

Bridging social capital: A survey of race and ethnicity representation in the Instagram visuals of
a public university

by

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Abstract

This report is an examination of the association between college students' use of university Instagram accounts and their bridging and bonding social capital. The analysis also gauges student perceptions of race and ethnicity diversity and representation in the Instagram accounts of higher education institutions, in addition to differences in social capital by race and ethnicity. Through a survey approach, the study explores the relationship between the use of Instagram, a popular social network site, and the connections users form within the university using the framework of the social capital theory. The assessment of these relationships was conducted by surveying students within the College of Education at Kansas State University. The findings have practical implications for higher-education institutions that want to more effectively attract and support students from underrepresented groups.

Table of Contents

List of Figures	v
List of Tables	vi
Acknowledgements	vii
Introduction	1
Purpose	2
Review of the Literature	4
Social Networking Sites and Higher Education	4
Diversity and Representation	5
Bridging social capital theory	7
Problem	8
Methodology	10
Discussion	23
Conclusion	29
References	30
Appendix A - Qualtrics Survey	35
Appendix B - Content	45

List of Figures

Figure 1 <i>Analysis of Variance Comparing Bonding Social Capital to the Frequency of Instagram Use</i>	16
Figure 2. <i>Analysis of Variance Comparing Average Bridging Social Capital to the Frequency of Instagram</i>	17
Figure 3. <i>Estimated Means of Bonding Social Capital and Instagram Use</i>	19
Figure 4. <i>Estimated Marginal Means of Bridging Social Capital and Instagram Use</i>	20
Appendix A Figure A.1.....	35

List of Tables

Table 1. Items used to measure Social Capital	11
Table 2. <i>Factor Analysis</i>	13
Table 3. <i>Measured Use of Instagram by Frequency</i>	14
Table 4. <i>Instagram Users by Race and Ethnicity</i>	15
Table 5. <i>Independent Samples T-test comparing the Level of Connection to 10 Sample Posts by Race of Instagram User</i>	22

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Introduction

Sociologists Ronald Burt, James Coleman, and Robert Putnam have pioneered the modern framework of the social capital theory. Burt characterizes social capital as a social structure capital created to give individuals or groups competitive advantages in their goals (Burt, 2000). Coleman viewed social capital through the lens of changes in regards to relationships and the actions that facilitates them. In Coleman's assessment this theory of social capital is less tangible than prior theories such as human capital, which focuses on the economic value of persons based on skills and capabilities. Social capital is the network of relationships among people and the value and resources that comes with it and benefits the individual or the group (Coleman, 1988). Putnam's perspective includes moral resources defined by groups or communities, meaning that groups share norms, trust and networks that increase the dynamic of the group through coordinated action (Kim & Cannella, 2014). Social capital "refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam, 2000, p. 225). Two features of the social capital theory are the concepts of bonding and bridging social capital. Bonding social capital is the ties between close-knit groups of people who have an emotional stake in these relationships, such as friends or family. Bridging social capital is referred to as "weak ties" or the loose connections of individuals that are useful in sharing information or perspectives on social networking sites and the connections made on them are examples of these weak ties (Elison, Steinfield, & Lampe, 2007).

Purpose

Institutions of higher education have an obligation in creating effective communication to provide relevant information to prospective and current students, with the aid of various communication platforms, including social media. Through these communications, they provide a depiction of diversity by the means of visual representations of various groups (Weis, Jordann, & van Heerden, 2010). Effective use of these platforms is important in the sense that they can attract potential students and assist them in deciding on a university to attend (Constantinides & Zink Stagno, 2011).

Diversity in and out of the classroom environment is an important part of the learning and development process. As it pertains to the learning process, it is important that higher educational institutions find effective ways to promote inclusion (LaPeau et al., 2018).

Social media are now one of the first associations a student makes with a higher education institution. The ability to instantly tell by a social media feed if a program or department of interest feels inclusive or showcases the diverse population of the student body is an affordance many potential stakeholders in universities utilize (Cardona, 2021). Social media platforms have become a primary assessment tool for stakeholders who are looking to become part of the university especially since the COVID-19 pandemic. The robustness of a social media platform allows stakeholders to assess the fit of a program (Chen et.al., 2020).

Higher education institutions face the essential challenge of incorporating the principles of diversity, equity, and inclusion (DEI) into their practices, ensuring they follow these fundamental pillars. Studies like Abram's (2022) exploration of DEI across institutions shows that for the past thirty years, universities have had an evolution in inclusion of initiatives that focus on racial and ethnicity diversity to further evolve into gender equity to the more

encompassing inclusivity, providing equal access to all regarding opportunity and resources (Abrams, 2022). Diversity has the longest history when it comes to higher education systems. The 1960s' affirmative action policies, the Multicultural movement of the 1970s, and the Academic Diversity movement in the 1990s helped lead the way to the more modern DEI programming found on campuses currently (Abrams, 2022). While they strive to successfully navigate them, it does not mean that there is always a high level of success (Cardona, 2021). The American Association of University Professors (AAUP) lists "Racial Justice" as one of the primary issues plaguing higher education institutions (AAUP, 2021).

The aim of this study is to examine perceptions of bridging social capital on higher education Instagram platforms in the context of DEI. Traditional research has examined how SNS (Social Networking Sites) provide benefits from the two types of social capital. Bonding social capital gives users the emotional support they receive from the strong ties they have. Bridging social capital opens up access to information from a more diverse pool of connections outside an individual's regular social circle (Utz & Muscanell, 2015). Sites like Facebook or Instagram provide users with more ways to engage and employ specific strategies, which assist users in getting social capital from weak ties (Utz & Muscanell, 2015).

Pew (2022) found that that race and ethnicity of users differs across social networking sites. Black and Hispanic teens are more likely to use Instagram, TikTok, Twitter or WhatsApp than white teens (Vogels, Gelles-Watnick, & Massarat, 2022). Prior research has not primarily focused on bridging social capital related to race or ethnicity representation. By studying bridging social capital on Instagram with reference to race and ethnicity diversity within the Department of Education at Kansas State University, this study will add to the scholarly examinations of social capital.

Review of the Literature

Social Networking Sites and Higher Education

Social networking sites (SNS) have become a common resource for most higher education institutions. Social media have transformed the ways students at higher education institutions communicate, collaborate, and learn. When a global pandemic occurred in spring 2020, it created a necessary emergence for new strategies regarding the educational quality and connections of the higher education community. The use of SNS like Instagram helps maintain connections for university sponsored student involvement (Atkins, Giunti, & Smith, 2020). SNS offer users the opportunity to construct their own norms (Tess, 2013). Through use of social media, organizations get messages across to their audience or stakeholders by using various communication tactics. This is crucial for creators and managers of social media running within higher education systems. Instagram is known for its snapshot aesthetic. The use of these pictures results in a higher level of credibility (Colliander & Marder, 2017). The utilization of social media has developed into a type of marketing found to be efficient and affordable as a means of engaging communities and potential stakeholders (Peranginangin & Alamsyah, 2015). Social media has altered how consumers or stakeholders appraise, select, or share information (Belanche, Cenjor & Pérez-Rueda, 2019).

The primary external stakeholders are student populations and the internal are teachers (Abidin, 2015; Sallis, 2014). Both set of stakeholders as an audience to higher education can be recruited by the marketing of social media.

Previous studies, such as Urban's (2021) analysis of university Twitter accounts, found that universities use social media primarily to increase enrollment numbers, to promote programs and as a way of maintaining their corporate image (Urban, 2021).

The influence social media has on young adults or primary external stakeholders relates to the branding techniques used in these media to impact their decision making. One decision that is made by this demographic is which university they will attend, which is why universities have included Instagram into their education branding and recruitment tools (Desai & Han, 2019). Universities' use of Instagram also allows them to engage in social media listening, which is a snapshot of activity to monitor the success of campaigns and gain insight into their audience (Moe & Schweidel, 2017).

In addition to leading to a higher level of visibility, social media can be seen as an additional tool to enhance the overall level of engagement of students and the university, allowing students the opportunity to gain more information about events, organizations on campus and more. Going beyond just the initial utility of providing information in the gathering process of picking a university, students, members of the community and university staff can create a dialogue, extending the conversation and providing a higher level of involvement (Ternes, 2013).

