A Healthier Gram: Assessment of Peer-to-Peer Influence in Healthy Behavior Social Media
Engagement

By

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ABSTRACT

The development of social media has quickly grabbed our global attention by finding innumerable ways for teens to communicate all over the world. However, as both adolescent mental and physical health continues to decline within this digital world, there is a need for research on effective measures of engagement on social media for health professionals and educators. The current study used two separate studies to explore how teens engage with content on social media and the role health messaging plays within their social media experience. The first study aimed to understand how adolescents respond to health behavior information conveyed to them by their peers as opposed to an individual in a position of authority, such as a physician, educator, or administrator. The goal of this study was to understand if peer-messaging is an effective measure of education on social media platforms. A student group from a high school in the Lawrence, Kansas area developed the peer messages that would be shared on the two separate Instagram pages in two different high school populations. These Instagram accounts were analyzed using the Instagram analytical data provided by Instagram to gather the descriptive information. The peer-led account saw a higher level of reach, impressions, following, and engagement than the educator-led account. The second study aimed to fill an even greater gap specifically using qualitative research. Focus groups were utilized to explore how teens use social media, what content they find most engaging, and the role health plays in their social media experience. Three focus groups with 14 participants were conducted using two cofacilitators. Manual open coding was used to analyze the focus group transcriptions and generate five major themes. These major themes are: The Social Media Experience for Teens, Marketing and Influencer Impact, Uses of Instagram, Future Efforts using Instagram for Health Messaging, and Ideal Content for Teens: What to Promote and Avoid. Additional subtheme areas were recognized to further code participant responses in greater detail with consistent quotes

from participants. The data that was collected was then utilized to inform future recommendations. The recommendations include: implement social media studies with large followings, a deeper dive into celebrity influences, more diverse demographics, exploring preference in social media use, additional exploration of peer-led social media and the potential to influence health, additional exploration of user-generated content in health education, targeted education to distinguish valid and reliable health information, and emphasis on peer-led social media health campaigns. The data provided through both the quantitative and qualitative research can be used to further understand the complexity of the adolescent social media experience and its role in health education. A greater understanding can be used to inform health educators to effectively engage pupils when using social media as an educational platform.

Table of Contents

Chapter 1

Introduction

"We can connect easier with people from different places and we are more likely to ask for help through social media which can save people," (Anderson and Jiang, 2018). This was a quote a high school student expressed in their reverence of Instagram. This is a part of a growing trend in the newest generations that crave connection in internet communication. Throughout the previous few decades, our society has seen rapid and innovative growth in technology, specifically through internet communication. This has led to the development of social media, which is any web-based application that provides functionality for sharing, relationships, groups, conversations, and profiles (Kietzmann et al., 2011). Platforms that offer internet-based social networking services include examples such as Facebook, Twitter, LinkedIn, and Instagram. Facetime and Snapchat allow for a more visual two-way mobile messaging, while wikis and Youtube are more based in collaborative content development and video sharing. These platforms are part of the large-scale shift from static "Web 1.0" platforms, which are unidirectional information flow, toward "Web 2.0" platforms, which is interactive and multidimensional communication capable of harnessing collective intelligence and user-generated content (Shein, Wilson, and Keelan, 2010). Social media development has quickly captivated our global attention by finding exponential ways for us to communicate at all times and from anywhere in the world.

People of all demographics, socioeconomic status, ages, and cultures are adopting these technologies, allowing for marketing influences and information to reach massive audiences in a fraction of a second. Social media marketing tactics and sharing of information have made both a positive and negative impact. Many companies, such as cigarette, electric cigarette, fast food,

and alcohol corporations have taken full advantage of the unregulated and newly found market to promote their products to vast amounts of people in an attractive way for consumers. This overall trend has become a hot topic regarding the potential negative impacts it can have on adolescent growth and development, mental and physical health, and overall quality of life. Despite this, social media has given a platform to prominent health figures that can help create lasting change on an individual. Social media also allows for greater access to health information, which can be a key factor for lower socioeconomic individuals that may not be able to afford or access the information otherwise. These positive and negative aspects affect the majority of the population, but the next section will further discuss that it could benefit or hurt individuals to a greater degree in different demographics.

According to the Pew Research Center (2018), a majority of Americans use Facebook and YouTube, however, these platforms have largely plateaued, especially amongst younger users. Instagram and Snapchat platforms are especially popular among younger users (ages 13-24) and have seen the highest rate of growth since 2012 (Smith & Anderson, 2018). Ninety-five percent of teens (Ages 13-17) have access to a smart phone, and 45% say they are online 'almost constantly.' From just 52% of use in 2015, teens have seen a drastic increase in Instagram use at 72% in 2018 (Anderson & Jiang, 2018).

Around 88% of 18 to 29-year-olds indicate that they use social media, while 78% of 30 to 49-year old's, 64% of 50 to 64-year old, and 37% of 65 and older use social media (Smith & Anderson, 2018). This data shows that there are also substantial differences in social media use by age, which should come as no surprise given that it is a relatively recent phenomenon. The most shocking difference, however, is the pronounced differences in the use of various social media platforms within just the young adult population. Americans ages 18 to 24 are

significantly more likely to use platforms such as Snapchat and Instagram even when compared with those in their mid- to late-20s. The reason for this trend is evident in a study conducted by Facebook, where teens expressed that Instagram helps them foster relationships, makes them feel more connected, and helps them document their lives more than any other platform (Crowd DNA, 2014). Given that Instagram has seen the highest overall increase in use amongst all other platforms in youth, and the miniscule amount of research including Instagram-use, makes it an ideal fit for this study (Smith & Anderson, 2018).

The marginal gap even amongst young Americans should stress how social media research should be at the frontier of health education. Social media has the potential to be a solid medium between education and behavior change in areas such as sleep, hygiene, nutrition, and mental health in adolescents. The Centers for Disease Control reported that only one-quarter of high school students are getting the recommended amount of daily sleep, one in five adolescents are classified as obese, and one in three high school students reported experiencing moderate depression (CDC, 2016). These alarming statistics have the potential to be addressed by delivering health promotion programs using Instagram or other social media platforms frequently accessed by youth.

As marketing influencers continue to grow exponentially, health educators must learn how to navigate social media more strategically so that younger Americans are more likely to engage with healthy behavior influence. Understanding what adolescents and young adults find attractive and engaging on social media could become a crucial part of the entire healthcare sector. There may be no more effective way to identify these trends than peer-to-peer educational influence in youth. By understanding how peers are communicating and influencing each other on social media, it may not only give practitioners and educators a greater ability to better

identify effective content, but also create a space within health education that allows for peers to educate one another after being provided the proper content.

Despite the widespread use of social media in youth's lives, there is lack of research in understanding how peer-to-peer health messaging influences perceptions of health and possibly health behavior. This study, therefore, aimed to begin to address this gap by conducting a quasi-experimental mixed-method design with youth at multiple high schools, including two schools in the Lawrence, Kansas area and one outside the Kansas City Metro area. The mixed-methods design included two studies, the first containing quantitative analysis of engagement by participants and the second examining qualitative analysis using focus groups. Pertaining to the first study, two Instagram accounts, one administered by an educator and one administered by a student-led group, were used to gather descriptive statistics related to engagement when participants are shown the same content. The second study included focus groups that searched to gain the valuable perspectives of adolescents in how they use social media and the overall trend of imagery they find the most engaging. This feedback can be used by health education programs and schools to close the gap between educators and students in social media-use to encourage adolescents to become more receptive to health behavior change.

Given the lack of quality research regarding health promotion on Instagram combined with peer health education among youth, more work needs to be done to understand how these novel platforms can be better utilized in our education system. As will be discussed later, practitioners and educators have struggled to find ways to engage individuals in behavior change using social media, so an innovative approach must be researched to create a dynamic health network.

Purpose of Study

        The primary aim of this current study was to explore how teens engage with content on social media and the role health messaging plays within their social media experience. In addition, the researcher wanted to understand how adolescents respond to health behavior information conveyed to them by their peers as opposed to an individual in a position of authority, such as a physician, educator, or administrator.

Glossary of Terms

Social Media- websites and applications that enable users to create and share content or to participate in social networking. This is a form of electronic communication that allows the creation of online communities and the ability to share information, ideas, and personal messages.

Facebook- a free social networking website and application that allows users to create profiles, upload photos and videos, and send messages to connect to various different communities.

Twitter- a free social microblogging service that allows members to share short posts called tweets. Twitter members can broadcast tweets and follow other members' tweets, as well as reply to tweets.

LinkedIn- a social networking website specifically designed for the use of the business community. Registered members layout their employment history, educational history, and skills in order to connect with other professional members.

Instagram- a free photo-sharing application that allows users to edit and upload photos and short videos. Users pictures are posted to individual feeds from other users that follow them. Users can like, comment, or share photos from other users.

Facetime- a video telephone/chat service that allows for individuals to conduct one-on-one video calls between Apple Inc. users.

Snapchat- a mobile application service for sharing photos, videos, and messages amongst users. Once a photo, video, or message is opened, it is automatically deleted within a short duration of time.

Youtube- a video sharing service that allows users to watch videos posted by other users and upload videos of their own.

Center for Disease Control and Prevention (CDC)- a United States federal government agency whose primary objective is to protect public health by preventing and controlling disease, injury, and disability. (NIH, 2019)

Mixed-Methods Design- a methodology for conducting research that involves collecting, analyzing, and integrating quantitative (e.g., experiments, surveys) and qualitative (e.g., focus groups, interviews) research.

<center>**Chapter 2**</center>

<center>**Literature Review**</center>

Overview

  In the United States, adolescent obesity is increasing at an alarming rate. The percentage of children and adolescents affected by obesity has tripled since the 1970's. As recent as 2016, data shows that nearly 1 in 5 school children ages 6 to 19 years old suffers from obesity (Fryar, Carroll, & Ogden, 2016). The World Health Organization has emphasized development in policies that promote the intake of healthy foods and reduce the consumption of unhealthy foods by children and adolescents (Swinburn & Vandevijvere, 2016). In response to this, researchers and practitioners are looking for new and innovative ways to address this issue. This literature review will focus on the prevalence of peer health education and the role that social media could play in this dynamic. The role of health promotion will be explored to assess if peer-to-peer influences in social media are impactful in health education efforts specifically directed towards youth.

The Health of Today's Youth

  Transitional periods such as adolescence and young adulthood are a heightened time in one's life where individuals experience higher sensitivities to contextual influences (Halfron & Hochstein, 2002). These influences create a greater desire for adolescents to experiment in various areas of health behavior, specifically dietary patterns, exercise, substance use, and sexual activity (Eaton et al., 2010). One of these influences is food marketing, and corporations have taken full advantage of the opportunity to market towards youth. Food companies have seized the opportunity to target the youth population, given their purchasing power and the potential to shape their lifelong eating patterns (Harris et al., 2009). Food media marketing is increasingly

<center>8</center>

more receptive to youth and this has linearly increased with the potential for obesity (McClure et al., 2013).

The health of today's youth is under siege, as the percentage of overweight adolescents has more than tripled since 1980 in teenagers aged 12-19 (Lawrence, Gootman, & Sim, 2009). This is because many adolescents consume diets that are not consistent with dietary guidelines, despite the importance of nutrition for their current and future health (Munoz et al., 1997). Adolescents tend to have lower intakes of dairy products, fruits, vegetables, and whole grains but higher intakes of soft drinks, confectionery, and fast foods. These higher intakes of highly processed foods have reached concerning levels that are upwards of four to five times the daily recommended amount for consumption. This less than desirable intake has been a prevalent cause for concern, as proper intake is important for good health and development (Munoz et al., 1997). It is importantly noted that life-long dietary preferences are established in youth and these preferences are potent tools in prevention of obesity and other dietary-related diseases (U.S. Department of Health and Human Services, 2000).

Not only do poor dietary patterns affect weight status, but mental health as well. Current Western dietary patterns high in sugars and processed foods, as well as higher body mass are significantly associated with poorer mental health and behavior compared to adolescent populations that have higher intakes of leafy green vegetables and fresh fruit (Oddy et al., 2009). As mental health and obesity continue to be two of the primary concerns for adolescents by the World Health Organization, their association with nutrition should be a high priority within health education (World Health Organization, 2005). A premium should be put on creating these interventions for not only the individual, but also society at large. A recent analysis showed that even a modest improvement (1%) in adolescent obesity reduction could translate into over $500

million in annual healthcare cost savings (Wang et al., 2010). It is important to note that there are interventions to address dietary behavior, however, many have had a difficult time at attenuating the obesity epidemic among this age group.

Traditional Health Education

Health education programs have evolved in their sophistication and relevance to a wider population in recent decades (Nutbeam, 2000). This is a consequence of social marketing in implementing more creative approaches in program development and analysis. However, despite these revelations, large parts of traditional health education have failed to achieve substantial results in behavior change. This is, in large part, due to a focus on mainly individual behavioral patterns with less regard to social, economic, and environmental factors that influence health outcomes (Harris, Sainsbury, Nutbeam, 1999). Relationships between social factors and health have been given much less attention as a basis in public health interventions previously than individual behaviors. Nutbeam (2000) continues to point out that by solely focusing on individual knowledge and beliefs about health outcomes, traditional health education has underestimated its role as a full range tool in a diversity of platforms (Nutbeam, 2000). Traditional forms of health education in youth typically do not invite interactive communication, nor do they foster skill development and autonomy of one's health. These findings make social media and peer-to-peer influence an even more significant factor, given its ability to cross socioeconomic lines and its natural role in social environments that requires more interactive communication (Duggan, 2015).

