesses during the COVID-19 pandemic.

The media also influences college students' health perceptions and behaviors (Vaterlaus et al., 2015). For instance, Pilgrim & Bohnet-Joschko (2019) reported that social media tends to incorporate motivating images and phrases, many of which are designed to encourage and inspire positive exercise behaviors and overall well-being. While the goal of these social media platforms is to encourage positive health habits, some studies indicate that there also may be negative health messages on social media (Carrotte et al., 2017; Deighton-Smith & Bell, 2017; Holland & Tiggemann, 2018). Research shows that the media may be a source of misinformation and stress during COVID-19 (Xiong et al., 2020). Moreover, watching and seeing statistics of those hospitalized may cause anxiety and stress, especially when some individuals are dangerously ill from the virus while others do not follow safety procedures (Xiong et al., 2020). This current study extends literature by examining college students' perceptions of how media influenced safety habits related to contagious diseases during the COVID-19 pandemic.

Study Aim

The current study examined college students' perceptions of how parents, friends, significant others, and the media influenced their perceptions of, and behaviors related to COVID-19 and contagious illnesses during the COVID-19 pandemic.

METHOD

Participants

Forty-one college students were recruited through announcements in online classes offered during fall semester 2020 at a large Midwestern public university. Participants were part of a larger study assessing college students' perceptions of their health (Nabors et al., 2021[under review]). The university-based institutional review board approved this study.

Procedures

Our convenience sample was arrived at by recruiting across four colleges at the university and contacting professors teaching a variety of subjects. Participants were recruited by professors who emailed college students a recruitment script. If students wished to learn more, they emailed one of the authors, L.N., who followed up with an information sheet explaining the study. If the students provided

consent, two of the authors, L.N. and K.F., contacted the participants for an interview. First, participants completed a demographic form to record sex, age, ethnicity, parents' marital status, college major, and class (e.g., freshman, junior) at the university. Then, the participant responded to the following questions: (1) "How have your parents influenced your safety habits about contagious diseases, like flu or coronavirus?," (2) "How do your friends influence your safety habits about contagious diseases, like flu or coronavirus habits?," (3) "How does your significant other influence your safety habits about contagious diseases, like flu or coronavirus?," and (4) "How does the media influence your safety habits about contagious diseases, like flu or coronavirus?" The interviewers used probing questions such as, "Please explain what you mean?" "Tell me more about this," and "Could you provide an example to describe this answer?" The interviewers also asked if the advice or behaviors of parents, peers, significant others, or media messaging had no impact, a positive impact, or a negative impact on college students' perceptions and behaviors. Questions were developed from a review of literature indicating that college students are sensitive to influences of others and the media when determining their health behaviors. Questions were typically completed in approximately 10 minutes, with the interview – including the additional questions about healthy eating and weight perceptions, lasting about 30-40 minutes (Nabors et al., 2021). Interviews were conducted using Microsoft Teams®, and interviewers audiotaped sessions and recorded participants' responses. Participants could refer others via email to receive a recruitment script. A gift certificate of \$10 was sent via email to students after interview completion. Then, their addresses were destroyed.

Procedures for Coding Qualitative Data

A grounded theory approach was used to determine themes representing participants' perceptions and behaviors (Strauss & Corbin, 1998). Coders (A.O., L.N., K.F., and an undergraduate student coder) reviewed transcripts independently and used primarily open coding to determine a dictionary of codes representing categories or key themes in the data (Flick, 2009; Miles & Huberman, 1994; Williams & Moser, 2019). Over a series of ten meetings, a final dictionary of themes was developed. The undergraduate student coder reviewed information to provide information about the validity of the themes in the data (Creswell, 1998). Our intention was to complete 35 to 40 interviews, but to have ongoing coding to ensure that saturation of information was reached and no additional interviews were required. Coders reported that the themes' saturation (no new themes emerging) was reached after the first thirty interviews were coded, and coding of the last eleven interviews confirmed existing themes. Disagreements were resolved by consensus among the four coders.