Diversity and Representation

According to the National Center for Education Statistics, the percentage of full-time faculty in higher education was 75% white, 12 % Asian/Pacific Islander, and 3% each in the representation of Black and Hispanic faculty (2022). This lack of ethnic or racial representation can prompt those who are pursuing their educational goals to feel the need to “code-switch,” a term defined by Pew Research as changing the way Black and Hispanic Americans express themselves when they are around people with different racial or ethnical backgrounds. According to this research, nearly half of Black college graduates feel that they need to alter the way they express themselves around different ethnicities (2019). Early in the lives of many

black undergraduate students, there is a learned understanding that racial oppression is a facet of life, in part teaching them that racism is likely as they come of age (Diaquoi, 2015; Morales, 2021). Many racially diverse individuals must bridge their racial or cultural identities with that of a more prominent white cultural-educational space. A 2014 study found that the presence of minority teachers (African American and Latino/a) increased the bond students feel toward their educational institution (Atkins, Fertig & Wilken, 2014). This same study found that while white educators make it known to their students who are black or Latino/a decent that they are an ally, race is still an important factor as these students feel they can't bond as easily with educators who don't share their culture or experience (Atkins, Fertig & Wilken, 2014).

Research has found that individuals post on social media to identify and connect with others like them. These individuals can present themselves with unique characteristics of their race in a collectivistic orientation (Bij de Vaate, Veldhuis and Konjin, 2023). This connectivity further amplifies the need for marginalized people to have their voices heard. Digital media helps create opportunities for these groups to seek expression and interactions. Digital forms of media such as Instagram provide platforms for individuals who previously would have been excluded from being seen (Ortiz, et.al., 2019).

Diversity in higher education social media is a goal for many but at times can be misrepresented. When the aim for diversity turns negative it can lead to a form of discrimination known as tokenism, where underrepresented groups are included only to prevent criticism and to create the appearance of meaningful inclusion. Meaningful inclusion from a media perspective is about dedicating honest care and action to concepts not previously considered (Medina, 2019), whereas tokenism refers to symbolic gestures that can lead to further marginalization because they prevent transformational efforts of inclusion.

Bridging social capital theory

Social capital is the potential tangible and intangible resources people obtain from social connections. Tangible resources include money and food or helping teach others. Intangible resources can consist of useful information or recommendations (Spotwood & Wohn, 2020).

The two types of social capital are bonding and bridging, and each result in different norms and networks. Bridging social capital entails broad ranges of interactions with a wider or more “global” community (Vitak, 2014). These tentative relationships are considered weaker ties, but that does not necessarily mean that they are less valuable. The more different a person is in comparison to another in their social network, the higher the likelihood to be exposed to a larger variety of life situations and a broader set of information or opportunities (Williams, 2006). Many college-aged young adults leave behind strong networks or ties (bonding social capital) when they go to college. The development of new social networks on campus can be facilitated in roommate assignments, classes, structured opportunities in which interaction among peers is encouraged, as well as student organizations that provide activities for those with similar interests (Buettner & Debies-Carl, 2012). Finding new networks on their universities’ social media platforms, like Instagram, helps establish new weak ties as well (bridging social capital) (Ellison et. al., 2007). About two-thirds (69%) of teens report that social media help them interact with a more diverse group of people (Pew, 2018). Information dissemination and interactions in higher education social media posts. Research into bridging social capital and ethnicity has a gap when it comes to Instagram being the focus of study in higher education.

Problem

Earlier research on social capital and how it relates to the social media landscape of higher education has primarily focused on Facebook. At the time of Ellison et al.'s study in 2007, Facebook was the primary SNS for the college-aged stakeholder. TheFacebook, as it was known in 2004, was exclusive to college students with a campus email. In two short years, this platform became available to a wider and less limited audience base (Jenkins, 2013). Instagram has changed the SNS of this demographic of adults. Launched in 2010, Instagram primarily was designed to be a photo-sharing site allowing users to shoot, process, and share an image with their social communities (McNely, 2012). The evolution of this platform and its competing audience with Facebook resulted in Facebook acquiring Instagram in 2012 for one billion dollars (Jenkins, 2013). Instagram was originally developed as a mobile device service and was named Apple's 2011 "App of the Year" (McNely, 2012). As Instagram remains primarily a mobile-device service, its ease of accessibility makes it convenient to stay in contact more easily (Sheldon & Bryant, 2016). This is the primary reason to replicate Ellison et al.'s previous research and apply it to this newer SNS of Instagram.

For the purposes of this study, the College of Education at Kansas State University was selected as the universe from which to draw a sample for analysis. There is a growing epidemic the shortage of teachers as well as an expanding gap in the representation of race, culture and other inclusion or belonging matches between teachers and the students they teach (Carothers, Aydin & Houdyshell, 2019). The College of Education at Kansas State University was chosen as it is a leading agency on campus for "a diverse and changing world" and an understanding that required efforts must be from the perspective of individuals with different backgrounds and identities ("A Legacy of Commitment," 2023).

As SNS allows for the formation of weak ties, the main component of the study proposed in this research, the following research questions are proposed:

RQ1a. Is the frequency of Instagram use positively associated with an individual's perceived bonding social capital?

RQ1b. Is the frequency of Instagram use positively associated with an individual's perceived bridging social capital?

As racial diversity and social equity are constructs proposed in this study, the following research questions are suggested:

RQ2a. How will the relationship between the frequency of Instagram use and bonding social capital vary depending on a person's race or ethnicity?

RQ2b. How will the relationship between the frequency of Instagram use and bridging social capital vary depending on a person's race or ethnicity?

RQ3. Will minority individuals feel the K-State College of Education's Instagram account represents them as stakeholders?

Methodology

To address the research questions about bridging social capital as it relates to racial and ethnic diversity on Kansas State University's College of Education Instagram account, a survey of students, alumni, and faculty was conducted. K-State is a predominately white institution, and in the College of Education race and ethnicity demographics reflect that as well. Per a 2022 report on university student reports and historical information found on the K-State website, 981 undergraduates were enrolled in the College of Education. 839 were identified as White, 37 were identified as multi-racial, 69 as Hispanic, 1 Hawaiian-Pacific Islander, 13 as Black, 9 as Asian and 4 as American Indian (Kansas State University, 2022).

With the help of the College of Education registrar's office, all students, faculty, and alumni were sent an email invitation from the author with a brief description of the study and a survey link. Two reminder emails were sent to those who had not responded. Qualtrics, an online survey hosting site, was used for the survey. The survey was conducted during Fall semester of 2022 (See questionnaire in Appendix A).

Sample Demographics

The survey invitation was distributed to 176 faculty and staff and 1400 students. The results were taken from the 69 respondents to the survey.

Of the 69 respondents, 16.9% were male, and 83.1% were female. The average age was 38 years old. In this cohort, 78.5% of respondents were White, 4.6% were African American, 3.1% were Hispanic, 4.62% were Asian American, and 6.2% reported being multi-racial. Those who were multiracial identified as Japanese/White, White/Hispanic, or White/Asian multi-racial.

The highest level of education completed by these cohorts was 24.7% doctoral degrees, 27.7% post-graduate work or degree, 7.7% 4-year college degree, 4.6% 2-year degree, 24.6% some college or technical training, and 10.8% were high school graduates or GED certified. The communities where the respondents live were 30.7% urban, 47.6% suburban, and 21.5% rural.

In terms of the current employment status, 26.1% of participants are students, 55.3% are employed full-time, 9.2% are employed part-time, 1.5% are not employed and not actively looking for employment, and 7.6% are classified as others. Of the respondents who chose other, they included students who are full-time and part-time employed.

The current civil status as reported by respondents was 32.3% single, 15.3% in a relationship, 44.6% married, 3.0% divorced, 3.0% widowed, and 1.5% classified as other.

