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**YOUTH AND INFORMATION QUALITY:
AN INTERSECTIONAL EXPLORATION OF HOW TEENS ASSESS FITNESS
INFORMATION ON SOCIAL MEDIA**

A Dissertation in

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ABSTRACT

With the Age of Information, particularly Web 2.0 and social media, the onus of evaluating information has shifted from traditional gatekeepers to Internet users. This shift has birthed numerous veins of scholarly inquiry designed to explore how people make decisions about the content with which they interact online. While interest in information behavior is widespread across disciplines and user groups, there has been a particular focus on how youth assess information based on their relative vulnerability, given their stage of cognitive development and limited life experience (Gasser et al., 2012).

Situated within Information Systems (IS) research, this dissertation explores the ways in which young people assess information via social media. In particular, this study focuses on the context of fitness (nutrition and exercise) information. This context is particularly significant given: (a) teens in the United States search for nutrition and exercise information more than any other types of health information online (Wartella et al., 2015), (b) there is an expansive amalgamation of both healthy and disordered fitness content on social media (Carrotte et al., 2015), and (c) a growing body of research suggests that young people make real health-related decisions based on the information they find online (Fox & Duggan, 2013).

Two theories inform this study's design. The first is Gasser et al.'s (2012) Youth-Oriented Information Quality Theoretical Framework, which emphasizes a process and context-oriented approach to understanding how youth make decisions about online content. Developed by scholars at the Youth and Media Center at the Berkman Klein Center for Internet & Society at Harvard University, this framework explores how youth search for, evaluate, and create information online and use these processes to make decisions about information quality.

Building on an IS foundation invested in how diverse users interact with information and technology, the second theoretical foundation is an Intersectionality approach. Rather than

examining singular categories of identity characteristics (race, gender, socioeconomic status, etc.), the guiding research questions ask how *intersections* of young users' identities relate to their search, evaluation, and creation processes. Semi-structured interviews were conducted with 30 teenagers (ages 13-18) in the United States to examine the ways in which the intersections of identity characteristics relate to the ways in which young people make decisions about the fitness information they interact with via social media. Data collection and analysis were informed by a hybrid interpretive-critical epistemology that values the subjective experiences and realities of the participants, while also exploring the structural and systemic inequalities that inform these experiences.

The results suggest that young people care about and have active strategies for determining the quality of visual and textual fitness information via social media and that differences emerge across participants' intersecting identities. This dissertation contributes to: (a) theory by applying and extending Gasser et al.'s (2012) preliminary framework and, (b) methodology by offering a reconciliation between the identity vs. structure debate as to how to conduct Intersectionality research through a blended interpretive-critical epistemological approach. In terms of practice, this youth-oriented approach provides insight into what teens are *already* doing to make decisions about high-stakes online content, as well as how to move forward to collaboratively build educational interventions that develop these skills. These interventions are particularly critical to build at a time of *fake news*, when society is asking large-scale questions about media, information, and truth.

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Chapter 1

Introduction

Between the 1970s and 2017, The United States has shifted from an industrial society fueled by manufacturing and material goods to one propelled by knowledge. Often referred to as “The Age of Information,” this era both demands and produces an abundance of information, much of which can be accessed and created via the Internet. There are billions of websites with an unfathomable array of content, which offers greater access to information for individuals who may have once been limited by geographical location or physical access to books, encyclopedias, and other printed texts. Similarly, the asynchronous nature of the Internet enables users to access and explore topics regardless of time or location, depending on Internet connectivity and the ability to navigate online spaces.

While this knowledge-driven society has expanded the sheer quantity of information available and the number of people with access to it, some argue that this shift has also marked a change in the *quality* of the information available to the public (Flanagin & Metzger, 2008). While scholars, journalists, editors, and publishing companies once controlled the content, authorship, perspectives, and styles that were distributed, now any Internet user with access and the required skill set can publish self-generated content. With access to and skills surrounding Information Communication Technologies (ICT’s), the general public has shifted from information *consumers* to *users* able to generate and share their¹ own content.

¹While “their” is traditionally used to refer to plural entities, this dissertation uses the pronoun to refer to both singular and plural entities. This is a conscious effort to include all persons. The common alternative “he or she” does not account for those who do not identify within the man / woman gender binary. “Their” is inclusive of all persons, such as individuals identifying as transgender, gender queer, etc.

This phenomenological shift has been said to lack “traditional gatekeepers,” (Gasser et al., 2012; Metzger, 2007). While professionals once determined the quality of information in order for it to be accessible to the public, now that responsibility has shifted to individual users who find, consume, and sometimes create their own information. This responsibility now requires users to develop digital literacy skills that enable them to determine the credibility of the information that they access online. In a review of online credibility and digital literacy, Metzger (2007) argues “there is evidence that many people are unprepared for this responsibility and may have trouble determining how to assess the credibility of online information,” (p. 2079).

This notion that the quality of information may be diminished in certain online spaces or instances has birthed numerous scholarly veins through which Information Systems (IS) scholars have tried to understand *how* users make decisions about the information with which they interact. More recently, these narratives and inquiries have moved beyond IS scholarly publications and have dominated discourse in the mass media. Discussions of “fake news” and the role social media plays in political processes have been laden with the underlying question: how do US citizens decide what information they see online is true? This journey to understanding has moved beyond simply examining information, but rather has shifted to looking at how users assess online spaces as a whole.

Some scholars have pursued this quest for understanding by exploring Information Quality (IQ), which is often conceptualized by examining how users assess the value of the information they encounter. Originally housed in organizational data and management literature, researchers initially explored IQ by focusing on attributes they as scholars believed to indicate value or quality. Gradually, however, the focus shifted beyond the attributes *researchers* deemed important to an emphasis on *users’* individual contexts and perceptions of what is useful to *them* (Madnick et al., 2009). That is, the quality of information is dependent upon the perceptions and contexts of the individual users interacting with it. This shift in the conceptualization of

Information Quality is the crux of this dissertation. This dissertation contributes to the body of scholarly work that seeks to understand how users make decisions about the quality of information they interact with online.

An essential piece of exploring users' experiences and perceptions is to understand that not all people interact with technology or information in the same ways. Scholars both within IS and across disciplines have found that while millions of people within the US utilize the internet, these interactions and experiences are not universal. Extant literature suggests that characteristics such as age, gender, race, ethnicity, sexuality, and socioeconomic status all have relationships with the ways in which users interact with technology (Burgess et al., 2016; Kvasny, 2006; Nakamura, 2002; Trauth & Booth, 2013; Zickuhr, 2009). Specifically, these characteristics relate to how people assess and evaluate information (Daniels, 2008; Flanagin & Metzger, 2003; Gasser et al., 2012; Kafai & Bates, 1997).

While there has been a myriad of theoretical and a-theoretical approaches to exploring how diverse users interact with technology and information (Trauth, 2013), this dissertation continues a stream of IS literature that approaches human experience from an Intersectional approach. This dissertation draws from Intersectionality and argues that these characteristics do not exist or function in a vacuum; rather, they interact with and are interdependent upon one another (Morgan et al., 2015; Trauth et al., 2016). Not only do these identities intersect and mutually shape one another, but the ways in which intersections take shape affect a user's likelihood of experiencing oppression and alienation based on larger, societal systems of power. This dissertation is housed at the intersection of two streams of literature within IS: (a) investigating how users make decisions about the quality of information they interact with online, and (b) exploring how diverse users' experiences and perceptions relate to their decision-making processes via an Intersectionality approach.

Problem Background²

The flow and dissemination of information has historically been controlled by gatekeepers, from religious leaders to publication editors. Now, however, the Internet and social media have fostered a space where people can create and disseminate their own information *and* users can search for and interact with information they desire. While this gives individuals and groups who may have been previously overlooked or purposefully silenced a platform to be heard, the absence of gatekeepers also creates a space in which there are fewer mechanisms to enforce or maintain standards of quality. The onus and responsibility has shifted from the gatekeeper to the user to make decisions about the quality of the information with which they interact.

While there are a plethora of contexts in which users' decisions about information are important, the exploration of how people assess and evaluate online spaces and their content is particularly valuable when considering topics with high stakes or consequences, such as health information. Between 55% and 67% of adults living in the United States seek health information online (Tobey & Manore, 2013); this is worthy of recognition and exploration in that many users take the information they find into account when making life-altering decisions. For example, a national phone survey of 3,014 adults conducted by the Pew Research Center (Fox & Duggan, 2013) found that within the year prior to the survey, 59% of adults had searched online for health information. Of that 59%, 35% used the information they found to try to diagnose either themselves or someone else and 55% were looking for information surrounding a specific disease or medical problem. This is particularly important because the information they find influences

² Portions of this text were previously published in *Booth & Trauth (2016)*.

real life, health-related behavior. Fox and Duggan found that over half (53%) of the people looking online for diagnoses use the information they find and subsequently talk to a physician.

While the majority (8 in 10) of health-related inquiries begin at a search engine, Fox and Duggan (2013) indicate that searching for health information also has a social component, which the authors term “peer-to-peer healthcare.” The authors explain that “30% of internet users have consulted online reviews or rankings of health care services or treatments” (p. 5) and 26% have followed another person’s health issues. Of those who search for health information online, 16% have used the Internet to find others with similar concerns or conditions. Searching for others with similar health experiences and consulting online reviews and opinions suggests that there is a social component to interacting with health information online. This social component may explain why out of the 55% and 67% adults using the Internet for health information, 20-34% are using social media to search and explore wellness information (Tobey & Manore, 2013).

In addition to adults, teenagers also use the Internet for health-related information. As of 2010, a study conducted by Pew Research Center found that 31% of teens have looked online for “health, dieting, or physical fitness information” and 17% have looked online for health information they considered “sensitive,” such as drug use, depression, or sexual health (Lenhart, 2010). According to a nationally representative survey in 2015, this number skyrocketed to 84% of teenagers searching for health information online (Wartella et al., 2015). The authors point out that while teens are using a myriad of resources to interact with health information including parents, healthcare providers, school-based health classes, and the Internet, 23% of teens get “some” health information via social networking sites (SNS). The use of SNS for engaging with health information is particularly noteworthy in that these spaces are driven by user-generated content and often have few (if any) gatekeepers devoted to monitoring the quality of information disseminated.

Wartella et al.'s (2015) survey also indicated that fitness and nutrition are the top health-related issues teens, ages 13-18 in the US, search for online. Carrotte et al. (2015) indicate that there is an enormous amount of fitness³-related content via social media that is “available to young people and is popular, diverse, and interactive,” (p. 2). In their discussion of this content, Carrotte et al. (2015) articulate a “double-edged sword” concept, arguing that while some content may motivate users to live a healthy lifestyle, other content may promote unhealthy or disordered behaviors. The authors analyze fitness content found on social networking sites that promote “pushing oneself too far during exercise, focus[ing] on appearance rather than fitness, and prais[ing] the athletic body type (the “athletic ideal”), (p.2).” Carrotte et al. (2015) argue that when users internalize this idealized body type, there is an association with “increased compulsive exercising and negative mood associated with missing an exercise session,” (p. 2). Similarly, in their discussion of pro-anorexia⁴ (“pro-ana”) videos on YouTube, Syed-Abdul et al. (2013) conclude that with the enormity of the content available online, it becomes “increasingly difficult to discern reliable health information from misleading content,” (p.1). While there are many videos that provide helpful information surrounding exercise and nutrition, some actively promote eating disorders as lifestyles rather than illnesses. Wartella et al. (2015) found that 17% of their participants reported encountering information explaining how to be anorexic or bulimic. This presents a unique research problem in that teens who engaged in risky behaviors, which the authors defined as including eating disorders, in the last 30 days were more likely to get “a lot” or “some” health information from social media platforms than their peers who did not engage in these behaviors (Wartella et al., 2015).

³ In this dissertation, “fitness” refers to exercise and nutrition.

⁴ “Pro-ana” (pro-anorexia) or “pro-mia” (pro-bulimia) online communities advocate for the maintaining of eating disorders as a lifestyle, rather than a serious health condition.

The extant literature presents a landscape in which young people are searching for fitness information, of which there is an abundance on social media, more than any other kind of health information. Within this space, however, there is an array of healthy and disordered content. This notion of contradictory information is of particular importance given that Wartella et al. (2015) indicated that 32% of teens reported changing their behavior as a result of the information they found online. With the understanding that nearly a third of teens apply what they learn online to shape their offline health-related behavior, this study seeks to explore how teens make decisions about the fitness information they encounter via social media.

As some veins of Information Quality research emphasize the unique context and needs of an individual user, scholars at the Berkman Klein Center for Internet & Society at Harvard University propose a youth-oriented approach to exploring how young people assess information (Gasser et al., 2012). The authors argue that the difficulty of assessing high and low levels of quality are exacerbated when it comes to youth as a result of “the relative vulnerability of children given their stage of cognitive development and limited life experience...” (p. 6). The high stakes nature of health information combined with the vulnerability of young users provides an impetus for this dissertation.

While multiple studies have examined the ways in which youth assess information and online spaces, Gasser et. al (2012) articulate a noticeable gap in the literature. The authors argue that demographics such as “gender, socio-economic status, network of friends...age, race, and ethnicity” may shape information seeking behavior, but “many of these variables have not been fully explored” when it comes to youth (p. 9). Extant literature suggests that the ways adult users (over the age of 18) interact with health information may differ not only based on characteristics such as gender, race, socioeconomic status, etc., but at the entanglements of these identities (Morgan & Trauth, 2013; Payton et al., 2014; Morgan et al., 2015; Payton & Kvasny, 2016). This

dissertation applies this intersectional approach to explore how teenagers make decisions about the fitness information they interact with via social media.

Purpose of the Study

As the information ecosystem changes from one controlled by gatekeepers to a space in which users are charged with making decisions about quality, this dissertation explores how young people make decisions about the information they interact with online. More specifically, the purpose of this research is: (a) to identify strategies young people use to assess information online, and (b) to identify intersecting identity characteristics that relate to how young people make these decisions.

In order to identify the strategies young users employ to make decisions about information quality, this dissertation takes a youth-oriented approach. This approach, guided by Gasser et al.'s (2012) Youth-Oriented Information Quality Framework, emphasizes understanding what is important to young people as they interact with and make decisions about the quality and usefulness of information they find online. While some threads of research surrounding youth and information behavior follow a paternalistic route in which adult researchers emphasize what young people *should* do, this research seeks to contribute to existing research endeavors that seek to advocate for and empower young people. These initiatives seek to understand what young people are doing, thinking, and where they place value. By understanding where youth place emphasis and find meaning, scholars and educators can work with teens to develop and harness their information behavior and decision-making processes. Scholars who focus on advocating for young people and teens often emphasize working *with* youth to develop strategies to address sociotechnical challenges that youth face, from cyberbullying, to privacy concerns, to negotiating the role of social media in education. By employing a qualitative approach that showcases

youth's voices, this study seeks to situate itself in a body of research that preserves the agency of and empowers young people. In this dissertation, this includes creating a space where participants' perceptions and realities surrounding their information behavior and strategies are recognized and valued. In addition, this also means encouraging participants to define and reflect on their own identities and how those take shape within a fitness and social media context, rather than deciding which pieces of their identity *should* be most salient.

Similarly, in order to identify factors that relate to young people's information behavior and strategies, this dissertation builds on extant literature that emphasize the importance of user diversity. This research endeavor employs an intersectionality approach to explore the ways in which identity characteristics intersect with one another and relate to teenagers' information behaviors. Intersectionality looks at the ways in which gender, race, socioeconomic status, sexuality, and other identity characteristics intersect and relate to individual's experiences, rather than looking at each characteristic separately. Taking an intersectionality approach is crucial when seeking to explore users' processes, as individual's identity characteristics do not exist in a vacuum. Rather than examining these characteristics as separate variables, they are looked at in relation to one another with the understanding that their intersections mutually affect and influence a person's life experiences. An intersectional approach also requires that researchers do not privilege one identity characteristic over others; this approach values what lies at the intersections of characteristics, rather than emphasizing or investigating the importance or explanatory power of a single characteristic. Intersectionality work often values the ways in which characteristics intersect and inform an *individual's* experiences, as well as the ways in which these identity characteristics reflect intersections of larger, *societal* systems of inequality. This dissertation employs intersectionality to examine both individual and societal levels of analysis.

