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Without a map: College access and the online practices of youth from low-income communities

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ABSTRACT

In the United States, low and high-income young people currently have unequal access to information about higher education. Low-income prospective college students, for example, are less likely to have informational resources in their immediate families, requiring that they rely on information from other sources. We report on interview data collected in two high schools, one in a rural/suburban school district ($N = 43$), the other in an urban district ($N = 25$), which offer insight into how high school students from low-income communities use the Internet to learn about college. We observe that students are capable of accessing a great diversity of information about college online, but run into challenges when trying to interpret of that information. We introduce the term "knowledgeable translators" to capture the important role played by contacts with specialized knowledge about post-secondary institutions who help students evaluate and contextualize college information via online and offline channels.

1. Introduction

Higher education comes with a variety of costs as well as benefits for individuals and society (Perna, 2006a). However, these benefits are not evenly distributed across all sectors of society (Carnevale & Strohl, 2010, pp. 71–183). In fact, evidence suggests that disparities in college access have only become more pronounced over time (Bailey & Dynarski, 2011), particularly among different socio-economic classes. One of the frequent sources of inequality in college access that scholars identify is limited access to information about college (Perna & Kurban, 2013).

For students, the college choice process is shaped by their access to informational resources as well as their strategies for making sense of the information they uncover as they explore their post-secondary options. A number of studies have demonstrated the detrimental effect of limited access to information about college on the college selection process of prospective low-income and first generation students (e.g., Hoxby & Avery, 2012; Hoxby & Turner, 2013, pp. 12–14; Ra, 2011). Lee, Maldonado, and Rhoades (2006) argue, for example, that contemporary models of college choice reflect the fact that "information about higher education is unequally distributed" (p. 550). Students, when making decisions about college, are never in a position to act on perfect information, but rather on information that is immediately available (Perna, 2006b, pp.

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99–157). These decisions are rational because they are based on the information at hand (DesJardins & Toutkoushian, 2005), but they may not allow students to capitalize on potential opportunities.

Access to new social media platforms and online information might address some of the existing disparities in access to information about college, providing students with a potentially unbounded source of information about college life, costs, and application requirements. Prior research has found that having access to informational support via social media is correlated with college aspirations for first generation students, perhaps because they have less informational support in their immediate families (Wohn, Ellison, Khan, Fewins-Bliss, & Gray, 2013). We know very little, however, about how underrepresented youth like low-income and first generation students are able to access, make sense of, and apply college-related information they access via social media and other online resources. For this study, we conducted in-depth interviews with low-income high school students in rural and urban Michigan ($N = 68$) in order to examine the online skills, strategies, and resources students use as they explore their post-secondary futures.

2. Challenges in college choice

Possessing knowledge of college life, costs, and application requirements is essential for making the transition to college (Conley & Seburn, 2014), but there are multiple challenges that a student must overcome to first obtain and then understand information about college. The information seeking processes of adolescents are, in general, wrought with uncertainty, confusion, and frustration (Kuhlthau, 1993). Several factors can contribute to this problem, including lack of targeted information, social circumstances that impede access, information overload, and affective factors like uncertainty and confusion, which can affect relevance judgments about information as much as one's cognitive skill level (Kuhlthau, 1993).

2.1. Sources of college information

Traditionally, institutions have used viewbook-style brochures to appeal to prospective students and provide introductory information about campus life (Hartley & Morphew, 2008). In addition to printed materials like brochures, students are increasingly accessing informational resources through the web. The National Research Center for College and University Admissions reports that 82% of students used institutional websites to get information about college, and half of respondents said that the information they found informed their decision-making (Noel-Levitz, 2014).

College websites, however, can be a confusing source of information for the prospective student. While most institutions make their marketing materials widely *available* online, whether this information is easily *understandable* for a young person unfamiliar with higher education contexts is unclear. College websites are notable for their similarity to one another, making it difficult to distinguish between them (Saichaie, 2011). Additionally, the majority of sites focus on similar types of information: institutional mission, teaching and learning environments, and campus life (Saichaie & Morphew, 2014).

These websites also cater to multiple audiences, such as current students, faculty, staff, and alumni – not just prospective students. The multiple audiences and goals these sites have to support may explain in part the perceived lack of relevant information specifically targeting prospective students (Schneider & Bruton, 2004). So despite the fact that institutions make information publicly available through a variety of channels, this information may not address the salient needs of students and, in some cases, may actually generate more confusion than clarity (Hartley & Morphew, 2008).

One way to mitigate issues associated with exposure to decontextualized information about college may be via *tailored* information. Recent evidence suggests that exposure to customized information might improve the likelihood that low-income students will pursue post-secondary education. In one study, low-income students and their families were provided with three different informational interventions about college costs while having their taxes prepared. Students who received the information that was specifically tailored to them through direct consultation with an accountant about the potential costs of college were significantly more likely to enroll in post-secondary institutions than students who received no intervention (Bettinger, Long, Oreopoulos, & Sanbonmatsu, 2009; Bettinger Long, Oreopolulos, & Sanbonmatsu, 2012). Similarly, low-income high school students in an urban school district who were shown a video about the potential economic benefits of a college education reported greater intention to enroll than students who did not view the informational video (Oreopoulos & Dunn, 2013). High achieving, low-income students who received tailored admissions information were also more likely to apply to selective institutions than students with similar backgrounds who did not receive personalized informational packages (Hoxby & Turner, 2013). Tailored informational interventions might help students make rationalized decisions about their post-secondary futures.