Dependent Variables – Social Capital

In terms of the key dependent outcome variable, social capital, 13 items adopted Su and Chan (2017) from were employed to measure respondents' social connections on social media, as shown in Table 1. Answers to the items ranged from 1= “strongly disagree” to 5= “strongly agree,” and the highest mean was shown for World Curiosity, meaning that talking to people on social media makes the respondent curious about the world ($M = 3.9$, $SD = 1.1$), and the lowest mean was demonstrated by Emergency Loan of \$500, meaning there were few people who the respondent could ask for a \$500 emergency loan ($M = 1.6$, $SD = 0.9$).

Table 1. Items used to measure Social Capital

Item	Mean	SD
<i><u>1. There are several people on social media I trust to help solve my problems</u></i>	2.7	1.3

2. <i>There are several people on social media that I feel comfortable talking to about intimate personal problems."</i>	2.1	1.3
3. <i>When I feel lonely, there are several people on social media I can talk to</i>	2.5	1.4
4. <i>If I needed an emergency loan of \$500, I know someone on social media I can turn to</i>	1.6	0.9
5. <i>The people I interact with on social media would be good job references for me</i>	2.0	1.1
6. <i>The people I interact with on social media would help me fight injustice</i>	3.0	1.1
7. <i>Interacting with people on social media makes me interested in things that happen outside of my town</i>	3.8	1.1
8. <i>Interacting with people on social media makes me want to try new things</i>	3.6	1.2
9. <i>Interacting with people on social media makes me interested in what people unlike me are thinking</i>	3.6	1.1
10. <i>Talking with people on social media makes me curious about other places in the world</i>	3.9	1.1
11. <i>Interacting with people on social media makes me feel like part of a larger community</i>	3.2	1.2
12. <i>I am willing to spend time to support general social media community activities</i>	2.8	1.1
13. <i>On social media, I come in contact with new people all the time</i>	2.8	1.3

To separate social capital into both ‘bridging’ and ‘bonding’ functions, a factor analysis (using varimax rotation) was applied (Table 2).

Here, there were eight bridging social capital items that loaded onto the first factor, explaining 44.09 percent of the variance, which were *People make me curious about the world; There are people to help me fight injustice; Interactions with others make me interested in things outside my town; Interacting with others makes me want to try new things; Interacting with others makes me interested in others unlike me; I am willing to support general social media community activities; I come in contact with new people*. Using Cronbach’s alpha ($\alpha = 0.906$), this index proved to be reliable and so it likewise was created into an additive measure and set on the same scale as the original items (M= 3.3, SD= 0.9).

Next, the same factor analysis procedure identified the following five items for bonding social capital, explaining 19.78 percent of the variance (see Table 2): *There are people I trust to help solve my problems; There are people I feel comfortable talking about intimate personal problems; When lonely, there are people I can talk to; If I need \$500 loan, there is someone I can turn to; There are people who would be good job references for me.* When examined with Cronbach's alpha ($\alpha = 0.842$), this index for bonding social capital proved to be exceptionally reliable and so it was summed and placed on (M= 2.2, SD= 1.0).

Table 2. *Factor Analysis*

Item	Factor 1 <i>Bridging Social Capital</i>	Factor 2 <i>Bonding Social Capital</i>
<i>1. The people I interact with on social media would help me fight injustice</i>	.514	
<i>2. Interacting with people on social media makes me interested in things that happen outside of my town</i>	.821	
<i>3. Interacting with people on social media makes me want to try new things</i>	.835	
<i>4. Interacting with people on social media makes me interested in what people unlike me are thinking</i>	.747	
<i>5. Talking with people on social media makes me curious about other places in the world</i>	.858	
<i>6. Interacting with people on social media makes me feel like part of a larger community</i>	.815	
<i>7. I am willing to spend time to support general social media community activities</i>	.685	
<i>8. On social media, I come in contact with new people all the time</i>	.795	
<i>9. There are several people on social media I trust to help solve my problems</i>		.607
<i>10. There are several people on social media that I feel comfortable talking to about intimate personal problems.</i>		.814
<i>11. When I feel lonely there are several people on social media I can talk to.</i>		.838
<i>12. If I needed an emergency loan of \$500, I know someone on social media I can turn to.</i>		.806

13. <i>The people I interact with on social media would be a good job reference for me.</i>		.773
Eigenvalue	5.73	2.57
Variance explained	44.09	19.78

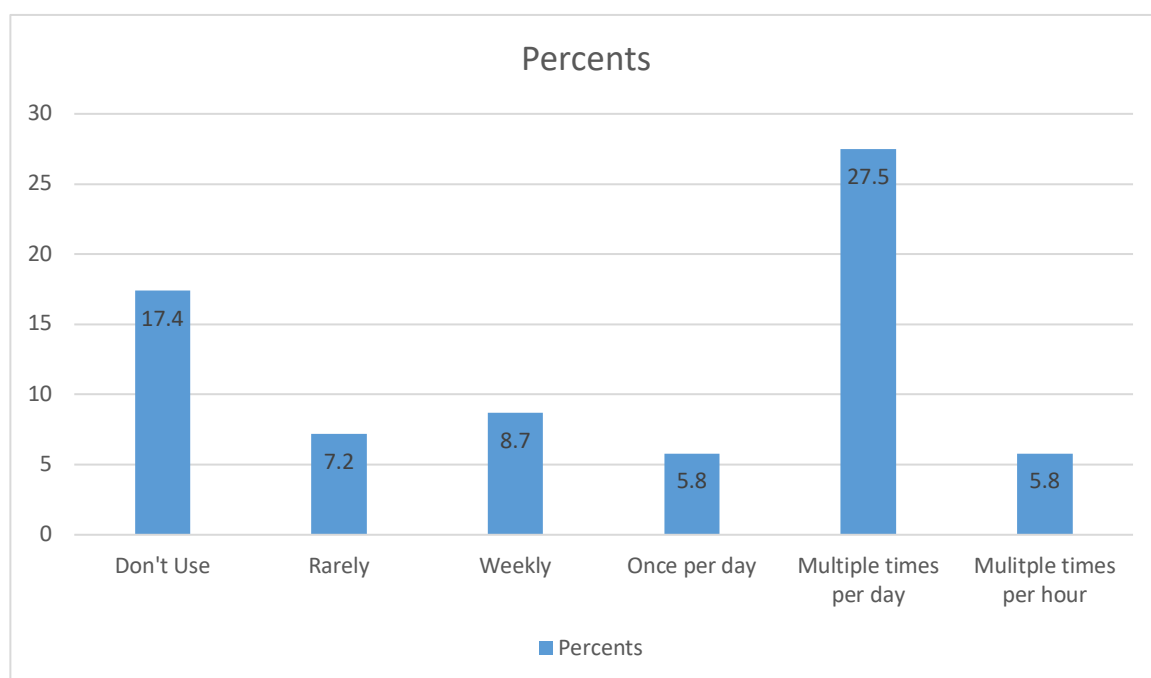
N=69

Independent Variables: Instagram Use

To measure Instagram use, respondents were asked how often they use the platform:

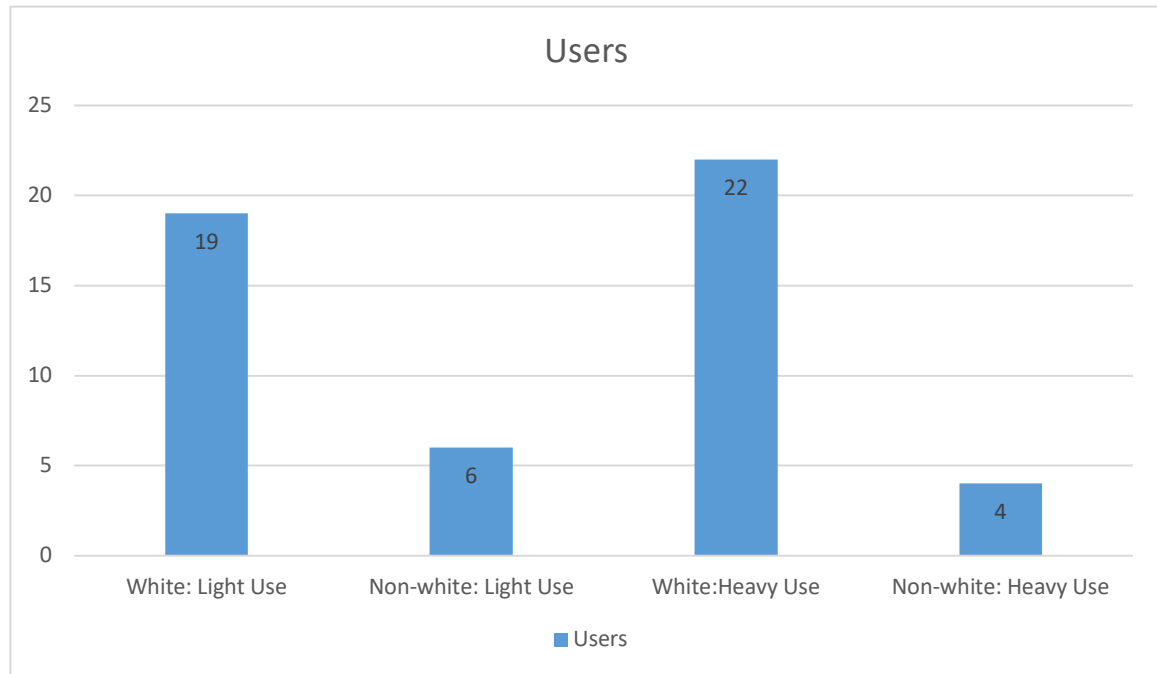
Don't use 17.4%, Rarely 7.2%, Weekly 8.7%, Once per day 5.8%, Multiple times per day 27.5%, and Multiple time per hour 5.8 %. See the Table 3 below.

Table 3. *Measured Use of Instagram by Frequency*



It was determined that respondents who reported Don't use, Once per day, Rarely, and Weekly would be recoded as light Instagram users. Heavy Instagram use was determined to capture the categories of Multiple times per day, Once per hour and Multiple times per hour. Table 4 shows differences in light/heavy use by race and ethnicity.

Table 4. *Instagram Users by Race and Ethnicity*



Findings

To answer RQ1a (Is the frequency of Instagram positively associated with an individual's perceived bonding social capital?), Pearson's correlations were carried out for both types of social capital. Unsurprisingly, Instagram use was positively associated with both bonding ($r = .456, p < .01$) and bridging ($r = .505, p < .01$). Here, it is worth noting that these relationships are both moderate and positive, supporting existing literature on the positive relationships between the maintenance and creation of social capital and certain kinds of social media use (Ellison, et. al., 2007). The correlation between bonding and bridging is less strong ($r = .371, p < .01$).

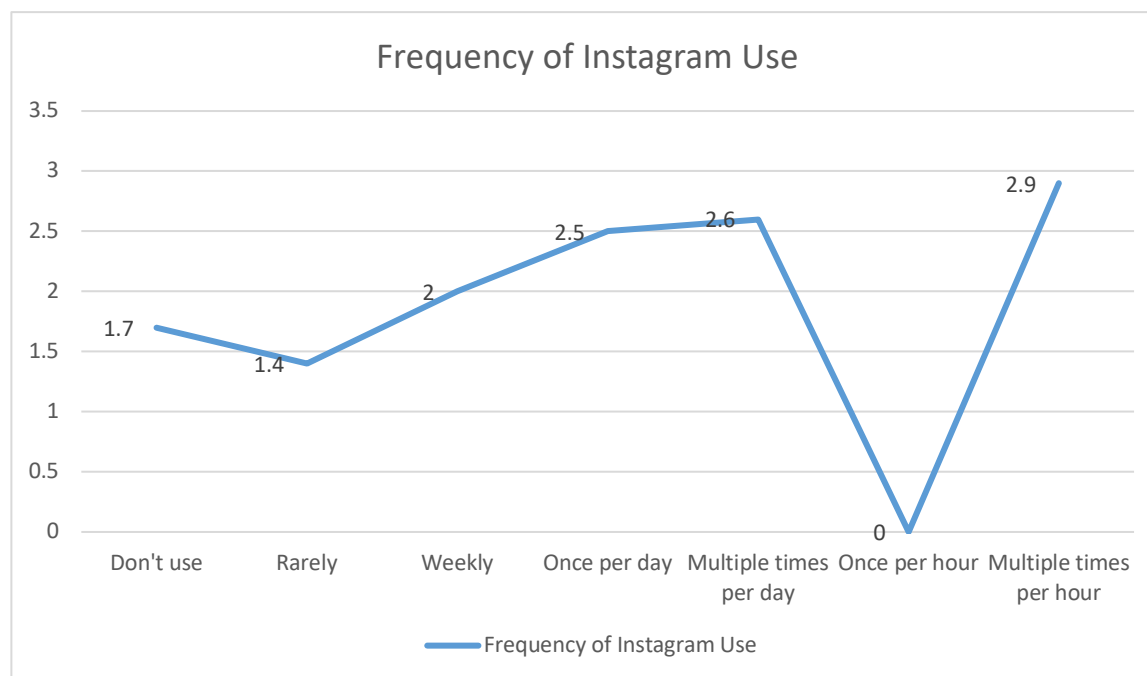
To examine this relationship further, a one-way between-groups analysis of variance (ANOVA) was conducted to explore the frequency of Instagram use and the levels of bonding social capital. The use of Instagram was divided into seven groups, 'don't use', 'rarely',

‘weekly’, ‘once per day’, ‘multiple times per day’, ‘once per hour’, ‘multiple times per hour’.

There were no responses for ‘once per hour’ so there is no data for that group. There was a statistically significant difference at the $p < .05$ for the groups: $F [5, 43] = 2.636$, $p = .036$. Despite reaching statistical significance, the actual difference in mean scores between the groups is quite small.

The bonding social capital average of respondents that ‘don’t use’ Instagram was $M = 1.7$, $SD = 0.9$. Respondents that ‘rarely’ used Instagram had lower bonding social capital ($M = 1.4$, $SD = 0.7$), but bonding social capital trended upwards for ‘weekly’ Instagram users ($M = 2.0$, $SD = 0.8$) as well as those that reported using Instagram ‘once per day’ ($M = 2.5$, $SD = 1.2$). This relationship was statistically significant, which demonstrates that the more time individuals spent on Instagram, the greater their level of bonding social capital. See Figure 1.

Figure 1 *Analysis of Variance Comparing Bonding Social Capital to the Frequency of Instagram Use*

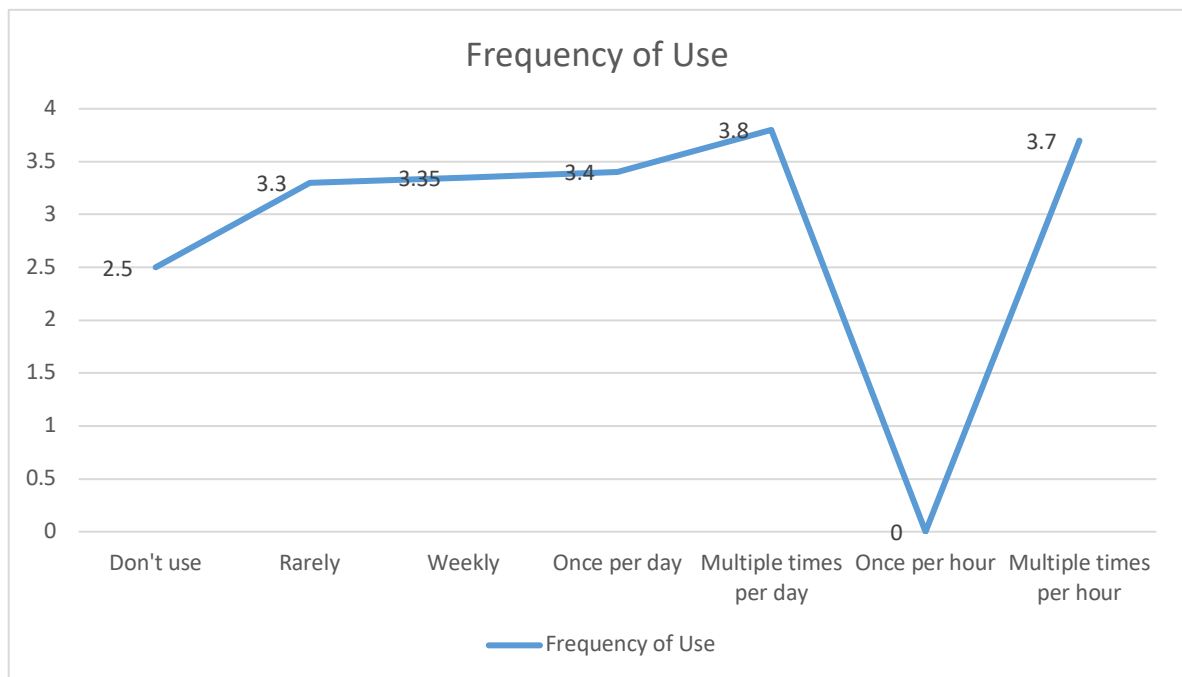


To answer RQ1b (Is the frequency of Instagram use positively associated with individuals' perceived bridging social capital?) the same analysis variance (ANOVA) was