Health education has traditionally been focused around the facilitation of authoritative figures, specifically healthcare providers or teachers. It is seen that since these individuals have a strong educational background in health, adolescents would see them as a reliable and

trustworthy source of information (Khubchandani et al, 2012). Therefore, the next two sections will take a more in depth look at the effectiveness of these approaches in the health education of adolescents.

Healthcare Provider Education

Physicians and healthcare providers play a crucial role in the health education of adolescents. Fifty to eighty percent of adolescents see a healthcare provider each year, where they expect physicians to address weight concerns, and if physicians do not, adolescents assume that there is not a concern (Broder et al., 2008; Barlow, 2007). However, even though this is the expectation, research on the facilitation of health education by healthcare providers has been a cause for concern in recent decades. There is a psychosocial concern, as parts of health education that physicians would perceive as most important to teens were often minimized by the teens themselves. This suggests a need to address patients concerns at all levels of professional education (Phyllis et al., 1986). Although adolescents may perceive them in this role, many individuals, specifically healthcare providers, often feel uncomfortable or ill-prepared to deal with adolescent patients. Adolescent health education, specifically sex education, is also perceived by physicians as a low priority (Khubchandani et al, 2012).

When there have been effective educational opportunities, physicians have used patient-centered communication and motivational interviewing techniques (Erickson et al., 2005). These techniques are defined as demonstrating empathy and interpersonal sensitivity, forming partnerships, and mutually exchanging information. Empowerment programs for teenagers with diabetes have shown little or no effect on both physiological and psychosocial factors (Viklund, Otrqvist, & Wilkblad, 2007). This may be because adherence to behavior change was not a motivational interviewing or patient-centered approach that focused on family's self-efficacy and

life skills, which has shown promise (Gance-Cleveland, 2005). Motivational interviewing (MI) has in particularly proved to be an effective strategy in improving health risk behaviors (Rubak, Sandbaek, Lauritzen, & Christensen, 2005). When physicians use motivational interviewing tactics while briefing patients, they seek to elicit the patient's own reason for change, explore their patients concerns, express that patients are the drivers of their own change, and most of all, demonstrate support. Studies have noted that, even without specific MI training, physicians that have used individual MI techniques have been associated with positive patient behavior such as greater frequency of exercise and a decrease in self-reported weight within a month of their clinical encounter (Pollak et al., 2008). Physicians have even engaged with adolescent patients in an online-based MI chat, where physicians self-reported development of skills in asking open-ended questions and reflective listening skills (Bravender et al., 2013). Positive association between physicians and online communication only further strengthens this study in the exploration of the role of social media within health education for adolescents.

Health Education by Teachers

In contrast, health education in terms of the classroom setting has seen largely positive results. Lionis et al. (1991) found that health education intervention using traditional classroom measures found significant results in reduced cardiovascular disease risk factors in adolescents aged 13-14. At the end of the academic year, students were found to have lower overall blood pressure and body mass index compared to the control group, which did not participate in the health education class (Lionis et al., 1991). A 2-year implementation of nutrition curriculum for low-income adolescents in Spain saw improvement in knowledge and skills in food preparation and overall nutrition. Activities included a more creative approach, including drawing, craft work, and cooking workshops. In a post-survey, 60% of the students reported using one or more

recipes at home and a greater willingness to try a variety of fruits and vegetables. (Perez-Rodrigo, Arancheta, 2001) Continuing a focus on nutrition education, a 4-year intervention centered around a school-wide media marketing campaign that promoted fruit and vegetable consumption in high school students saw significant results in terms of awareness, positive attitudes, and knowledge about fruits and vegetables. After the campaign, 96% of students could identify a message of healthy eating (Nicklas et al., 1997). Although this intervention was conducted as a part of classroom curriculum, a non-traditional style of media marketing suggested significance in terms of attracting students' attention and outside of the scope of traditional methods of focusing on individual behavior.

Moving into studies based around sex education, research suggests a positive correlation between a primary school health education program and increasing sexual abstinence from school-going adolescents in Uganda. This classroom-based intervention focused on access to information and resources, improving adolescent interaction regarding safe sex practice, and improving decision making (Shuey, 1999). Ancheta et al. (2005) furthered this notion, as adolescent girls who received school-based education had a reduced risk of sexually transmitted diseases. Results included a higher understanding of sexual risk knowledge, condom attitudes, and negotiation skills (Ancheta et al., 2005). Traditional lecture has shown to be effective as far as improving health knowledge, but many results from these studies have used self-reported questionnaires in terms of behavior change. This could pressure participants to give answers that are considered socially acceptable (Tse & Yuen, 2009). It is important to note that Tse and Yuen suggest that a social environment in schools that supports health-promoting lifestyle behaviors could be even more impactful. Brindis et al. (1998) furthers this notion that although traditional measures of health education have been successful by focusing on individual behavior change,

emphasizing the social context of their lives may see higher rates of improvement (Brindis et al., 1998). Social media would fall into this category, both as a resource and an opportunity to interact with peers in terms of health behavior.

Peer Education

As education has progressed over time, peer education has gained more popularity as a unique motivational opportunity for individuals to gain cognitive benefits. As children begin their journey into adulthood, their peers tend to have a powerful influence on their intellectual development. These peer educational learning opportunities have been shown to bolster an adolescent's self-esteem, rouse their interest in challenging tasks, enhance their scholarly achievement, and help develop stronger social behavior (Damon, 1984). A major aspect of these learning opportunities is critical thinking in situations of conflict. Often, peer learning opportunities involve having to solve a task as a group, which will cause cognitive conflict amongst ideas. This creates a distinctive effect on the child's learning process by offering a contradiction between the child's inherent understanding of the world and what their external environment is telling them. The cognitive conflict, therefore, becomes a potential catalyst for change by allowing the child to reassess their old conceptions of the world and construct a new understanding through feedback from their peers. Campbell (2001) sums the ideal peer education setting up nicely, as a forum where peers can weigh the pros and cons of a range of behavioral possibilities, developing accounts of alternative behavioral norms and options in their own terminology and in light of their own priorities (Campbell, 2001).

In terms of the power of cognitive messaging being shared, there are three vital aspects that educators and practitioners must understand. First, adolescents communicate with one another in a way that they can easily understand. Second, they take feedback from their peers

14

much more seriously and are strongly motivated by their peers' influence, particularly in conflict. This is extremely important in health education, as many of the current issues in health and important topics are becoming more controversial and harder to facilitate to teenage youth in the modern world. Although guidelines in health practice are a detailed, strategic, and accurate as ever before, misinformation and faulty ideas have been heightened in development of smart phones and a multitude of internet platforms. Thirdly, peer education offers the opportunity to participate in meaningful roles and a benefit to being a helper. Their empowerment as an educator allows them to grow both personally and professionally through collaborative and conflict resolution skills (Milburn, 1995). The third aspect should not be overlooked as an important piece in the educational process. These characteristics only further stress the concept of the influence of peer education, as their influence on each other is higher than ever before at a global stage.

In terms of peer-to-peer educational influence in health, studies have found positive results in terms of its effectiveness (Harden, Oakley, and Oliver, 2001). Boyle et al. (2011) looked at peer-based interventions that was compared to traditional course-based and Social Cognitive Theory-based (SCT) interventions in college students. To provide more context, the format of the interventions will be explained. As SCT will be explained more in-depth later, two of the primary factors involved within the theory are self-efficacy and outcome expectations. These were the focus of the SCT intervention. The peer-based intervention included kinesiology experts educating the peer educators with the proper material and the peer educators would then facilitate this information to participating students. The three approaches assessed were used to promote increased physical fitness among the participants. The peer-based education approach for the college students saw greater improvements in both physiological measures as well as

psychological measures, such as confidence and goal setting, in their students in comparison to the other two interventions. Interestingly, women that received the peer-based intervention increased total physical activity and energy expenditure, whereas the traditional interventions saw a decrease in both measures (Boyle et al., 2011). In a similar structure, Story et al. (2002) developed a peer-led, school-based nutrition initiative for young adolescents. It is important to note that SCT was the theoretical basis used for development of this curriculum. Peer leaders were trained by TEENS University staff who were experienced in conducting peer and nutrition education training. Results indicated that the nutrition information was received effectively, further displaying the potential for peer education. It is important to note that this study called for a comparison of peer-assisted interventions to teacher-led interventions, which is what the present study plans to explore (Story et al., 2002).

Peer education has also been impactful for sex education. One study involved the dissemination of health-related information and condoms by members of a target group to their peers and found that this method increased condom use and reduced levels of HIV and other sexually transmitted infections (Janz et al., 1996). This trend continues in the sex education of female college students, where senior nursing students were asked to develop an event to help educate fellow female undergraduate students. The nursing students created activities that focused on increasing knowledge of sexual health. A pre- and post-test questionnaire revealed that after attending the event, female students had a significantly higher knowledge of their sexual health upon exiting (Skelly, Risher, Brown, 2018).

However, despite success in peer health programs, there are gaps that need to be addressed in terms of understanding its reach. Milburn found that the power of wider societal forces on adolescent behavior should be considered more broadly when reflecting on the extent

16

of real influence from which peer educators can hope to achieve in health behavior (Milburn, 1995). As the chapter transitions into a discussion of social media, this correlates with the digital age in meshing peer education and social media as a potential platform to combat advertising that looks to influence adolescents negatively. Although social media platforms, specifically Facebook, have been researched extensively across all ages and have shown encouraging results, our understanding of the influence of other digital platforms, such as Instagram, have gone largely unnoticed. Furthermore, social media interventions will be discussed to see the scope of their effectiveness.

Social Media Influence

As adolescents seek intimacy with their peers in online environments that reflect their offline lives, the rise of social media among their population could prove to be an effective tool in further developing these healthy behavior initiatives. Contrary to earlier social media applications and their role as refuges from real life, newer platforms reflect, complement, and reinforce off-line relationships (Reich, Subrahmanyam, Espinoza, 2012). This presents a major opportunity to better engage adolescents and young adults through social media in health education that need to be explored (Wong, Merchant, & Moreno, 2014).

Instagram has become the overwhelming choice of social media among young people, given their preference for visual communication compared to older generations (Shane-Simpson, Manago, Gaggi, & Gillespie-Lynch, 2018). In regard to age demographics, Instagram is the most popular among people 34 years or younger, with 71% of users compared to 22% of Facebook users and 40% of Twitter users (Shalova, Biagi, & Zhang, 2018). In healthcare, patients tend to primarily use Twitter (59.9%) and Facebook (52.3%), with little to no research suggesting the use of Instagram among participants. The main barriers for healthcare professionals when

attempting social media interventions in health promotion were inefficiency and lack of skills (Antheunis, Tates, & Nieboer, 2013). Social media use among community health professionals has been uni-directional and has demonstrated limited engagement with audience members. This emphasizes the need for better leveraging opportunities to promote interaction (Ramanadhan et al., 2013). Administrative purposes and sharing information about services and offerings are the primary topics of community health professionals on social media. This has been suggested as an ineffective use of social media because of lower levels of engagement in their target population. This is considered a "Web 1.0" manner of use, which only pushes information out and does not encourage participants to engage. Furthermore, posts with a human component, or posts with the "human interest" pieces received the highest level of engagement. Human interest is defined as content that tells a personal story about a given health topic or public health initiative. The organizations themselves had extremely low levels of use within the interactive features that could be used to create higher levels of engagement with these posts. Interestingly, posts that elicited higher levels of emotion received the highest level of engagement, furthering the need in exploring the engagement levels on a peer level, where a greater use of emotional and relationship-building tactics are more likely (Ramanadhan et al., 2013).

There is also a gap within schools as well, as teachers rarely take an active role in promoting healthy behavior. The majority of teachers do not have a shared view on health promotion and struggle to implement and develop effective health promotion programs within their schools (Miglioretti, Velasco, Celata, & Vecchio, 2012). It is important to note that not a single teacher chose social media as a potential effective strategy in promoting health in schools. Furthermore, this stresses even further that exploring the effects of peer-to-peer social media interventions could prove impactful, as adolescent populations, specifically teens, are much more

efficient and skillful when it comes to social media and understanding their peers. If given the correct health promotion information, students can market and engage with one another in a more influential capacity.

Previous research suggests that feedback and understanding participants' motives should be included within future social media interventions. For example, a previous study suggests regularly tracking comments or reviews that adolescents and young adults post on physician or healthcare rating sites, such as Yelp.com and Healthgrades.com, can identify patients' opinions on the strengths and areas for improvement in the care provided, thereby serving as a proxy for what they value in healthcare. This methodology can easily be transferred to other social media platforms, such as Twitter and Instagram, where feedback and engagement levels can be tracked. Methods can also encourage peer-to-peer shared experiences that can be easily communicated on social media platforms. PatientsLikeMe is an online quantitative personal research platform for patients with life-changing illnesses to share their experience using patient-reported outcomes (McCaffrey et al., 2018). The use of the site associated increasing levels of comfort in sharing health information, as well as a 22% decrease in risky behaviors after communicating with other patients. These results are encouraging pertaining to the relationship between engagement and health promotion.