By taking a youth-oriented, intersectional approach, this dissertation explores strategies teenagers use to assess the quality of information online, as well as the factors that relate to the ways in which these strategies are developed and employed. This research emphasizes both an individual level of analysis in terms of the relationships between behavior and identity, but also how behavior and identity are shaped by larger social structures.

Scope of the Study

This dissertation explores the ways in which young people assess the quality of the information they interact with online. Young people, particularly teenagers (ages 13-18) in the United States, are an important population to explore given their high rates of Internet use and relative vulnerability based on their life experiences and stage of cognitive development (Gasser et al., 2012). While there are endless categories of information and online spaces that merit such an inquiry, this dissertation focuses on fitness information on social networking sites. This context was selected for two reasons: extant literature suggests that (a) teenagers search for fitness information more often than any other kind of health information, (b) teenagers use social networking sites to interact with fitness information, yet there is an abundance of unregulated, user-generated fitness content that ranges from healthy to disordered on these sites, and (c) almost a third of teenagers use the information they find online to inform their offline health-related decisions and behaviors.

The popularity and high-stakes nature of fitness information on social media provides a meaningful context to explore the ways in which young people make decisions about the health information with which they interact. Built on a foundation of a youth-oriented, intersectional approach that values both individual and societal levels of, this dissertation asks and addresses the

following research questions:

RQ1: How do youth search for and evaluate the quality of fitness information they interact with via social media?

RQ2: How do young people's online content creation relate to their process of search and evaluation?

RQ3: How do the intersections of multiple identity characteristics (race / ethnicity, gender, and socioeconomic status) relate to search, evaluation, and creation behaviors?

RQ 4: How do teenagers' individual search, evaluation, and creation behaviors surrounding fitness information on social media reflect intersections of societal inequality and systems of oppression?

Exploring how young people assess high stakes information may provide insight into how we should design educational curriculum surrounding health, information literacy, and social media. At a higher level beyond this particular fitness (and more broadly, health) context, this dissertation seeks to provide insight into what young people value, look for, and consider when interacting with information online. The insights gleaned from this intersectional approach may speak to larger themes of variation in user experiences and behavior, as well as social inequities surrounding access to and use of various ICTs (i.e. the Digital Divide).

Description of Dissertation Chapters

The next (second) chapter in this dissertation is comprised of three literature reviews. The first focuses the evolution of trust, credibility, and information quality and how these concepts have evolved over time. The second discusses extant literature that has explored the relationships

between user diversity and their behaviors and experiences. The third focuses on the specific context of youth, fitness information, and social media. The structure of Chapter 2 is visually presented in Figure 1-1 below. The figure is in the shape of an inverted pyramid to symbolize the way in which the scope of the review narrows throughout the chapter.

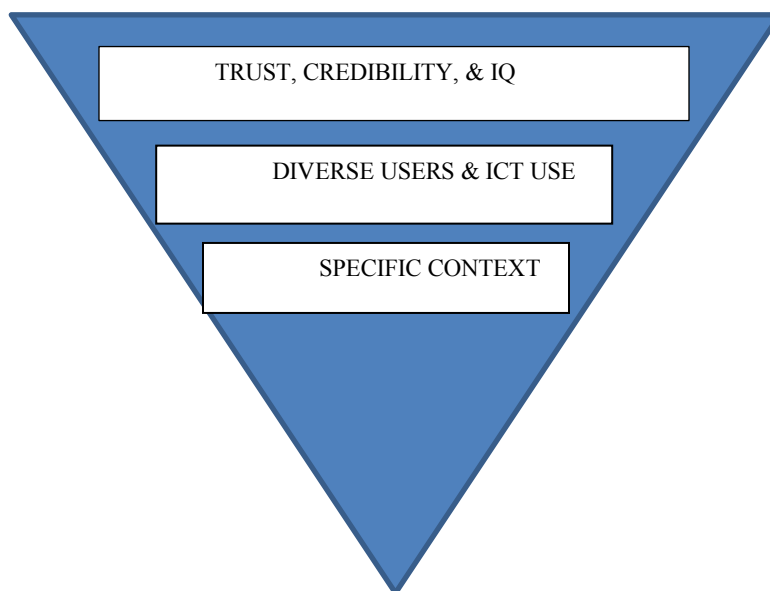


Figure 1-1: Depiction of Literature Review Structure

The third chapter is dedicated to research design. Chapter three discusses the two guiding theoretical frameworks: Gasser et al.'s (2012) Youth Information Quality Framework and Intersectionality. Chapter three also introduces the hybrid interpretive-critical epistemology used in this dissertation, as well as the research questions, data collection, and data analysis. The fourth chapter is dedicated to the results for each of the four research questions. The fifth chapter discusses the results in relation to extant literature. The sixth chapter concludes this dissertation

and includes a summary, an evaluation of the findings, implications for design and education, limitations, and a discussion of future research.

CHAPTER 2: LITERATURE REVIEW

This literature review is divided into three sections. The first section explores three veins of research that have emerged from Information Systems and related disciplines in hopes of addressing how users assess the quality of information online. This section reviews literature surrounding information quality, credibility, and trust, as well as explains why this dissertation focuses on information quality.

The second section examines several theoretical approaches to understanding the relationships between people and technology. Specifically, this section reviews several theories that take into account user diversity and explains why an intersectionality approach is important when discussing ICT use and health.

The third section moves beyond conceptual and theoretical discussions of how diverse users assess information and reviews extant literature surrounding the specific context of youth, fitness information, and social media. The chapter concludes by articulating the gaps in the current research landscape and how this dissertation seeks to address them.

Information Quality, Credibility, and Trust

As scholars within Information Systems and across disciplines have explored how users make decisions about the information they interact with online, three distinct veins of research have emerged: information quality, credibility, and trust. While there are not singular “agreed upon” definitions of these concepts and they are often conflated with one another, this review explores the origins of IQ, credibility, and trust, and how they have evolved over time.

Information Quality

The concept of information quality has been explored across multiple disciplines, perhaps most formally in Information Systems and Management literature. In their review of both topics and methodologies surrounding information quality research, Madnick et al. (2009) summarize a history of relevant research. The authors explain that researchers at MIT were concerned about data quality issues and in response formed the MIT Total Data Quality Management program. This program ultimately yielded a journal devoted to the subject, titled *ACM Journal of Data and Information Quality* (JDIQ). The authors indicate that “quality” was once defined by “intuition and attributes” by individual researchers until the idea of “fitness of use” emerged. This “fitness of use” suggested that quality is both context dependent and measured by how useful it is. “Fitness of use” was then defined into four categories: accessibility, contextual, representational, and intrinsic. Organizations were able to customize and use this framework to quantitatively measure these categories on a scale. This conceptualization was novel in that it emphasized the importance of context, rather than arguing that quality was an innate trait. Gasser et al. (2012) articulate that this re-imagining was crucial in that it suggests that information may have high quality for one person based on individual needs and context, but low quality for another user.

Stepping outside the realm of organizational data and management, scholars at the Youth and Media Lab at the Berkman Klein Center for Internet & Society at Harvard University (Gasser et al., 2012) developed a youth-oriented framework for understanding information quality. The authors indicate that their framework pulls from management literature and another recent framework that understands quality through determining information needs, finding information, evaluating information, and applying or adapting information. The authors suggest that information quality has often been conflated with credibility, and call for a transition from understanding credibility as a list of assessments that users make to re-framing information

quality as a holistic *process* users experience. In their 2012 study, Gasser et al. explored how youth assessed information quality associated with media within the academic context.

In their framework, the authors argue that the ways in which young people assess the quality of information includes how and the context in which they search, the acts of information evaluation, and the creation of their own personal online content. Gasser et al. invoke Hargittai et al. (2010), arguing that how users search is a crucial part of the ways users evaluate information, but has largely been left out of extant credibility research. The authors argue that search and evaluation are linked, and offer the conceptualization that search encapsulates behavior, while evaluation refers to the thought process driving the behavior. Gasser et al. further elaborate that their use of search aligns with two pre-existing definitions. They quote Shenton (2004) and Shenton and Dixon (2003), defining search as “the action taken by an individual to locate messages in order to address a perceived information need,” with an “information need” defined as “the desire or necessity to acquire the intellectual material required by a person to ease, resolve or otherwise address a situation arising in his or her life” (Gasser et al., p. 43). In addition to acting on an information need, the authors add Wallace et al.'s (2000) understanding of “information gathering” as an iterative process central to the behavior of searching. This iterative process includes “posing or identifying a question or problem, exploring available information, refining the question, gathering and evaluating information, and synthesizing and using information,” (p. 43).

In addition to arguing for the importance of search, the authors argue extant credibility and information quality research has often conflated the two terms. Gasser et al. suggest that prior research has tried to define the concepts by making lists of how professionals recommend users assess credibility, quantifying what it is for information to be credible or “quality,” abstractly reflecting about the concepts, or evaluating how useful the information is to the user. Gasser et al. employ a broad definition of credibility by referring to the concept as “the believability of

information.” While the authors acknowledge this is an important component of information quality, they assert that believability is ultimately “just one component of the broader framework of information quality, contingent on the fluid process of search and evaluation as well as the context of the information users,” (p. 22). This clarification holds three important components. The first is that the assessment of information is interrelated with how they search and what content they create themselves. The second is that this assessment largely depends on context. The third is that this evaluation does not exist in one moment, but rather is tied to a larger process that exists outside of a single assessment.

The third piece in the framework Gasser et al. propose examines “information creation and dissemination practices.” The authors articulate that the extant literature paints a picture in which social networking sites play a vital role in young people’s lives, serving as a space for them to develop and share their own information content. This creation is far from trivial. Gasser et al. argue that when young people create their own content, they develop skills and abilities that they then use to assess the information created or disseminated by others. This skill development is a critical part of understanding how youth assess information quality.

This particular dissertation looks at the holistic process of information quality, which includes information searching, evaluation, and individual online content creation. This research is also interested in narrowing down the “evaluation” piece by examining credibility as it is defined in the subsequent section of this review.

Credibility

Credibility is similar to Information Quality in that they both have a myriad of definitions across different disciplines and are often conflated with one another. In Metzger’s (2007) review of credibility within Communication and Information Literacy research, the author invokes

Hovland et al.'s (1953) definition of credibility, stating the concept broadly refers to “the *believability* of some information and/or its source” (p. 2078). Using this definition, Metzger argues that credibility is comprised of two dimensions: expertise and trustworthiness. The author articulates that credibility is a judgment the user makes and argues that this judgment is based on “objective” decisions about “information quality or accuracy” in addition to subjective “perceptions of the source’s trustworthiness, expertise, and attractiveness,” (p. 2079). Metzger’s assertions highlight a key foundation of online credibility research within an online context: credibility is often used and examined in relation to both an individual site, and its information. Despite this broad definition, credibility is operationalized in numerous ways and explored via various methodologies.

In her review of extant approaches to understanding online credibility, Metzger (2007) notes that some scholars argue that untrained users should not bear the burden of assessing the credibility of a website or its information; this is either because they will not take the time to properly do so or they lack the necessary skills. These scholars argue that the focus of credibility research should lie in creating tools that evaluate credibility *for* users and subsequently teach them how to use said tools. These tools include seal programs, credibility rating systems, a labeling / ranking system, databases / search engines, and digital signatures that authenticate authorship of online materials. While noteworthy, these approaches to understanding credibility are beyond the scope and focus of this dissertation; this dissertation focuses on how users make decisions about the credibility of the information they interact with, rather than how to build systems that make these decisions for users.

This dissertation employs a user-centered approach, focusing on the ways in which users, rather than professionally designed software or algorithms, evaluate credibility. Some scholars advocate for credibility research to undertake an educational, user-centered approach. When groups such as American Library Association, the National Institute for Literacy and multiple

consumer groups and healthcare organizations acknowledged the difficulties users have assessing credibility of online content, they began the “digital literacy movement,” (Metzger, 2007). This movement aims to educate and train users. These efforts are predominantly guided by a “checklist.” These lists are comprised of criteria users “should” examine to determine whether something is credible or not. Although there have been numerous other models proposed to guide behavior (Meola, 2004), these checklist approaches are prevalent in digital literacy literature (Alexander & Tate, 1999; Berkeley, 2006; Mardis & Ury, 2003).

When making decisions about how credible information is, digital literacy scholars often suggest reviewing a “checklist” of five criteria: accuracy, authority, objectivity, currency, and coverage or scope (Metzger, 2007). In the aforementioned review, Metzger defines these five axes. The author defines “accuracy” as “the degree to which a Web site is free from errors, whether the information can be verified offline, and the reliability of the information on the site,” (p. 2079). The “authority” of a site “may be assessed by noting who authored the site and whether contact information is provided for that person or organization, what the author’s credentials, qualifications, and affiliations are, and whether the Web site is recommended by a trusted source,” (p. 2079). The third criteria, is “objectivity.” Metzger indicates that these criteria can be checked by first “identifying the purpose of the site,” (p. 2079). Then, a user should assess “whether the information provided is fact or opinion,” (p. 2079). Metzger clarifies that this step involves understanding whether or not the source has “commercial intent or a conflict of interest,” (p. 2079). The author argues that it is not enough to solely evaluate the economic interests of the source. The user should additionally examine “ the nature of relationships between linked information sources (e.g., the meaning of “sponsored links” on a Google search output page),” (p. 2079). The fourth criteria, “currency,” can be checked by examining how recent or “up to date” the information is. The final pillar, “coverage,” examines the “comprehensiveness or

depth of the information provided on the site. These recommendations require a range of activities on the part of users, from simple visual inspection of a Web site to more laborious information verification and triangulation efforts,” (p. 2079). For example, users are tasked with checking whether the contact information of the author is provided and whether or not the site is time stamped. While thorough, Metzger points out that the extant literature suggests that this process is far “too time consuming and labor intensive” (Metzger, p. 2079; Meola, 2004) for users to do so for each site they visit. For example, in their three-year survey study of online users’ assessment of credibility using the checklist criteria, Flanigan and Metzger (2007) found that users examined currency, comprehensiveness, and objectivity only occasionally and very rarely verified the qualifications of the author.

Metzger’s (2007) review compares this checklist approach with other proposed models of understanding how users assess online credibility. One model reviewed is the “Cognitive Authority Model” developed by Fritch and Cromwell (2001, 2002), which argues that users evaluate the authority and quality of information at four levels: the author, the document, the institution, and the affiliation. Metzger (2007) articulates that this model is similar to the checklist approach in that there is still a list of items users should examine, but different in that the authors suggest using software and other technological tools to aid this process. While the checklist approach and Cognitive Authority Model have been important educational tools for those teaching digital literacy, this dissertation focuses on what users are *currently* doing, if anything, to assess credibility rather than what experts believe they *should* be doing.

Metzger also discusses Walthen and Burkell’s (2002) iterative approach, which emerged from Psychology and Communication disciplines, and suggests that users make credibility assessments in three stages: they develop an impression of the design, they consider the content by evaluating the message and the source, and their assessments are affected by their individual

“cognitive state.” Metzger notes that this approach is similar to the checklist in that there are suggested behaviors users should follow, but unique in that

“...it incorporates aspects of the information receiver as being important to the evaluation process, highlighting the fact that credibility judgments are situational and dependent on individual-level factors. Indeed, information scientists have long understood that both a user’s informational needs and context are fundamental to information evaluation and use,” (p. 2081).

This approach is particularly noteworthy because it articulates the importance of the individual evaluating the information. Metzger explains that this model accounts for differences in how users assess credibility based on their “need for information, need for cognition, and prior knowledge of the topic, and these will interact with other situational and individual-level factors (e.g., time available for information retrieval and processing),” (p. 2081). By emphasizing the role of a person’s cognitive state, Walthen and Burkell’s approach suggests that not all users assess information the same way. Their individual differences play a role in how they evaluate information. This is particularly novel because other approaches, like the checklist approach, do not account for differences among users; rather, they apply a *one size fits all* approach to a group that is incomprehensively diverse: Internet users. Metzger (2007) suggests that future research adopt a dual processing approach, because they “provide a good basis for developing a new model of Web credibility assessment that prioritizes user motivation and ability and accounts for the situational nature of credibility assessment (i.e., that it will not be important for all Internet users at all times),” (p. 2087). This call for a shift in emphasis towards understanding individual users’ motivations, abilities, and the particular context of both the user and the information is pivotal. It is this particular approach, which emphasizes the state of the individual to understanding how (and if) users assess credibility, that is the focus of this dissertation.