conducted. There was a statistically significant difference at $p < .05$ for the groups: $F [5, 43] = 3.90, p = .005$. Despite reaching statistical significance, the actual difference in mean scores between the groups is quite small.

The bridging social capital average of respondents that ‘don’t use’ Instagram was moderate ($M = 2.5, SD = 0.7$). Respondents that ‘rarely’ used Instagram had slightly higher bridging social capital ($M = 3.3, SD = 0.3$), and then the capital continued upwards for ‘weekly’ Instagram users ($M = 3.3, SD = 0.8$) as well as those that reported using Instagram ‘once per day’ ($M = 3.4, SD = 0.7$), Multiple times per day ($M = 3.8, SD = 0.7$), and Multiple times per hour ($M = 3.7, SD = 0.9$). This relationship was statistically significant, which demonstrates that the more time individuals spend on Instagram, the greater their level of bridging social capital. See Figure 2.

Figure 2. *Analysis of Variance Comparing Average Bridging Social Capital to the Frequency of Instagram*

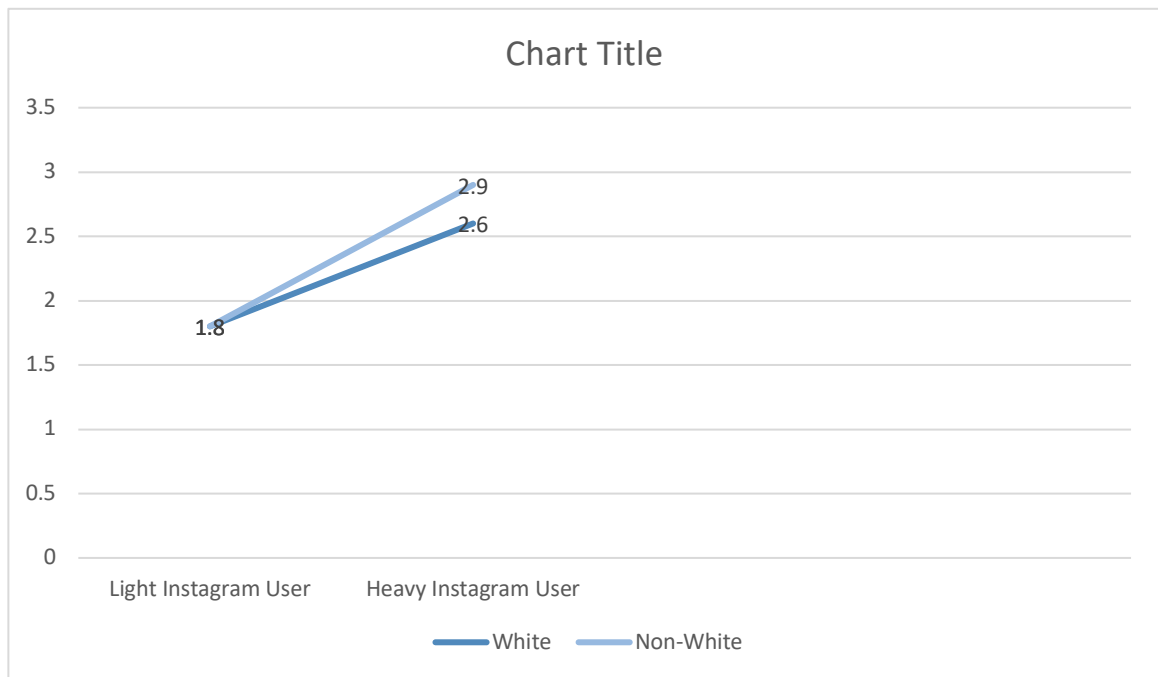


Altogether these findings indicate significant differences in bonding and bridging social capital between respondents who used Instagram heavily and lightly, but the relationships were consistent and similar.

To answer RQ2a (How will the relationship between the frequency of Instagram use and bonding social capital vary depending on a person's race or ethnicity?), a two-way between-groups analysis of variance was conducted to explore the relationship between the frequency of Instagram use and the respondent's ethnicity. Light Instagram use was determined to be users who 'don't use', 'rarely', and 'weekly'. Heavy users were then determined to be 'once per day', 'multiple times per day', and 'multiple times per hour'. 'Once per hour' was not recoded as there were no respondents who answered with that response. When comparing the bonding social capital between white and non-white light Instagram users and heavy Instagram users, it can be noted that there is no interaction effect that is significant ($p = .484$). Light Instagram users who are white respondents reported a mean average of 1.8 ($SD = 0.9$) and non-white participants reported a mean average of 1.8 ($SD = 0.9$), meaning they have comparable low levels of bonding social capital. The bonding social capital of white heavy Instagram users reached an average mean of 2.6 ($SD = 0.9$), similar to non-white heavy Instagram users, with a mean 2.9 ($SD = 0.7$). Again, findings indicate comparable levels of bonding social capital across both classifications of race and ethnicity.

This relationship was not statistically significant in estimated marginal means of bonding social capital and Instagram use ($F[1, 50] = 4.94, p = .484$) as both racial groups showed comparable bonding social capital in their "light" and "heavy" levels of Instagram use. See Figure 3.

Figure 3. *Estimated Means of Bonding Social Capital and Instagram Use*



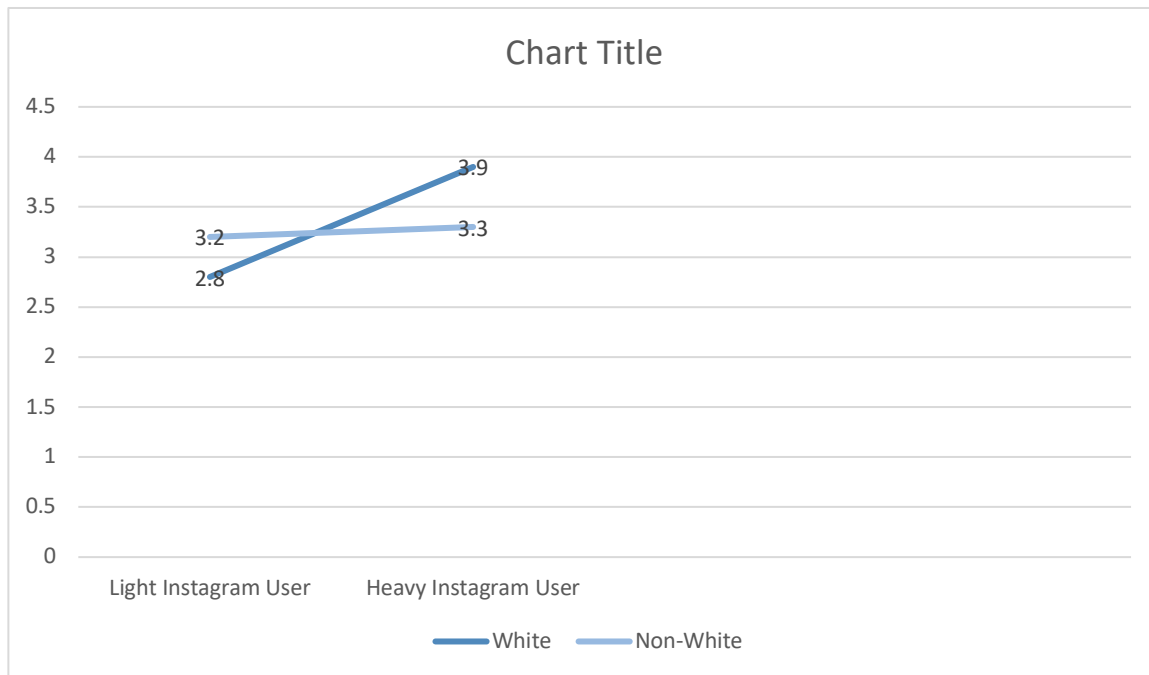
In response to RQ2b (How will the relationship between the frequency of Instagram use and bridging social capital vary depending on a person's race or ethnicity?), the same Univariate Analysis of Variance was applied to measure bridging social capital as it pertains to the frequency of Instagram use and a respondent's race and ethnicity. Here, it was observed that there is an interaction effect that approaches statistical significance at $p = .10$. Light Instagram users who are white reported a bridging social capital with an average mean of 2.8 ($SD = 0.8$), which is lower than the bridging social capital of non-white respondents, with a mean of 3.2 ($SD = 0.8$).