According to Rus and Cameron (2016), similar promise in terms of the potential for social media in health was found in a diabetes-related Facebook group. The researchers examined how health topics are engaged within online settings in terms of, "likes," comments," or "shares." Regression analysis was used to determine which feature predicted engagement after the content was categorized. The use of imagery among the Facebook posts proved to be the most effective measure in engagement of sharing information relating to the consequences of

having diabetes. Positive messaging resulted in greater shares of the posts, while posts containing negative affect or social support resulted in more comments. Even though this was a Facebook-based intervention, it is especially noteworthy that imagery was their most effective measure (Rus & Cameron, 2016). Similarly, Instagram is based upon imagery, which indicates that it could be more impactful overall as a platform in creating health promotion messaging.

Another effective tactic beyond imagery has been the gamification of Facebook messaging in health promotion tactics. Ryan, Edney, and Maher (2017) examined engagement using their intervention referred to as, "Active Team," which is a gamified physical activity intervention for individuals between the ages of 18-65. The intervention was designed to meet two behavioral goals: (1) to take at least 10,000 steps per day and (2) to record or log their step counts for each day. The app contained a calendar that allowed users to enter their daily step count, as well as view their progress and tracking over time. In addition, gamification and social features such as virtual gifts and team tally board that ranks members by their progress were used in which participants "unlocked" new features and gifts as they progressed in their step goals. Users received medals after reaching their goals and were provided a weekly email of individual progress on the medals. In terms of outcomes, four metrics were used for statistical measure, including: (1) number of step log occasions (primary engagement metric), (2) number of wall posts made to team discussion board, (3) number of virtual gifts sent to teammates and (4) gamification score (calculated as the sum of wall posts and gifts). After analysis of these outcomes, the data revealed significant associations between both engagement and gamification with education, with participants in the middle education category appearing to have the highest rates of engagement and use of gamification features (Ryan, Edney, and Maher, 2017). The potential for gamification within Instagram is high, such as this example in creating imagery

related to weekly and daily challenges for fitness and nutrition. The possibility of translating gamification into a positive health intervention highlights a need to understand and enhance engagement through these tactics to maximize potential benefits, especially for youth.

Finally, user-generated branding (UGB) has become a prominent marketing strategy in the Web 2.0 era that can be utilized within social media tactics in health education. User-generated branding is defined as the strategic and operative management of brand related user-generated content to achieve brand goals (Burmann, 2010). Under this model, companies allow customers to submit user-generated content (UGC) as part of a grassroots approach to evoke messaging that stresses the interactive capabilities of the brand. This allows for the brand community to be primarily understood as a marketplace for peer-to-peer storytelling. The participatory nature of UGB programs allows for immediate quantitative feedback regarding reach and qualitative feedback in terms of brand messaging understanding. However, despite the benefits, UGB programs struggle to replace existing media as a primary marketing instrument for need of sponsorship by traditional marketing media and platforms. Burmann (2010) calls upon special attention to peer-to-peer UGC in exploring what extent peer-to-peer influence affects the liking of sponsorship UGB programs. Given the success of peer-to-peer models in education, it should be investigated as to which organizational structures and branding activities might be suitable to evoke positive effects of UGC (Burmann, 2010).

Geurin & Burch (2017) expanded upon the potential for UGB as a method that is cost effective, can track consumers, and give immediate feedback regarding a brand and its products or services. UGB also has the potential to help develop stronger relationships between brands and consumers. In their study, six running brands implemented UGC into their Instagram accounts by posting photos that were submitted by fans of their brand. Companies that used

UGC from their fans and followers received greater engagement than their own brand-generated content. It is important to note that the selected content by the individual were high quality and attractive. These results show that followers and consumers expect to be involved in the brands' product or service creation (Geurin & Burch, 2017). This echoes previous statements in the literature review regarding engagement from peer-influence and how health educators can brand their social media content with content developed by student peers.

Instagram: A Narrower Scope

In terms of previous research specifically focused on Instagram use and its influence, there is limited data. Coates et al. (2019) studied the impact of celebrity endorsement of Instagram nutrition messaging on children between the ages 9-11. Participants were randomly assigned to three groups in which the influencers promoted either an unhealthy snack, healthy snack, or neither. Children who were exposed to unhealthy foods increased their intake of poor food choices, while the other two groups had no effect on food choices. This study suggests that promoting healthy eating on social media is ineffective, but the study was conducted in a single setting for 1 minute of exposure. Adolescents are likely to spend much longer amounts of time on social media, therefore, measuring the influence of consistent messaging over a long period of time are inconclusive. Furthermore, this study consisted of only celebrity influence on children, and did not take into consideration the impact of peer-to-peer influence (Coates et al, 2019).

A more longitudinal study conducted with adults tracked which social media platform attracted the most engagement over a three-month period through messaging from health promotion companies, Fitbit and Garmin. This was one of the first studies to develop a quantifiable scale, or codebook, that was used in measurement of Instagram engagement. Each of the social media posts were coded for the presence or absence of 26 dichotomous and 8

categorical creative elements, from which the overall theme of the post was captured. Among their social media platforms, engagement on Instagram was 30-200 times higher than Facebook or Twitter. Instagram outperformed both Twitter and Facebook in categories of likes per post and comments per post. This suggests that the creative imagery used and strategized by the companies may provide insights for less popular accounts in how to appeal to current and prospective high school users. Instagram achieves a better reach to its audience with vastly better engagement, highlighting the promise of future research (Edney et al., 2018).

Another content analysis approach suggesting the power of Instagram in public health was a study done by Guidry and colleagues (2017), which addressed the crisis of Ebola through twitter and Instagram messaging. A specific age group was not specified. Coding protocols were developed, tested, and implemented using different dichotomous variables. Each tweet was coded for the timeframe of the tweet, the handle of the Twitter user, whether a tweet was retweeted and how many times, whether a tweet was favorited and how many times, and whether the tweet included a hyperlink and if so, the type of website it linked to. Each Instagram post was coded for the timeframe of the post, the handle of the Instagram user who posted, whether a post was liked and the number of likes, whether a post received comments and the number of comments, whether the post linked to another website and if so, what type of website. Engagement scores for each tweet was the sum of frequencies of retweets and favorites, and engagement scores for Instagram were measured through the sum of frequencies of likes and comments. Both tweets and Instagram posts were coded dichotomously for seven risk perception variables: 1) danger expression; 2) involuntary nature of disease; 3) Uneven/unequal distribution of risk; 3) irreversible or dreaded outcomes; 4) identifiable victim(s); 5) fear, and 6) credibility/trustworthiness of medical organization. All tweets and Instagram posts were coded

categorically for the primary emotion expressed in the post, which included: 1) humor or sarcasm; 2) relief; 3) downplayed risk; 4) concern; 5) frustration; 6) misinformation; 7) question; and 8) other emotion. Although these variables are not directly related to nutrition, the dichotomous structure could be beneficial to understand the impact of these forms of communication, as well as the specificity of the communication. This research structure can translate to other forms of messaging and allow for quantifiable content within the dynamic nature of social media. Overall, Instagram saw greater engagement across all variables, further stressing the importance of the platform's use in the field of public health (Guidry et al, 2017).

Social Cognitive Theory within Social Media

Social Cognitive Theory (SCT) is important to understand in the context of this research study. By definition, SCT is based upon reciprocal determinism, which is the dynamic interplay among personal, environmental, and behavioral factors (Hayden, 2014). Changes within each of the three factors will always affect the others. For example, interpretation of environment and personal understanding will affect behavior and behavior will, in return, affect the environmental and personal factors. Constructs within the dynamic nature of SCT include self-efficacy, expectations, observational learning, expectancies, emotional arousal, behavior capability, reinforcement, and locus of control (Hayden, 2014).

Instagram can play a powerful role in impacting these constructs within health behavior, as it would be considered an environmental factor. It is well documented that earning the approval of peers virtually has behavioral effects (Cohen & Prinstein, 2006). However, little is known in terms of how unique features to social media contribute to peer influence. The most crucial significant difference between in-person and virtual peer communication is the affordance of quantifiable interactions online (Sherman et al., 2016). The Instagram environment

allows for feedback that is purely quantifiable in the way of likes and comments that is eluded within an in-person peer influence that involves qualitative factors and subjective interpretation. This visual understanding of a like is a quantifiable social endorsement that serves as a powerful motivator for adolescents (Sherman et al., 2016). Moving forward, quantifiable social endorsements provide a unique research opportunity that allow for experimental manipulation in peer engagement. This will help gather a greater understanding of the reciprocal determinism involved in the modern-day digital world of adolescents in focusing on which types of environments and content have the highest potential to affect behavior change and personal factors.

Although quantifiable understanding is currently limited, a greater understanding of the individual's reciprocal determinism within social media may help understanding in peer online influences (Crone & Konijn, 2018). Overall, in terms of specifically health education and social media, adolescents want information to be readily accessible, trustworthy, credible, and displayed in a non-threatening capacity. Notably, teens within the assessed focus groups expressed interest in a health education program run by other adolescents, stating that if the program or information were facilitated by their peers, they would want some assurance that the adolescents had been trained to answer questions and develop content (Selkie, Benson, & Moreno, 2011). In terms of tendencies, adolescents are more likely to like photos they believed to be popular and experienced a higher sense of emotional arousal from popular photos (Sherman et al., 2018; Sherman et al. 2016). This includes photos that portray risky behaviors, such as smoking marijuana or consumption of alcohol if the photo had received higher amounts of likes from peers. Brain imaging findings suggest that adolescents perceive information differently in a qualitative sense when they believe the information is valued more by peers (Sherman et al.,

2016). Teens "cool ratio," or their number of followers compared to their number of accounts they follow has been correlated in neuropsychological research to activate similar brain regions present in social acceptance and receiving awards when they have a greater number of followers than following, as well as depression and lower self-esteem when the ratio is not in their favor (Sherman et al., 2016; Lieberman & Eisenberger, 2009; Burrow & Rainone, 2016). Although these studies assess how neuroscience may help us understand the influence of Instagram on an individual, there is a gap that calls for a more specific understanding of how adolescents interact with content that is produced from different sources, instead of simply basing their engagement on following.

 Summary

As youth become more and more unhealthy, it is vital for educational platforms to continue towards the path of innovation in a fast-moving world. Traditional methods of health education have demonstrated mixed results, while peer education continues to prove its effectiveness in a multitude of settings. As researchers have described content, timing, and types of engagement within social media, there needs to be an expansion and a deepened observation on what types of content interact effectively on social media sites, specifically Instagram. This gap will be addressed by targeting different sources of administration of content and peer-driven content creation to garner a more specific understanding of what adolescents find engaging.

Chapter 3

Methods and Procedures

Study Design

Two separate but interrelated studies were implemented throughout the duration of the current study. The first study, which included comparative analysis of the Instagram accounts, consisted of quantitative data analysis. Quantitative analysis of weekly engagement using Instagram analytics and content analysis of posts as the primary measure were used. The study is composed of both a comparison and experimental group that share the same content but in different scenarios. The experimental group shared content every other day that was developed by a strategical group of their peers. The experimental group also was engaged with an Instagram account that was perceived to be run by their peers. In contrast, the comparison group was shared the same content on the same schedule but was facilitated by an administrator to a student following. Throughout the 4-week period that these groups were participating in this study, quantitative assessment was used to measure engagement from the Instagram analytical data every week.

The second study consisted of qualitative data collection using focus group discussions. Focus groups were used to gain insight on the most and least effective types of content and the use of social media in general to disseminate health information among peers. Students were recruited by a teacher at their school to participate in the focus group interview. For clarity, methodology for the two studies were separated. This study was approved by the University of Kansas Human Subjects Committee STUDY00144691.

Study 1

Participants

Participants for this study included currently enrolled high school students at both Lawrence High School and Free State High School. Students of all grade levels had the option to voluntarily follow the Instagram account. Parameters were made as consistent as possible between both the comparison and experimental groups. This includes two high schools within the same district to ensure a similar demographic, time and date of content release, use of the exact same content, and monitoring the following of each account.

Instagram Following Recruitment

During the 2020 spring semester, student participation was dictated by an opt-in approach, where students had the option of following and participating in either the comparison or experimental social media page. Access for any Free State or Lawrence High School student within the school, including freshmen, sophomores, juniors, and seniors, ensured an equitable selection of participants.

Participants that choose to follow the Instagram account were recruited using the snowball sampling technique. This refers to the process of asking individuals that have already been recruited to recruit other potential participants. This method takes advantage of social networks by locating one person who fits the recruitment criteria and may provide connections to others that the individual knows. (Morgan, 1998) This type of sampling included promotion within various clubs within the school and announcements at the current school. This may also be referred to as referrals, or the use of key informants to recruit students.

Instagram Measures

Quantitative data collection measures included the use of Instagram Analytics from the business account settings. The primary researcher used reported data, such as impressions, reach, likes, and comments to calculate engagement rate using various formulas by hand. These were aggregated and expressed as a percentage for comparison.