2.2. Social factors

As researchers argue, individual, family, and community factors can shape how students acquire college knowledge, and may support or deter acquisition (Ra, 2011). The lack of supportive resources that help students develop college knowledge may perpetuate the existing divide in college access. For example, a significant number of gifted and talented first generation students are likely to choose to attend more expensive, less selective institutions because of decisions they make based on inaccurate assessments of their prospects (Hoxby & Avery, 2012). This is a particularly salient issue for young people from low-income communities or those who will be the first generation to attend college, as they are less likely to have information resources available in their families.

The proliferation of online information does not necessarily address these information gaps. In the same way that a young person's personal habitus (their individual and family context) might inform their college going choices (Perna, 2006a, 2006b), one's online information seeking and analysis practices are largely shaped by his or her social conditions. A significant body of empirical research suggests that a digital divide exists along the boundaries of social class (Cooper & Weaver, 2003; DiMaggio, Hargittai, Celeste, & Shafer, 2004; Hargittai & Hinnant, 2008; Junco, Merson, & Salter, 2010; Rideout, Foehr, & Roberts, 2010), which may complicate students' ability to access information sources about college. In a study of adolescents, Hargittai (2010) noted that "socioeconomic status is an important predictor of how people are incorporating the Web into their everyday lives, with those from more privileged backgrounds using it in more informed ways for a larger number of activities" (p. 92). In a study of adolescents' online information seeking behavior for homework and for everyday life needs, researchers determined that socio-economic status (SES) was a strong predictor of ability and confidence (Eynon & Malmberg, 2011).

Information seeking behavior may be directly affected by the informational resources that a young person has in their home environment. The children of the educated who live in homes with more resources benefit more from online information seeking than their less advantaged peers (Zillien & Hargittai, 2009). Brinkman, Gibson, and Presnell (2013) examined the information seeking behavior of first generation college students and noted substantial differences between first-generation prospective college students and their peers who were the children of college graduates. In particular, first generation college students perceived themselves at an information deficit when comparing themselves to peers whose parents graduated from college. This resulted in students feeling overwhelmed by the information-seeking process. The students felt that their parents were unable to help them make sense of the information they discovered, and were confused by conflicting messages of the programs and interventions designed to assist with the transition to college (including recruitment and orientation materials).

3. A literacy perspective

One lens through which to understand this issue is the concept of literacy. Students need to acquire literacy in a variety of domains to make their way to and through post-secondary education (Gildersleeve, 2010). In this paper, we understand literacy "as a repertoire of changing practices for communicating purposefully in multiple social and cultural contexts" (Mills, 2010, p. 247). Fostering the ability to acquire and develop digital literacies is essential if we aim to create "more equitable futures for young people" (Vickery, 2014, p. 84). The appropriate use of social media and online resources are part of a repertoire of 21st century digital literacies – what have been termed "new literacies" by scholars in this area (Ahn, 2013; Coiro, Knobel, Lankshear, & Leu, 2008; Greenhow & Gleason, 2012). New and emerging literacies are composed of the "skills, strategies, dispositions and social practices" (Coiro et al., 2008 p. 14) that are required to harness the affordances of new information and communication technologies (ICTs). In particular, new literacy scholars are interested in exploring how literacy practices are developed by adolescents in informal virtual contexts and the ways in which these practices are supported or distorted by schooling (Greenhow & Robelia, 2009).

A number of scholars have developed frameworks for conceptualizing literacies that emerge from online practices (Ahn, 2013; Greenhow & Robelia, 2009). For example, Jenkins (2006) identified a number of requisite skills for participating in new media environments. Included among those skills are (1) the ability to search for, synthesize, and share information, (2) the ability to network, and (3) the ability to distribute cognition through the use of information and tools that expand mental capacity. The literate usage of information in new media environments also relies upon an individual's ability to "collaborate and pool knowledge effectively" (Ahn, 2013, p. 2).

When exploring online information, users adopt "appropriate information behavior to obtain, through whatever channel or medium, information well fitted to information needs, together with critical awareness of the importance of wise and ethical use of information in society"; these successful behaviors and orientation constitute "information literacy" (Johnston & Webber, 2003, p. 336). Scholarly interest in information literacy practices emerged in tandem with the introduction of rapid changes in "the multiplicity of communications channels, media, and protocols, tied to the availability and convergence of new technologies" (Mills, 2010, p. 250). While previous generations of prospective students primarily relied upon face-to-face interactions and printed (hard copy) resources to learn about college, today a variety of online tools and social media platforms are now available, potentially providing students with dynamic real time information about college life. Literate users of information can recognize an informational need, possess knowledge of how to find, analyze, and evaluate information they obtain through online contexts and tools (Association of College, Research Libraries, & American Library Association, 2000), and, in the case of college access, literate users have skills for applying information to their own exploration of post-secondary opportunities. They also understand how to effectively participate in online communities.

The skills connected to sophisticated use of the Internet for learning about college could potentially expand students' informational resources, which are otherwise bounded by their personal habitus (Bourdieu, 2005, pp. 43–49; Perna, 2006b) and the organizational habitus of their high school (McDonough, 1997). Students' ability to acquire the literacies and skills that expand social networks is especially important for youth underrepresented in post-secondary education (Vickery, 2014). In short, the network characteristics, capacities and skills, and orientations of the institutional agents like teachers and counselors that "low-status" youth encounter can shape their college access (Stanton-Salazar, 2011). We focused our research on low-income youth as this population may have the most to gain from digital technologies that bridge information disparities. Focusing on extreme cases, like students who are the least likely to encounter information about college in their day

to day lives, has the potential to uncover assumptions and norms about the phenomenon of interest that are difficult to identify in studies of typical cases (Patton, 2014). In this study, we were interested in the extent to which student developed skills and strategies to explore college online in order to complement or compensate for the absence of other resources that might support their college information seeking.