In comparison, white respondents who were heavy Instagram users had a higher average bridging social capital ($M = 3.9$, $SD = 0.7$) than non-white participants ($M = 3.3$, $SD = 0.9$).

This relationship did not show statistical significance in estimated marginal means of bridging social capital and Instagram use ($F [1, 50] = 2.82$, $p < .10$). However, it should be noted that white respondents reported a greater level of bridging social capital with an increase of

Instagram use, whereas non-white respondents had a more moderate level of bridging social capital among both the light and heavy Instagram use groups. See Figure 4.

Figure 4. *Estimated Marginal Means of Bridging Social Capital and Instagram Use*



In response to RQ3 (Will minority individuals feel the K-State College of Education’s Instagram account represents them as stakeholders), respondents were asked how connected they felt to the K-State College of Education community based on content displayed in the survey they were given. This content was a random selection by the author of 10 diverse types of social media posts published to the K-State College of Education Instagram profile between June 2022 and September 2022 (See Appendix B). The posts chosen included photography, graphic elements, text, avatar, and mixed media. The Instagram account under investigation was launched in July 2021, and as of the date of this study (September 2023) has 983 posts and 1,460 followers. Overall, the posts selected for this study are representative of the account in terms of the variety of content that had been used throughout the lifecycle of this account. The search criteria for which posts were selected were narrowed down by (1) posts that had similar themes

(i.e., quotes and visual narratives accompanying them). (2) photographs in group dynamics with multi-gender and multiple racial representation, and (3) posts that were about cultural diversity.

The respondents were asked to rate each social media post with the level of connectiveness they felt toward the K-State College of Education community based on a sliding scale of percentages ranging from -100 to 100. A T-Test was used to compare the level of connection felt by white vs. non-white respondents (Table 5). The only post that prompted statistically significant differences in level of connection was the photo that showed a group of people of multiple ethnicities and genders. Non-white respondents felt a considerably lower level of connection ($M=-1.1$ on a -100/+100 sliding scale, $SD=52.4$) compared to white respondents ($M=30$, $SD=26.8$), $t(67)=2.53$, $p<.05$. Overall, non-white respondents did not feel as represented as stakeholders by the content. The table below shows that non-white respondents only had a high level of connection with three out of the ten posts. This shows that non-white respondents had a low level of connection overall to the content. The post of a classroom setting with females pouring liquid rated the highest mean for this category of respondents ($M=32.8$). This is comparable to how white respondents connected with the same post ($M=35.9$). The individual post that shows the most connection to non-white respondents was the graphic celebrating Juneteenth ($M=34.2$). Here the non-white respondents had a similar level of connection ($M=31.0$). White respondents overall had a high level of connection to the content. Seven out of the ten posts garnered higher means. The content with which white respondents connected with most was the same as the non-white respondents, the classroom photo of females pouring liquids. Overall, the white respondents showed that they felt represented as stakeholders.

Table 5.Independent Samples T-test comparing the Level of Connection to 10 Sample Posts by Race of Instagram User

Content Type with Description	White		Non-white		t	Sig.
	M	SD	M	SD		
1. Quote graphic with avatar	19.1	34.5	31.8	47	-.924	.180
2. Quote graphic with photo	28.2	35.4	13.0	46.5	1.086	.142
3. Group photo, male multiple ethnicities	22.2	34.9	12.0	40.1	.744	.230
4. Group photo, male and female, multiple ethnicities	30.0	26.8	-1.1	52.4	2.534	.007
5. Classroom photo, females, pouring liquids	35.9	35.8	32.8	33.7	.234	.408
6. Infographic, flyer	24.1	38.3	13.3	32.5	.778	.220
7. Protest photo, with caption	29.6	29.7	12.8	56.7	1.243	.110
8. Whiteboard with classroom materials with caption	30.1	34.8	27.3	37.3	.215	.415
9. Infographic, flyer, Indigenous Peoples Day	26.1	33.5	32.6	58.8	-.448	.328
10. Graphic, Juneteenth	16.4	32.4	31.0	53.0	-1.056	.148

N=69

Discussion

This study aims to contribute to existing research on social capital regarding social media by exploring bridging and bonding social capital constructs and how they relate to diversity representation, utilizing Instagram as the social media platform of study. As social media has become an asset to college recruitment, it is important to understand the social capital perceived by followers of these higher education SNS profiles and the platforms they use. Primarily SNS allow for weaker ties, making the research of these ties (bridging social capital) a primary topic of scrutiny of this study. To understand the connection between Instagram, use and weak ties gained by users within higher education and the perceived connectiveness to a particular college or program through a diversity lens, as well as the relationship between Instagram use and stronger ties (bonding social capital), this study surveyed stakeholders at the College of Education at Kansas State University. Future studies can expand the sample to the entire university or to other campuses. For students and staff in a specific college community, identifying similarities and characteristics between themselves and the community as portrayed in public social media accounts establishes an emotional investment. This sense of belonging between self and community helps to establish a social identity (Hall-Phillips, Park, Chung, Anaza, & Rathod, 2016).

This study offers additional evidence to the body of research regarding social capital and the constructs of bonding and bridging. The potential exists for a person to obtain tangible or intangible resources through their social connections through Instagram (Spottswood & Wohn, 2020). Specifically, the key findings of this study found that the increased frequency of Instagram use increased both bridging and bonding social capital for the respondents. In relationship to bridging social capital, white respondents were found to have greater levels than

non-white respondents. The findings of this study have practical implications for higher-education institutions to more effectively attract and support students from underrepresented groups. Showcasing content that celebrates the diversity, cultural differences, and degree related content of the student population gives more opportunity for these unrepresented students and groups to gain bridging social capital and a sense of connection. As this study has found, light of heavy Instagram use made little change in non-white respondents bridging social capital, but the relationship they felt to cultural or degree-specific content increased that connection.

Bonding social capital is considered the stronger ties between individuals and their online communities, and this study found that most respondents strongly disagreed with the questions that pertained to their perceived levels of bonding on social media. This finding aligns with previous research that shows that the bonding form of social capital is the cultivated relationships built with close ties, such as neighbors, friends, coworkers, and family members. They are the community with which individuals share interests or characteristics (Williams, 2019), and such community is not why people turn to social media for. The respondents in this study show low levels of bonding social capital. When asked questions regarding trust and seeking help, most respondents strongly disagreed that individuals they know on SNS would be who they turn to. Most significantly was in case of an emergency loan of \$500, where the lowest mean of 1.6 reflected there were few people the respondents felt that they have someone in their SNS communities to seek help from (See Table 1). Respondents in this study don't turn to social media for such needs, most likely reserving such requests for family and friends they interact with in person.