RESULTS

Forty-one students (37 females, 4 males) between the ages of 18-32 years ($M = 19.51$, $SD = 2.46$) completed interviews (Table 1). Twenty-eight participants identified their ethnic group as Caucasian; two were African American, two were Asian, two were Indian, one was Hispanic/Latino, one was Middle Eastern, one was Ghanaian, and four were biracial. Twenty-three were freshmen, six were sophomores, five were juniors, three were seniors, and four were graduate students. Regarding the university college attended, 22 were in arts and sciences, two were in education, four in business, 11 in allied health, one in engineering, and one was a double major. Thirty-nine resided with both parents, and thirty-four participants reported that their parents were married. Three college students reported they had been diagnosed with COVID-19, one was unsure about having had the virus, and 36 reported they had not had COVID-19. One participant did not answer this question.

Parents and Family as Influencers of College Students

Table 2 presents themes of student's perceptions of positive and negative parental safety habits related to contagious diseases, like flu or COVID-19. Only sixteen participants discussed other contagious illnesses. Responses tended to focus on COVID-19. Specifically, in terms of positive approaches to parental and family influences, themes were: (1) positive messages and behaviors from parents; (2) parents working in the health care sector; and (3) parents are very sanitary. The majority of the students said that their parents had positive safety habits. Parents were role models and teachers, typically relaying positive messages, encouraging handwashing, using hand sanitizer, and ensuring social distancing occurred. One of the participants said, "My parents have influenced [me] in a positive way. Coronavirus is the most serious disease Americans have faced so far, and it should be taken care of carefully. I commute this year, and I only go to campus when it's necessary for my labs. I FaceTime with friends now or see them on the driveway."

Students reported that having parents in health-care provides them with information about safety practices and a realistic view of safety issues and behaviors. An example quote was, "My parents are both in the medical field. Dad is a radiologist. Mom is a physical therapist. They are realists. They are really like, 'if you aren't throwing up blood, you're fine.' They want it to be over, but they take precautions seriously." The parental influence, in this case, was practical and positive – follow safety guidelines, but do not worry too much about the disease. Positive influences from other family members were important. For instance, one student reported, "I have a brother in med [medical] school and a brother with a doctorate, Ph.D. in electrical engineering, and they were both always big on... like I did a lot of research. They were like, 'don't be stupid, don't

go around a lot of people because our parents are older and so are our grandparents.' They were like 'don't go around people and don't risk anybody,' so I'd consider them positive." Another frequent theme was that parents were very sanitary. Parents insisted on following guidelines – such as wearing masks and handwashing – to prevent contracting COVID-19. For instance, one participant said, "I lived with my parents when we went into quarantine. We wiped everything down, wiped surfaces, wore masks, and used hand sanitizer. These are the habits I carry with me now as I have returned to campus."

On the other hand, some students confirmed that their parents did not follow safety guidelines and were unconcerned, such as one participant who told interviewers, "We have to force Dad to use masks. He doesn't follow COVID guidelines." Also, several other themes that were not necessarily positive were discovered: (1) parents have differing perceptions and behaviors (e.g., one parent followed guidelines and the other parent did not); (2) parents embrace natural cures, for example, one participant said, "If you have a headache drink water or rub peppermint oil on temples. If flu or anything... listen to your body, drink water;" and (3) no influence from parents concerning COVID-19 safety practices, but the participant is very cautious in following guideline because one of the family members was at high risk for getting COVID-19 (see Table2).

Friends as Influencers of College Students

Four themes were discovered for friends' influences on safety habits (see Table 3). Two themes were positive: (1) friends were cautiously following safety guidelines, and (2) friends who were following CDC's guidelines having a positive impact on college students' perceptions and behaviors. For instance, one female participant mentioned, "My friends always carry sanitizers with them wherever they go. And one of my friends told me about sanitizing sprays, and she told me to spray before you touch things."