We are thus interested in how students employ and develop skills and strategies to explore and understand college information online:

RQ1: What skills and strategies do high school students from low-income communities use to access information about college online?
RQ2: How do high school students from low-income communities analyze and evaluate the information they find online?

4. Method

4.1. Participants

We conducted in-depth, semi-structured, one-on-one interviews with high school students from urban and rural schools in Michigan ($N = 68$) over two separate data collections. The first was interviews with 43 students at three public high schools in suburban and rural Muskegon, MI in 2012. The second was with students at three co-located high schools in urban Detroit, MI ($N = 25$) in 2013. The two waves of data collection allowed us to explore our phenomena of interest among rural, suburban, and urban low-income youth, as prior research suggests that differences in geography and school districts may inform students' post-secondary information seeking (McDonough, 1997). Juniors and seniors were included in the study sample as prior research suggests this is the period when students' information seeking about college begins in earnest (Hossler, Schmit, & Vesper, 1999).

Both data collection efforts were part of a larger research project focusing on college access and social media use. The interview protocol contained questions about: (1) how and where students accessed information about college online; (2) how students evaluated the information they found, (3) who provided students with college guidance and support beyond their online information seeking; and (4) how online resources translated into actionable behaviors. All study procedures were reviewed and approved by the researchers' institutional review board. According to the U.S. Census, more than half of the families in the school districts where we did our data collection were considered low-income (Ingram, Parker, Schenker, Weed., Hamilton, & Arias, 2014). In-text quotations are followed by demographic information about the participant including gender (Male-M, Female-F) and location (Detroit/Muskegon).

4.1.1. Muskegon sample

The Muskegon sample included 20 juniors and 23 seniors from three high schools in the same district, which spanned both rural and suburban areas. Twenty-four females and 19 males participated in the interviews. They were mostly White (77%), followed by Black (12%). 60% reported that they were eligible for free or reduced lunch at school. Only three of the 43 participants said that at least one of their parents graduated from college.

4.1.2. Detroit sample

The Detroit sample was drawn from three co-located high schools with an average enrollment of about 300 students. About 65% of students at each school received free federal lunch (Detroit Public Schools, 2014). The demographic make up of each school is similar: each school enrolls, on average, 95% Black students with small populations of Latino, Asian, and White students according to district demographics (Detroit Public Schools, 2014). The average ACT score at all three schools is five points below the state average (Detroit Public Schools, 2014). Of the 25 students we interviewed, 24 participants self identified as Black or African-American and one identified as Asian. Participants were 17 or 18 years old. In terms of gender, 14 respondents were women and 11 were men.

4.2. Data analysis

Our analysis of the interview data focused on understanding how students used information they obtained online to inform their college choice process. Each transcript was coded by two members of the research team to develop an initial set of emerging codes, which were negotiated in a series of meetings among the project team of trained qualitative researchers for both data collection efforts. Throughout the process we maintained an audit trail of our data collection and analysis process, which allowed us to trace how we achieved our conclusions (Lincoln & Guba, 1985). We also gave due consideration to the few interviewees in our sample who provided negative cases (Maxwell, 2012). During both the data collection effort and the analysis, we engaged in peer debriefs to ensure that our interpretations of an event or a transcript converged (Miles, Huberman, & Saldaña, 2014).

During the initial phase of analysis, the practices that students engaged in to access, analyze, evaluate and apply information emerged early on as a frequently recurring theme in students' transcripts. At this point in our process, existing research on information literacy provided sensitizing concepts; specifically we attended to how students discovered,

analyzed, evaluated, and applied information as had been previously observed by other researchers (e.g. Livingstone, 2004). Those four broad practices served as initial codes to help the research team identify cross-cutting themes. The first author re-analyzed all of the transcripts from the Detroit sample and the second author reviewed all of the transcripts from the Muskegon sample for examples of information literacy practices. Each example was placed into a meta-matrix with the focal information literacy practices (discover, analyze, evaluate, and apply) as categories. As the matrix was constructed, the research team negotiated any discrepancies in the definitions of each practice. The meta-matrix allows researchers to trace the link between data, codes identified by the researcher, and themes that cut across the data. The research team then reviewed the meta-matrix to identify higher order themes within each practice, across practices, and across contexts as proposed by Miles et al. (2014). The team also investigated negative cases as highlighted by the matrix. Through this process a clear definition for each practice emerged with relevant examples.

5. Findings

5.1. Accessing, seeking, and encountering information

> Interviewer: "Where do you get information about college?"
>
> Participant: "Mostly [on] the Internet." (Muskegon, F)

Our first research question asked about the skills and strategies students engage in as they access information about college online. Overall, our participants believed that they were generally skilled at finding college-related information online. Students were able to find a great deal of information about certain aspects of college life. For example, information about costs, program rankings, and institution amenities were easy to access from institutional websites. Institutional websites provide information in a way that allowed students to drill down into the particulars.