However, this study found additional evidence to support gains in bridging social capital in connection to Instagram use. The item that showcases the highest level of bridging social

capital through this study was that respondents felt by connecting with others through social media they themselves become more curious about the world outside their own communities. This finding supports data from previous research that social capital is created by networks made of broader identities and that SNS allow for initiation of communication with a more diverse community and exposure to new worldviews (Ellison, Steinfield & Lampe, 2007).

The study found a statistically significant relationship between the time individuals spend on Instagram and their levels of bonding and bridging social capital. This finding is in line with previous research, which suggests a positive correlation between the maintaining and enhancing relationships through social media and social capital (Wang & Gu, 2019).

Findings approach statistically significant differences in bridging social capital between white and non-white light and heavy Instagram users. Among light users, non-white respondents had a higher bridging social capital compared to white respondents. This means that for non-white users, quality versus quantity may be the answer to increasing their interactions with individuals from other groups. However, with an increase of frequency the findings change. White respondents who use Instagram heavily have a higher bridging social capital versus the non-white heavy users of Instagram. This means that for white respondents the answer changes to being about quantity over quality, as the more time spent on Instagram leads to an increase in interactions.

This study sought to examine whether bonding and bridging social capital differs by race and ethnicity. Bonding social capital is defined by close, emotionally reciprocated relationships. This study used questions asking about close bonds as they pertain to social media. When measuring bonding social capital and the frequency of Instagram use, both white and non-white respondents were found to measure the same level of bonding with light Instagram use ($M = 1.8$).

As Instagram use increased, both ethnicities showed similar levels of increased bonding social capital (Fig. 3). This finding is in keeping with other studies (Kahai & Lei, 2019). The factor of ethnicity or race shows no significance in this study.

This study used questions that looked at the weaker ties, bridging social capital, as they pertained to social media use and race and ethnicity. In this case, there were more noticeable outcomes. In white respondents, the frequency of Instagram use had an impact on bridging social capital. This demonstrates that the more time white respondents spent on Instagram, the greater level of bridging social capital they obtained. In non-white respondents, the level of bridging social capital and the frequency of Instagram use did not show much change (Light Instagram use $M=3.2$, whereas Heavy Instagram use $M=3.3$). Considering that social media platforms are heralded for their potential of enhancing one's network, this finding is troubling. This outcome aligns with a study conducted by Shweta Mishra, who found that underrepresented students find the most support from members within their own communities and family groups, reiterating the importance of their bonding ties (2020). While social media provides the ability to connect with a wider range of communities and people outside one's own community, offline inequities and marginalization because of race, class, gender, or sexuality are often reproduced in online spaces. Identities and practices of underrepresented youth on social media are shaped by their cultural and socioeconomic factors (Brough, Literat, & Ikin, 2020).

By examining users' connectedness to the Instagram content of their institution, the survey provided a few opportunities to see what impact certain visuals made on audiences of different races and ethnicities. While most content shared did not elicit significantly different levels of connectedness or a strong disconnection by either group, a couple of images did provide more insight into relatability. In response to Image 5, which featured two women student

teachers, both ethnic groups seemed to find the highest and about equal level of connection. The active classroom photo seems to engage and bring the respondents to a more identifiable relation to the College of Education's social media content. This leads this author to believe that industry relatable images are more likely to connect with those in the educational work force. On the other hand, the only photo that elicited statistically significant differences in connectedness by race and ethnicity was the photo of a group of multiple ethnicities and genders. This post elicited a strong connection with the white respondents, whereas non-white respondents did not feel connected. This finding is surprising as it suggests that non-white respondents did not identify with the group even though it was the most diverse driven content out of the selection given. This may be because the respondents did not recognize the individuals posing in the group photo.

Beyond visuals, which can fall prey to practices like tokenism, or perfunctory inclusion of underrepresented groups, social media posts should aim to engage users with the messages they transmit via more than just imaging but be more strategic in graphic use to convey messaging as well as captions to captivate the underrepresented audience.

Overall, the findings of this study suggest that social media can be effective tools in increasing stakeholders' bonding and bridging social capital, but institutional account creators need to try to build and maintain relationships with the entire audience. Under-represented groups can be under-represented in social media and understanding how one's cultural identity plays a role in content they connect with allows for creators to widen their overall audience social capital.

Study limitations

This study had several limitations, the most notable of which was the small sample size. One of the reasons that there were limited responses could be attributed to the sensitive nature of

the topic regarding representation. There has also been an influx of online survey research in the wake of COVID-19 pandemic, making it harder for researchers to obtain results from those surveyed. Future studies may benefit from a more qualitative approach such as focus groups or interviews.

The small sample size affects the generalizability of the findings. The limited number of survey respondents created a smaller pool for ethnicity and racial diversity, allowing for only two measurable groups, white and non-white. A larger survey sample size could contribute to more findings in future studies. Future research should look at a larger sampling either by using the population of a division or university as opposed to a single college.

Another limitation to this study was the use of a small selection of social-media content from a limited period. This could have introduced sampling bias. Future studies could include links to the entire account and have respondents rate their level of connection based on content spanning a longer period. Future research could be done on how higher education accounts utilize other media formats in their Instagram postings, such as video or reels as well as story postings. Content analysis or rhetorical analysis can also be conducted to explore inclusion, representation, and diversity in the social media accounts of higher education institutions.

Conclusion

Although this research cannot fully say conclusively if respondents who are classified as non-white feel more connected to the K-State College of Education Instagram account, it does appear that there were some additional insights that were not fully researched prior to this study. This study also could be used as an exploration of how race and ethnicity could be a lens applied to other programs, not just the College of Education, as all institutions of higher education seek to diversify their student and faculty bodies.

The findings of this study contribute to the continued study of social capital and the ever-changing and evolving ways social media contribute to bonding and bridging social capital. It also can provide some additional insight to social media managers. By understanding that this body of research focuses only on representation with regards to ethnicity a wider lens should be applied so as not to fall into tokenism trap. Embracing an intersectional perspective to be strategic, intentional and authentic will elevate the all-encompassing view of their media audience.

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Appendix A A.1Appendix B A.1

Appendix A - Qualtrics Survey

Appendix A Figure A.1

WELCOME MESSAGE

Dear K-State College of Education students, faculty and staff. I invite you to participate in a research study conducted Jessica Maxwell, a student in the K-State Mass Communication Graduate program.

The purpose of this study is to examine representation of ethnicity and diversity on Instagram. I will ask you to complete a survey, which should take approximately 10 minutes. This survey contains questions about race and ethnicity representation in the Instagram account K-State College of Education. Your responses will be anonymous and confidential. Please do not write any identifying information (your name, address, name of school, etc.) on your survey.

Your participation in this study is completely voluntary. If you choose to participate you may choose to discontinue participation at any time and you may choose any of the survey questions that you do not wish to answer. Your completion of the survey indicates your consent to participate in this study.

SURVEY QUESTIONS

Thank you for your participation in this survey. Your participation is strictly voluntary, the length of time to complete this survey form will be between 10-15 minutes, and questions that make participating in this survey uncomfortable may be skipped.

1. To begin, can you please identify your gender?
2. What is your age in years? For example, 35
3. Which best describes your race or ethnicity?

4. What is the highest level of education you have completed?

5. What kind of community do you currently live in?

6. What is your current employment status?

7. What is your current civil status?

Social Capital

Please indicate your agreement with each of the following statements.

"Social media" is defined as Facebook, Twitter, Snapchat, Instagram, or other similar online social networks.

SC2 There are several people on social media I trust to help solve my problems.

SC3 There are several people on social media that I feel comfortable talking to about intimate personal problems.

SC4 When I feel lonely, there are several people on social media I can talk to.

SC5 If I needed an emergency loan of \$500, I know someone on social media I can turn to.

SC6 The people I interact with on social media would be good job references for me.

SC7 The people I interact with on social media would help me fight an injustice.

SC8 Interacting with people on social media makes me interested in things that happen outside of my town.

SC9 Interacting with people on social media makes me want to try new things.

SC10 Interacting with people on social media makes me interested in what people unlike me are thinking.

SC11 Talking with people on social media makes me curious about other places in the world.