While the checklist approach, models, and findings of the aforementioned studies are all nuanced in their frameworks and emphasis, there are high-level similarities between them. When

discussing credibility, five major themes emerge from the extant literature: perceptions of information, perceptions of external factors (affiliations, institutions, reputations, etc.), perceptions of the source, perceptions of the site itself, and the state of the user. Credibility in and of itself is a subjective perception that an individual user develops, depending on their individual state, ability, and motivation. The checklist is an example of an operationalization where a subjective concept is measured through objective items in order to “properly” assess credibility.

Outside of Digital Literacy research, credibility is often considered a perception an individual has rather than a phenomenon analyzed via objective criteria. Tseng and Fogg (1999) argue that there are four types of credibility a user can *perceive*: presumed, reputed, surface, and experienced. Presumed credibility is a scenario in which a person assesses the level of believability based on their heuristics and general beliefs about the world. This is often based on previous experiences. Reputed credibility is the level of believability a person attributes to something because of the ways in which third parties of notoriety have assessed them. That is, a person’s perception of believability may be influenced by the ways other people or sources they trust have evaluated them. Surface credibility is assessed based on the opinion of an individual after “simple inspection” of visual aspects. This particular type of credibility is often discussed when exploring how users assess a website or software design or format. Experienced credibility affects how individuals perceive whether or not something is believable based on both positive and negative first-hand experiences with similar scenarios. This emphasis on previous experience and knowledge-level of the subject matter was echoed in Walther and Burkell’s (2002) model. Metzger (2007) suggests using Dual Processing models as a way to predict which of these types of perceived credibility a user will assess.

This dissertation study is interested in the *subjective* elements of credibility. This research seeks to understand how *individual users* assess credibility by taking into account their

motivations and perceptions. Rather than using objective measurements or scales to predict what users will do, this study seeks to understand subjective, individual experiences.

Trust

The concept of trust is explored and explicated across a myriad of disciplines and contexts, yet researchers have not reached a consensus as to how to define and / or measure the abstract construct of trust (Husted, 1998, as cited by Yang & Emurian, 2005; Beldad et al., 2010; Salo & Karjaluoto, 2007). It is important to note that in some literature, scholars argue that trust is an antecedent to constructs such as credibility or a component of making privacy decisions. This particular review is interested in trust as its own, yet related construct.

In their review of the definitions, elements, and implications of trust, and Wang and Emurian (2005) discuss trust in both online and offline contexts. The authors indicate that in their review of Philosophy, Psychology, Management, and Marketing disciplines in which offline trust is discussed, four themes consistently emerge: (a) trustor and trustee, (b) vulnerability, (c) produced actions, (d) subjective matter. The first refers to the notion that for a trusting relationship to exist, there must be two distinct parties – one who trusts and one who must be trusted. The second, “vulnerability, suggests that there must be uncertainty and risk for the trustor, who can be taken advantage of or harmed by the trustee. The third, “produced actions,” indicates that the trustor then acts or behaves in a way that believes the trustee will not harm them. The fourth, “subjective matter,” refers to the context-dependent and individual nature, suggesting that people experience trust in different ways depending on their situations (Wang & Emurian, 2005).

Wang and Emurian (2005) argue that these same characteristics emerge across literature discussion *online* trust, but carry further specifications. For example, while literature across disciplines include the notion of a trustor and trustee, the trustor is typically the user and the

trustee is either the technology or, in the case of electronic commerce (e-commerce), the online merchant. In their review of trust within e-commerce, Beldad et al. (2010) echo this sentiment, articulating that offline trust involves a person or organization, while online trust often includes both the technology as well as the organization operating it. Similarly, the concept of vulnerability is complicated on the Internet because of the environment's relative anonymity and uncertainty of consequences. For example, the authors invoke Gefen (2002), stating, "Even when online consumers only examine a web site without purchasing from it, data may be automatically collected about their activities and later misused or distributed without their consent or knowledge" (p. 40). Because users don't always know or understand who has access to data about their behaviors, the online environment carries a different element of uncertainty than offline interactions. While summarizing Bradach and Eccles (1989), Van Slyke et al. (2004) echo this emphasis on vulnerability, stating, "Whenever an exchange relationship is characterized by uncertainty, vulnerability, and dependence, the issue of trust arises," (p. 2). This element is common across trust literature, especially studies that focus on online spaces. In their summary of Mayer et al. (1995), Xu et al. (2005) also articulate these elements of fear and risk describing trust as "a crucial enabling factor in relations where there is uncertainty, interdependence, risk, and fear of opportunism," (p. 899).

Definitions of trust within an online context often combine the aforementioned four themes that Wang and Emurian (2005) outline. Within these spaces, trust is often conceived as an attitude, belief, intention, or behavior (McKnight & Chervany 2001) that is established by an Internet user in situations where there is perceived risk or uncertainty.

While these definitions are typically broad, the understandings and applications of trust are morphed depending on the context in which it is applied. Riedel et al. (2010) articulates the six spaces in which online trust is often examined: (a) trust in virtual teams; (b) trust in inter-organizational collaboration; (c) trust in e-government; (d) trust in IT artifacts such as

recommender agents or avatars; (e) trust in virtual worlds and virtual communities; (f) trust in e-commerce.

The majority of trust literature lies within the e-commerce context. Trust was initially explored in an e-commerce context in which buyers had to assess the trustworthiness of sites and corporations in order to make purchases and provide their personal credit card information. The concept is particularly salient within this context because of the perceived financial risk users encounter when making purchases online. In fact, trust is often considered to be an absolute requirement for online transactions to be successful (Beldad et al., 2010; Salo & Karjaluoto, 2007). Within this context, Awad and Ragowsky (2008), define trust as “behavioral intentions that result from: (a) a general belief in an online retailer (Gefen, 2000); (b) a combination of trustworthiness, integrity, ability, and benevolence of online retailers (Jarvenpaa & Tractinsky, 1999; Jarvenpaa et. al, 1998); (c) specific beliefs in competence, integrity, and benevolence,” (p. 104).

Xu et. al (2005) employ McKnight’s operationalization of trust (competence, benevolence, integrity) in their study exploring the relationship between trust and perceived privacy risk when it comes to the adoption of Location-Based Services (LBS). In this study, authors related trust to the idea of a “social contract” and privacy. Xu et al. argue that when consumers provide their private information in exchange for a service, social norms dictate the expectation that the company will handle that information responsibly. To misuse this information is to break a “social contract” in which consumers *trust* that an organization will uphold their end of this assumed agreement.

While trust is often conceptualized as an antecedent to behaviors (e.g. submitting financial information online), there is also extant literature discussing the antecedents or determinants that are required for users to formulate trust, especially within an e-commerce context. In their systematic of determinants for users to formulate trust within an e-commerce context, Beldad et

al. (2010) identify three categories of antecedents. The first is “customer/client-based trust antecedents, which included a user’s propensity or predisposition to trust and a user’s experience and proficiency using the internet. The second category is “Website-based trust antecedents,” which includes perceived ease of use of the website, information quality, graphical characteristics, social presence cues, customization and personalization capacity, privacy assurances and security features, and third-party guarantees). The last category is “company/organization-based trust antecedents,” which includes an organization’s reputation, perceived size of the organization, offline presence, and experience and familiarity with the online company.

In essence, the extant literature identifies a myriad of definitions, contexts, and antecedents of trust online. Regardless of definition or context, individuals use trust to decide what to expect socially (Blau, 1964) as well as in business (Fukuyama, 1995, summarized in Awad & Ragowsky, 2008). In addition to having antecedents for users forming trust, trust is considered an antecedent in and of itself for behaviors and expectations. As Gefen (2002) points out:

“...trust can also be viewed as a multi-dimensional construct combining specific beliefs (sometimes labeled as trustworthiness) that either directly or through an overall assessment of trust influence relevant behavioral intentions,” (p. 38).

Trust, as a concept, is particularly important in that it is characterized as influencing how a user behaves in situations of perceived uncertainty and risk. As individuals are increasingly using the Web for paying bills, information searching, making purchases, social networking, and community and professional development, the Internet has become an integral and central part of life. Users assess trustworthiness every day to guide their individual behavior, whether that be providing personal information or using online information to guide personal actions.

Information Quality, Credibility, and Trust within this Dissertation

From a high-level perspective and within the boundaries of this dissertation, Information Quality can be conceptualized as a process of assessment, while credibility is a perception of believability, and trust is a belief that guides behavior and expectations during times of perceived uncertainty. While all three are different, each takes into account more than information in a vacuum. Each construct considers additional variables such as sources, sites, and search. These three concepts have emerged in response to the uncertainty users face when assessing online spaces, whether it be content, websites, or an actual person or entity with whom they are interacting.

While all three of these concepts are useful tools, this dissertation explores youth's information behaviors in two ways: (a) from their perspective, an approach which values their interests and perspectives, and (b) as a holistic process that emphasizes context. For these reasons, this dissertation emphasizes information quality and employs Gasser et al.'s (2012) Youth-Oriented Information Quality Framework as means of exploring how teenagers search for, evaluate, and create fitness information online.

Theoretical Approaches to Diversity and Information Behavior

Uses and Gratifications Theory

As technology has developed and enabled communication and information exchange across various media, scholars have explored individuals' relationships to different types of media. Much of this literature emerged from the field of Media Effects. Initially, Media Effects researchers were interested in the ways media affects the individuals who "consume" it. Uses and Gratifications Theory (UGT), however, was the first of its kind in this particular discipline in that it aims to provide insight into the ways in which people use media to meet their needs. Rather than examining what media does *to* people, UGT explores how people use media to fulfill

different, individual needs. One significant pillar of this theory is its emphasis on individuals who do not all interact with and use media the same way. Rather, their characteristics and desires shape the way they use media and the ways media affects them (Sparks & Grayson, 2010).

There is a long history of scholars exploring the ways in which people with different identity characteristics interact with media, and more specifically with ICTs. While UGT was initially created to understand the relationship between viewer's needs and television, it has since been adapted and employed to understand ICT users and how they use social media to meet their needs. Many of these studies examine different user characteristics and how these characteristics relate to the needs a person attempts to fulfill using social media. The literature supports UGT's assertion that characteristics and desires shape the way people use social media.

For example, in an analysis of a 2010 telephone survey with 596 social media users, Leung (2013) explored how users' diverse needs and levels of narcissism affected the content they generated, as well as how age affects motivations and levels of narcissism when predicting the use of various social media platforms. While not the primary focus of the study, the author found that characteristics such as level of education, income group, gender, and age all influence the gratifications people find from using social networking sites. Leung found that users with higher levels of education and lower incomes tended to use social media to fulfill "social / affective" needs, while older women tended to use social media to "vent negative feelings." Similarly, males with lower levels of education tended to seek recognition online, while younger users with lower education levels prefer to use social media to fulfill an entertainment need. These different needs influenced the types of platforms with which participants interacted with. For example, those seeking recognition may choose to create blog posts to showcase their achievements. Similarly, participants seeking to vent negative emotions tended to turn to online forums. Leung suggests that features such as intended audience, asynchronous posting, and the ability to post photos may influence these decisions to match a need with a particular platform. Leung's study

indicates not only that individual differences in identity characteristics affect the needs users seek to gratify via social media, but also that these needs influence the actions and specific platforms users engage with. These studies suggest that there is not a universal user experience when it comes to social media, but rather that user's experiences and characteristics influence the ways in which they select, use, and interact with social networking sites.

Individual Differences Theory of Gender and IT

This emphasis on individual differences affecting interaction with ICTs is echoed with the Individual Differences Theory of Gender and IT, emerging from Information Systems. While Uses and Gratifications Theory has been used in Media Effects research to help explain how characteristics influence the ways in which people use media, the Individual Differences Theory of Gender and IT (IDT) has been used to explain the underrepresentation of gender and racial minorities in IT and STEM fields. Initially, the theory was developed to understand why there were so few women professionals in the IT workforce.

Trauth (2002) developed IDT after observing that the two predominant theories that were used to explain the underrepresentation of women in IT, essentialism and social construction, both have significant gaps. Essentialism, which has been used to argue that biological, inherent differences between the sexes are the root of underrepresentation, both universalizes the existence of all women and ignores the long history women have with pioneering both technology use and its development. Rather than focusing on the importance of context, it assumes that characteristics are fixed and unchanging (Trauth et al., 2004). Similarly, social construction, which argues that societal messages shape what is considered "masculine" and "feminine" and that women are discouraged from entering IT as a masculine domain (Trauth et. al, 2004), assumes gender is fixed and does not account for the women currently succeeding in the field. Rather than exploring the differences *between* men and women through a group-level analysis,

The Individual Differences Theory of Gender and IT aims to look at “within-gender variation.” That is, looking at both the societal messages women receive as a group and the differences among women as individuals as to how they respond (Trauth, 2002). This theoretical approach to understanding underrepresentation differs from its predecessors in that it looks within groups on both a societal and individual level of analysis, rather than only between groups on a societal level in which “gender” is a fixed, unchanging category of analysis.

The theory has three constructs (Trauth et al., 2009): individual identity, individual influences, and environmental influences. The first construct, “individual identity,” is comprised of both personal demographics and professional items. Personal demographics include identity characteristics such as sexuality, age, race, socio-economic class, etc. Professional items speak to the industries a person may work in, their specific job titles, etc. The second construct, “individual influences,” encompasses an individual’s personal characteristics and influences. Personal characteristics may be their personality traits, like assertiveness or intelligence, or their individual abilities or education. Their influences include people or experiences that have influenced their lives. Lastly, the “environmental influences” construct speaks to a person’s surroundings. This includes the laws and policies in their geographic region, the cultural values they are surrounded by, and so on. While individuals may all experience societal messages, these three constructs explain how and why they respond differently.

In their study asking, “Are women an underserved community in the Information Technology profession?,” Trauth and Quesenberry (2006) identify some of the societal messages women receive. The authors discuss three messages or discourses that women participants discussed in interviews. These participants, all women who work as IT practitioners, discussed the societal messages that women are responsible for domestic responsibilities such as housework and childcare. Participants also indicated that they received societal messages about what careers were available and appropriate for them as women, many of which were considered “feminine”

(e.g. nursing, teaching, receptionist, etc.). The third message participants discussed was the stereotype that IT is a masculine profession and, therefore, meant only for men. These messages are examples of how society can socially construct what is appropriate for each gender.

The authors discuss how the majority of these women experienced the same messages, but their individual responses differed. This individual piece separates this theory from social construction. For example, participants reacted differently to the message that women are responsible for domestic work, such as childcare. Some participants responded by rejecting the idea that they should rely on someone else to be the breadwinner, demonstrating a desire for independence. Others indicated that they valued equality with their partners and thus domestic duties should be split evenly between them. Others did not want to give up their career dreams and either worked and raised their children or did not have children at all. The authors discuss how these responses differed based on the individual factors these women experienced. For example, these differences may be a difference in personality or because they had a significant person in their lives emphasize the importance of independence, equality, or career success. Similarly, geographic location and economics played a role in that women who lived in areas that required dual-incomes rejected the idea that they should stay home. Similarly, those who were single parents did not have the luxury of staying home because they needed to financially support their households. While the participants all experienced uniform societal messages about what is appropriate for women, their individual responses to these messages varied greatly based on their identity, influences, or their environments.

The construct titled “individual identity” is of particular interest to this study in that one of its sub-constructs emphasizes the role of an individual’s “demographics” or identity characteristics in understanding a person’s relationship to IT and the IT workplace. The construct examines “membership in particular groups within the population” and lists age, ethnicity, gender, nationality, race, religion, and sexual orientation as important factors (Trauth et. al, 2009). The

Individual Differences Theory of Gender & IT emphasizes the importance of identity characteristics when understanding an individual's relationship to IT, and overall their participation in the IT field. Gradually, IDT has been adapted to explain not only the underrepresentation of women, but also the underrepresentation of Black men (Cain & Trauth, 2013) and lesbian and bisexual women (Trauth & Booth, 2013) in IT and in STEM fields. This expansion demonstrates a movement towards examining multiple identity characteristics (i.e. race and gender) and how they relate to one another, as well as how they influence a person's relationship with IT.