Procedures

Pre-Intervention Procedures

Prior to the intervention, a group of students, as well as a current faculty member at the high school, volunteered to help facilitate content that sufficed as peer influenced. This group of students had an interest within the context of health and wellness. Weekly meetings were conducted that included the primary researcher, student group, and faculty member. These meetings consisted of recruitment strategies, content submission deadlines, and strategies to promote engagement with the content. This time was also used to develop the intervention itself, and included the researcher developing the health messaging while the students brainstormed the imaging. An example of an image and description is shown in Figure 1 below:

Fresh Food Friday: "The skin of fruits and vegetables contain phytochemicals that give them their beautiful colors. Different phytochemicals from different sources of produce offer different benefits to our health, such as increased immunity and fighting cancerous cells. What are some of your favorite tasting colors? How do all the colors make you feel when you walk into the grocery store?" (Figure 1)

Intervention Procedures

Dissemination of the weekly health messages at both the experimental and comparison sites began in early spring 2020. Throughout the intervention, weekly meetings continued with the student and faculty group, in which the group would review the engagement level of the previous week and how messaging could be improved upon. Week-to-week content, including themes that would be used for that week and selection of the submitted content, was agreed upon by all members involved in the weekly meeting. After content was submitted, it was scheduled to appear at a certain time of day, two or three times per week, and with daily themes that were health related. This content was shared with the exact same parameters on the comparison group account, with the exception of a district/school administrator disseminating the messages.

Recruiting within the study included no official documentation. The student group encouraged peers to follow the account (without disclosing that it was research), created both morning and afternoon announcements that promoted the page, and asked teachers that were club moderators within the school to make students aware of the account. Recruitment pertaining to the comparison group included a faculty member facilitating the promotion of the Instagram account to various classrooms throughout the school building. All students who voluntarily followed the account were considered participants. The following of the accounts was monitored daily by both the primary researcher and the faculty members to ensure the validity of following as best and accurately as possible. Data analysis occurred weekly for comparative purposes.

Data Collection Procedures

At the end of each week of the study, Instagram analytical data was collected for statistical analysis using quantifiable measures that adhere to engagement. Recorded data

included reach, impressions, and number of comments and likes. These will be aggregated and expressed as a percentage for comparison as descriptive data.

Instagram Data Analysis

The account that was used for this study is subscribed under the business model that Instagram offers to its users. This platform allows individuals to access data such as daily/weekly insights that include impressions, reach, follows, or profile visits. With the focus of this study in mind, gender, age, and locations of interactions were recorded. For clarification, impressions are defined as the total number of times your posts have been seen, while reach is defined as the number of unique accounts that have seen your posts.

Engagement, which was the primary interest of the analytical data collection, was calculated using a hand-calculated equation. Engagement level was calculated by combining the number of comments and likes and divided by the following of the account. This numerical data was multiplied by 100 to find the final engagement rate. An example of the engagement rate equation is listed below:

- [(Likes+ comments)/following] x 100= engagement rate

Study 2

Due to complications from the COVID-19 pandemic, an additional study needed to be added for optimal results. The original population of students from study 1 were unable to participate within the virtual focus groups due changes occurring in their online schooling platform. In response, the participants from study 2 were recruited to share their social media experience within virtual focus group discussions. This group of students did not follow the peer-

led account from study 1 but were still asked questions about their social media consumption and experience pertaining to different types of influences.

Focus Group Recruitment

For the focus groups, a teacher recruited students from various grades to participate in the focus groups. Students were contacted individually through email and were asked if they would like to participate in the focus group discussion. The students recruited by the teacher were based upon previous relationships and assumed willingness to participate. Once participants pledged their participation, students were emailed the appropriate consent forms (Appendices A and B) and were asked to return the forms with the appropriate signatures prior to participating within the virtual focus group. Students that needed the permission of a parent/guardian were required to sign an assent form (Appendix C) and parents were emailed a letter stating the purpose and procedure of the focus groups (Appendix D).

Focus Group Measures

Qualitative data collection included a focus group's moderators guide that is referenced in Appendix E. The researcher utilized a moderator's guide to ensure consistent questioning and equal participation across participant conversations. This measurement tool was developed using the current study's research question as a guide to question development

The development of the moderator's guide was in collaboration with a faculty advisor, as well as information collected through the comprehensive literature review. The moderator's guide was categorized into subtopics including the following sections (Appendix E).

- General social media knowledge: Students were asked to explain what comes to mind immediately when browsing through social media content, perceptions that social media,

specifically Instagram, influences their everyday habits, and about overall attitudes

toward the social media platforms.

- Health impacts of Instagram: Students were asked how they feel Instagram impacts them
  in terms of mental, physical, and emotional health, types of health-related content they
  find the most helpful on Instagram, what kind of health content they find most/least
  engaging , and if it is educational for their health habits.

- Future use of Instagram: Students were asked what advice they would give in terms of
  developing future health-related content.

Procedures

Students who were willing to participate in focus group conversations were recruited

through an email extended to them by a teacher in their school. After receiving a confirmation

email from the participant, a recruitment email was sent to them that contained detailed

information in terms of the focus of the study, the informed consent process, and focus group

session details. Prior to virtual focus group participation, all consent forms were returned to the

primary researcher.

Once focus group participation was confirmed, participants received a confirmation email

with a detailed date and time of the virtual focus group session that was conducted on Zoom.

These sessions were audio recorded to ensure accuracy of student statements and discussions.

For each focus group, a moderator and assistant moderator were present. The moderator's guide

directed focus group questioning, and field notes were taken by the assistant moderator for cross

reference during the debriefing and analysis. Member checks took place during focus group

questioning with participants, and facilitators debriefed following the sessions to discuss

common themes (Lincoln & Guba). Succeeding the focus group session, all recordings were uploaded to a secure electronic file under password protection. Participant consent forms were stored in a locked office to ensure participant privacy.

Validity

To ensure trustworthiness and credibility of the qualitative data collection, debriefings between the moderator and assistant moderator occurred immediately following each focus group session to discuss common themes. Member checks were performed with participants prior to questioning. This established credibility of the data helped to ensure adequate representation of participant feedback.

Data Collection Procedures

Focus group participants were asked to complete an informed consent form or assent form. If students were not of age to complete an individual informed consent form, their parent/guardian was asked to complete the form. Once this was completed, the focus groups occurred. Focus group questioning was organized by a facilitator following a constructed moderator's guide. Two researchers were present during the focus group sessions. One researcher was responsible for field notes while the other moderated the discussion. Immediately after the sessions, the researchers collaborated for cross comparison of analysis. All focus group discussions were audio recorded and transcribed verbatim.

Focus Group Data Analysis

All focus group sessions were audio recorded and transcribed verbatim. At the conclusion of each focus group session, a debriefing between co-facilitators occurred to discuss recurring themes. Once transcribed, common themes and subthemes were coded. The constant

comparative method was used during analysis to code and categorize the data into themes and subthemes. This method of analysis allows the application of identified themes to be compared across focus groups and with other literature, integrated, and then translated into categorical properties relating to developmental theory (Glaser & Strauss, 1967). This adds to increased internal reliability and validity. The inductive process was used to first develop subthemes from data saturation. Subthemes were grouped into overarching themes. Member checks, facilitator debriefing, and field note comparison were adhered to in order to increase reliability and validity.

Coding of the qualitative data began with the process of data reduction. Next, data was organized and themed into exploratory code categories. The open coding strategy allowed for transcripts to be broken down and interpreted to establish key concepts from the focus groups. These concepts are related to the exploratory factors of the original research question.

Summary

In summary, this chapter was split into two studies for methodology clarification. The first study's methodology explained the process by which engagement levels were measured and compared within the experimental and comparison groups. A quantitative methods approach with snowball sampling was implemented as the primary recruitment tool for the following of the Instagram account. Quantitative data was analyzed using a formula developed specifically for measuring engagement. The second study was implemented due to complications from COVID-19. The population of students from study 1 could not be recruited, so a separate sample of students were recruited for virtual focus groups. The qualitative approach included focus groups that explored the use of social media in peer-to-peer health education and promotional messaging.

Chapter 4

Results

Using analysis methods discussed in chapter three, this chapter will report results from two interrelated studies. The first study will report results relating to the descriptive data from the Instagram accounts. The second study will report qualitative results from the focus group discussions.

Study 1 – Instagram Results

Study 1 explored a comparison in engagement levels between a peer-led (PA) and educator-led (EA) Instagram accounts. The individuals that were involved within the peer-led account created content and daily themes that would be shared on both Instagram accounts. Posts for each account were shared on the same day and at the same time. Data was recorded for Instagram Insights every week at the same time during the 4-week duration of the study.

Demographics

Demographics were not acquired of individuals following either the peer-led Instagram account or the educator-led Instagram account.

Instagram Descriptive Statistics Breakdown

Instagram statistical data was analyzed weekly and at the end of every week. From this data, statistics including reach, impressions, profile visits, likes, total followers, and change in followers were recorded for comparison. Definitions of each descriptor and a numerical comparison of the weekly statistics are reported below in Table 1.

Table 1: Statistical Definitions and Comparison Between the Peer and Educator Accounts

		Week 1		Week 2		Week 3		Week 4	
Term	**Definition**	**PA***	**EA***	**PA***	**EA***	**PA***	**EA***	**PA***	**EA***
Impressions	Total number of times posts have been seen	85	22	94	21	492	29	153	24
Reach	Number of accounts that have viewed posts	31	12	26	9	130	14	65	18
Profile Visits	Number of times the profile was visited	8	2	10	1	217	3	47	7
Total Followers	Number of accounts that follow the account	28	7	28	7	57	8	57	8
Change in Followers	Current week followers- previous week followers	0	0	0	0	29	1	0	0

*PA= peer account

 EA= educator account

After statistics were recorded, engagement with the individual account was calculated using the

formula stated below:

- [(Likes+ comments)/following] x 100= engagement rate

Throughout the duration of the 4-week data collection period, engagement declined

steadily for both accounts. The peer-led account (PA) had its highest level of engagement in

week 2 (33.33%), while the educator-led account (EA) had its highest level of engagement in

week 1 (9.57%). Below, Graph 1 provides a summary of engagement levels throughout the

duration of the data collection period.
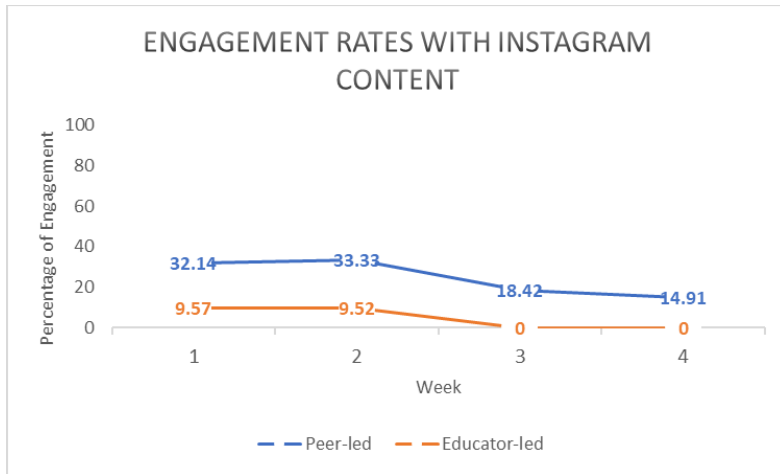
The highest levels of reach (n= 130) and impressions (n=492) for the PA occurred in week 3.

Highest levels of reach (18) for the EA occurred in week 4, while impressions peaked in week 3

(n=29). The PA saw an increase of 29 followers compared to a single follower increase for the

EA. Graph 2 captures the change for reach, impressions, and followers throughout the duration

of data collection.

Graph 2: *Weekly Comparison of Statistics provided by Instagram Insights*
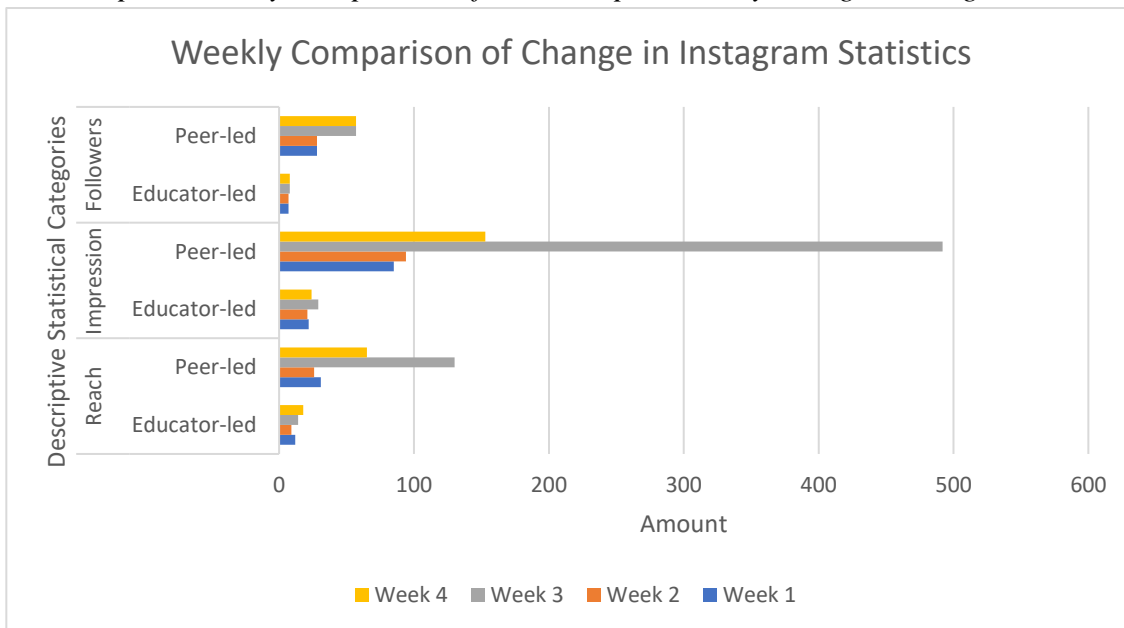
Study 2 – Focus Group Results

Demographics

Prior to focus group discussions, participant demographic information was acquired from the cooperating educator. Once participants confirmed their participation through the completion of assent and consent forms, the students agreed to a time for a virtual focus group. Three focus group discussions were held. Demographic data collection did not include sensitive information pertaining to the participants. Results for gender, race, and class status are reported below.