> [On a university website] I look up my field and it shows me like how strong, how good their field is for that, and their program, and how many classes I'll have to take, and it just gives me a lot of information. (Detroit, M)

Students reported that they often started with search engines in order to get a sense of the informational resources available. As one senior described when we asked how he learns about college, "If I was just kind of say it blunt: Google. Definitely type in what I want to know" (Detroit, M). Another student described using search engines to narrow his search. "I would Google in 'What are the top ten colleges for this sort of thing?' I believe it was Yale, Princeton, U of M (Detroit, M)." The student then investigated individual programs having narrowed his search from an array of options.

Students frequently sought out comparative information through websites that provided aggregated information about different institutions. Our participants described websites like the College Board (www.collegeboard.org) where large amounts of comparative information about colleges and universities were available. Students returned to these sites again and again as a launching pad. One student who visited the website frequently explained, "They give you like what they're looking for [as] a student, so it's basically the whole general, smörgåsbord thing" (Muskegon, M).

This purposeful information seeking led to the development of routines in which students often started with a broad question at a site like the College Board and would then proceed to individual institutional sites to access more information about a specific school that fit their search criteria. Generalist websites like the College Board, one participant explained,

> have like, all these things that [you] want in a college. So they put them in there and they write it down for you, and then from there you got the general information on the college, the scholarship stuff that they give students, the amount, like the whole amount not the just the tuition and stuff. And then they send you next to [the institution's] website (Muskegon, F)

Given the large number of post-secondary institutions in the U.S. and the wide variety of pathways students can take, these aggregate sites potentially help students give shape and form to their information-seeking process.

Capitalizing on the opportunities and resources available through the affordances of social network sites – such as the ability to locate new posts by searching on a specific hashtag – was a common practice among students who had specific information needs not well addressed by institutional or aggregator websites. For instance, a number of students from our Detroit study identified Historically Black Colleges and Universities (HBCUs) as a type of institution that held great appeal. These students were likely to activate their online social networks to access information about those colleges, drawing resources from teachers, guidance counselors, peers enrolled at HBCUs, and family members.

In addition to purposeful information seeking, students were unintentionally exposed to information about college through social media sites such as Facebook, where college-enrolled peers and family members shared information and images of college life. One Detroit student described observing campus life through the status updates of friends in college:

> The majority of [my connections on Facebook] are in college, so with them writing their experiences and what's going on there, it helps me out a little bit. Especially with deciding schools, because some of them, they go to…. all these different types of schools, and when they write their experiences or how complicated a course is, then I know how to kinda navigate around what I want to do (Detroit, F).

In addition to providing students with an expansive view of campus life, encountering personal posts about college could inspire future information seeking. One student recalled that "sometimes when I see that [social media post about college], it will spark an interest in me to go and look at some college things" (Detroit, M), just one example of instances in which participants encountered information about college on social media that spurred subsequent episodes of learning about college through other, more targeted online resources.

Social media also exposed students to diverse aspects of college life. For example, students used Twitter hashtags to seek out information about diverse features of campus life.

> I'll use the hashtag to help me…. you gotta use the hashtag to limit what you want to see… Okay, show me pictures of [State University], I need to see [State University] Marching Band. It may not be a page for [State University] Marching Band, but here is a page for Marching Bands. I will go through their followers and see if [State University] is in there somewhere (Detroit, M).

Similarly, a number of students we spoke with reported connecting on social media with the official accounts of college teams or the social media accounts of individual players. One male student-athlete in Detroit followed players who had played in Detroit high schools, and cited the exposure to other athletes' perspectives on college life as a motivating force. Another student in Muskegon "followed" an institution's marching band on Twitter and cultivated an interest in the school (and encountered alternative images of campus life) through his interest. Students followed step teams, admissions officers, and students at their 'dream schools,' providing them multiple points of entry to learn about college life.

Students also encountered information about college by interacting with institutional social media accounts, as these Twitter and Facebook accounts often broadcast information about campus life, such as updates on athletics and campus amenities. One student (Muskegon, F) described the advantage of 'friending' institutional accounts, which allowed her to learn about "new classes, or types of classes, the credits... it just informed me a lot about college."

Students also relied on curated informational resources. For example, a guidance counselor in Muskegon created a Facebook Page to share information with students and remind them of deadlines. As a student noted,

> [The guidance counselor] created a [Facebook] "Page" for seniors and juniors who want to know more information and get websites and get a lot of information and get more in depth with what you want to do (Muskegon, F)

The Facebook Page functioned as an alternative method of information gathering. These experiences outside of the classroom helped students orient themselves to the information-seeking process and enabled them to connect in-school learning experiences with informal exposure to and seeking of information.

In summary, most of our participants reported little or no difficulties finding information online. They were utilizing institutional resources, aggregated information through web portals, and both formal and informal information through sought and encountered during social media participation.

5.2. Making sense of information

> "I think I should just be able to say, 'I want to go [to this college]'."(Muskegon, M)

Our second research question asked about how students assess the information they find online. Although students were able to easily *access* information, they had a challenging time with *analyzing and evaluating* the information they encountered. Information seeking and processing were for many students simultaneous and iterative activities. Students would access information about a college or university, attempt to make sense of it, and then engage in a new round of information seeking based on their understanding.

Students frequently used evaluation criteria created by others like rankings websites, financial aid calculators, and admission probability tools to support their evaluation of information. Not all information is created equal, nor are all forms of analysis as frictionless as having one's interest sparked by encountering new information. Online resources like the College Board website helped students access information and were sometimes also used to support information *evaluation* – making determinations about credibility, although sometimes the logic behind their results was not transparent.