Intersectionality

In a review of papers on gender and IS published in Information Systems journals from 1992 – 2012, Trauth (2013) asserts that gender research within this specific field falls within three broad categories: essentialism, social shaping, and gender intersectionality. The author argues that intersectionality benefits gender research in that it provides a lens to examine gender in conjunction with other identity characteristics. Trauth (2013) emphasizes the importance of an intersectionality approach to gender research within IS. The author argues that essentialist-driven research only allows for two categories of people: masculine and feminine. Trauth argues that this approach lacks nuance in that it forces gender minorities (those who are lesbian, bisexual, transgender, gay, etc.) and those with “non-majority identity characteristics (minority ethnicities, disability, etc.)” (p. 288) either into groups within the man / woman binary that do not adequately represent their identities or into invisibility. Trauth (2013) argues that the “conceptualization of gender that incorporates men, nonwhite women and minority gender and sexual identities allows for both more representative and more nuanced knowledge to result” (p. 288).

Intersectionality is particularly useful when exploring how differences among people shape their experiences. Emerging from Feminist Legal Studies and Critical Race Theory

literature, Intersectionality looks at the ways in which identity characteristics such as gender and race intersect to mutually impact one another, rather than looking at each characteristic separately.

Grzanka (2014) argues that Intersectionality is a response to *single-axis* analysis, which the author defines as:

“a term used in intersectional research to denote those perspectives, methods, and modes of analysis that privilege one dimension of inequality (e.g. race *or* gender *or* class) and which derive ideas, knowledge, and policy from that single dimension such that all members of a racial, gender, or class group are thought to have essentially the same experiences of race, gender, or class,” (p. XV).

That is to say that a single-axis approach often assumes everyone with a similar identity characteristic (be it gender or race) has identical or similar life experiences. An intersectional approach, however, looks at how these characteristics intersect in meaningful ways that are often overlooked by examining gender or race in isolation. Intersectionality is particularly powerful when exploring how different people interact with technology because not all IT producers and users have the same identities and experiences. By examining these intersections, the narrative evolves from emphasizing the role of individual attributes to how users experience the world, including technology and information, based on the social hierarchies and power dynamics based on these attributes.

This perspective also provides insight into individuals and groups that are often overlooked and under-studied. For example, Kvasny et al. (2009) explained that “Black women in America stand at the intersection of race and gender, not fitting entirely into either category. When the topic is race, the focus is typically on Black men; when gender is being considered, the focus shifts to White women” (p.109). The authors note that by taking an intersectionality approach, scholars can explore the effects of minority and marginalized groups’ experiences who are otherwise underrepresented in scholarship.

Similarly, when examining the underrepresentation of women and racial minorities in IT professions, Trauth et. al (2016) argued the importance of looking at the ways in which gender and ethnicity intersect to affect gender stereotypes. The authors found that college students majoring in Information Technology perceived IT skills to be masculine, feminine, or gender neutral differently depending on both race / ethnicity and gender. That is, not all men and women who participated in the survey responded similarly to their peers of the same gender. Black, Latino, and White males responded very differently than one another, indicating that examining gender alone does not encapsulate real differences *within* groups.

Intersectionality, ICTs, and Health

Morgan and Trauth (2013) point out that there are vast streams of literature surrounding health and ICTs in IS research which can be broken into three topical categories: health IT/IS, health information, and the health information consumer. The authors note that emphasis on the health information consumer or ICT user is a small proportion of the extant IS literature in comparison to the other two categories. While an emphasis on users may be a smaller proportion than the other two categories, IS research in the vein of Social Inclusion actively calls for an intersectional approach to understanding the relationships between people, health, and technology. Articulating an argument for understanding the relationships between health information consumers and identity, Morgan (2016) says, “generalizations based on race or other single demographic characteristics are outdated, and the perspective of intersectionality is presented as a way to move beyond those generalizations” (p. 5). The author argues that examining a single demographic characteristic such as race on its own does not afford the same richness that an intersectional approach creates.

Intersectionality plays a pivotal role in understanding how people interact with health information online. Morgan (2016) articulates that within the US, the health landscape is carved by an increased demand for and cost of healthcare that is coupled with limited access and decreased health outcomes. The author argues that within this landscape, “individuals have been prompted to take a more proactive role in understanding and managing their own health” (p. 1). This proactive role looks different for different users and intersectionality plays a pivotal role in understanding how people interact with health information online.

Within this category of research, IS scholars argue for the importance of examining health information consumers as intersectional beings, rather than exploring differences by a single identity characteristic (Morgan, 2016; Morgan et al., 2015). Certain health conditions such as diabetes and HIV disproportionately affect certain communities and populations that live at the intersections of race / ethnicity, gender, and socioeconomic status (Morgan & Trauth, 2013; Payton & Kvasny 2016; Kvasny & Payton, forthcoming). In addition, barriers to technological access and use (i.e. the digital divide) are not are not experienced equally across demographics and communities (Kvasny, 2005; Kvasny & Keil, 2006). Finally, certain users have unique health needs, such as members of the LGBTQ community. For example, within the LGBTQ community gay men may have different health information needs than lesbian women. Intersectional identities relate to varying health conditions, methods of access and use, and information needs. These diverse experiences drive diverse information behavior, making intersectionality an important perspective when exploring the ways users interact with information. Extant literature across disciplines articulates that people, both as individuals and communities, do not have homogenous relationships or experiences with health OR technology. Rather, these relationships are complex, particularly across intersections of characteristics such as race / ethnicity, gender, and socioeconomic status.

Youth and Health Information

There are a myriad of studies that explore the relationship between ICT users and health, yet this dissertation is specifically interested in *young people and health information*. According to The Pew Research Center's Internet & American Life Project, more than 90% of teens and young adults use the Internet (Gasser et al., 2012; Lenhart et al., 2011). Researchers at the Youth and Media Lab at Harvard University's Berkman Center for Internet and Society indicate that for those with access and ability, the Internet has become an essential resource for information and subsequent behaviors regarding finances, education, and health (Gasser et al., 2012). In a phone survey of 1,209 youth ages 15-24 living in the United States, Ridout (2001) found that for many young people, "the most significant sources of health information continue to be such traditional sources as health classes at school (47% say they have gotten "a lot" of information this way), parents (45%), and doctors (41%). However, one in four young people (24%) now say they get "a lot" of health information from the Internet," (p. 5). Ninety percent of participants had gone online and 75% of those *online youth* have sought health information. Ridout (2001) argues that this percentage is particularly important when compared to other activities youth engage in online, stating "this is more than the proportion who have ever gone online to check sports scores (46%), buy something (50%), or participate in a chat room (67%), and about the same proportion that have ever played games (72%) or downloaded music (72%) online" (p. 2).

While "health information" is a broad category, Ridout found that 50% of participants searched for information pertaining to specific diseases. Similarly, 44% have used the Internet to find information about "pregnancy, birth control, HIV/AIDS or other STDs. About one in four have researched depression or mental illness (23%) and problems with drugs or alcohol (23%)" (p. 2).

The aforementioned study suggests that not only do young people search for health

information, but they do so frequently. Of the 75% of online youth participants that sought health information online, 40% indicated that they do so at least once a month. This is particularly noteworthy in that youth report changing their health-related behavior based on the information they find. Ridout (2001) found that 39% of participants have altered their behavior based on online content; 14% have subsequently seen a health care provider. Young people do far more than consume information; they interact with and around it. Twelve percent of participants have “participated in a chat room or message board” to discuss a particular health issue (Ridout, p. 8) and 69% have discussed the health information they’ve found online with friends. Ridout notes that the emergence of the Internet as a health resource for young people has potential benefits and downfalls:

“Again, the implications remain unclear. Increased access to health information could create a more informed and healthful youth. On the other hand, if the quality of online information is not high or the source unknown, increased reliance on the Internet could lead to greater misinformation and skepticism,” (p. 1).

Metzger (2007) echoes the idea of potential harms to users of all ages, arguing that the extant credibility literature suggests there is a wide variation when it comes to how credible online health information is. Metzger cites that much of the online health information is “inaccurate and incomplete.” The author cites that various healthcare agencies were a part of the initial Digital Literacy movement, indicating that health has always been an important part of the conversation surrounding the credibility of online information.

While there are potential pros and cons to young people seeking and interacting with health information online, not all youth are behaving the same way. Prior research argues that there is a relationship between certain identity characteristics and behavior surrounding health information. Ridout notes that older youth (ages 18-24) were more likely to indicate that they get “a lot” of

health information online than their younger counterparts. In addition to age, the author suggests that race may also have a relationship with behavior, citing that African American participants were more likely to change their behavior based on the health information they find.

Youth, Fitness Information & Social Media

There are a plethora of domains in which scholars are examining the relationships between ICT users and health information, but this dissertation focuses specifically on the context of youth and fitness information. Young people are actively searching for different types of health information online, including sexual health, drugs and alcohol, mental health, stress, puberty, hygiene, and colds / flu, among others (Wartella et al., 2015). In their 2015 survey of US teens ages 13-18, Wartella et al. (2015) found that among all health-related topics, fitness / exercise and diet / nutrition are the two most popular topics teens search for online. The authors found that 42% of teens have researched fitness / exercise online and 36% have searched for diet and nutrition content. Teens are using a myriad of online resources such as search engines, medical websites, Wikipedia, and social media platforms such as YouTube, Facebook, Twitter, Instagram, and Pinterest (Booth and Trauth, 2016; Wartella et al., 2015).

In their study assessing the nutrition content of online, blogged recipes, Schneider et al. (2013) suggest that social media, blogs in particular, hold numerous opportunities to educate Internet users on nutrition. The authors suggest that dietitians either create their own blogs or partner with established bloggers to publish healthy alternative recipes. They also call for the design of a label for recipes that meet certain “nutritional standards,” which readers can easily recognize. Scholars and health care professionals are recognizing the likelihood of adults and teens to seek health and wellness information online and are altering their practices and designing interventions to address these behaviors. While many scholars and health care providers recognize potential benefits to using social media to educate and communicate, there is also an

acknowledgement that searching for health information online can be a double-edged sword, particularly for young users.

In their assessment of the nutrition content of online blogged recipes, Schneider et al. (2013) suggest that there is a growing number of individuals cooking at home instead of dining out. The authors argue that because 89% of individuals in the US have used the Internet to find recipes, food blogs have an increasing effect on the nutrients that are consumed. This may be problematic in that bloggers may have partnerships with food companies, which may negatively impact their ingredient list in favor of products produced by their sponsors. Schneider et al. (2013) suggest that this is potentially problematic in that a BlogHer study found that 71% of food blog readers age 18-44 have made purchases based on ingredients used in blogs. The authors add that bloggers may value colorful food items that are more visually appealing in photographs but are less nutritiously sound.

While these challenges have been raised, another rising concern surrounds the expanding amount of photo / text based blogs (Tumblr, Pinterest, Instagram, Twitter, etc.) dedicated to health and wellness (Stover, 2014). These sites most often discuss the relationship between exercise, food consumption, and weight-loss. Misleading and / or unhealthy content is often dispersed amongst content that advocates for healthy nutrition and exercise habits (Booth and Trauth, 2016). For example, pro-anorexia (“pro-ana”) and pro-bulimia (“pro-mia”) content advocates for eating disorders as a lifestyle that values thinness, rather than severe medical conditions. Similarly, there is an abundance of *fitspiration* content online that serves as “inspiration to be fit,” but often emphasizes idealized body types, guilt about body weight, encourages restrictive diets, negatively affect body image and self-esteem (Boepple & Thompson, 2014; Tiggemann & Zaccardo, 2015; Tiggemann & Zaccardo, 2016).

In her Master’s thesis entitled “Elements of a Sensibility: Fitness Blogs and Postfeminist Media Culture,” Stover (2014) pulls from popular website *Urban Dictionary* to define

fitspiration. The site parodies popular online dictionaries and allows users to add definitions so “slang” terms not found in traditional sources. Urban Dictionary defines fitspiration as “images of active, strong, and fit women that promote proper exercise and diet” (p. 32) This definition is extended to also acknowledge a darker side, noting that these sites “may also include images of healthy foods much like thinspo (images of dangerously thin women used by people with eating disorders to motivate) but healthier” (p. 32). Stover expands on this definition, explaining that fitspiration has a connection to *thinspiration*, which inspires women to be dangerously thin and has roots in the pro-anorexia online community.

Lauren Bersaglio, the founder of the Libero Network, expands on these negative aspects of fitspiration. Bersaglio has launched a campaign called “#StopFitspiration as a part of The Libero Network, which is described on its website as “a nonprofit organization and online magazine offering recovery support, fostering self-acceptance, and advocating mental health.” Bersaglio defines fitspiration as:

“ Images or messages similar to ‘Thinspiration’ but focused on exercise. Rather than promoting a commitment to exercise for the sake of one’s health, Fitspirational messages equate exercise with ‘perfecting’ one’s body – contributing to negative body image and compulsive exercising behaviours,” (Libero Magazine).

While the images may be of “muscular” bodies rather than emaciated ones, they are still both based on obsessive monitoring of one’s body to strive towards a perception of *perfection*. The #StopFitspiration website further analyzes these images, stating:

“The images associated with Fitspiration usually incorporate a female (or sometimes male) athlete, focusing mainly on the person’s body (sometimes the face is not even included – objectification, anyone?), which is impossibly ‘perfect’ – chiseled abs, perfectly toned arms (thanks, PhotoShop), and, of course, prominent collar bones. The bodies represented, though a seemingly nice ‘change’ from the emaciated bodies we are used to seeing on magazine covers (thanks again, PhotoShop), still do not show a realistic representation of the human body,” (<http://stopfitspiration.com/about>).

Stover suggests that many of the photographs of extremely fit subjects may be triggering for viewers, especially for “women experiencing eating and/or exercise disorders, and may encourage dangerous monitoring behaviors,” (p. 32). Stover cites famous fitness blogger Charlotte Hilton Anderson of *The Great Fitness Experiment*, who calls fitspiration “thinspo in a sports bra.” The author quotes Anderson, who states:

The problem with fitspo is that the images represent a mostly unattainable ideal that requires great sacrifices (both physical and mental) to achieve and I daresay that most of those “perfect” female bodies, albeit muscular instead of bony, are equally as problematic,” (p. 32).

Stover explains that while these images may be extremely problematic, “the images posted on fitness blogs appear more culturally acceptable because the achievement of fitness remains highly celebrated... in mainstream American society, (p. 33). In addition, the sheer abundance of fitness information online, particularly on social media, can make it difficult for users to determine the quality of the information they interact with (Carrotte et al., 2015; Syed-Abdul et al., 2013).

Of the social media sites dedicated to fitness, many can be found with messages or images promoting fitspiration. This is particularly problematic for young people, many of whom, as previously cited, are accessing social media sites for fitness information. As Stover (2014) points out, these messages may be particularly triggering for users who already have challenges regarding their weight or appearance. According the Common Sense Media and their study on young people, media, and body image, “body dissatisfaction and related unhealthy behaviors are quite prevalent among children and teens in the U.S., while societal appearance ideals have become increasingly unrealistic” (p. 5). Teenagers often feel pressure to achieve unrealistic, societally-valued body types that emphasize thinness (Pai & Schryver, 2015), often through altering their diet and exercise regimens. In their discussion of online fitness content, Carrotte et

al. (2015) articulate that when users internalize this idealized body type, there is an association with “increased compulsive exercising” and negative moods.

These issues are compounded by the fact that many young people who find health information online tend to alter their health-related behaviors because of it. Many teens are using this information to inform or change their offline health-related behavior (Booth & Trauth, 2016; Eikey & Booth, 2017; Wartella et al., 2015). This information seeking and behavior alteration presents a fertile ground to explore how teens are making decisions about the information with which they interact. These questions are important considering the body image challenges young people often face. The fitness information young users encounter, particularly on social media, is often not moderated by a subject area expert or gatekeeper. The complexity of fitness information on social media and young people’s likeliness to turn to the Internet for such information provides a space for exploration. This research explores this space and how young people interact with fitness information, particularly via social networking sites.

Gaps in Literature

While the literature surrounding information quality, credibility, and trust is expansive, there are a number of gaps when it comes to considering these elements from an Intersectionality perspective and applying them to social media. Gasser et al. (2012) observe that many of the studies surrounding information quality and related terms have been created by adults and focused on adult users. Adults have been the participants in most studies. Similarly, the very idea of information quality has been defined and researched by adults. This definition of information quality from an adult standpoint often does not leave room for the ways in which young people assess and understand the concept. Youth are not incapable of assessing the quality of information online. Rather, they may do so in ways that adult-normative checklists fail to capture.