School Class Status, Gender, and Race/Ethnicity

Of the 17 high school participants recruited, 14 participated within the focus groups, half were juniors (n=7), almost one-third were seniors (n=5), and two were sophomores. Half of the participants identified themselves as female (n=7), while the other half identified as male (n=7). All students (n=14) identified as white or of European decent.

Focus Group Demographics

Appendix F lists demographic information organized according to focus groups sessions. Information disclosed within the table includes number of participants, total time of focus group sessions, and demographic information of participants within each. Demographics of the focus group participants are included in the final row of the table. Focus group participation ranged from four to six participants, with total interview time ranged from thirty-five minutes to forty-eight minutes. The average age of participants across all focus groups was 16.86 years old with a range of ages from 15-18.

Focus Groups Results

       All focus groups were audio-recorded, transcribed, cleaned, and edited for clarity. The

transcriptions were then coded into themes using the manual open coding method. Table 2 below

displays five major emergent themes. Within each of these major themes there are several

subthemes that emerged. Although the themes are interrelated, they are presented separately for

clarity.

Table 2

Themes Summary

	Major Theme	Subthemes
Theme #1	The Social Media Experience for Teens	1. Use a variety of platforms 2. Perceptions of social media use
Theme #2	Marketing and Influencer Impact	1. Awareness of marketing 2. Influence of familiar people 3. Peer influence 4. Influence of popular role models and idols
Theme #3	Uses of Instagram	1. Instagram for memes 2. Keeping in touch with friends 3. Miscellaneous uses
Theme #4	Future Efforts using Instagram for Health Messaging	1. Uses for health 2. Negative impacts on health
Theme #5	Ideal Content for Teens: What to Promote and Avoid	1. Too much wording/long descriptions 2. Inauthentic messaging 3. Consistency of messaging and themes 4. Design aspects

Theme #1: The Social Media Experience for Teens

This theme establishes a foundation for social media, as a whole, for teens. Context is given by students explaining how they use social media and understanding perceptually what their reaction is to the content they absorb. Subthemes within this major theme include the use of a variety of platforms and perceptions of social media use.

- **Subtheme #1: Use a variety of platforms.** Students expressed a variety of platforms regarding their primary source of social media. Primary sources of social media included Snapchat, Tik Tok, Twitter, and YouTube, among others. Instagram was referred to underwhelmingly as a primary source of daily engagement. One student explained, "I spend a lot of time on Twitter… then Instagram I just use for friends and memes and stuff like that." [FG3, P.1]

- **Subtheme #2: Perceptions of social media use.** Students had varied perceptions of the role social media plays within the lives of their peers and themselves. Students mention the use of social media as a means for expression, both negatively and positively. However, pertaining to negative content, many students expressed awareness that they have control over the content they consume. In order to abstain from negative content, students chose actions such as unfollowing accounts, blocking accounts, limiting social media time, and deleting the application all together. One student affirmed this perception by saying, "I think it's kind of how you want- it's up to you as an individual to kind of tailor it to your own wants. Like I said, if I see something I don't like, I don't care if that person is in my grade. I don't care if I see this person on a daily basis, if I don't agree with what someone is posting, I un-add them or I un-follow them or I mute their story and that has made my experience on social media much more pleasant. And honestly,

most people don't even seem to notice if you un-follow them, or un-add them or

anything." [FG1, P.11]

Table 3 provides a summary of key quotes for each of the subthemes for theme #1.

Table 3

Theme #1: The Social Media Experience for Teens

Subtheme	Participant quotes
Use a variety of platforms	"Snapchat. 100%." [FG3, P.3]
	"For me, it's like because I watch a lot of Youtube, I guess that's my main social media platform I use or whatever, but I'll see people that I watch, like I'll look for those specific people." [FG2, P.2]
	"Tik Tok if that counts" [FG3, P.4]
	"I get all of my information like on Twitter most the time and just sharing my life with other people." [FG2, P.1]
Perceptions of social media use	"I don't think the overall influence of social media is very positive, but I don't think it's negative either. I think it's more how you use the platform. How you tailor it to yourself…You also see a lot of people complaining on there and writing mean, negative things and if that's all you're surrounding yourself with obviously it's going to have a more negative effect on you overall." [FG1, P.1]
	"I see a lot of negativity all over Snapchat, Instagram, Twitter and I feel like I need to block it out. And if they keep doing it, I just get rid of it completely and I'm not friends with them on any platforms ever again." [FG1, P.7]
	"I really don't use it because I think it's better to live life like always in the moment and being aware of everything around you and you don't need to have technology to photograph it. There's a lot of things in my life that I have experienced that I may look back and think, "oh, I wish I had a picture of this," but at least I know I have that memory and I can enjoy it for myself. I don't need to have physical evidence of it." [FG2, P.3]

"I've made it an effort in the last year or so to limit my time on social media completely. So I try not to spend more than forty-five minutes on it a day so I guess most of what I am seeing is just stuff that I want to be seeing." [FG1, P.7]

Theme #2: Marketing and Influencer Impact

The second major theme relates to the role teens feel that marketing plays into their experience. Students were asked directly about the role marketing played within their lives, examples they perceived as good and poor marketing, where they find their greatest influence from social media, and questions about marketing on Instagram specifically. Subthemes under this category include awareness of marketing, the influence of familiar people, peer influence, and the influence of role models and idols

- **Subtheme #1: Awareness of marketing.** Students expressed a strong understanding of motives behind marketing. Specifically, students noted ads and promotional efforts on Instagram as having little impact on their decision-making. Students stated their negative opinion regarding companies that target them promoting products with negative health impacts. One student stated, "I always felt like it was really stupid, in my opinion, because you're trying to get young people into an addictive life with that stuff, and I think that it's just… it actually made me more mad because you're trying to draw somebody into an addictive life that can lead to troubles down the line." [FG2, P.8]

- **Subtheme #2: The influence of familiar people.** Students conveyed that a connection with familiar individuals and their experience on social media impacts them greatly. Students felt that understanding a real individual's experience prompted them to explore their account, including buying the products they are promoting, if applicable. One

student expressed the impact someone's real experience plays into their participation on social media by saying, "I mean, I guess it goes back to like the individual thing, like reaching out to different types of people in different ways rather than just being so generalized all the time and then kind of like discussion groups, like this is to get people's experiences and promote that over just generalizing because people.. If I see a story on Twitter, it is more likely that I am going to be interested in it because it's their own experience." [FG2, P.5]

- **Subtheme #3: Peer influence.** Overall, students felt that peer influence plays a vital role in their everyday social media experience. Students noticed members of their social groups oftentimes followed similar accounts. Students felt a stronger gravitation to products that they were interested in if it was modeled by a peer their age. One student said, "Like if I saw somebody with Juul, I wouldn't really look at it at all because I don't really care about it. It doesn't matter if somebody old was doing it or if someone young was doing it, it just wouldn't matter. But if it was like, men's clothing- if you see an older guy wearing it you're like uh I don't know if I want to wear that but if you see someone your age wearing it, you're like that looks kind of cool." [FG3, P.6]

Students, however, stated clearly that influence of health products was more deeply rooted in familiar individuals within their community instead of marketing efforts involving individuals their age. One student noted, "it's not necessarily the marketing involved in it, because I know JUUL is like cigarettes and you don't want to be associated with that, but I think it is a bit more of a peer influence than marketing." [FG2, P.8] It is important to state that this subtheme is also reflected in positive health peer influence. Students felt more inclined to follow and participate in positive health

initiatives at their school if it was promoted by their peers. One student affirmed, "Yeah! Because we have this OG Nutrition shop that everyone posts about 24/7. And of course I went there because everyone was posting about it saying that it was good. So I went there and I tried it and it was good. So I think people got me to go there. If they wouldn't have posted about it, I probably wouldn't have even known it was there." [FG1, P.9]

- **Subtheme #4: Influence of popular role models and idols.** Students mentioned popular figures and role models as an important aspect of their influence from social media. This includes YouTube influencers, professional athletes, musicians, and clothing designers. Regardless of if the popular influencer is promoting a positive or negative message or product, students admitted they were more inclined to listen to or buy the product because of their perception of the individual sharing the information. One student said, "I follow a lot of music accounts or I like to watch MMA fights and there is just something about the aura of, I guess you could say, your idols. They just draw you in, so if there's a new artist that drops a music video or a new song or something, I am just so… I have to go see it, even if I don't think I'll like it or I'm not starting to like it… it's just like a reaction. I don't know. I think it's prolly because we're all addicted to it." [FG2, P.4

Table 4 provides a summary of key quotes for each of the subthemes for Theme #2

Table 4

Theme #2: Marketing and Influencer Impact

Subtheme	Participant quotes
Awareness of marketing	"They listen to what we're saying. And whatever we're talking about is what they suggest to us." [FG1, P.3]

"I definitely think if I see someone else approve the product or whatever it is and give a definite like oh it works/oh it's good. I'll check in to that more than see an ad where I don't know anyone that's using it and I can't get anyone's actual opinion about it." [FG3, P.7]

"In Instagram they do that thing, you know? Where the ads look like a post? I mean, when they do that whole thing, that's definitely out there to trick some teenagers. That can be pretty scandalous." [FG1, P.8]

"Um I know a lot of people who, like the Juul that you brought up, they use a lot of those products. Umm and it kind of using those comes with a whole new persona that I think is definitely modeled after what they're seeing on social media. They almost turn into this like, I dunno "I'm a big rule breaker. I'm too cool for everything" kind of stereotypical persona because that's what they're seeing modeled for them on tv or on social media like you said. Even in the ads, the people using the Juuls are always wearing dark clothes. They're always hanging out on some street corner. I mean, it's spelling it out for you right there." [FG1, P.8]

"And I feel like ours are kind of like, our feeds, they have promoted posts that are more aimed towards what we look at so I know mine are mainly Nike sweatshirts and they're always on girls. And then they'll do swimsuits because I like to shop for that kind of stuff. I feel like it probably knows what kind of accounts I'm looking at and from there promotes those specific tweets or posts." [FG3, P.6]

The influence of familiar people	"I always stop if it's like actual people posting pictures of them" [FG3, P.3]
	"I think that a lot of it goes to like the familiarity, if that's right. It's like, even if it's sometimes at a doctor's office, like with my doctor, I don't feel like all the way comfortable, or I'm taking it in because he's a stranger, really at the end of the day, but sometimes if my mom or dad say some simple stuff, I'll take that straight to heart."[FG2, P.5]

"Oh yeah. Automatically, I'll listen. I don't know why. I mean, that's probable ignorant, that's probably, whatever, but, autonomically, just because it is coming out of their mouth will listen a little longer than I would if it was a stranger or whatever." [FG2, P.6]

"I think that's the main effects is it's gunna be those people that have always been around you that or their those role models that help you out with getting through life." [FG2, P.9]

Peer influence	"I mean, if you see a bro doing something, you're probably gonna do it. You know what I mean? If one of your friends do it, you're probably gonna do it. If that's what you're saying- Snapchatting someone you know over someone just your age." [FG1, P.8]
	"most of what I hear and anything to do with JUUL is at school with people passing them around and all that kind of crap. Freshmen kids trying to make jokes out of it, and all that stuff. That's what I hear more about it more than their media." [FG2, P.8]
	"Yeah, definitely. I think it has to be my age and it has to be something I'm interested in. It's not just one or the other." [FG3, P.6]
	"I see those ads a lot actually. Not that I follow any accounts that are like that. But it just pops up on a lot of things. But at the same time, I know many people who do that so it's kind of hard to look around and not see it influencing a lot of social groups." [FG1, P.7]
Influence of popular role models and idols	"I have bought things because a YouTuber got sponsored by it or I have downloaded an app where people were sponsored by it." [FG2. P.6]
	"Yeah. You see those guys. If you're like into that and you see like you want to be like that and you see those people on there. That'll make good drive. You know? You see it every day no matter what you keep getting reminded about it and like it's just good role modeling I guess." [FG1, P.5]
	"I'm not gunna lie, I would love to have some of the hoodies or some of the shirts that they wear but it's just another hoodie, it's just another shirt. It shouldn't be, but it does." [FG2. P.9]

"If I scroll through my Instagram right now I can probably only find like maybe two pictures of like, actual people. Like people that I know. Other than that it's just straight up like different accounts like sports accounts, cooking accounts, meme accounts, stuff like that." [FG1, P.8]

"I really like Connor McGregor, so he says some dumb stuff, but I tend to listen to that a little bit more than, sometimes, a stranger that seems like their spouting off about god knows what. It doesn't have to be important, but sometimes, that's what I mean by the familiarity. The knowing somebody." [FG2, P.5]

Theme #3: Uses of Instagram

This major theme captures different aspects of how adolescents use Instagram. Uses for Instagram described by the students included a wide array of information. The focus of this theme is to get a more accurate understanding of what teens are doing on social media. Instagram was probed more deeply because it was the platform used in study #1 and there was more insight needed on its use with teens. Subthemes for this theme include Instagram for memes, keeping in touch with friends, and miscellaneous uses.