SC12 Interacting with people on social media makes me feel like part of a larger community.

SC13 I am willing to spend time to support general social media community activities.

SC14 On social media, I come in contact with new people all the time.

9. Generally speaking, how often do you use the following social media platforms?

	I don't use this platform (1)	Rarely (2)	Weekly (3)	Once per day (4)	Multiple times per day (5)	Once per hours (6)	Multiple times per hour (7)
Facebook (1)	☐	☐	☐	☐	☐	☐	☐
Instagram (2)	☐	☐	☐	☐	☐	☐	☐
Twitter (3)	☐	☐	☐	☐	☐	☐	☐
Snapchat (4)	☐	☐	☐	☐	☐	☐	☐

LinkedIn (5)	☐	☐	☐	☐	☐	☐	☐
WhatsApp (6)	☐	☐	☐	☐	☐	☐	☐
YouTube (7)	☐	☐	☐	☐	☐	☐	☐
Pinterest (8)	☐	☐	☐	☐	☐	☐	☐
Tik Tok (9)	☐	☐	☐	☐	☐	☐	☐

10. On a typical day, how much TOTAL time (in hours) do you spend on ALL social media sites where you have a profile?

11. Generally speaking, when you are using these social media platforms, how often do you do the following activities:

	Never (1)	Very rarely (2)	Rarely (3)	Occasionally (4)	Frequently (5)	Very frequently (6)	Multiple times per hour (7)
Browse news website content (1)	☐	☐	☐	☐	☐	☐	☐
Communicate with others (messaging) (2)	☐	☐	☐	☐	☐	☐	☐
Browse or post to social media platforms (3)	☐	☐	☐	☐	☐	☐	☐
Engage with content (Like, share, repost, comment) (4)	☐	☐	☐	☐	☐	☐	☐

12. Thinking of your social media use overall, how much do you agree or disagree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I feel represented by the social media accounts I follow. (1)	☐	☐	☐	☐	☐	☐	☐
I choose to follow accounts that are of interest to my professional goals (2)	☐	☐	☐	☐	☐	☐	☐
I choose to follow accounts that relate to my educational goals (3)	☐	☐	☐	☐	☐	☐	☐

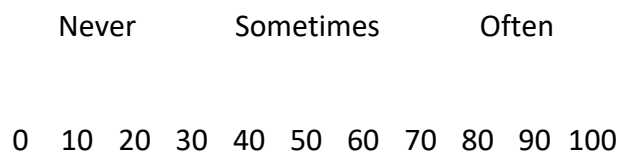
I feel that
the
accounts I
follow give
me a place
to be seen
and heard.

(4)



Stories ()	
Newsfeeds ()	
Videos/ Reels ()	

13. Please rank these in preference order: 1 being most preferred and 3 being least. When on social media I prefer to view:



14. Generally speaking, I feel more connected to the K-State College of Education through

	Not Connected (1)	Somewhat Connected (2)	Highly Connected (3)
Social media posts (1)	☐	☐	☐
In person events (2)	☐	☐	☐
Classes (3)	☐	☐	☐
Employment (4)	☐	☐	☐
Other resources (5)	☐	☐	☐

15. Is K-State College of Education one of the social media accounts you follow?

16. If you follow K-State College of Education on social media, on which platform do you follow this account?

17. How often do you view the postings on K-State College of Education Instagram?

18. How long have you been following the K-State College of Education on Instagram?

19. Do you engage with the K-State College of Education's Instagram posts or stories? (like, share, comment)

20. What type of engagement do you use when on the K-State College of Educations Instagram?

21. What type of content engages you on the K-State College of Education Instagram?

22. The K-State College of Education Instagram account shows a diverse population in its postings:

23. What does diversity on the K-State College of Education Instagram look like to you? Please be detailed and descriptive in your response.

24. Do you as an individual feel that the K-State College of Education makes you feel like you are part of its community?

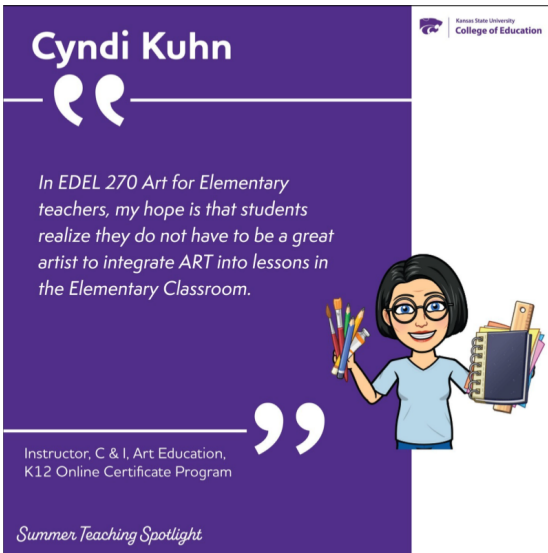
25. What do you feel is the main benefit you receive from following the K-State College of Education on Instagram?

CLOSING STATEMENT

Thank you for your participation in this survey. Your responses will advance the research into how Instagram use via a higher education platform creates a sense of community and belonging.

Appendix B - Content

1. Quote graphic with avatar



2. Quote graphic with photo



3. Group photo, male multiple ethnicities



4. Group photo, male and female, multiple ethnicities



5. Classroom photo, females, pouring liquids



6. Infographic, flyer

COLLEGE OF EDUCATION FALL INTERVIEWS

Monday, October 3

Activate your "Handshake Account"

- Go to k-state.edu/careercenter
- Click on Login to Handshake under the 4 purple boxes
- Enter your K-State eID and password
- Complete your profile information and upload your current resume

Sign Up for a Mock Interview from September 12 - 26

- Click on Jobs and Search by Education Fall Interviews
- Choose the district you want to interview with
- Click "Apply Now" or "Quick Apply" and choose your resume
- Choose a time slot

Districts Attending:

Auburn-Washburn USD 437	McPherson County Special Ed Coop
De Soto USD 232	Millard Public Schools
Fort Leavenworth USD 207	Olathe USD 233
Geary County Schools USD 475	Shawnee Mission School District
Garden City Public Schools	Spring Hill USD 230
Geary County USD 475	Topeka Public Schools
Grand Island Public Schools	Troy Public Schools
Liberal USD 480	Wichita Public Schools

Additional districts may be added

Interviews will be virtual

Questions- contact Alison at 785-532-6508 or alison@ksu.edu

7. Protest photo, with caption



ksatecoe

ksatecoe NBC's Rehema Ellis reports in this week's Sunday Focus, "Are we facing a national teacher shortage?" Tuan Nguyen, assistant professor from K-State's COE weighs in. @edu_tuan @TODAYshow

Link in Bio-News & Events

#ksatecoe #EDCATS #collegeofeducation #teachershortage

27w

8. Whiteboard with classroom materials with caption

It's

- friendly
- nice
- positive
- KIND
- good
- Follows directions

Does

- Share
- makes friends
- treat others with respect
- Always try
- helping

A GOOD CLASSMATE

Says

- "you're really nice"
- "thank you"
- "you can do it"
- "I like"

Doesn't

- hands on someone
- say mean words
- bullying in hall
- LYING
- taking people's stuff
- Blaming

9. Infographic, flyer, Indigenous Peoples Day

10. Graphic, Juneteenth



INDIGENOUS PEOPLES DAY

INDIGENOUS KANSAS:
Past, Present, and Future

JOIN US:
Oct 10, 2022
9:00 am - 3:30 pm

KANSAS STATE UNIVERSITY
Alumni Center
Manhattan, Kansas

INVITED SPEAKERS:

Leaders from the Kaw Nation, Osage Nation, Shawnee Tribe of Oklahoma, Prairie Band Potawatomi, Kickapoo Nation of Kansas, Iowa Tribe of Kansas and Nebraska, and more!

TOPICS INCLUDE:

Indigenous Peoples' Histories and Futures, Current Issues and Politics, Missing and Murdered Indigenous Women, Girls, and Two-Spirit Peoples, Indigenous Language Revitalization in Kansas

For more information, visit k-state.edu/indigenous-alliance