Youth may in fact have their own ways of understanding or evaluating quality, but they may not match the pre-defined criteria adults establish and measure in studies with survey methodologies. As a response, Gasser et al. (2012) developed a framework that seeks to explore how youth evaluate information. The authors call for a re-structuring to examine information quality as a holistic process, rather than an adult-defined, pre-determined checklist.

Gasser et al. (2012) employed their Information Quality framework in their 2012 study to examine the ways youth assess information quality in the academic context, which they define as “a set of patterns associated with school and homework” (p. 8). They also define two other contexts: the personal context, which is “a set of patterns associated with time alone” (p. 8) and the social context, which is “a set of patterns associated with places and spaces of socializing and peer interaction” (p. 8). Gasser et al. (2012) point out that these contexts are under-explored thus far, stating:

There is relatively little work examining how learning around search and evaluation works in the personal context. One ethnographic study points to the importance of learning through trial and error and piecewise exploration, such as by refining search query terms after getting confused by initial research and by cross-referencing offline and online information, (p. 11).

Gasser et al. (2012) point out that these contexts are not mutually exclusive and often overlap with one another. This research seeks to explore youth’s processes within social media. Social networking sites are a mixture between what the authors define as a personal and social context. Young people can interact and socialize with others via social media, which fits neatly within the social context. However, young people can and do access these sites and platforms when they are alone, which fits within the personal context. This combination of potentially being physically alone while also socializing creates the hybrid context this research seeks to explore. The authors identify another gap and call for future research to address it, stating:

Information-seeking behavior shapes and is shaped by a set of contextual and

demographic variables. Studies suggest that variables include not only the purpose of search, but also gender (boys and girls appear to employ different search and navigation strategies), socio-economic status, networks of friends, and to some extent age, race and ethnicity (for instance regarding information needs). However, many of these variables have not yet been fully explored (p. 9).

Gasser et al. (2012) suggest that different variables such as gender, socio-economic status, age, race, and ethnicity may shape information needs and behavior. Scholars echo this sentiment across multiple disciplines, often referring to these factors as identity characteristics (Cain and Trauth, 2013; Trauth et al., 2012). This dissertation explores not only how these characteristics relate to information behavior, but also how they intersect with one another. This dissertation also explores how different identities relate to the ways young people search for, evaluate, and create online content.

In summary, this dissertation addresses three gaps. The first gap this dissertation addresses follows in Gasser et al.'s (2012) stead, moving away from adult-normative perspectives towards a youth-centered, holistic approach that seeks to understand young people's information quality processes. This dissertation uses this process and youth-oriented framework by asking how young people search for, evaluate, and create fitness content via social media.

The second gap is contextual, extending Gasser et al.'s (2012) framework beyond the academic context in which it originated. This extension applies Gasser et al.'s framework to explore the personal and social contexts (as the authors define above). Rather than looking at school-related information, this study explores health information youth interact with via social media. Specifically, this dissertation moves beyond the academic realm and apply this framework to a social media context. This is particularly noteworthy in that much of this content is based in visuals (either photographs or videos), rather than text, around which Gasser et al. (2012) argue there has been limited research.

The third is exploring the relationship between young people's processes of evaluating information quality and "contextual and demographic variables." Specifically, this dissertation

employs an Intersectionality perspective to explore how the intersection of young people's identity characteristics relates to the ways in which they assess information quality. This approach is particularly appropriate, given that people experience both health and technology in vastly differing ways that relate to their intersecting identities and experiences.

Chapter 3

Methodology⁵

This dissertation is concerned with how teenagers assess the quality of information they interact with online in an information age of fewer gatekeepers, as well as how they make these decisions differently based on their intersecting identities and experiences. While these are broad thematic inquiries, this research uses Gasser et al.'s (2012) Youth-Oriented Information Quality Framework and an Intersectionality approach within the specific context of fitness information on social media. Based on these theoretical perspectives (discussed in the next section) and the previous literature review, this dissertation examines four research questions:

RQ1: How do youth search for and evaluate the quality of fitness information they interact with via social media?

RQ2: How do young people's online content creation relate to their process of search and evaluation?

RQ3: How do the intersections of multiple identity characteristics (race / ethnicity, gender, and socioeconomic status) relate to search, evaluation, and creation behaviors?

RQ 4: How do teenagers' individual search, evaluation, and creation behaviors surrounding fitness information on social media reflect intersections of societal inequality and systems of oppression?

⁵ A version of this chapter will be submitted for journal publication in Spring 2018.

This dissertation uses qualitative, semi-structured interviews to address these four questions. The study design is informed by two theoretical approaches and a blended epistemological approach (discussed in subsequent sections).

Theoretical Orientation

As discussed in the literature review, young people are using the Internet to search for fitness (exercise and nutrition) information more than any other type of health information. In this dissertation, I am interested in exploring how young people are making decisions about the quality of this information. In addition to asking how these assessments are made, this dissertation program seeks to explore how the intersections of identity characteristics (e.g., race, gender, socioeconomic status, etc.) relate to teens' assessments of Information Quality (IQ). To explore the four research questions, this dissertation employs two theories. These two theories directly inform the study design, from the research questions to data collection to data analysis.

Information Quality Framework

The first theory used is Gasser et al.'s (2012) Youth-Oriented Information Quality Framework. The authors observe that many of the studies surrounding IQ and related terms (i.e., credibility) have been created by adults and focused on adult users. Adults have been the participants in most prior studies. Similarly, the very idea of IQ has been defined and researched by adults. This definition of information quality from an adult standpoint often does not leave room for the ways in which young people assess and understand the concept. Youth are not incapable of assessing the quality of information online. Rather, they may do so in ways that adult-normative checklists fail to capture. Youth may, in fact, have their own ways of evaluating

quality, but they may not match the pre-defined criteria adults establish and measure in studies with survey methodologies. As a response, Gasser et al. (2012) developed a framework that explores how youth evaluate information, which emphasizes young users' perspectives and agency. The authors call to examine IQ as a holistic process, rather than an adult-defined, pre-determined checklist.

This framework is “process- and context-oriented,” an approach embedded in the assumption that how a user assesses quality is dependent on context. Similarly, this approach argues that decisions about IQ are not made in a single instance, but as a process that includes search, evaluation, and creation.

Designed to explore how young people assess IQ, this framework has three parts that take *process* and *context* into account. These three parts (search, evaluation, and creation) are treated as constructs in this dissertation and are summarized in Figure 3.1. Gasser et al. (2012) then provide a literature review for each of the three constructs, which they break down into categories. While the literature reviews are extensive for search, evaluation, and creation, this dissertation focuses on specific categories within each review. These selected categories are in bold in Figure 3-1 and a justification of their selection is explained below:

Construct	High-Level Description	Categories of Literature Reviewed
Search	How young people search for information	<ol style="list-style-type: none"> 1) Online search behaviors 2) Variables that affect youth search behavior 3) Problems that may arise when youth search online
Evaluation	The thought process that drives said behavior; How users assess whether the information they found is useful to them	<ol style="list-style-type: none"> 1) Main criteria youth use for evaluating online content 2) Variables that affect how youth evaluate online content 3) Potential deficiencies in how youth evaluate online content 4) Credibility within adult contexts and how young people may be affected by compounding vulnerabilities.
Creation	Acts online in which youth create new information; emphasis on interactive and creative acts, rather than passive	<ol style="list-style-type: none"> 1) Content Categories 2) Skills 3) Norms

Figure 3-1: Summary of Gasser et al.'s (2012) Information Quality Framework

The first piece of this framework explores how young people search for information. The authors used an interdisciplinary literature review to define the construct. This notion of searching is the gathering of information, driven by a user's unique individual information need, which relates to some aspect of their life. Searching is an iterative process in which a user will identify a question or problem and inquire about / gather information relating to the subject. The user will then refine their inquiries based on what they have found. Based on this definition, the authors then used extant literature to summarize: (a) main youth online search **behaviors**, (b) **variables** that affect youth search behavior, and (c) "**problems**" that may arise when youth search online. This dissertation is interested in behaviors. Not just *what* teenagers do when they search, but *how* they search and the meanings they attribute to their processes and experiences. Gasser et al., (2012) then discuss categories of variables literature suggests may influence young people's search behaviors. While these are useful variables to consider, many of these variables are separate identity characteristics (such as socioeconomic status - SES, race, gender, etc.) discussed

in a list format. In this study, I sought to look at the intersections of multiple identity characteristics, rather than examining each one separately (discussed further in the next section titled “Intersectionality”).

The second piece of the framework is evaluation. According to the authors, if searching is behavior then evaluation is the thought process that drives said behavior. It is how users assess whether the information they found is useful to them. While the outcome of this piece is whether the individual uses the information, the focus in this part of the framework is *how* these decisions are made. Under “evaluation,” the authors employ extant literature to discuss: (a) the **main criteria** youth often use for evaluating online content, (b) **variables** that affect how youth evaluate online content, (c) potential **deficiencies** in how youth evaluate online content, and (d) credibility within **adult contexts** and how young people may be affected by compounding vulnerabilities. For the reasons listed in the previous paragraph, in this study I am interested in the **main criteria** young people use to evaluate fitness content, particularly how young people understand and value these criteria.

The final part of this framework emphasizes creation. This piece is specifically interested in acts online that are interactive and creative, rather than passive. Gasser et al. (2012) define creation as “all acts, no matter how small, through which youth create new information objects. Besides obvious creative acts such as original art, videos, and fan-fiction, we also classify activity on social networking sites as a type of creation,” (p. 78). The authors review literature to break “creation” down into sub-constructs: (a) content **categories**, (b) **skills**, and (c) **norms**. This study is interested in all three sub-constructs and how users understand and experience them.

Gasser et al.’s (2012) framework emphasizes the importance of individual needs and factors influencing these three components, and asserts that search, evaluation, and creation do not always happen chronologically. Rather, they may continuously occur throughout a user’s interaction with information. These three constructs (search, evaluation, and creation) directly

inform the Research Questions 1 and 2, as well as the data collection process (further discussed in the “Data Collection” section below) and data analysis (further discussed in the “Data Analysis” section below).

Intersectionality

The second theoretical approach used is Intersectionality. The second goal of this dissertation is to explore how users’ identity characteristics relate to their individual experiences and processes assessing information quality. As discussed in the literature review, there has been a shift in IS research towards understanding the intersections of identity characteristics and how they relate to individual information behavior. This is a movement beyond examining differences *between* groups (ex: differences between men and women) and towards differences *within* groups (ex: women’s lived experiences vary depending on other factors, such as race and socioeconomic status). This perspective informs the previously discussed decision to examine identity characteristics as they intersect with one another, rather than as single categories.

Intersectionality has been hotly debated in terms of what it can and cannot, should and should not explore and explain. In a chapter exploring the relationship between Intersectionality and identity, Grzanka (2014) articulates what she perceives to be at the heart of this debate:

“If identity matters, it is because social identity categories are the products of these systems, such as racism, sexism, heterosexism, and capitalism, and are one especially efficacious way of recognizing and measuring the inequalities produced by such systems... The inequality is not based in identity; but rather inequalities produce social identities,” (Grzanka, p. 68).

Grzanka (2014) labels this common debate as “identity vs. structure.” This dichotomy speaks to the two most common approaches to intersectionality work (summarized below in Figure 3-2).

Intersectionality Approach	Description
Identity-oriented approach	Examining individual identity characteristics, the multiple intersectional pieces of an individual, and how they mutually shape one another
Structure-oriented approach	Examining structures and policies which (re)produce power and intersecting inequalities at a societal level

Figure 3-2: Approaches to Intersectionality

The first approach examines individual identity, the multiple intersections of an individual, and how they mutually shape one another. This mutual shaping affects the ways an individual experiences the world and, thus, their identity and sense of self. In a study exploring intersectional identities and ICT use, this approach would take shape by exploring how individual users' race / ethnicity, gender, and socioeconomic status relate to their ICT uses and behaviors (Morgan et al., 2015). The second approach, on the other hand, looks at intersectionality through a lens of societal oppression and systems of power. Grzanka (2014) invokes feminist theorist Patricia Hill Collins, who argues:

“This stress on identity narratives, especially individual identity narratives, does provide an important contribution to fleshing out our understandings of how people experience and construct identities within intersecting systems of power. Yet this turning inward also reflects the shift within American society away from social structure analyses of social problems, for example, the role of schools, prisons, and workplace practices in producing poverty, and the growing rejection of institutional responses to social inequalities, e.g., how governmental social policies might address this intractable social problem,” (p. 69).

Collins articulates that while an individual level of analysis can be valuable, intersectionality work must also take a societal level of analysis. The author argues that exploring the structures and policies which (re)produce power and inequality at a societal level is crucial.

Kvasny and Keil (2006) apply this perspective to IS research, exploring how the digital divide is less about communities' access to and use of technology and more about historical systems of power. This structural perspective argues that these systems of power *result* in individualized experiences and identities, but are rooted in systemic issues of inequality.

This study uses intersectionality as a lens to explore the ways in which young people make decisions about fitness information they interact with via social media. Taking into account the tension between identity and structure, this study seeks to explore intersectionality from both an individual and societal level. This means looking at intersectionality from two perspectives: (a) an intersection of identity characteristics (a participant's race, socioeconomic status, gender) that a singular person experiences, and (b) intersections of inequality that are caused by power dynamics at the structural level. This combination of perspectives speaks to a larger, underlying question of epistemology, discussed in the next section.

Epistemology

This dissertation is informed by a hybrid interpretive-critical epistemology. This section explores the relationships between the two theories that guide this research and the role epistemology plays in the research design. The first theory that informs this research, Gasser et al.'s (2012) Youth-Oriented Information Quality (YO IQ) Framework, is driven by an interpretivist epistemology. The second theoretical approach, intersectionality, has been historically debated as to whether it should approach the intersections of an individual person's identity characteristics or the intersections of societal oppression. This *identity versus structure* debate speaks to an epistemological divide between an interpretive and critical approach. This study seeks to alleviate these tensions by employing a hybrid interpretive-critical approach to

intersectionality work in hopes of addressing the limitations of a single approach, while capturing the benefits of both approaches.

Interpretivist Epistemology

This dissertation uses Gasser et al.'s (2012) Youth-Oriented Information Quality Framework to explore how teenagers search for and evaluate fitness information via social media and how their search and evaluation processes relate to their creation of online content. It is particularly important that YO IQ is interested in how young people experience information, what they value, how they make decisions, and why. The Youth-Oriented Information Quality Framework speaks to an interpretivist epistemology in that the intention is not to find a "what," as in "what" young people are doing to assess information quality. Rather, it attempts to understand what participants perceive as important for assessing information quality. It seeks the answer to *how* information quality is assessed by youth.

The identity-centered approach to intersectionality is also driven by an interpretivist epistemology, in which the intent is to understand an individual participant's subjective reality, processes, values, and life experiences.

This epistemology is appropriately combined with qualitative methods, as it offers a *thick description*. In terms of intersectionality, it seeks to understand how young people perceive their identities and how their characteristics relate to their lived experiences. In her text outlining qualitative methodology, Mason (2002) invokes Blaikie when describing what an interpretive approach aims to understand:

"in order to negotiate their way around their world and make sense of it, social actors have to interpret their activities together, and it is these meanings, embedded in language, that constitute their social reality," (p. 56).

It is not an objective fact that this research seeks to understand, but rather the intersectional subjective realities of individuals and the meanings they attribute to these processes. Within the context of this dissertation, an emphasis on identity also sheds light on *why* young people search for fitness information and why their evaluation processes look the way they do. This epistemology guides the research design, data collection, and analysis. For example, the questions asked in the interviews (outlined in subsequent sections) are seeking to understand young people's motivations and processes when it comes to search, evaluation, and creation. The questions get at the heart of the meaning that participants ascribe to search, evaluation, and creation, and how they understand them. Further, participants were asked to reflect on their own identities and how their experiences are shaped by their identity characteristics.

This study interpretively looks at identity characteristics on an individual level and examines the meanings and realities of individual people. It is important to ensure that this analysis is not additive. This means avoiding adding identity characteristics such as Black + low SES + woman. Instead, it is important to seek understanding as to what these intersections and realities mean to the individual participants. The addition of characteristics perpetuates the single-axis mentality that fails to recognize the difference between a sum of identities and how a person's experience is shaped by the intersections of several inequalities. These intersections speak to the notion that *a whole is greater than a sum of its parts*. An individual analysis in this dissertation seeks to understand a subjective reality rather than add or measure variables. This epistemology is particularly appropriate given the Youth-Oriented IQ framework that was employed. This framework emphasizes the importance of understanding young people's processes, values, and perceptions of IQ, rather than their actual behaviors. This emphasis on subjective realities and meanings speaks directly to an interpretive epistemology.