Our participants reported that they were more likely to use tools from sites they perceived as authoritative, although they were sometimes challenged to determine the credibility and validity of that information. For many of our participants, a website's domain was a key indication of credibility. As one student told us, "I don't really trust any other website. I just go straight to that '.edu' (Detroit, M)." Our participants' experiences suggest that students' ability to make credibility judgments about the information they received online may in part shape their post-secondary information seeking. For example, participants found online tools that helped them estimate the likelihood of admission to a particular institution. As one student (Muskegon, F) described, "they have this scale on [the website] whether, say, you have a high chance of getting into college, medium chance, or a low chance." These tools, from the perspective of students we spoke with, appeared to demystify the process, and help students make determinations about what schools presented 'realistic' opportunities.

When using the Internet to learn about college, students relied extensively on rankings from sources they perceived as authoritative, such as *U.S. News and World Report*. In some cases, rankings served to help students identify institutions to research further. One student described his criteria for evaluating schools, which involved "the ranking of the university and

the (ranking of the) field that I'm going into" at the universities he was considering (Detroit, M). Another student, in contrast to his peers who sought out the guidance counselor to help simplify information, preferred using tools he found through the Internet:

> Instead of just getting information from college advisors I go onto the Internet and research what are [each schools'] ranks. Research different things like the ratio of how many students they have in the classrooms. I research the percentage of graduates they have, percentage of graduates within a major (Detroit, M).

Rankings, as well as probability of admission tools and financial aid calculators, were quantitative representations that were designed to aid in the process of evaluation. However, when we asked, few students knew what factors contributed to differences in school rankings beyond reputation. Additionally, the lack of transparency in how financial aid calculators or admissions probability heuristics were calculated did little to make the process transparent for students.

For students who considered social media an unreliable information source, receiving the information from an offline reliable resource was important.

> I wouldn't use (Facebook) to search up nothing about college. I wouldn't depend on the information I get from there unless it's like a college page… Other than that, I wouldn't use a social network for that. (Muskegon, M)

Although a number of our students used social media to learn about college, a small group of students did not consider social media an appropriate venue for information seeking about college. These students expressed preferences for information from authoritative sources like institutional websites and institutional agents like guidance counselors. For example, one female participant in Muskegon who expressed concern about the quality of information available through social media participation identified the high school counseling office as a more reliable and dependable source. Learning about college was easier "through the counseling office. It's really easy to get information." (Muskegon, F). The counseling office was a resource where students could receive information that was translated and tailored as opposed to raw – a map, in a sense, of how to get from their current location to a desired future destination as opposed to just information about a broad spectrum of possibilities.

Resources like guidance counselors were important when students encountered complex information about college. For example, students expressed concerns about their ability to determine the relevance of some complex information to their own lives. When students encountered financial aid details, they were frequently stymied in their effort to make sense on their own.

> I'd rather talk to a counselor because people need different things and it's just– it's maybe too much…So I'll probably ask the counselor for just my situation (Muskegon, M)

This challenge might be especially salient for low-income students who are less likely to have access to the same informational and social support resources as their wealthier peers. In this instance, the participant preferred to engage with someone who could tailor and filter the information to "just [his] situation."

5.3. Need for knowledgeable translators

In addition to making judgments about the credibility and relevance of information, students also needed to develop strategies to simplify complex information in order to put that information to work. Although students generally expressed confidence *finding* information online, *applying* this information to their own specific information needs proved a major challenge. One of the drawbacks to online information from websites that students identified was the lack of meaningful context. Students frequently described the scale and universality of available information on the web as overwhelming. In the absence of some kind of assistance simply searching the Web "would be too much" as one female participant in Detroit explained.

The guidance counselor who curated information for a group Facebook Page served as a translator, engaging with one broad set of information but narrowing this information to only that which was relevant for her students, a process we frame as *translation*. Many of our participants relied on face-to-face interactions with someone who could "translate" online information for them, helping them make sense of it and determining its applicability with regard to their particular situation. Online financial aid information, in particular, posed a challenge for many.

For many of our participants, the need for what we term "knowledgeable translators" was influenced by the specific kind of information they needed to access, process, and apply. We introduce the term "knowledgeable translators" to refer to social contacts that students accessed, via online and offline channels, in order to make sense of generic information and apply it to their specific informational need. Knowledgeable translators possess specialized knowledge of one or more domains of the college application process and actively helped students interpret, apply, and synthesize relevant information. For example, a guidance counselor in Muskegon served as a knowledgeable translator of financial aid information that students encountered through institutional, state, and federal websites, answering questions in a Facebook group and directing students to additional resources online and offline that provided personalized feedback like financial aid calculators. Similarly, a number of students recounted contacting peers who were current undergraduates with similar backgrounds in order to help 'decode' and contextualize literature about campus life. These individuals provided crucial support to students as they negotiated the information seeking and decision making process, helping them convert complex instructions into manageable tasks.

Arcane information like financial aid often required more resources and different literacies in comparison to more seemingly straightforward tools like college rankings. For instance, one Muskegon student described the distinct challenges associated with accessing and evaluating different forms of information.

> If I had a question about say, financial aid or about that, I would really ask (my teacher) or a counselor. And if I had questions about the school I would mostly just look up the school online and read about them, and that's what I have done in the past. (Muskegon, M)

The specific format of the information could be more or less supportive of information analysis.