The other two themes revealed a negative influence, and these include: (1) friends do not follow social distancing, and (2) friends do not know safety guidelines/friends are not educated (see Table 3). Most importantly, attending parties and social gatherings was a risk factor for not following the CDC's guidelines. One participant said her friend was a negative influence because she "... goes out to every party, doesn't social distance, and doesn't wear a mask. She wouldn't get tested, so we didn't let her come over for two weeks." Friends who did not know safety guidelines were a negative influence, as one participant said of her friends, "I would definitely say more negative because most of us aren't as educated and aware. A lot of kids our age are 'young' and are like I'm fine, and I will be okay. In college, too, we are all living together, and we are like well, we are all together. So, I guess friends are negative about the whole COVID situation." Some participants were aware of their friends' behaviors but felt

Table 1. Demographic Information

Variable		Number of Participants	Percentage of the Sample
Sex	Male	4	9.8
	Female	37	90.2
Age (Age Groups in Years)	18	17	41.5
	19	12	29.3
	20	3	7.3
	21	3	7.3
	22	4	9.8
	23	1	2.4
	32	1	2.4
Ethnic Groups	Caucasian	28	68.3
	African American	2	4.9
	Asian	2	4.9
	Indian	2	4.9
	Hispanic	1	2.4
	Others	2	4.9
	Middle Eastern	1	2.4
	Biracial	2	4.9
	Ghanaian	1	2.4
College Attended	Arts and Sciences Education	22	53.7
	Business	2	4.9
	Allies Health	4	9.8
	Engineering	11	26.8
	Double majors in 2 Colleges	1	2.4
	Engineering	1	2.4
Family Lived with both parents	Yes	39	95.1
	No	2	4.9
Marital Status of Parent	Married	34	83
	Divorced	5	12.2
	Living Together	1	2.4
	Separated	1	2.4
Ever had COVID	Yes	3	7.3
	No	36	88
	Don't know	1	2.4
	No response	1	2.4

they did not influence their perceptions and behaviors. One student reported, “I would say that they had kind of a negative influence, but it didn’t really impact me that much. Especially with ‘corona’ they didn’t have the information and they weren’t following any of the guidelines. They didn’t have the information from the CDC [Centers for Disease Control] and it was definitely really negative for me,

but it didn’t really change what I was doing.” Some participants reported that friends were both positive and negative influences. A sample quote exemplifying this was, “Some friends won’t hang out at all. So sometimes I’ll hang out just me and another person. I have other friends who feel like it doesn’t matter, and we can just go out anyway.” If friends realized they were immunocompromised, however, friends

were likely to follow safety guidelines.

Significant Others as Influencers of College Students

Coders noted fewer responses concerning significant others than responses for parents, friends, and the media. Twenty of the participants did not have significant others, so they did not comment on this question. Participants typically stated that their significant others were aware of how to take care of their health in terms of following guidelines, which was positive for them. Alternatively, some mentioned their significant others had no influence on their COVID-19 safety behaviors such as, “They really didn’t have an influence on anything like that.” Some participants mentioned that significant others who had been infected with COVID-19, and had recovered, could also have a positive influence. For instance, one participant mentioned that seeing him (her boyfriend) battle the illness “shined a light” on how serious the pandemic was and the importance of following the safety guidelines. Similarly, having an athlete as a significant other was most often positively influencing safety habits. If significant others were an athlete, they followed the guidelines because they wanted to compete in sports.

Coders reported conflicting themes related to concerns about contagion related to COVID-19. Significant others could either be unconcerned or overconcerned with contracting COVID-19, and either of these perceptions were perceived as negative influences. Cases of overconcern or lack of concern could be “mirrored” or copied by participants, who tended to reflect the behavior of their significant others (i.e., engage in similar behaviors and have similar perceptions). For example, one participant told the interviewer that her boyfriend “Kind of has a bad mindset. He wears a mask, but he tests himself for symptoms every day, and he’s confident he won’t have it, so he doesn’t like to wear a mask.” Another participant said her boyfriend was “A little bit too worried. It affects his mental health. He’s very concerned about the situation. He takes extra precautions. I’m glad he is but I wish he wasn’t so scared.