Critical Epistemology

While the identity-oriented approach to intersectionality is informed by an interpretive epistemology, the structure-oriented approach is informed by a critical epistemology. This approach to “how we come to know” is concerned with power and inequality.

In their discussions of critical research’s role in IS research, Trauth and Howcroft (2006) argue that a critical perspective may provide unique insights and benefits. They argue that the addition of a socio-cultural perspective on the macro-level perspective may add both theoretical and methodological contributions in ways that are often overlooked in IS research. In particular, the authors argue that focusing on “situating of the research within a broader context of overt and covert power exercise, highlighting contradictions and exposing taken-for-granted assumptions” (p. 273) provides insights that interpretive research does not encapsulate. For example, the authors note that shifting the approach to a gender study from interpretive to critical yielded new insights about socially embedded power dynamics in the IT workforce. In a later publication, Howcroft and Trauth (2008) expand upon this idea, noting that the same epistemological shift would focus on social and economic contexts. When examining why women are underrepresented in the workforce, the focus shifts from individual women to why the “odds are stacked against [them] to begin with,” (pg. 194). The authors invoke Oakley (2000) and discuss how all research attaches priority or value to specific issues. Critical research, however, can be particularly useful in that it *critiques the status quo* and can challenge how these values are socially assigned (Trauth & Howcroft, 2006; Howcroft & Trauth, 2008).

A Blended Epistemology

This dissertation employs a blended interpretive-critical epistemology to reconcile this dichotomous tension between identity and structure when it comes to intersectionality research. At the heart of this tension is a question of epistemology, or how we come to know what we know. Those who advocate for an emphasis on identity are speaking to an interpretive epistemology, valuing the experiences and subjective realities of individuals based on their identities. Those who articulate the importance of a structural perspective are speaking to a critical epistemology in which inequalities and structures of power are examined. This study seeks to resolve these epistemological tensions by approaching an IS research problem with a hybrid-epistemological approach to maximize the understandings and perspectives each provides. This study posits that individual experiences analyzed interpretively can be a tool through which we can understand complex concepts of structural inequality. RQ1 & RQ2 were informed by the IQ framework and an interpretive approach. These questions are interested in how young people search for, evaluate, and create content online. These questions explore individual experiences and the subjective meanings young people associate when it comes to their online fitness information behavior. Similarly, RQ3 is also informed by an interpretive epistemology using intersectionality as a theoretical approach. Its emphasis on identity and lived experiences speaks directly to an interpretive approach to knowledge by asking about the subjective nature of identity and a participants' subjective perspectives.

Research Question	Theory	Epistemology
RQ1 & RQ2	Youth-Oriented IQ Framework	Interpretive
RQ3	Individual-level Intersectionality	Interpretive
RQ4	Structural-level Intersectionality	Critical

Figure 3-3: Relationships between research questions, theory, and epistemology

This combination of epistemological approaches seeks to reconcile identity-oriented and structure-oriented approaches to intersectionality research within IS health research. Furthermore, it seeks to explore the ways in which identity and structure mutually interact, rather than examining them as separate entities and perspectives. For example, participants' quotes and narratives provide examples of how structural inequality manifests in individual experiences. As Grzanka (2014) points out, this use of individual examples may make the complex concept of structural inequality more understandable and clear for those unfamiliar with the concept of intersectionality. These examples may also help explain that while *structural inequality* may seem like a lofty or abstract concept, it has real impacts on individual lives and experiences. Similarly, exploring the ways in which individual experiences reflect and are shaped by larger systems of oppression may be beneficial in understanding the societal forces at play when considering health and technology use. While individual experiences may help us deepen our understandings of large, complicated structures, we can then turn to a societal, critical level of analysis to understand that these individual experiences exist within larger contexts bound in systemic inequality.

Data Collection

In this dissertation, I employed qualitative, semi-structured interviews. Mason (2002) discusses how interviews can provide an in-depth understanding of how and why within a specific context. This dissertation is interested in how teenagers assess fitness information they interact with via social media. This desire to understand the meaning attached to young people's processes is what informs the qualitative, interview-based study. I used thick description to move beyond a surface level explanation. I did this through interviews that sought a more nuanced explanation of the complexities behind search, evaluation, and creation behavior. I wanted to look beyond what decisions young people make by also asking *how* and *why*?

Participant Recruitment

Thirty teenagers, ranging from ages 13 – 18, participated in this study exploring intersectionality and young people's assessments of fitness information they interact with via social media. As this age range is composed of legal minors, the participants were recruited via adults in their educational network. These educational networks included two charter schools⁶ and two Parent-Teacher Associations (PTA). Taking the aforementioned socioeconomic health gradient literature into account (Evans et al., 2012; Goodman, 1999; Hanson & Chen, 2007; Rajmil et al., 2013) it was important to include participants from diverse socioeconomic backgrounds to explore differences across participants. Similarly, from an intersectionality perspective, it was important to talk with racially diverse participants. While this dissertation is interested in behavior surrounding fitness information, an interest in fitness was not a prerequisite

⁶A charter school is a public, independent school that operates and builds its curriculum based on its contract or "charter" with the agency that authorizes the school.

for participation. The only requirements to participate were: (a) to fall between the ages of 13-18, and (b) to have an account on at least one social media platform.

The first recruitment site was a charter school in the Midwestern geographic region of the United States. This school is in an urban region with a population that is 37% White, 40% Black or African American, and 17% Latino or Hispanic (US Census, 2010)⁷. The principal of the school informed students that a research study was being conducted about social media and health and distributed consent forms for participants and their parents to review. All interested participants, whose parents provided their consent, scheduled a time slot to be interviewed through the principal.

The second recruitment site was also a charter school in the Northeastern region of the United States. The school is located within a city that is 17% White, 48% Black or African American, and 47% Latino or Hispanic (US Census, 2010). With permission from the school's principal, the school's dance teacher informed students that a research study was being conducted about social media and health and distributed consent forms for participants and their parents to review. All interested participants, whose parents provided their consent, scheduled a time slot to be interviewed through the dance teacher.

The third and fourth recruitment sites were the Parent-Teacher Associations in suburban school districts in the Northeastern region of the United States. The first district has a population that is 94% White, 5% Hispanic or Latino, and 0.5% Black or African American (US Census, 2010). The second district has a population that is 78% White, ~4% Black or African American, and 26% Hispanic or Latino (US Census, 2010). In both cases, the president of the PTA contacted other parents in the organization to ask if their teenagers were interested in participating in a

⁷ These percentages do not add to 100%. Survey participants can identify as several races not listed here (which would indicate less than 100%) or multiple races (which would indicate over 100%). The races listed here are those listed by the participants in this study.

study about social media and health. As with the participants recruited from the charter schools, both parents and teenagers were given the consent form and study description prior to the interviews.

Consent

Parental Consent

Before I had any with the participants, all parents were given a description of the study and a consent form. Only with parental permission were interviews scheduled by the adults in their educational network (either a principal, teacher, or member of the PTA). All parents were provided with a copy of both the study description and the consent form. They were also provided with the contact information of Penn State's Institutional Review Board (IRB).

Participant Informed Consent

Prior to the interview, I had a discussion with each participant to ensure consent to participate was both voluntary and informed. If the participant was under 18, I ensured that a parent had agreed to this participation and signed a consent form. I went over the purpose of the study and the format of the interview. I assured each participant that they could skip any question they didn't feel comfortable answering and that they could end the interview at any time without penalty. After this discussion, the interview only took place if the participants communicated an understanding of their rights, as well as signed a consent form. It was clearly communicated to both parents and participants that the interview would be audio-recorded, the recordings would be

stored in a secure location, and pseudonyms would be used in publications to protect the identity of the participants.

Pilot Study Focus Group

During the discussion about the purpose of the study, each participant was given a list of topics (Appendix 1) that related to fitness and social media and asked if they had encountered this type of information via social media. These topics were developed during informal interviews and brainstorming sessions with teens about the types of exercise and nutrition content they interacted with via social media. These teens, who were not participants in the study, are representations of those who were. These brainstorming sessions informed the flyer (Appendix 1) that was shown to participants to explain types of fitness information online. This was done to ground the examples within the realities and lived experiences of teenagers. These topics are formulated the list in Appendix 1, which was shown to participants. During data collection, every participant indicated that they had seen these types of content on social media platforms.

Three Phases of Data Collection During Interviews

During the interviews, I collected data in three phases (summarized in Figure 3-4). The first phase of the interview was a brief questionnaire, which asked about demographics, the types of social media platforms participants used, how frequently they interacted with them, and on which of these platforms (if any) they see fitness content. After participants completed the questionnaire, I used the responses to inform which platforms I asked about in subsequent questions about online content. The second phase of the interview was an *Identity Map* exercise, in which participants drew circles and wrote down important pieces of their identities (explained

below). In the third phase, I asked the actual interview questions, which were informed by the IQ framework and an intersectionality approach.

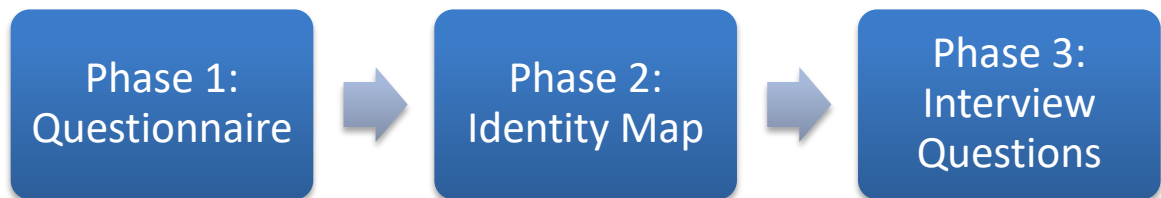


Figure 3-4: Phases of Data Collected During Interviews

These phases are discussed in detail in the next three sections in terms of the theories and epistemologies that inform each methodology and the research questions the data collected speaks to (summarized below in Figure 3-5).

RQ	Epistemology	Theory	Data Collected
RQ1, RQ2	Interpretive	IQ Framework	Questionnaire IQ-based interview questions
RQ3	Interpretive	Identity-level Intersectionality	Questionnaire Identity Map Intersectionality-based interview questions
RQ4	Critical	Structural-level Intersectionality	Intersectionality-based interview questions

Figure 3-5: Relating research questions, epistemology, theory, and data collection

Phase I: Questionnaire

Each participant filled out a brief questionnaire (Appendix 2) asking about the social media accounts they have, frequency of use, and which (if any) they use to interact with fitness-related content. I used these questionnaires to inform the rest of the interview and which platforms I asked about. For example, if a participant indicated that they used Instagram and YouTube on a daily basis, I ensured to ask about their search, evaluation, and creation behaviors on both of those platforms.

Phase II: Identity Map

The notion of “identity mapping” was introduced by Congdon et al. (2002). While the authors designed this exercise to help teachers be aware about their perspectives, I used identity mapping in this dissertation to encourage participants to think about and define their own identities. Participants were given Congdon et al.’s (2002) list of possible options (Appendix 3), but were encouraged to write whatever they felt was most important to them. After they completed their maps, I then asked them to talk about their maps, what they wrote, and why.

After filling out the questionnaire, I gave each participant a blank sheet of 8x10 paper and a pen. I asked them to draw a large circle and think about the parts of their identity or “pieces of themselves” they considered to be most important and write those words or phrases inside the circle. This phase of data collection is heavily informed by an interpretive epistemology, in which participants’ subjective realities, lived experiences, and individual meanings are valued. This approach to identity is an alternative to demographic-based approaches to capturing identity-characteristics. Rather than adopting an adult-normative perspective and deciding which pieces of identity are important in this study, this approach encourages participants to define themselves. These identity maps embody a youth-oriented approach in that they provide a mechanism for participants to carve out their own identities, rather than having an adult researcher decide what is most salient. In terms of the identity/structure tension, this piece of data collection is invested in the individual level of identity and encourages young people to assert their agency in defining and describing themselves.

Phase III: Interview Questions

Each interview took place in one of three locations. For those who were recruited via charter schools, the interviews took place in the office of the principal / teacher who helped recruit them. For those who were recruited via the PTA, the parents of each participant decided the location of the interview. Based on parental and participant preferences, they took place in either the living room of the participant or PTA member's home. This choice ensured parents and participants a maximum level of safety and comfort.

The interview questions were informed by Gasser et al.'s (2012) Information Quality Framework, as well an intersectionality approach. As previously mentioned, this framework argues that IQ is a process that involves search, evaluation, and creation. Each of these three constructs (search, evaluation, and creation) then has sub-constructs that the authors articulated based on an interdisciplinary literature review. Take for example the construct "search." Gasser et al. (2012) used an interdisciplinary literature review to define the construct. They then used extant literature to summarize: (a) main youth online search **behaviors**, (b) **variables** that affect youth search behavior, and (c) "**problems**" that arise when youth search online. This particular study was specifically interested in **behaviors**. The sub-constructs the authors outline for search behaviors are: beginning a search, navigation / reduction, visual and interactive elements, exploration, and ending a search. I used these constructs (search, evaluation, and creation) and their sub-constructs (Appendix 4) to guide the interview questions about young people's processes. Each question mapped directly to the sub-constructs. In addition, within each of these sub-constructs, the authors provide a small review exploring extant literature surrounding the subject. Within these mini-literature reviews, I performed open coding of the high-level themes from extant literature. For example, under the sub-construct "beginning a search," the authors summarized literature about what words users type in search boxes, ranging from "...single

keywords, keywords with focus terms, incomplete phrases, and natural language” (p. 44). I coded this as “search terms” and subsequently developed interview questions asking what participants type into the search box during their fitness-related searches. I repeated this process with the “evaluation” sub-constructs and “creation” sub-constructs. To ensure that these questions appropriately captured the framework’s intent, I met with one of the framework’s authors and workshopped⁸ the interview questions during a two-hour Skype session. After this session, said author approved the interview questions.

These IQ questions are informed by an interpretive epistemology in that they are interested not in what young people do online, but what they perceive to be important and their subjective understandings about the information with which they interact. Participants were asked to recall recent fitness-related searches they conducted using social media platforms. Once they recalled a recent search, I asked them to “reenact” or “walk through” their processes using my phone⁹, including where they searched, what they searched for, what they clicked on, what they ignored, and why. With permission, I took screenshots to capture their processes. Participants were asked what they thought about the content they found, what they liked, and how they felt, which speaks to an interpretive desire to understand meanings participants assign to their everyday processes.

Afterwards, I then asked a series of identity-based, “reflection” questions informed by the notion that characteristics relate to one another and mutually construct experience (i.e., intersectionality). Participants were asked to look at their identity maps and draw connections between their own behaviors and what they considered to be important parts of themselves. For

⁸ “Workshopping” the interview questions refers to walking through each question with one of the authors of Gasser et al.’s (2012) IQ framework and iteratively adjusting them based on feedback to ensure they encapsulated each piece of the framework.

⁹ Instead of using their own phones, participants used my phone to “walk through” their processes. This was done to protect the participants’ anonymity (their private information may be visible on their own devices, which are logged into their own social media accounts).

example, they were asked which pieces of themselves were the most important when it comes to social media, to fitness, etc. Asking participants to reflect on their own identities (that they defined) and how they relate to their information behaviors (that they also defined) is informed by the identity approach to intersectionality and an interpretive epistemology. These questions seek to gain insight into participants' values, realities, and concepts surrounding who they are and how that relates to their everyday behavior within a health context. Rather than asking about a single dimension of identity (e.g., gender), participants were encouraged to lead the discussion with identity characteristics they thought were important and/or related to (or "intersected with") one another. During each interview, the interviewer took detailed notes both capturing the content of the discussion as well as non-verbal communication.

Data Analysis

Transcription

I audio-recorded each interview and then transcribed verbatim. I use pseudonyms to protect anonymity. During transcription, there were several recordings that I was unable to hear properly and I sent them to expert services to transcribe¹⁰. This process was approved by the IRB and transcribers signed a non-disclosure agreement prior to receiving any recordings.

¹⁰ Some recordings were difficult to transcribe because some interviews took place outside a dance class where the music played loudly. Professional transcribers were able to disentangle the noise and produce transcripts.