For example, one female student from Muskegon described completing a Financial Aid calculator online and taking that information to his high school teacher. "They were talking about like scholarships– I don't know what it is we filled out, the FAFSA. We filled [out] those and it like showed you what scholarships you can get." This information, in isolation, was difficult to analyze. "I had to come back and ask [the teacher] about it because some of the words I didn't understand."

The assistance of a knowledgeable translator improved students' ability to make sense of information they encountered in their searches. In a similar vein, a Muskegon student expressed anxiety about making sense of the information she found online without an informed translator.

> Me going on to a college website and looking, not so easy 'cause I'm not a good researcher. But asking (my counselor) and other people what they would have done is easy-ish. (Muskegon, F)

A knowledgeable translator may be able to help explicate the value and relevance of complex information. For example, a peer closer in age may have an understanding of context that is more relevant than a parent or guidance counselor. As one female participant from Muskegon noted,

> Okay, my mother is like 30 something and I'd say my cousin is like in her 20s. So [my cousin and I] can relate more, and she can be like, 'Okay, I understand that your mom is going to give you advice, but look at it as I just graduated from college and I can give you more advice and more experience on what's going on and we can check this out and that out.'

The student and her cousin had a number of conversations over social media about college life despite geographic distance, taking advantage of the asynchronous nature of these tools to communicate when it was convenient. Social media made knowledgeable translators more accessible across time and distance. For this student, social media might be the conduit through which she continues to ask her cousin for help throughout her post-secondary transition. Additionally, knowledgeable translators also had the potential to be motivators, helping students make sense of information and identifying existing gaps in their knowledge that might spur future information seeking.

Students' fluent usage of social media helped them identify and engage knowledgeable translators. One Detroit student recounted conversations he had through social media with a graduate student at his 'dream school' where he learned "just because a school has a big name, doesn't mean it's right for you" (Detroit, M). This new knowledge, in turn, helped him refocus his information seeking behavior and helped him interpret the information he encountered in this next round of searching. In these ways, knowledgeable translators helped participants interpret information and apply it to their own situation, helping them craft a personalized plan, or map, for their journey to college.

5.4. Social media participation and networking abilities

> It's all new, trying to figure out everything by myself. I've been doing a lot of it on my own, but I always find some people to refer to, like people who graduated recently from [my high school] that I keep in touch with. (Muskegon, F)

In a number of interviews students described strategies for connecting with and accessing the instrumental and social support resources available through social media. As in the above example of a student who sought out a graduate student at a particular institution, students who accessed resources via social media were able to expand the set of tools and resources available to them. Some students did not have contacts in their immediate network who were able to provide informational support, but through their online activities and information-seeking practices were able to cultivate these contacts.

For example, social media allowed our high school student participants to interact with undergraduate students, who provided a window into daily college life and thus encouraged their college aspirations. One Muskegon student described the motivational influence of observing the social media postings of peers enrolled in college. By observing his friends' success through their social media updates, the student concluded,

> It's like, 'I can do it too.' You know what I mean? Like, I don't know how to say it. [Seeing their posts] makes me feel like I'm good enough to go to college too, like 'I can do this all.' (Muskegon, F)

The friends that this student observed came from the same community, and their ability to successfully navigate a post-secondary transition was motivational for her. One of the advantages of social media participation, over other forms of online information, was that information was contextualized by a student's connections. That is, a student's contacts tended to share important characteristics with the student and thus served as an important source of relevant experiences and information as well as providing an inspirational narrative.

While observing the undergraduate experiences of others was motivational, students also received encouragement from social media contacts when they created profiles and content that reflect their imagined post-secondary futures. Students described sharing status updates about the college-going process: "I'll make a post, 'Me and my best friend on target, we just applied to such and such.' Yeah, I'm looking at this school and I think I might go there." Posting status updates about their college plans allowed students to engage their networks in conversations about their plans, and, potentially, to learn about college. One Detroit student recounted sharing Facebook status updates about her college choice process for family and friends,

> If I say, 'I really wanna go to (an institution)', they'll 'like' it. Some of them are like, 'Ooh, why (that school)?' And then I be like, "It's good, and I like that school–". (Detroit, F)

Posts about their envisioned futures often activated contacts in students' networks to provide social support and explicit encouragement about the college application process. These interactions generally involved contacts already in the students' network like family, peers, and supportive adults. One participant told us that when she posted about college her friends and family on social media would post responses such as: "Oh, I'm so proud of you," or "Congratulations!" or "Have you applied to any other colleges?" and stuff like that (Detroit, F).

Online interactions also prompted offline conversations about students' futures, allowing them to explore emerging college-going identities in multiple spaces.

> I'm gonna be the first generation to go. So everybody's pro-college and everybody's so proud of everything I accomplished. Every time I come around they be like, 'So, what about this college, that college', or 'I'd seen that you posted that on Facebook'." (Detroit, F)

Sharing accomplishments through social media may have helped reinforce college-going identities for our participants, in that these posts sometimes initiated an iterative reinforcement loop. Participants used social media to share information about their activities and their future envisioned selves, triggering positive feedback and useful information from family and friends, which potentially enhanced their motivation to engage in these activities.

To say, 'I am college bound' was not sufficient to activate informational resources on social media. Many of our participants described an intermediary step where they would share information through status updates and then someone within their network would self-identify as a resource.