- **Subtheme #1: Instagram for memes.** An overwhelming majority of students stated that they use Instagram to look at memes about various topics. Memes centered around comedic relief were stressed throughout the focus groups. One student expressed, "They're mostly just memes about the quarantine and stuff. They're kind of funny. They kind of lift my mood a little bit." [FG3, P.6]

- **Subtheme #2: Keeping in touch with friends.** Students stated that Instagram helps them keep up with friends and acquaintances, particularly friends that do not go to their school. One student described this perfectly by saying, "I mean, I have friends who don't go to (high school) that I don't see a lot. So it's one way to talk to them. I mean, out of person. To stay connected despite the fact that we don't see each other often." [FG1, P.1]

- **Subtheme #3: Miscellaneous uses.** Students interests within social media included a
  diversity of subject areas. Common themes across their uses for Instagram include
  learning new skills, educating themselves about a particular topic, and keeping up with
  pop culture. Skills included learning how to cook, crafting, video games, etc. Students
  also used Instagram to follow their favorite pop culture stars, travel accounts, and
  athletes. One student affirmed their interest by saying, "I typically look for things that
  pique my interest, like what I like to do, such as gaming or technology. I typically look
  for things that are credible about it or like new changes in technology that they interest
  me if I want to maybe purchase it or something. That is what I mainly use it for, mainly
  shopping or things like that." [FG2, P.2]

Table 5 includes a summary of key quotes for each subtheme for theme #3.

Table 5

Theme #3: Uses of Instagram

Subtheme	Participant quotes
Instagram for memes	"I would say my overall themes are like friends, meme accounts, and this baseball account" [FG3, P.2]
	"Yeah I mostly just follow meme pages." [FG3, P.2]
	"I don't talk to people that often. I just look at memes." [FG1, P.1]
	"I think prolly 90% of my social media is memes and then the other 10% is just contacting, staying in touch with some of my buddies, but other than that, that's literally it." [FG2, P.1]
Keeping up with friends	"I keep up with a bunch of people I wouldn't reach out and talk to individually but it's still nice to know what they're doing and stuff like that." [FG3, P.1]

"It's mostly just for checking on my friends and see how they're doing and that's about it." [FG2, P.1]

Miscellaneous uses	"I learned how to cook using Instagram. I made hamburgers two days ago." [FG1, P.2]
	"She posts cooking videos every day and she's really positive and says get up and go do something don't just sit around so that always is just good." [FG3, P.6]
	"I'm kind of crafty. I like to make things. So I follow crafty accounts or I go on Pinterest quite a bit…That's more skills I can attain by following those accounts. When I already have those kind of locked down on more of the health side of it." [FG1, P.6]
	"I follow some make up accounts too. And famous people. I like sports players- like Patrick Mahomes." [FG3, P.2]
	"I like travel and stuff. That catches my attention and just like shows I watch and then I follow the people from those shows and just what's going on." [FG2, P.2]
	"I like a good laugh every once in a while, because obviously it's hard to laugh without looking at social media or watching a show or anything like that. But I also like a mix of making a positive impact… He's really funny and makes like short videos but he also gives away cars to homeless people and he does stuff like that. I like watching that stuff because it makes me feel good." [FG2, P.4]

Theme #4: Future Efforts using Instagram for Health Messaging

Students were asked to talk specifically about their interactions with health-based social media and how they interpreted the information. Students talked about what they perceived as positive and negative messaging relating to health. This theme focuses on building a more accurate depiction of their interactions to improve the engagement with health professionals on social media. Subthemes within this category include uses of social media for health and negative impacts social media has on student health.

50

- **Subtheme #1: Uses for health.** Students that seek out health information through Instagram focus primarily on fitness and mental health. Specifically, students seek out individual accounts that provide them with daily workouts and strategies for their improving mental health. One student described the process of finding a health-related account by saying, "I follow one. She's a psychologist. I actually just followed her too, like a week ago. I saw her on Tik Tok and I liked the video so I said I'm going to follow her on Instagram and I followed her on Instagram and she's a psychologist out of California." [FG3, P.5]

    Students see health information consistently during their experience, but many said that they do not engage with the content. One student said, "I see different health accounts pop up quite often like people will film home workouts or they'll talk about what they eat in a day and how to improve their diet or whatever. To be honest, I don't take a lot from it. It's there and it probably has more influence than I think it does, but I don't consciously make an effort to follow anything they're saying or change my daily routine based on what I see others do." [FG1, P.5]

- **Subtheme #2. Negative impacts on health from Instagram.** Students frequently mentioned the negative effects that Instagram has on their everyday life. Students discussed that one of the primary negative results from social media is a culture that creates unhealthy perceived competition and attention-seeking behavior. Students recognize that their timeline often consists of "selfies" from individuals competing for likes or comments and images that create false societal norms. One student expressed why they consume information from one platform compared to Instagram, explaining, "What I don't like is it's become, because I have had Instagram since I was 11 years old,

51

it's become more of a thing where you just post selfies all the time. That's why I like Twitter more, because it is more engaging and humor and different opinions… I guess on Twitter, whereas it is just like, "selfie, selfie, selfie," but that's what Instagram is nowadays." [FG2, P.3]

In addition, students referenced their social media habits pertaining to sleep hygiene. Students stated that scrolling through social media keeps them up at night and causes them to get less sleep. One student said, "Mine is probably not good. Because it definitely keeps me up and I don't get much sleep. Just because I'm on my phone- even if it's just watching Netflix, I stay up really late on my phone." [FG3, P.9]

Table 6 provides a summary of key quotes as they relate to the subthemes for them #4.

Table 6

Theme #4: Future Efforts using Instagram for Health Messaging

Subtheme	Participant Quotes
Uses for health	"I see a lot of workout videos especially now during quarantine a lot of workout things and it's like okay I'll do one or I'll just try one or different smoothies or how to make this. I'll see stuff and I'll try it. Stuff like that." [FG3, P.1]
	"I have an account that I follow, it's like a mental health account. It's just a really positive account so I'll be scrolling and then I'll see something positive and be like oh okay and then keep scrolling. It evens out the negative stuff that people post. Like it kind of makes it easier, makes it better to be on Instagram." [FG3, P.6]
	"I follow a lot of fitness accounts like (participant's name) was saying. Just for like, they post a lot of new workouts all the time. I dunno. I try them just to see if they can work for me. Or not. They post other food related health that could be healthier to put into your diet and stuff. So that's why I follow some fitness accounts." [FG1, P.5]

"There's a lot of positive. Like there are positive accounts and positive messages. And I follow a lot of those accounts just to bring up my vibes, daily vibes, or something to make me feel better throughout the day." [FG1, P.6]

"In the sense of physical health, social media doesn't impact me that often, if at all… People are more likely to have an emotional reaction to a post, rather than an urge to work out or eat healthier. In conclusion, social media does not impact my daily health decisions." [FG1, P.11]

Negative impacts on health from Instagram	"I think it can have a kind of negative influence on my daily life because I'll be scrolling through Instagram and I'll be comparing myself to other people. I think that part of it is not a good part because it's a lot easier to compare yourself to people that you see and it could be an edited picture, like a fake picture or something like that. But it's easy to see it and be like wow I don't look like that and compare yourself and turn it in to such a negative thing so quickly." [FG3, P.1] "A lot people focus on likes and things like that. On Instagram, it affects how much they post a day just because they want to get that amount of likes that they're looking for. Or they can look at a friend's post and think that they have more likes than them so they need to post more to try to get more views and stuff like that." [FG3, P.2] "I believe social media creates a false societal norm for how people are supposed to behave and act. I just think like if some people see what other people are doing they think they have to be like that and I think that's negatively impacting the way that people think and the way they do stuff." [FG1, P.6] "I mean, it really keeps me up late at night. So that's probably not good for my health." [FG3, P.5] "Instagram kind of comes off like a competition. It's like every girl or every whoever that is just trying to top the last person with whatever trend is going around… It's just like everybody's trying to hop on the train and top the last person, which I hate, so I try to stay away from that at all times." [FG2, P.3]

Theme #5: Ideal Content for Teens: What to Promote and Avoid

Students were asked to identify content that grabbed their attention and describe different aspects of the content. Students were then prompted to describe specific parts of health-related content they found attractive and unattractive. Students gave recommendations for the best way health professionals and educators can engage them with their content. Subthemes consisted of too much wording/too long of a description, inauthentic messaging, consistency of messaging and themes, and design aspects.

- **Subtheme #1: Too much wording/long descriptions.** Students stated that content with long descriptions inclined them to ignore the post and not engage with the content. Students also described that videos that were too long in duration would often deter them from engagement. When describing an Instagramer that they enjoyed, one student said, "She makes them short. They're really short and easy to watch. If they're long, I don't want to sit through it. Sometimes I honestly won't sit through hers and watch them. But they're really short and they have big labels on them with big things that attract my eyes." [FG3, P.5]

- **Subtheme #2: Inauthentic messaging.** Students described messaging they perceive as cheesy and inauthentic from health-related accounts as off-putting and irrelevant. Students felt that messaging relating to them and their lives would be much more impactful. One student said, "If they can try to keep it from being cheesy. Sometimes you hear stuff like 'Oh are you this, this, or this? Then you need this!' I hear that and I just scroll because it sees pointless. It's like everything else that we see. More like an infomercial than trying to relate to us." [FG3, P.8]

- **Subtheme #3: Consistency of messaging and themes.** Students stressed that an account's consistency of messaging and themes catches their attention with engaging with Instagram. Students attribute this consistency to reliability of information and frequent themes allow them to sort between real and fake accounts. One student affirmed, "I think a big thing is it has to look real, cause there's so many like fake, just like, stuff like that, so I automatically try to see if it's credible. Right after that, I try to see if it's positive or negative, because, I mean, it's kind of dumb because I just automatically cancel out anything that's negative, so if it's positive and it looks real, then I'll pay attention to it." [FG2, P.2]

- **Subtheme #4: Design aspects.** Students recognized aesthetics of the account as a critical part of whether they engage with content or not. This includes the following: clear pictures, large amounts of followers, transparent descriptions, large headers and labels that are easy to understand, and use of hashtags. Students felt the use of trends could be an effective measure to increase popularity for health accounts. One student stated, "If an account is more aesthetically pleasing or if you see that they have a lot of followers already and they seem to be organized and their captions make sense, lots of hashtags or whatever, that is normally more attractive to me than an account that is messy and posts random stuff all the time." [FG1, P.3]

Table 7

Table 7 provides a summary of key quotes for each of the subthemes for theme #5.

Theme #5: Ideal Content for Teens: What to Promote and Avoid

Subtheme	Participant Quotes
Too much wording/ long descriptions	"If I see a long paragraph I never read it." [FG3, P.3] "Short readings. I don't like long paragraphs or anything like that." [FG3, P.3] "I think if it's a video I agree with what (participant's name) said earlier, keep it short and straight to the point so that you're not just sitting there waiting to hear what they have to say. Just short and to the point." [FG3, P.8]
Inauthentic messaging	"I don't want things to be too cheesy… That's why I don't follow people like that. It's usually 20-something year old's or 30-something year old's trying to relate to teenagers. It's like, oh, okay, that's not really how that's going to help me in any way. I'd rather just go see a therapist." [FG2, P.4] "You know those commercials when they say, "oh, a nickel a day can save this dying dog." That's all I see whenever I see health things. It all just sounds like a charity case, like we are all about to die… They are trying to tug on your heart strings, where I think most kids nowadays think it doesn't need to be like that because I think it makes it hard for people to see the seriousness in it anyway." [FG2, P.4]
Consistency of messaging & themes	"And if they have a matching theme on their whole account. If it's the same sort of filter and cleaness of it all. I notice that." [FG3, P.3] "By what they post or stuff like that. Like they'll have thirty thousand followers but they'll have like six posts. Nobody wants to follow a boring account like that." [FG3, P.5]

	"Sometimes I do. And if I see it multiple, like repetitive times, if I'm on a page looking for that and I see it multiple times I do find it more reliable." [FG3, P.5]
Design aspects	"I tend to believe it more if they have more followers or if more people look at it." [FG3, P.5]
	"I don't know. If I see one with, if I see an account with something on it that I like- two different accounts with something that I like, I'm going to pick the one with a million followers over the one that has fifty thousand." [FG1, P.4]
	"I think one way that could appeal to a lot of people is if it were somehow possible to incorporate a trend that is going around… if it were possible to somehow put in a message with a trend that is going around, I feel like that would help the look a little more." [FG2, P.7]
	"Where's that part where it's exciting enough but where's that point that it can cross a line that makes it too far and too risky that can cause backlash. There's a certain line you have to look for." [FG2, P.7]
	"On Instagram clear pictures that, I don't know how to explain it, like good picture quality that I can understand what the meaning is behind it." [FG1, P.4]

Summary

Two interrelated studies were reported within the results. The first study found that the peer account created more engagement than the educator account. The second study had five major themes that indicated that teens use various platforms, have perceived autonomy over their social media consumption, are more influenced by individuals within their community, and enjoy consistency and aesthetically pleasing messaging. Instagram was not the primary choice for many participants, but a better understanding of desired content may be important for educators.