Information Quality Framework & Room for Emergent Themes

As previously mentioned, the interviews were guided by Gasser et al.'s (2012) Youth-Oriented Information Quality Framework. Each interview question mapped directly to a construct (search, evaluation, creation) or sub-construct (all depicted in Appendix 4). The responses in each transcript were then coded according to which sub-construct they related. For example, within the “search” construct, there are five sub-constructs that the authors outline as main behaviors young people engage in to search for online content (beginning a search, navigation/reduction, visual and interactive elements, exploration, and ending a search). Gasser et al. (2012) then provided a literature review of each sub-construct and I developed sub-themes of the topics discussed for each sub-construct. The sub-constructs and sub-themes for the “search” construct are depicted below (Figure 3-6). The sub-categories 1A, 1B, 1C, 1D, and 1E were provided by Gasser et al., (2012). I then developed the sub-themes (listed beneath each sub-construct), which were developed through open-coding the literature review the authors provided for each sub-construct.

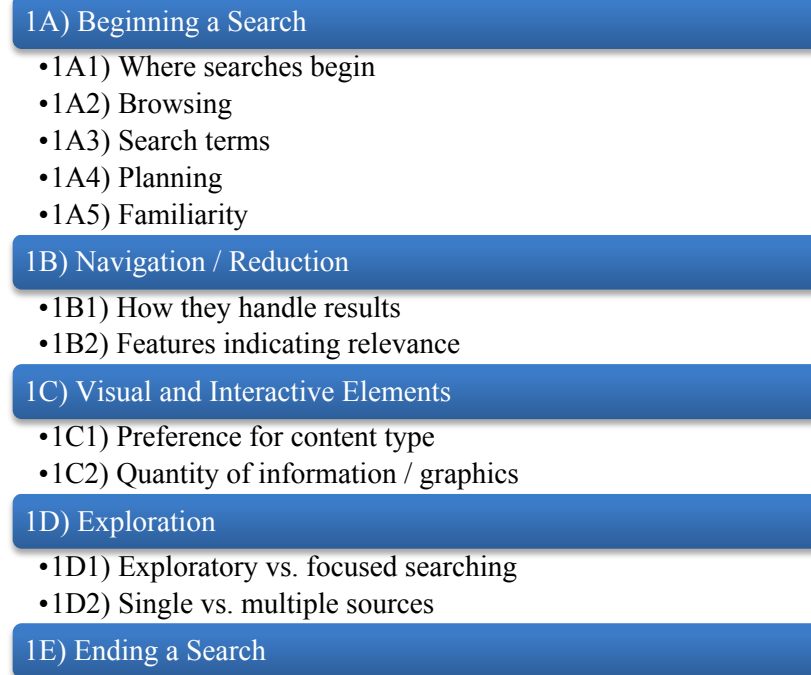


Figure 3-6: Search sub-constructs and sub-themes

These sub-constructs and sub-themes each mapped to (an) interview question(s) (which were workshopped by one of the authors of the IQ framework). Each of these sub-constructs and sub-themes had a numerical code assigned to it. When a participant responded in ways that related to one of those constructs, that piece of the transcript was highlighted and labeled with the appropriate number. All of the responses were organized according to the sub-constructs they illustrated. While many of the responses directly related to one of the constructs, it is worth noting that while many of the responses fit into these constructs and sub-constructs, some responses did not. Subsequently, the remaining responses were then open-coded as themes emerged (for more about the open-coding process, see section below).

Open-coding of Intersectionality “Reflection” Questions

After the questionnaire, identity map, and interview questions about their search, evaluation, and creation activities, participants were asked to reflect on the relationships between their information behavior and their identity maps. For example, participants were asked questions such as, “If we look at your map, which are the most important ones when it comes to fitness (or social media)? Are there some you didn’t draw?” and “Are there any unique challenges with fitness information if you consider what you drew on your map? What about challenges around social media?” The purpose of these questions was to encourage young people to talk about their own identities and how these identities relate to their everyday information behavior. These responses were then open-coded for emergent themes. This methodological approach embodies an interpretive epistemology in which the participants’ subjective realities and life experiences are prioritized. Rather than searching for an objective truth, this approach is invested in understanding how the participant experiences the world around them. This process of open coding is iterative, meaning these themes were observed, recorded, and refined several times. In their article exploring positivist and interpretive approaches, Trauth and Jessup (2000) outline the three essential features of open coding. The first is an “inductive development of provisional categories” (p. 55). As I read through the transcriptions, I took notes when I observed phrases, ideas, or behaviors that were repeated across interviews. I created tentative categories based on these repetitive patterns that emerged. The second feature of open coding is “on-going testing of categories with data that is already coded” (p. 55). To fulfill this step, I created a Microsoft Excel sheet in which each preliminary category has its own column. I then re-read the transcripts and placed each response within the category’s column in which it fit. If a response did not fit, I placed it in a miscellaneous column and then repeated the first step to identify patterns between miscellaneous responses and creating new categories. I then completed the third step, which is

“the altering of existing categories as other ones are created or eliminated” (p. 55). Based on my several iterations of categorization and refinement, I arrived at several themes that addressed the research questions.

It is important to note that some of these categories were created based on dialogue and quotations directly from the participants. These are categories based on *reported* data, or what the participants said. The remaining categories were *observed* patterns, where I recorded patterns in differences or commonalities in participants’ responses.

Linking Epistemology to Methodology

While data collection was informed by an interpretivist epistemology, the analysis was informed by both interpretivist and critical epistemologies. In terms of data collection, participants were asked to discuss their individual perceptions and experiences surrounding their behavior and identity; this approach was interpretive in nature and focuses on the identity-oriented approach to intersectionality.

In terms of analysis, the interviews were analyzed interpretively, which prioritizes and privileges the participants’ lived experiences and subjective realities. In other words, exploring what they as individual’s value and believe to be important (in this case, within the context of fitness information and social media). While this piece of analysis fulfills the IQ framework and the “identity” approach to intersectionality, it is also important to include the “structural” approach. After the individual levels of analysis, I then employed a critical epistemology in which I considered systems of power from a societal level of analysis. More specifically, I explored the ways in which participants talked directly about their identity characteristics (reported) and the patterns we saw among participants (observed) (Howcroft & Trauth, 2008).

I looked at participants' individual experiences and reviewed relevant literature across a myriad of disciplines that discusses social inequality and oppression. After a thorough review of literature surrounding health and technological inequality, I revisited the transcripts to examine participants' individual experiences that were related to and reflections of systems of oppression outlined in the literature. To address RQ4, I returned to the transcripts and explored the ways in which individual experiences (both reported and observed commonalities among participants) were reflections of larger social systems of power outlined in the literature. In an excel spreadsheet, I listed individual responses about their experiences and identities and in an adjacent column identified which themes of inequalities from the literature these responses were instances of. What I found is that we can look at a phenomenon (fitness information behavior) at an individual level, but need to also consider the contextual (or "structure") in which this behavior / phenomenon is happening and how systems of power and inequality relate to these individual experiences.

By first understanding an individual's perspective, this research could then examine how those realities tie into larger, society-level systems of oppression and inequality. It was important to first analyze participants' subjective realities and hear the meanings they attach to their identities and experiences. Subsequently, this research shifted to a critical analysis that looked at the social level and systems of inequality and oppression. This step involved looking at structures both social in nature and unique to ICTs. It is important to note that neither level of analysis is interested in an empirical "truth." Rather, these epistemological approaches sought to explore: (a) the subjective meanings participants hold (interpretive) and (b) taking these meanings a step further to explore how individual instances may reflect larger social constructs and systems of inequality (critical).

Chapter 4

Research Findings

This chapter is divided into five sections. The first reports participant demographics and the definitions of fitness participants provided at the beginning of the interview sessions. The subsequent sections are each dedicated to one of the four research questions. The first three RQ's are organized by the Gasser et al. (2012) framework. Research Question 1 asks about two of the framework's three constructs: search and evaluation. Research Question 2 asks about the third construct: creation. Research Question 3 applies an individual-level intersectionality perspective, asking how the intersection of identity characteristics relate to participants' search, evaluation, and creation behaviors. Research Question 4 applies a structural-level intersectionality perspective, asking how the results from RQ3 reflect larger social inequalities.

Participant Demographics

Thirty teenagers (ages 13-18) participated in the semi-structured interviews. Participant demographics are illustrated in Figure 4-1. In the "Gender" category, participants were labeled as "YM" for "young man" and "YW" for "young woman." This is a purposeful departure from "male" and "female," which typically refer to a person's biological sex, rather than their gender identity. It is worth mentioning that the questionnaire asked for participants' gender in the form of an open-ended question. This was to ensure that multiple choice options did not limit a participants' ability to express their gender identity. All participants identified as a man or woman.

Similarly, the questionnaire had an optional open-ended question asking about "ethnicity." It is worth noting that while filling out the questionnaire, the majority of participants

(across all locations) asked what ethnicity was and how they should answer the corresponding question. This may suggest that while “ethnicity” may be experienced and felt by young people, the actual term may be more easily understood and articulated by adults.

SES School District	Recruitment Method	Locations	Number of Participants (30 total)	Gender	Race / Ethnicity
Low SES	School Faculty (Principal; Dance Teacher)	Urban Charter School (Midwest)	8	1 YM 7 YW	5 Black, 2 White, 1 Hispanic
		Urban Charter School (Northeast)	7	3YM 4YW	4 Hispanic, 3 Black
High SES	Parent- Teacher Association (PTA)	Suburban Public School (Northeast)	9	2YM 7YW	9 White
		Suburban Public School (Northeast)	6	1YM 5YW	6 White, 1 Asian

Figure 4-1: Participant demographics

Figure 4-1 depicts the demographic breakdown of the thirty participants in this study. Fifteen were from high-SES school districts and fifteen were from low-SES school districts. Of the fifteen participants from low-SES school districts, 11 identified as women and 4 identified as men. Within this group, eight participants identified as Black, four identified as Hispanic, and two

identified as White. Of the fifteen participants from high-SES school districts, 12 identified as women and three identified as men. Within this group, 15 participants identified as White and one identified as Asian (participants were able to identify as more than one race / ethnicity).

Definitions of Fitness¹¹

One critique of youth-oriented research is that adult researchers make claims about young people's abilities in ways that embody adult-understandings. Adult researchers and educators may perceive a deficit in youth's information assessment strategies based on their own, adult perceptions about what quality looks like. Similarly, these same well-intentioned adults may create a communication breakdown between themselves and young people when they ask questions and use terminology that embody adult understandings. This dissertation is interested in fitness from a youth-oriented perspective. Rather than imposing an adult perspective or definition of fitness, participants were asked how they define the term. During subsequent analysis, differences between socioeconomic groups were observed in the ways participants defined "fitness."

Exactly half of the participants were enrolled in charter schools within low-income school districts, while the other half were enrolled in public schools within high-income school districts. There is a marked, observed difference between the definitions of fitness that participants from low-income schools provided, in comparison to participants from high-income schools (see Figure 4-2).

During analysis, definitions participants provided were broken down into four categories: (a) food-based definitions, (b) exercise-based definitions, (c) definitions that included food and

¹¹ An earlier version of this section was submitted to the journal *Information, People, and Technology (ITP)* in 2017.

exercise, (d) definitions that included other components outside of food and exercise. Definitions could fall into multiple categories (meaning a participant could have mentioned exercise, in addition to something else).

	Food Only	Exercise Only	Food and Exercise	Other
Low-Income District	1	5	4	11
High-Income District	0	8	4	3

Figure 4-2: Participants' definitions of fitness varied by school district income level

Figure 4-2 depicts participants' responses to the open-ended question about their definitions of fitness. Only one participant provided a definition that emphasized food / diet and nothing else. Thirteen participants (slightly less than half) offered definitions that centered around exercise alone, without any other component. Eight (less than a third) included a combination of food and exercise, with the possibility of other topics. Fourteen definitions (almost half) included elements other than food and exercise (all of these definitions included food and exercise, but also included other elements). While the majority of definitions provided included food and / or exercise, exercise was more commonly mentioned between the two. There are distinct differences between the definitions provided by participants high and low-income school districts. These differences are discussed the section of this chapter that is devoted to Research Question 3.

RQ 1: How do youth search for and evaluate the quality of fitness information they interact with via social media?

This research question asks about the constructs of search and evaluation from Gasser et al.'s (2012) Youth-Oriented Information Quality Framework. The results of RQ1 are organized by first exploring search and then exploring evaluation. The results for both constructs (search and evaluation) are organized by the sub-constructs articulated in the framework. The framework provides a miniature literature review within each sub-construct. Using these literature reviews, I developed sub-themes. The results for each construct are organized by these sub-constructs and sub-themes. After the analysis that corresponds to the elements in the framework, themes that are not covered by the framework but emerged during open coding are presented. This process is depicted in Figure 4-3 below:

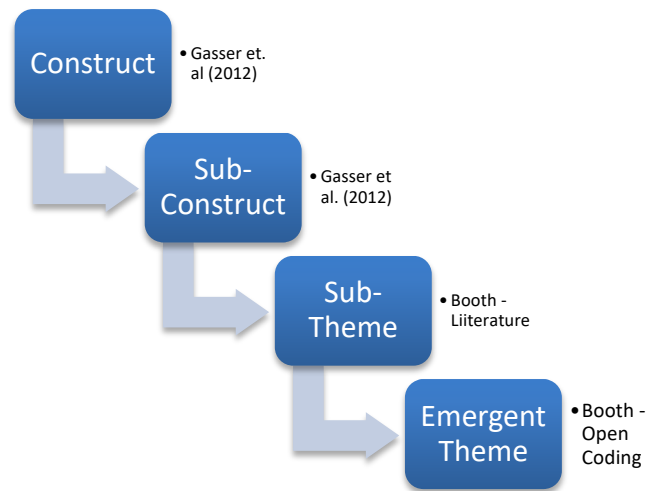


Figure 4-3: Description of RQ1 Results Organization

Search

Figure 4-4 illustrates the sub-constructs and sub-themes that comprise “search” behavior. Not all sub-constructs and sub-themes were found in the analysis. The items in bold were present and are discussed in this section.

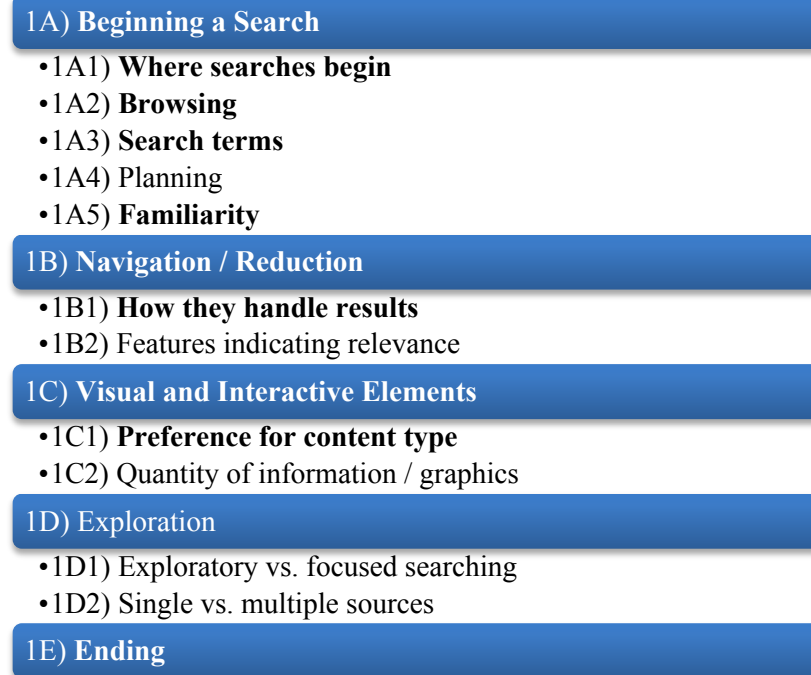


Figure 4-4: Search sub-constructs and sub-themes

Participants were asked about their search behavior regarding fitness information and social media. All thirty participants indicated that they have seen fitness-related content on social networking sites¹² (SNS). Twenty-five participants reported actively using SNS to search for fitness content.

¹² In this dissertation, the terms “social networking sites” and “social media platforms” are used interchangeably.