For example, high school seniors frequently posted their acceptance letters on social media sites as a way of sharing accomplishments with their network. According to our participants, posting acceptance letters served to reinforce self-perceptions of being college bound, in addition to communicating this information to their network. For instance, a Detroit student recounted for us a Facebook post about her recent college-related correspondence. Her Facebook post read:

> Today I received a [Regional University] Letter, [another Regional University] Letter, a [Urban Flagship University] Letter, and a D3 sports scholarship offer. Laughing my ass off. I was surprised about the sports letter, but I'm gonna put in some work this [athletics] season and see what else I can get. (Detroit, F)

In some cases, participants uploaded photographs of their acceptance letters to social media sites in order to provide visual evidence of their claims:

> That's what most people say, like, 'she's just lying' [or] 'No, you didn't really get accepted,' you know. But [posting a photo of the acceptance letter] is proof. That's what happens when you've got pictures and everything. You can post in on Facebook and stuff. That's proof right there. (Detroit, M)

In summary, we found that sharing news about their college aspirations and successes enabled students to locate, activate, and draw upon informational resources in their network. In some cases, they were able to share evidence of hard work (such as when they posted acceptance letters) and then receive validation of their hard work from their network. Online contacts provided emotional support and encouragement, in particular, when students' online identities reflected their college bound attitudes. Students reported that receiving informational and emotional support furthered their aspirations and fostered their motivation as they went about the process of exploring their college options.

6. Discussion

This study was designed to investigate how low-income and first-generation high school students used social media and other online tools to access information about college, and we found that participants reported being able to access a wide range of college-related information online. However, as our findings suggest, first generation and low-income students may be less likely to have the digital literacy skills needed to contextualize and translate this information to their own situation. Thus while *access to information* may be unbounded, access to the kind of *knowledgeable translators* that can help students make sense of and apply information is critical. Our findings suggest social media on other online communication tools could, for youth from low-income communities (many of whom will be the first generation of their families to attend college), help address the lack of embedded informational resources by connecting students with weaker ties who have relevant information and experiences to share.

Thinking about implications of our findings for school administrators and policy-makers, this work should encourage educators to explore curricular and extra-curricular experiences that will help foster the digital literacies that will allow students to more effectively access knowledgeable translators online.

Moreover, while students generally described facility with their efforts to access information through the Internet, these efforts might be stymied by policies within schools that limit students' access to online informational resources. Although some students in our dataset had access to Internet-enabled devices in their home, many expressed frustration with school policies that blocked social media sites (or Internet access in general). Students who used the Internet to learn about college while at school generally had to do so under special circumstances, such as restrictive search filters or limited time in computer labs. The kind of unstructured, exploratory usage of social media that might allow students to discover different informational resources within their network was a less common occurrence than the formal organized usage of the Internet in the classroom. The sort of interest driven learning that stems from connected participation (Ito et al., 2013; Thomas & Brown, 2011) seems unlikely under these circumstances. Learning about college online is life-wide, straddling school, home, work, and community spaces. Programs, curriculum, and resources designed to promote college access, especially resources designed to be delivered online, should reflect the varied contexts in which students learn and through which they gain the support they need to make post-secondary transitions.

6.1. Knowledgeable translators and online information

While access to the Internet may afford students the possibility of retrieving boundless information, students relied upon their networks for critical support around helping them bound, process, interpret, and apply this information to their own circumstances and pathways. The majority of participants in our study will be first generation college students. These students were less likely to have knowledgeable translators in the home and therefore relied upon connections to individuals in their online and offline networks for translation assistance. For many of our participants, social media served as an access point to these individuals.

For information that was highly specialized, like financial aid, or idiosyncratic, like institutional admissions requirements, students capitalized on knowledgeable translators with specific content knowledge to facilitate interpretation and application. For example, one young woman in Detroit recounted online conversations with a cousin who was a recent college graduate about her college choice process. They discussed where to apply, what to expect, and they reviewed information she had found online about schools she was interested in. Of course, the composition of a student's social media network shape who will see and respond to their requests for help, and some of our participants had more translation help than others.

6.2. Social media participation and learning about college

We found that social media participation facilitated participants' ability to engage with and make sense of relevant information in several ways. First, social media served as a platform for identity work – being able to claim a college-related identity and to receive reinforcement for it. For instance, students used social media to share college acceptance letters, which typically came in hard copy format. This evidence provided evidence for – or warranted (Walther, Heide, Hamel, & Shulman, 2009) – their claims, highlighting the fact that they were aware identity information shared online was not always accurate. Institutions might want to consider creating digital artifacts like acceptance badges that could be shared online and which would support students' identity work and foster aspirations (and institutional affinity).

Social media also enabled participants to bypass the curated impression management techniques deployed in institutional brochures and websites to get a sense of everyday life at these institutions, enabling students to draw upon the resources in their network to get an uncurated, less manufactured perspective of what college life was really like. While institutions' websites and social media accounts may have focused on similar kinds of information, such as curriculum and admissions criteria, social media connections provided students with information that was re-contextualized and in many case, more reflective of the day-to-day lived experiences of students like our participants as they navigated the college experience.

Our data suggest that, while not prevalent, colleges are also increasingly active on social media and interacting with prospective students to provide more information, clarification, and answer questions. Their social media channels, however, seemed to be detached from the formal information on the website, and a few students did not know that colleges were on social media. Importantly, students were also learning about the colleges through social media content from various student groups and athletic teams – not just the admissions department. Our findings suggest that institutions may wish to encourage formal social media channels (such as the official twitter feed) as well as informal ones (encouraging many different kinds of enrolled students to post about their experiences, perhaps using a specific hashtag to improve findability); these strategies could diversify the channels through which potential students have access to information about the institution and thus increase their chances of finding a relevant voice.