Media Influence on College Students

Participants had various comments about the media, indicating that media could positively or negatively influence college students’ perceptions and behaviors. Table 4 presents themes and quotes representing college students’ impressions of the impact of the media. On average, coders believed the influence was more positive than negative. “It’s a mixture of fake and real news” was a quote exemplifying that the media could have both positive (e.g., follow guidelines), negative (e.g., show others not wearing masks and following rules), and perhaps inaccurate, if participants felt that the media was not portraying facts accurately. Participants following positive media sources (e.g., CDC) were likely to follow safety guidelines and tended to avoid negative media influences. Facts and figures from social media and credible sources like the CDC were preferred sources of

information, as these sources presented information in a way that was “understandable.” When comparing social media sources, participants reported that information on safety practices presented on Instagram and Twitter were fairly clear and of educational value. Although many reported the presentation of information was often “scary,” the cautions to practice safety behaviors increased awareness and promoted hygiene (e.g., handwashing and wearing masks). Conversely, some social media sites portrayed people, such as political figures and celebrities, not following safety guidelines or practices, not wearing masks and not social distancing, and this had a negative influence on perceptions and behaviors, causing participants to think safety guidelines were overly cautious. Some participants felt that media information could be unreliable regarding the accuracy of health information provided, and they felt they needed to check any facts and information they learned about through some media sources. Media portrayal of social gatherings could also be a “trouble spot.” Specifically, one participant stated, “...[on] social media you see college students going back to campus and not taking the precautions they should be, which is not good. (Interviewer: “What do you see them doing on social media?”) Most of the time they are just hanging out with each other not wearing masks and [at] party scenes. Some do, it depends on the group. Some practice [safety] and some don’t. But you usually see those who don’t. You see those at parties, the party scenes, where they don’t wear masks and don’t follow the precautions” (see Table 4).

DISCUSSION

Results of the current study indicated that parents, family, friends, significant others, and media messages on COVID-19 and other contagious illnesses significantly influenced college students’ perceptions and behaviors related to contagion. This study provided new information about how the family (primarily parents), peers, and the media were both positively and negatively influencing college students’ perceptions of how to follow safety guidelines and gain knowledge about COVID-19 precautions. For example, Zhen et al. (2021) reported that parents primarily positively influenced college students’ perceptions and behaviors. On the other hand, friends could have a negative influence on participants’ behaviors. For example, participants mentioned that friends might not follow guidelines at parties. Some friends were not wearing masks and socially distancing. This is consistent with other literature showing that friends can influence increased risk behaviors among young adults (Mohr et al., 2005; Patrick et al., 2011). Although about half of the participants did not have a significant other, those that did typically mentioned having similar perceptions and behaviors – aligning with those of their boyfriend or girlfriend. The media often had a positive influence through providing education. On the other hand, the media could have a negative in-