Chapter 5

Discussion

The dynamic nature of social media continues to be explored in an everchanging digital world. This research study aimed to delve into the gaps within current literature by utilizing quantitative and qualitative methods to capture a clearer understanding of how adolescents are using social media and the types of content that engage them. There are connections between previous studies and the current study that help paint a clearer picture of the current situation. However, there are also new trends because of a culture of exponential change. This understanding can inform future directions and provide critical insights to researchers looking to actively involve social media within education of youth. For clarity, the discussion will be broken up into two sections. The first section will focus on the first study that revolved around descriptive statistical data for comparison on Instagram and then the second study that cultivated focus group discussions and results.

Breakdown of Descriptive Data

The descriptive statistical data collected from the first study shared many commonalities with the literature. The peer-led social media account had stronger overall measures including following, exposure, and engagement. When observing the data, there is a significant spike in week 3 that can be attributed to a peer-to-peer strategy. The peer leaders of the students creating the content reached out to a much more well-known Instagram account within the school asking to promote the account. This supports multiple inferences from the literature review. Miglioretti et al. (2012) concluded that while teachers may not think social media is an effective strategy for promoting health in schools, adolescents are more efficient and skillful when it comes to social media use and understanding their peers. Milburn (1995) also supported this theory, in that

adolescents communicate with one another in a way that they understand. Their understanding of Instagram culture allowed for a promotion led to the most viewership, engagement, and following increase throughout the entire study.

However, despite peers creating the content throughout the 4-week duration, engagement still declined steadily throughout the study and no comments were recorded. This may be contributed to a multitude of things, such as decreased motivation for students involved within the content development group or not allowing students to develop the content descriptions themselves. Future studies may allow students to develop the content descriptions and be proofread for accuracy by the researcher.

Breakdown of the Focus Groups

Pertaining to Instagram, there are some consistencies and inconsistencies between the focus group results and the literature review. Pew Research Center (2018) reported that Instagram and Snapchat were among the most popular applications among users between the ages of 13-17. For the current study, while Snapchat was mentioned frequently as a primary social media platform, Instagram was rarely considered as a primary platform. Students even mentioned other platforms, such as YouTube and Twitter, as their primary sources of social media. The ever-changing dynamic of social media speaks to the constant change in preference of platform among this age group. This may be important relating to future studies in asking adolescents to rank which social media accounts are of primary usage (primary, secondary, etc.) to gauge a more accurate understanding. It is important to note that the demographic of the focus groups was exclusively individuals of white/European descent and there needs to be a consideration of a potential difference with participants of a diversity of backgrounds.

Students confirmed results from Crowd DNA (2014) that Instagram keeps them connected and informed with acquaintances and friends. However, the ability to share pictures with friends and the documentation of their lives was not inherently positive. Multiple students considered this a barrier to their health, stating that the "selfie culture" of Instagram and the constant need for approval and competition leaves them feeling less connected and exacerbates mental health struggles. Scott and Woods (2016) further this finding within this age group, concluding that the higher amount of emotional investment and social media use suffered poorer sleep quality, lower self-esteem and higher levels of anxiety and depression. An understanding of potential negative effects of integration of social media should be considered by health educators and further stress the importance of positive messaging if promoting social media as an educational piece. Nevertheless, the awareness the participants displayed in understanding that they can tailor their social media experience in both positive and negative directions leaves room for variance in this connection. Social media hygiene, which is practicing conducive behavior to avoid negative health behavior related to social media, is of primary importance. It may be worth considering promoting social media hygiene within health education curriculums, with a primary focus relating to deciphering positive and negative messaging and its importance to mental health.

Another aspect that health educators should be concerned about is the misunderstanding adolescents have in what they regard as health information. Students consider some Instagram influencers involved in fitness, nutrition, and mental health as credible sources of information. While some may share credible information, the market and financial interest of the content they share should be considered. Students indicated that they are aware of when they are being marketed to, however, there seems to be some dissonance relating to health content. As stated by

Selkie, Benson, & Moreno (2011), teens want credible and trustworthy information, but they need to learn how to dissect content to create informative opinions. This is where health educators may be able to serve a role in helping students find credible sources on social media.

The focus group data allowed for a deeper understanding of the peer influence and marketing relating to Social Cognitive Theory. Students hinted that marketing from companies that promoted poor health habits, such as JUUL, are not the primary reason for why there is currently a surge in their product use. Marketing using individuals their age did not seem to have much of an impact, but more so seeing use of the products by peers within their community. This supports Milburn's (1995) observation as well, in that direct peers' actions and messaging are taken much more seriously and strongly motivates their peers through their influence. Observational learning from someone within your community, along with an expectation in a school community-culture, could cultivate higher impact than an unfamiliar peer model in a photo using a product. This may be crucial for health education promoters, as student buy-in to a positive health culture on social media could be of high importance. A positive example of this is in the quote below:

> *"We have this OG Nutrition shop that everyone posts about 24/7. And, of course, I went there because everyone was posting about it saying that it was good. So I went there and I tried it and it was good. So I think people got me to go there. If they wouldn't have posted about it, I probably wouldn't have even known it was there."*

Overall, the data supports that virtual peer influence reflects the traditional impact of peer influence and should be considered with similar regard in education.

The theme of familiarity relating to celebrities and famous subscribers and their influence is an important topic of discussion. Coates et al. (2019) concluded that celebrity endorsements of

nutritional messaging on Instagram were ineffective, however, this was with youth between the ages of 9-11. The focus groups from the current study suggest that this needs to be revisited with an older adolescent population. Popular figures and their influence were mentioned numerous times regarding influence to buy products and adopt behaviors. For example, as one youth described,

"I have bought things because a YouTuber got sponsored by it or I have downloaded an app where people were sponsored by it."

Finally, ideal content that teens find more engaging may be the most exploratory aspect of the current study. Expanding upon the literature, teens find credibility in aesthetically pleasing and authentic content, consistent themes, and popular accounts on social media platforms. This supports the findings of Geurin & Burch (2017), in that the high quality and attractive photos submitted by the fans allowed for the brand to develop a stronger relationship between them and their consumers. These factors need to be considered when developing teen-oriented content by health professionals. Critical planning and a clearly defined trajectory when attempting to implement these factors in order to influence and engage teens on social media is essential.

Limitations

Several limitations should be considered regarding research design and results of this study. Pertaining to the first study, the number of followers is a concern given that business account analytics are generally designed for accounts with large followings. Thus, the sample size of followers for both the peer-led and educator-led accounts was small and is a limitation to this study. Analytics from accounts with larger and comparable followings are needed for more significant comparison. A large discrepancy in following between the accounts may have contributed to greater statistical data from the peer-led account. Furthermore, the current study

was conducted during the COVID-19 outbreak. Consequentially, the researcher was unable to conduct focus groups with the population that followed the original peer-led account. Ultimately, the study design needed to be adjusted, and a separate group of students were recruited to participate in the focus groups.

Regarding the focus groups from the second study, the sample size of the focus groups was small, but saturation was reached. Secondly, the results of the focus groups cannot be generalized to other demographics or populations. The entire demographic of the focus group participants were white individuals. Different results may have been concluded if a greater diversity of subjects were recruited. Thirdly, Participants were specifically targeted by the teacher due to familiarity and understanding of their willingness to participate.

Conclusions

Based upon the results of the current study, conclusions have been drawn as follows:

- Peer-led accounts appear to have a greater impact on student engagement, but confirmation with comparisons of accounts with larger followings are needed.

- Students recognize both positive and negative Instagram content and are not passive consumers of information. They know how to tailor their social media experience to fit their interests and preferences.

- Students are aware of when they are being marketed to, but they are susceptible to marketing from content they have an interest in. If students feel that they have a personal connection to content or a content creator, they are more inclined to engage with that content. This includes friends, familiar individuals in their community, and celebrities and subscribers they feel connected to.

- Students are not susceptible to marketing simply because it features people their age. Observational learning from familiar peers has a larger impact related to health behavior.

- Ideal content for this demographic includes crisp and clean imaging, consistent themes, high numbers of followers and likes, direct and authentic messaging, and dynamic and positive content. These factors give the content creator credibility from their perception.

- Changes within health education regarding social media hygiene and its relationship to the consumption of health information may be a significant contribution to students' overall well-being.

Recommendations

Based upon the conclusions formulated from the current study, future recommendations are as follows:

- **Implement social media studies with large followings**: This study was conducted on a small scale to explore potential trends in engagement between differently perceived accounts. In order to get a more accurate understanding relating to the descriptive statistics collected, there needs to be comparison on a larger scale of following. This was stressed in the focus groups, as participants stated that a higher number of follows is key to their engagement.

- **A deeper dive into celebrity influence**: Additional studies need to be conducted pertaining to engagement levels with celebrities and popular social media accounts,

specifically relating to health content. Several participants within the current study felt

strong personal ties to celebrities/idols and felt that they are influenced by them as much

as their peers.

- **More diverse demographics**: All focus group participants came from similar

  demographics and backgrounds. It is important to potentially probe individuals of a more

  diverse demographical background to see potential differences for comparison, as well as

  create a better understanding of culturally appropriate content.

- **Exploring preference in social media use**: Although there is statistical data behind

  which social media platforms are being used and by what demographic, there needs to be

  a deeper dive into what extent they are using them. The participants reported using

  Instagram, but many stated that it was not their primary platform.

- **Additional exploration of peer-led social media and the potential to influence health:**

  Participants emphasized the inclination to follow peer accounts and model their

  behaviors. This calls for more understanding regarding health education implications and

  the theoretical role of the peer-led social media in health.

- **Additional exploration of user-generated content in health education:** More research

  needs to be conducted using the full dynamic landscape of Instagram to cultivate

  engagement. This includes educators using user-generated content by their students to

  promote health objectives in their class. Using the Instagram story feature, promoting

  healthy competition, and posting user-generated content may be both informative and

  create behavior change for students.

- **Targeted education to distinguish valid, reliable health information:** Since the

  expansion of social media is evident within education, an important focus of the

educational process may become helping students decipher between unreliable and reliable health information.

- **Emphasis on peer-led social media health campaigns:** As peer health education has had a positive overall impact, virtual campaigns using social media to deliver peer health education could reap similar results.

- **Introducing social media education to educator curriculum:** For future educators to utilize social media to disseminate information effectively, classes should be designed to introduce different social media platforms and help educators incorporate them into their practice effectively. Involving different social media platforms offers a dynamic nature to their education and allows students to learn on a platform they are comfortable using.

In conclusion, the impacts of peer influence are consistent within both the virtual and real world. Relating to their social media experience, students have perceived autonomy when tailoring their social media experience to their needs and interests. Students are aware of the content that engages them most effectively and there is a strong need for health professionals to engage them within these parameters. These major themes and corresponding student feedback emphasize that educators need to continue to adjust to a diverse social media climate while also helping students filter credible health information on social media. Changes within health education regarding social media hygiene and its relationship to the consumption of health information may be a significant contribution to students' overall well-being.

Informed Consent Document- 18 & Older

Adult Informed Consent Form

A Healthier Gram: Assessment of Peer-to-Peer Influence in Healthy Behavior Social Media Engagement

KEY INFORMATION

·   This project will explore peer-to-peer influence in health behavior social media engagement. We want to identify how adolescents respond to health behavior information conveyed to them by their peers as compared to health behavior information communicated by Oak Grove R6 Administration.

·   Your participation in this research project is completely voluntary.

·   Your participation will take approximately 30-60 minutes.

·   You will be asked to participate in the following procedure: focus group discussion. More detailed information will be provided below.

·   There are no risks or discomforts while participating in this study.

·   There are no direct benefits for your participation of this study. However, information you provide about social media-based peer-to-peer health education programs may set a foundation for other programs aiming to improve the health behavior of youth.

·   Your alternative to participating in this research study is not to participate.

DETAILED INFORMATION

INTRODUCTION

The Department of Health, Sport, and Exercise Science at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You may refuse to sign this form and not participate in this study. You should be aware that even if you agree to participate, you are free to withdraw at any time. If you do withdraw from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

PURPOSE OF THE STUDY

The purpose of this study is to explore and identify how adolescents respond to health behavior information conveyed to them by their peers as compared to health behavior information communicated by individuals in authoritative positions. Students at Free State High School will serve as our comparison group in that students will be communicating information to each other through Instagram. As adolescents have started to seek intimacy with their peers in online environments that reflect their offline lives, the rise of social media among their population could prove to be an effective tool in further developing healthy behavior initiatives. In order to further understand the impact of such a program, we hope to gain further information from students at Free State High regarding their perceptions and attitudes about a social media-based peer-to-peer health promotion program.