6.3. Practical implications and future directions

Our findings have several pragmatic implications for intuitions of secondary and tertiary education. First, access to the Internet and social media is important. School administrators may want to consider what sites they block and which ones students are able to access during the school day. One of the high schools we visited had Internet access 'turned off' during the

school day. Such an approach potentially disconnects students from useful informational resources. Students are already doing online information gathering on their own, outside of institutional contexts, using online strategies (such as posting acceptance letters and following college-related hashtags) to capitalize on social capital opportunities in their own networks. For instance, research on adult Facebook users suggests that posting requests and questions to one's network is associated with perceptions of social capital (Ellison, Gray, Lampe, & Fiore, 2014); we would similarly expect that using social media for purposeful information seeking about college would have similar benefits for high school students. To summarize, educational institutions may need to support both technical access to social media and online resources as well as the development of skills to exploit their benefits.

Second, online access in and of itself is not enough. Helping students develop the digital literacy skills and strategies to reconcile complex and contradictory information takes on a pronounced importance in this context. Some students were making important life decisions based on career suggestion websites, which could be a concern if they don't have the skills to discern the validity of such sites. One way forward is to design programs and resources where formal and informal learning spaces can talk to each other. In most of the episodes that our students described, translation was supported by a knowledgeable translator attached to the school, such as a college counselor, or a student's out of school community. Imagine the transformative potential if these individuals could connect to each other, share resources, and support individual students' learning about college across contexts. Intuitively, these interactions would seem ideally suited to social media networks. Yet, none of our students identified resources that helped them connect their online and offline networks, beyond naturally occurring overlap in audiences. Although research suggests that some sites, such as Facebook, generally have high degrees of overlap between online Friend networks and offline contacts (see boyd & Ellison, 2007), this is less true of sites like Twitter, especially when users are purposefully accessing new content via search strategies. Connecting knowledgeable translators could enhance their interactions with an individual student. The reality is that much overlap exists between online and offline contacts-such a distinction is almost arbitrary. Software designers and educators should consider interventions for how to foster communication between knowledgeable translators that build on the affordances of online tools, where distance and time can be collapsed.

Finally, and as part of their digital literacy efforts, schools could help students realize the resources in their existing networks and provide training to help them cultivate a network that includes sources of informational and social support, such as tools that help students identify social media contacts who could be potential translators. Surfacing relevant information, such as Friends-of-Friends who have attended colleges of interact – might help students identify new people in their broader existing network that could help them with college-related information, contacts they might otherwise not consider as sources of information or support. There are also many offline "big brother/sister" programs that try to connect high school students with college students who graduated from that high school; moving some of these interactions online could broaden the pool of mentors and lower barriers to interaction. In short, both colleges and high schools might consider architecting online relationships between high school students and college students in more intentional ways in order to facilitate informational and social support exchanges.

Broadly, our findings suggests that students need formal and informal opportunities to hone the digital literacy skills and strategies that help them effectively harness extant resources during an important period of decision-making. Building resources that connect in and out of school learning, online and offline resources, and transitional experiences could improve students' ability to make sense of and apply the information they need to make effective transitions. The skills and strategies developed during the post-secondary transition could potentially become life long competencies, helping students make a variety of transitions utilizing online informational resources. Institutions can play a crucial role in helping students hone these skills in addition to providing translational help throughout the college application and adjustment process.

7. Limitations

Like all research endeavors, our study has some limitations that warrant mention. Our research purposefully focused on students in two low-income school districts and thus the dynamics we identify may not be true for other populations. For instance, low-income students who attend school in wealthier districts might have greater access to knowledgeable translators in their immediate environment (e.g., the parents of friends who attended college) as well as greater access to online tools.

Although we did not observe substantial differences in the literacy practices of juniors and seniors when it came to information seeking about college, there may be subtle differences in maturity and knowledge between juniors and seniors that shape students' practices. Additionally, the saliency of the issue for seniors (who were applying to college during the semester we interviewed them) may have motivated more concerted information seeking than their younger peers, subsequently leading to different practices. However, we saw no evidence of significant difference between the groups in our data with regard to their ability to access, evaluate, or apply information they found online.

To facilitate the collection of data at two different sites, data at the Detroit site was collected after the Muskegon site. As such, the interviewers were more familiar with the protocol and potentially sensitized to certain questions by the time the Detroit data was collected.

8. Conclusion

This study explored the skills and strategies used by students from two low-income communities to learn about, look for, and explore post-secondary options online. We were especially interested in the role of social media for helping students

gather and process information about the college experience. Our data suggest that while participants were able to easily access information available about college life on the web, the challenge for our participants, and the potential barrier that is specific to the experiences of students from low-income communities, was the lack of easily accessible resources to help them *interpret* the information they encountered online. The experience of acquiring, processing, triangulating, and re-engaging with information about college was not a linear process for our participants, who had multiple entry points for learning about college both online and offline. In many cases, students' sophisticated use of information involved employing social media to access emotional support and encouragement, and to play with future college going identities.

Our study extends the emerging understanding of how digital literacy informs online participation in two important ways. First, our data suggest that students from low-income communities rely upon face-to-face and online knowledgeable translators to help take online information that is sought and encountered and apply it to their college transition process. Second, our data suggest that students' social media participation created opportunities to learn about college that were not immediately available in other contexts for these students from low-income communities. It is hoped that our findings are of interest to secondary and post-secondary educational institutions as well as researchers interested in questions of college access, information seeking activities, and adolescents' social media use.

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