Table 2. Parents and Family Members as Influencers of College Students

Themes	Quotes
Positive Messages and Behaviors from Parents	<p>“My parents have influenced [me] in a positive way. Coronavirus is the most serious disease Americans have faced so far and it should be taken care of carefully. I commute this year and I only go to campus when it’s necessary for my labs. I face time with friends now or see them on the driveway.”</p>
Parent Working in the Health Care Sector	<p>My parents are both in medical field. Dad is radiologist, mom is physical therapist. They are realists. They are really like, “if you aren’t throwing up blood you’re fine.” They want it to be over, but they take precautions seriously.</p>
Parents unconcerned	<p>“We have to force dad to use masks. He doesn’t follow COVID guidelines.”</p>
Parents are very sanitary	<p>“My parents push me to wash my hands.”</p> <p>“I lived with my parents when we went into quarantine. We wiped everything down, wiped surfaces, wore masks, used hand sanitizer. These are the habits I carry with me now as I have returned to campus.”</p> <p>“They encourage me to wear a mask every time I leave the house. Also, we have to wear gloves before we touch anything outside the house. Also, we take off our shoes in the house, so we aren’t bringing any of the germs from outside into the house.”</p> <p>“My mom has hammered it in. Sanitize or wipe down door handles. Spray everything. Wash your hands all the time, before you eat and all the time. Keep hand sanitizer on you at all times.”</p>
Mother and Father have differing values	<p>My mom has been ready from the beginning... she just said like “be safe, do not go out.” My dad does not believe its real and still continues to believe that. Even though we have friends who have had it. He refuses to wear a mask anywhere. I’m aligned with my mother. I cannot believe my dad does not believes it is not real, it’s crazy to me. We have to force him to wear a mask....</p> <p>“My Dad is very concerned with the Corona virus and he’s following all the governor’s rules. My Dad if he had his way he wouldn’t have me come home, because he thinks we should social distance. My Mom doesn’t think this way. My Mom wants me to come home and she doesn’t worry.”</p> <p>“Uhm my dad is like crazy about it. He’s like don’t go anywhere make sure you have your mask on. Don’t touch anything. My mom is kind of neutral. Yeah, I know it is around we will try to do what we can to stay healthy. But, if we get it we get it.”</p> <p>My parents always make me get the flu vaccine, every year.”</p>

fluence, either by scaring participants when showing medical outcomes or showing persons not following safety guidelines.

Parents and other family members often had a strong positive influence on safety practices. This is consistent with literature showing that parents have a protective effect on young adults' health behaviors (Abar & Turrisi 2008; Hawkins et al., 1992; Small et al., 2011). For example, parents often taught safety practices and engaged in positive hygiene, such as handwashing and social distancing. If students had friends in their homes, parents could encourage other young adults to follow safety guidelines. Several participants reported that parents were role models, and they continued following parental guidance after returning to reside in the dorms at college. Conversely, mothers and fathers could have differing opinions about safety practices or not emphasize safety, having a negative influence on participants' perceptions of contagion and safety practices. A few embraced natural cures for contagious illnesses such as listening to the body, rubbing peppermint oil on temples, or drinking water, and these ideas also in-

fluenced college students.

To the best of our knowledge, this is the first study that examined peer influence on COVID-19-related perceptions and safety behaviors. This study offers a unique perspective on understanding how college students perceived peer influences on safety practices during COVID-19. Our study demonstrates that friends' influences were variable – some were positive, while others were not positive. Friends could encourage acting in a safe way, and this is consistent with other health research (Harmon et al., 2016; Patrick et al., 2011). Participants tended to mirror the safety behaviors of friends and significant others. This is consistent with findings in other research as well (Harmon et al., 2016). If boyfriends were athletes, they often followed safety guidelines to be able to participate in their sport. Several females followed the guidelines with them, again mirroring behaviors. On the other hand, social gatherings with friends were a risk for not following social distancing and safety guidelines. Conversely, some participants were likely to mirror the negative behavior of significant others who could be not concerned about