PROCEDURES

After your participation and interaction with the Instagram page, you will be asked to participate in a 1-hour focus group discussion. Questions will include both closed and open-ended questions regarding the content that was presented to them. You will be asked to answer these questions as openly and honestly as possible. All focus group discussions will be audio-recorded and transcribed verbatim by a member of the research team.

RISKS

We do not anticipate any risks or discomforts for you while they participate in this study.

BENEFITS

There are no anticipated direct benefits by participating in this study.

POTENTIAL BENEFITS TO SOCIETY

As the digital progresses, social media continues to take on exponential role in the influence of adolescent behavior and education. It is important to frame interventions around the use of social media to promote healthy behavior. Furthermore, peer health education programs have been found to be successful in promoting healthy behaviors among youth. Despite this understanding, there is little understanding between the high use of social media among youths and peer health education programs that positively impact student health. We want to understand how the combination of these elements impact a student's intention to engage in healthier behavior. This research should give health educators a better understanding on how to use social media strategically and effectively in and out of the classroom.

PAYMENT TO PARTICIPANTS

Participants will not receive any compensation or payment for participating in this study.

PARTICIPANT CONFIDENTIALITY

Your name will not be associated in any publication or presentation with the information collected about you or with the research findings from this study. Instead, the researcher(s) will use a study number or a pseudonym rather than your name. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission. Please be advised that although the researchers will take every precaution to maintain the confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researchers will remind the students to respect the privacy of their peers during the focus group discussions and not repeat what is said in the focus groups to others. Mr. Jamie Placht, under the guidance of his advisor Dr. Susan Harvey, will be the only personnel to have access to the audio recordings and transcriptions. No individual names will be linked to the comments made during the discussions. Audio files and transcriptions will be maintained in a secure, password-protected database for a period of 3 years and then destroyed.

Permission granted on this date to use and disclose your information remains in effect indefinitely. By signing this form you give permission for use and discloser of your information for purposes of this study at any time in the future.

REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to sign this Consent and Authorization form and you may refuse to do so without affecting your right to any services you are receiving or may receive from the University of Kansas or to participate in any programs or events of the University of Kansas. However, if you refuse to sign, you cannot participate in this study.

CANCELLING THIS CONSENT AND AUTHORIZATION

You may withdraw your consent to participate in this study at any time. You also have the right to cancel your permission to use and disclose further information collected about you, in writing, at any time, by sending your written request to: *James Placht; 1301 Sunnyside Ave., Lawrence, KS 66045*.

If you cancel permission to use your information, the researchers will stop collecting additional information about you. However, the research team may use and disclose information that was gathered before they received your cancellation, as described above.

QUESTIONS ABOUT PARTICIPATION

Questions about procedures should be directed to the researcher(s) listed at the end of this consent form.

PARTICIPANT CERTIFICATION:

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7429 or (785) 864-7385, write the Human Research Protection Program (HRPP), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7568, or email irb@ku.edu.

I agree to take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

_____   _____

       Type/Print Participant's Name   Date

  _____

          Participant's Signature

_____ I consent specifically to the use of audio recording during my participation in the study.

Researcher Contact Information

James Placht   Susan Harvey, Ph.D.

Principal Investigator   Faculty Supervisor

Health, Sport, and Exercise Science Dept.   Health, Sport, and Exercise Science Dept.

Robinson Center   Robinson Center

University of Kansas   University of Kansas

Lawrence, KS 66045   Lawrence, KS 66045

785 864 3661   785 864 3661

Adult Informed Consent Form

A Healthier Gram: Assessment of Peer-to-Peer Influence in Healthy Behavior Social Media Engagement

 KEY INFORMATION

·   This project will explore peer-to-peer influence in health behavior social media engagement. We want to identify how adolescents respond to health behavior information conveyed to them by their peers as compared to health behavior information communicated by Oak Grove R6 Administration.

·   Your child's participation in this research project is completely voluntary.

·   Your child's participation will take approximately 30-60 minutes.

·   Your child will be asked to participate in the following procedure: focus group discussion. More detailed information will be provided below.

·   There are no risks or discomforts while participating in this study.

·   There are no direct benefits for your child their participation of this study. However, information your child provides about social media-based peer-to-peer health education programs may set a foundation for other programs aiming to improve the health behavior of youth.

·   Your alternative to participating in this research study is not to participate.

 INTRODUCTION

The Department of Health, Sport, and Exercise Science at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish your child to participate in the present study. You may refuse to sign this form and not have your child participate in this study. You should be aware that even if you agree for your child to participate, you are free to withdraw them at any time. If you do withdraw your child from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

PURPOSE OF THE STUDY

The purpose of this study is to explore and identify how adolescents respond to health behavior information conveyed to them by their peers as compared to health behavior information communicated by individuals in authoritative positions. Students at Free State High School will serve as our comparison group in that students will be communicating information to each other

through Instagram. As adolescents have started to seek intimacy with their peers in online environments that reflect their offline lives, the rise of social media among their population could prove to be an effective tool in further developing healthy behavior initiatives. In order to further understand the impact of such a program, we hope to gain further information from students at Free State High regarding their perceptions and attitudes about a social media-based peer-to-peer health promotion program.

PROCEDURES

After your child's participation and interaction with the Instagram page, they will be asked to participate in a 1-hour focus group discussion. Questions will include both closed and open-ended questions regarding the content that was presented to them. They will be asked to answer these questions as openly and honestly as possible. All focus group discussions will be audio-recorded and transcribed verbatim by a member of the research team.

RISKS

We do not anticipate any risks or discomforts for your child while they participate in this study.

BENEFITS

There are no anticipated direct benefits for your child participating in this study.

POTENTIAL BENEFITS TO SOCIETY

As the digital progresses, social media continues to take on exponential role in the influence of adolescent behavior and education. It is important to frame interventions around the use of social media to promote healthy behavior. Furthermore, peer health education programs have been found to be successful in promoting healthy behaviors among youth. Despite this understanding, there is little understanding between the high use of social media among youths and peer health education programs that positively impact student health. We want to understand how the combination of these elements impact a student's intention to engage in healthier behavior. This research should give health educators a better understanding on how to use social media strategically and effectively in and out of the classroom.

PAYMENT TO PARTICIPANTS

Your child will not receive any compensation or payment for participating in this study.

PARTICIPANT CONFIDENTIALITY

Your name or your child's name will not be associated in any publication or presentation with the information collected about you or your child or with the research findings from this study. Instead, the researcher(s) will use a study number or a pseudonym rather than your child's name. Your child's identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission. Please be advised that although the researchers will take every precaution to maintain the confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researchers will remind the

students to respect the privacy of their peers during the focus group discussions and not repeat what is said in the focus groups to others. Mr. Jamie Placht, under the guidance of his advisor Dr. Susan Harvey, will be the only personnel to have access to the audio recordings and transcriptions. No individual names will be linked to the comments made during the discussions. Audio files and transcriptions will be maintained in a secure, password-protected database for a period of 3 years and then destroyed.

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REFUSAL TO SIGN CONSENT AND AUTHORIZATION

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I agree to allow my child take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

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      Type/Print Participant's Name   Date

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James Placht	Susan Harvey, Ph.D.
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Health, Sport, and Exercise Science Dept.	Health, Sport, and Exercise Science Dept.
Robinson Center	Robinson Center
University of Kansas	University of Kansas
Lawrence, KS 66045	Lawrence, KS 66045
314 603 3378	785 864 3661

Appendix C

Engagement Child Assent Form

A Healthier Gram: Assessment of Peer-to-Peer Influence in Healthy Behavior Social Media

Engagement Child Assent Form

My name is Jamie. I am interested in learning more about how you interact with content on Instagram. I want to know more about this because we are looking for ways to engage you and your peers on social media in making healthier decisions, but we don't really understand what type of messaging is most effective. If you would like, you can be in my study. I would like to spend around 30-60 minutes with you and your peers in a guided discussion about this topic.

If you decide you want to be in my study, I will ask you to do the following activity:

1. Engage with you peers and myself in answering open-ended questions about your interaction with our Instagram content. This will be a guided discussion but will be extremely flexible if conversation permits.

By taking part in my study, you will help me to better understand how individuals your age interact with content on Instagram and what content you find most engaging. I will be working with other kids your age to have a better understanding. I can learn a lot from you. I hope that by working with you that we can begin to develop better instructional methods for teachers and students on how to use social media to influence healthier decisions. The only potential discomfort you might have is talking out loud. That's okay! It will become easier as we begin to share our experiences.

Other people will not know if you are in my study. I will put things I learn about you together with things I learn from other adolescents, so no one can tell what things came from you. When I tell other people about my research, I will not use your name, so no one can tell who I am talking about.

Your parents have to say it's okay for you to be in my study. After they decide, you get to choose if you want to do it too. If you don't want to be in my study, that's okay. No one will be mad at you. If you want to be in my study now and change your mind later, that's okay too. You can stop at any time.

If you don't feel like answering any questions, you don't have to, and you can stop speaking with me and that will be all right. I will be happy to answer any questions you may have now or when we are talking together.

Do you want to take part in this project?

Recruitment Parent Letter

Dear Parent/Guardian,

My name is Jamie Placht, and I am a current graduate student at the University of Kansas in the Department of Health, Sport, & Exercise Sciences. I am writing this letter to seek your permission to allow your child to be a part of my research that I am conducting at Oak Grove High School. The goal of my research study is to find more innovative and productive ways to engage students on social media, specifically focusing on health behavior and peer education. Your child has volunteered to discuss their use of Instagram in a group discussion. I would like to include your child in a focus group discussion, which includes me leading a guided conversation with your child and their peers about their experience with the content developed by the Instagram account. This is a very crucial part of the study, as receiving their responses will help educators gain a better understanding of how to engage with students in a growing online environment in education.

My protocol for this research does not collect personal or sensitive information from your child, as data will be compiled aggregately. If you or your child feels the need to withdraw from the focus group at any time, you may voluntarily do so. If you have any questions in regards to the research in general, feel free to contact me at jplacht@ku.edu or at my personal phone number, 314-603-3378. You may also contact my advisor, Dr. Susan Harvey, at suharvey@ku.edu, or 785-864-0799. Thank you for your time and you willingness to allow your child to participate in our study!

Sincerely,

Jamie Placht

Focus Group Moderator's Guide

Welcome and thank you for being here today. The purpose of this gathering is to get your feedback about how we can better serve students using social media in health education. Specifically, we want to understand what works for you in terms of engagement and what doesn't work. Once we understand what works we will be able to better use social media more effectively inside and outside of the classroom to promote healthy behavior. You have a better understanding of what works than we do. That is why we are talking with you.

Let me introduce myself. I am Jamie Placht and I will be the moderator in today's discussion. The format we are using is a focus group. A focus group is a conversation that focuses on specific questions in a safe and confidential environment. I will guide the conversation by asking questions that each of you can respond to. There are no right or wrong answers to these questions. Just be honest. If you wish, you can also respond to each other's comments, like you would in an ordinary conversation. It is my job to make sure that everyone here gets to participate and that we stay on track.

Before we get started, I want to let you know two things. First, the information we learn today will be compiled into a final report. That report will include a summary of your comments and some recommendations. It will be shared with my thesis board at the University of Kansas. Secondly, you do not have to answer any questions that you do not feel comfortable with. This focus group today is anonymous and confidential. "Anonymous" means that we will not be using your names and you will not be identified as an individual in our report of this project. "Confidential" means that what we say in this room should not be repeated outside of this room. Obviously, I cannot control what you do when you leave, but I ask each of you to respect each other's privacy and not tell anyone what was said by others here today. Although we hope everyone here honors this confidentiality, please remember that what you say here today could be repeated by another focus group member. So please, do not say anything that you absolutely need to keep private.

As you can see, we will be tape recording this focus group. The recording will only be used to make sure our notes are correct and will not be heard by anyone outside of this project.

Let's begin with introductions.

1. So, I would like to start off with a very broad question, but a very important one. How would you describe ways in which you use social media?

2. What type of influences does content on social media have on your everyday life?

3. When you browse social media, what catches your attention?

4. Let's now move to focus on specifically Instagram. What are some things you enjoy about Instagram? (Probe)

5. Think about the accounts you follow. What attracts you to following these certain accounts?

6. What types content are you attracted to, specifically?

7. Why/Why not is health an attractive content area for you?

8. Does content on Instagram influence your health?

9. How can accounts that promote health improve their messaging?

Appendix F

Focus Group Demographic Breakdown

Name	Total Participants	Total Time	Demographics
FG1	n=4	41:20	Class Status • Senior= 1 • Junior=2 • Sophomore= 1 Gender • Male= 2 • Female= 2 Race • White= 4
FG2	n=4	48:25	Class Status • Seniors= 3 • Juniors= 1 Gender • Male= 2 • Female= 2 Race • White= 4
FG3	n=6	35:02	Class Status • Seniors= 1 • Juniors= 3 • Sophomore= 1 Gender • Male= 3 • Female= 3 Race • White= 6

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