Table 3. Friends as Influencers of College Students

Themes	Quotes
Friends are very cautious/ follow safety guidelines	<p>“We are all pretty careful. We just know if one of us gets it, we all get it. We are hanging out every day, but I mean we're safe.”</p> <p>“My friends always carry sanitizers with them wherever they go. And one of my friends told me about sanitizing sprays and she told me to spray before you touch things.”</p>
Friends do not follow social distancing	<p>“.....goes out to every party, doesn't social distance, and doesn't wear a mask. She wouldn't get tested so we didn't let her come over for two weeks.”</p>
Friends do not know safety guidelines/friends not educated	<p>“I would definitely say more negative because most of us aren't as educated and aware. A lot of kids our age is young and are like I'm fine and I'll be okay. In college, too, we are all living together, and we are like well we are all together. So I guess friends are a negative about the whole COVID situation.”</p>
Friends follow CDC guidelines	<p>“My friends are very logical about it. Doterra's head doctor worked for CDC (most friends are at coworkers) so we trust him implicitly. They are getting updates from him as an expert. My friends are willing to follow their guidelines. My other friends who aren't associated with Doterra are very serious about guidelines, social distance, wear masks”</p> <p>“I feel like a lot of my friends have been fairly cautious and they follow the guidelines and protocols fairly well. We all are careful to follow guidelines. And they have the same mentality that they don't want someone to get sick because of them. So, I'd say it is a positive influence.”</p>

following COVID-19 safety guidelines.

Media had either positive and/or negative influences on college students' perceptions and behaviors related to health practices. For example, if participants followed social influencers who were motivational and promoted positive safety habits, they were more likely to follow safety guidelines. Social media may be a tool to seek health-related social support, especially when following influencers who endorse positive health messages and behaviors (Oh et al., 2013; Pilgrim & Bohnet-Joschko, 2019). Further, several participants reported that social media sources presented "understandable" health information for youth. Media platforms could have negative influences, if the media reported scary or unreliable health information about COVID-19 or showed people in social gatherings not following safety guidelines. For example, the media may present fear or stigmatizing behaviors toward infected individuals or are suspected of having COVID-19 (Bhanot et al., 2021; Holland & Tiggemann, 2017).

LIMITATIONS

Several factors may have limited the generalizability of study findings. The sample consisted of college students at one large university in the Midwest and assessing perceptions of students attending other universities in other geographical locations may have yielded different results. Approximately half of the sample had significant others. Therefore, future research should consider recruiting students with significant others to provide more information on how they may influence perceptions and behaviors. Although interviews allowed for a depth exploration of perceptions, surveys might have enabled our team to review a larger number of variables that may have influenced college students' perceptions and behaviors in different contexts, such as views for following safety guidelines at the recreation center, parties, grocery shopping, and going to classes. If surveys were administered, perhaps more information about perceptions of other contagious illnesses could have been assessed, and a larger sample could have been recruited. Interviews were conducted at the height of the pandemic and, as such, provided a window on social influence and its impact on college students during this stressful period. However, interviews were conducted only one time and a longitudinal design might provide more information about adjustment over time. In the future, a mixed-methods approach with qualitative interviews and surveys might allow for a more detailed measurement of students' perceptions and behaviors over time. It may also be that interviewers inadvertently guided responses, although this seems unlikely as students shared many personal stories and insights. A social desirability bias, with participants tending to respond in a positive way about social influences, could have influenced participants' responses. This may have occurred to a small degree, but the reporting of many negative influences suggests that respondents were reporting both positive and negative

information. Interviewers did inquire as to whether participants had other information to share and provided opportunities for participants to "add" to answers they were providing.

CONCLUSIONS

Results indicated that parents often positively impacted college students' perceptions about and behaviors related to following COVID-19 safety guidelines. Therefore, it may be beneficial to develop educational commercials featuring parents discussing ways to prevent the spread of contagious illnesses, like COVID-19. Similarly, including peers in messaging and interventions, displaying positive behaviors is key because college students tended to mirror their behaviors. Social media emerged as a powerful tool for education, especially for details about safety behaviors during the COVID-19 pandemic. Health professionals have a role as advocates to provide information about sites with practical, helpful information and to be "present" on social media providing engaging and informative health communication on knowledge about safety during health crises. Future research on what types of health promotion messages and interventions are most effective in improving safety behaviors related to contagious illness will inform the field. Moreover, research is needed to determine what involvement peers and significant others should play during interventions and health promotion messaging. College students have unique perceptions and culture, and as such, it also may be beneficial to include a group of students as an advisory panel to provide developmentally relevant ideas to focus the design of interventions and health messaging.

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