Beginning a search

The first sub-construct related to search behavior in Gasser et al.'s (2012) framework is “beginning a search.” The authors provide an interdisciplinary literature review exploring the extant work on how teens begin online searches. Based on this review, I developed five sub-themes: (a) Where searches begin, (b) Browsing, (c) Search terms, (d) Planning, and (e) Familiarity. Four of these sub-themes, excluding planning, were present in participants’ discussions of their search behavior and are discussed below.

Where searches begin

Participants identified several social networking sites when discussing where they actively search for fitness content online. Active searching refers to purposefully using online platforms to find fitness-related content. The most commonly discussed platforms were: YouTube, Instagram, Pinterest, Twitter, and Facebook. During transcript analysis, differences in the types of fitness content participants searched for emerged; participants reported searching for exercise-related content in different spaces than nutrition-related content (see Figure 4-5).

	YouTube	Instagram	Pinterest	Twitter	Facebook	Google	Other
Exercise	18	6	7	1	2	10	1
Nutrition	2	1	5	1	1	8	
Unspecified	2	2		2	1	1	1

Figure 4-5: Participants begin SNS exercise searches with YouTube, nutrition with Pinterest

Participants differentiated between platforms they use to search for exercise vs. nutrition. YouTube was the most commonly mentioned SNS when participants were searching for exercise-

related content. Participants reported searching for exercise content far more often than nutrition, yet those who did report searching for nutrition content indicated that they actively searched on Pinterest more than other SNS. While SNS were popular starting points for searches, many participants discussed moving between social media platforms and Google for their fitness-related searches. Ten participants reported using Google for exercise-related inquiries and 8 indicated the same for nutrition.

Browsing

While 25 out of 30 participants reported actively searching for fitness content on SNS, not all participants searched the same way. While many participants actively used a platform's search bar, others engaged in "browsing" or clicking from link to link. During open coding of participants' discussions about browsing, three types of browsing were identified: (a) browsing with the intention to find fitness content, (b) browsing without the intention to find fitness content, and (c) browsing while avoiding fitness content (see Figure 4-6).

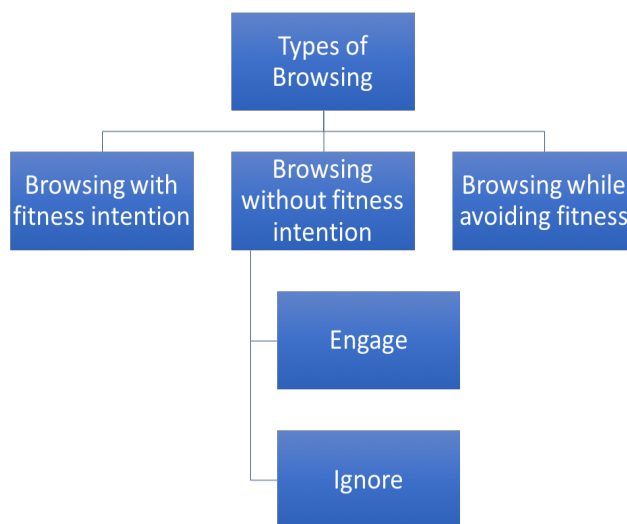


Figure 4-6: Categories of participant SNS browsing for fitness content

Several participants explained that when they intentionally search for fitness content, they browse SNS instead of using the search bar. Participants who prefer browsing explained that the

features of social media platforms encourage browsing. For example, Nina (16) indicated that Instagram has different kinds of accounts and accessing information is easier than Google, which she says is tedious because there are “20 million links that you have to click and go back.” James (15) said “I don't really search it up because it's just right there.” Similarly, Arielle (14) explained “sometimes I also look on the Popular page and just scroll through that to see what accounts... 'Cause sometimes I see them there.”

In some cases, participants reported using browsing as a precursor or “first step” before they use a search bar. For example, Nina (16) explained that she likes to look at what’s “trending” on Instagram’s Explorer Page¹³ first to see what fitness-related content appears. After this initial browsing phase, she will then use the Instagram search bar to search #fitness. Similarly, Joaquin (16) talked about starting at Twitter first to see if anyone is talking about a topic (like red meat causing cancer). He’ll start under the middle “news” button and will scroll through the topics, if nothing will look at recent search terms, then will actively search “does bacon cause cancer?” Then will go to YouTube, then Google.

While some participants discussed browsing with the intention of interacting with fitness content, others indicated that when they browse without intentionally looking for fitness content, it is still present on their SNS. Many participants indicated that when they’re browsing social media platforms, fitness content “comes up” and they will choose to click on fitness related links and videos, even though they weren’t actively searching for it. All thirty participants indicated that they had seen fitness content online, but the ways in which content appeared differed depending on the platforms they were on. For example, Margaret (14) explained that on YouTube, fitness videos are often recommended to her:

¹³ Instagram’s Explorer Page is a section of the platform that shows a user recommended content based on their past Instagram activity (the accounts they follow, the pictures they like, etc.).

"I've seen different channels and stuff, it's for fitness and stuff like that where it's like... I don't know. Or they come up "what you should watch next" or whatever... Or ads for channels on there [that come up] before you're watching a video."

Margaret explained that she also sees recommended content on Instagram:

"Other people might be following it and then or it'll be my "recommended for you," or based on people you follow and they put it on the explorer page on Instagram and stuff."

Similarly, several participants discussed videos on their Facebook newsfeed.¹⁴ Ayana (18) and Vanessa (16) both recalled seeing fitness-related videos on Facebook that played automatically as they scrolled through their newsfeed because their friends were “tagged” in or “liked” them.¹⁵

Participants discussed two strategies for responding to the nutrition and exercise content that appears on their SNS without intentionally searching for it: engaging and ignoring. The majority of participants were similar to Monique (18), who explained that she engages with fitness content, especially the healthy recipes that “come up” on Pinterest, by clicking on one and then “spiraling” from one link to another. While this concept of “spiraling” from one profile, account, video, or site to another was common, fewer participants (five) indicated that they ignore fitness content they encounter, especially when they are advertisements. Victoria (13) explains:

Victoria: [I see] Just ads popping up about that stuff.

Interviewer: Where do you see the ads? On what platform do they pop up?

Victoria: Instagram. And sometimes just like if I'm doing research on a project just on Google or something, something will just pop up.

Interviewer: What types of ads do you see?

Victoria: It's just like, "Eat this, then you'll be thinner." Or like, "If you wanna get abs, do this." That stuff.

Interviewer: Gotcha. Do you ever click on that stuff?

Victoria: No. [chuckle]

¹⁴ Facebook’s newsfeed is equivalent to a “home page” where Facebook generates content based on your online activity.

¹⁵ On Facebook, “tagging” refers to linking a person’s profile to a piece of content, “liking” refers to pressing the “thumbs up” icon on a piece of content, generally to communicate approval, agreement, or some other positive attitude towards that specific content.

Similarly, Daniel (13) echoes,

Daniel: I always see ads and stuff for dieting and just what to eat and better ways to work out and stuff like that...

Interviewer: Okay. And where do you see those?

Daniel: It'll just be like ads on websites or there could be like Instagram pages on them.

Interviewer: Do you follow any of those?

Daniel: No. I just see 'em.

Interviewer: Where do you see them?

Daniel: On the popular page on Instagram.

The final theme that emerged when participants talked about their browsing habits was far less common, but two participants talked about actively avoiding fitness content online.

Laticia (18) indicated that “food stuff irritates [her]” because healthy food is so expensive and advertisements for the gym make her feel badly, like “maybe I should go there.” Abigail (14) explains that she actively avoids fitness content because she had an eating disorder when she was younger and has worked with her therapist to “retrain her brain” away from negative body image. She explained that she avoids this content, but it still shows up, particularly on Instagram and YouTube:

“I just think it's repetitive. 'Cause I do see it a lot, but I just don't actively search it, but I don't search it, period. But yeah, it's just repetitive and it's not like I get mad. [chuckle] But it's just annoying, I guess.”

Both young women purposefully avoid fitness content on social media. They cite getting angry and annoyed when they encounter fitness advertisements, which they attribute to the negative emotions they feel upon seeing the ads; for Laticia, it’s guilt, for Abigail, it’s an association with negative body image.

Search Terms

Participants were asked to recall their most recent fitness-related online searches and indicate what they entered into the search bar of their SNS of choice. The words participants typed in the search bar generally fell into two categories: questions and key words (see Figure 4-

7). Thirteen participants recalled typing questions into the search bar. One of the recalled search questions entailed comparing the effectiveness of exercises, three questions were about food / nutrition, and 14 questions asked “how to” do something (in some cases participants recalled more than one recent search). These “how to” questions were the most common and asked how to specifically target one body part (e.g., “how to get a bigger chest”), how to perform a specific exercise (“how to do crunches / sit-ups correctly”), and how to encourage fat-loss (“how to get rid of cellulite”).

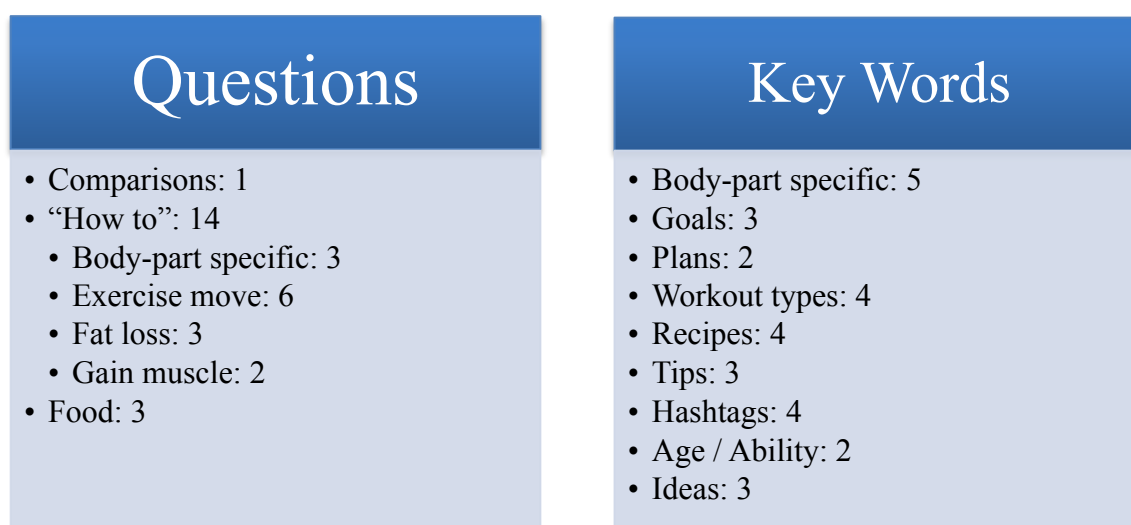


Figure 4-7: Search terms used in fitness searches

While 13 participants recalled typing questions into the search bar, 19 recalled typing key words and phrases (some reported both). Four key word searches revolved around specific body parts (“ab workouts”, three were geared towards specific goals (“muscle growth”), two were looking for specific workout plans (“short fitness plans”), four were looking for specific workouts (“treadmill workouts”), four were about recipes (“healthy summer salads”), three were looking for tips (“weight loss tips”), four were directly searching for hashtags (“#fitness”), two were looking specifically for age or ability appropriate content (“teens” or “beginners”), and three were looking for ideas (“workout ideas”). Some participants recalled more than one recent search.

These recollections were merely about their most recent searches, not every search they have ever conducted. Participants who recalled typing a question may very well use key words in other searches and vice-versa.

Familiarity

Many participants indicated that they return to online spaces with which they are familiar. When asked why they chose a specific platform, several participants indicated that they returned to spaces where they have had success in the past. For example, when asked why she chose Pinterest, Arielle (14) explained,

“I just always heard about it being very good for getting ideas, getting workouts, and fitness and nutrition. And I download[ed] it, and I tried it out, and I found it really useful, because it gives you so many different options, and recipes, and just ideas. And I liked it, 'cause it just, it always, it never left me without an answer.”

This perceived past success influenced her to continue using Pinterest for similar searches. In addition, participants talked about selecting SNS for their searches based on familiarity with the platforms' functions. For example, Nina (16) indicated that she likes Instagram the most and uses it most frequently. She explained that she prefers to browse Instagram's Explorer page first, and then use the search bar for “#fitness.” She was familiar with the different options IG had to offer; she knew that explorer page would generate content that she would find interesting. She knew that she could search by hashtags because content she would enjoy would be tagged with the hashtag “#fitness.” Instagram is her favorite social media platform and she knew how to operate its different functions. She also indicated that she preferred using IG because its design makes it easy to click between search results, as opposed to Google, where a user needs to click on a search result and then back to the results page. Similarly, when Joaquin (16) is interested in a topic, he indicated that he likes to look on Twitter first. Specifically, he recalled going straight to the “middle ‘news’ button” and scrolling through the topics. If he can't find what he's looking for, he then looks through the recent search terms and if he still can't find anything, he'll use the Twitter search bar.

Joaquin (16) uses Twitter frequently and knows the different features and how they work. He uses this familiarity and knowledge to inform which features he will use based on his information needs and in what order.

In addition to familiarity with SNS functions, participants also indicated that they were familiar with the types of content they can find on their preferred platforms. For example, Ally (13) indicated that she prefers to get fitness information from BuzzFeed and Youtube. When talking about BuzzFeed, she explains,

“Well, I know because I'm pretty sure they take experiences from other people. Because I know they have a lot of articles where they'll have people who have lost a lot of weight. Or people who have gone through that. And they ask them, and people will send them submissions. Because there was one article, where it was advice from weight loss, like weight loss advice and tips on getting started for working out by people who have lost a lot of weight. And they took submissions from people who have lost a lot of weight, and they took their photos and their advice and they posted on there...I know they always ask people who have gone through that experience.”

She goes on to explain that after searching on BuzzFeed, she often turns to YouTube:

“[Buzzfeed is] my main source for that stuff. Because I trust them. Because they know a lot about health. And I will usually go on there, and then I'll go on YouTube and look up stuff like that, because a lot of lifestyle YouTubers will have exercise ideas or ways to lose weight.”

Ally uses her extensive experience with BuzzFeed and YouTube to explain the kinds of content she expects to find, right down to how articles will be written and what types of videos YouTubers will post. She is extremely familiar with these online spaces and when she has a fitness-related question, they are the first places she goes.

In addition to familiarity with the functions and content of their preferred social media platforms, participants indicated a preference for turning to accounts and profiles they are familiar with, especially on YouTube. Several participants discussed how they were “subscribed” to different YouTube channels, so they often began their searches by refreshing their home pages and seeing if the channels they follow had any new videos. James (15) explains,

“[On YouTube], when I’m subscribed to a certain account, or sports account, I would just refresh my feed, and see what was up in there. And if I don’t see anything interesting or cool up there, and I actually wanna look it up at the time, I would just go to the search bar and type it in again.”

Similarly, Joaquin (16) and Alicia (14) explain that they subscribe to “YouTubers,” or people who run a YT channel and often return to their channels to find answers about a topic. Joaquin (16) talked about “Nickocado Avocado,” whose YouTube videos “change[d] the way [he] look[s] at fitness.” The YouTuber is a fruititarian who promotes building muscle without meat and Joaquin was inspired by this and is now a fruititarian. He explained that when he has a question about a nutrition topic, he will often go to Nickocado Avocado’s channel and see if he has any videos on the subject. Similarly, Alicia (14) explains that when she can’t find what she’s looking for, she returns to a “YouTuber’s” channel for answers,

Alicia: Well usually, first I’ll look on Pinterest. If I’ve already tried most of the stuff that I’m looking at, or I can’t find one that sounds good to me, then I’ll just go to YouTube, and I’ll look up... There’s this YouTuber called Blogilates... and I’ll go there, and I’ll do some of the stuff that she has.

Interviewer: So you’ll go straight to her channel?

Alicia: Yeah.

Alicia is so familiar with Pinterest that it’s possible she may have already tried the workouts she finds there. If that is the case, she turns to a YouTube channel she is familiar with and instead of searching on YouTube, she will go directly to that channel.

For many participants, they search for fitness content on a combination of social media platforms and search engines. When searching on Google and Safari¹⁶, participants indicated that they have similar preferences towards familiarity in terms of name recognition. While Treyvon (18) loves Michael Jordan’s basketball YouTube channel because he’s learning from “one of the greats,” Jasmine (17) indicated that she tends to stick to the same websites in her search results. She

¹⁶ While Google is a search engine and Safari is a browser, participants referred to searching “on Safari” by typing their search terms directly into the web address (essentially using whichever search engine is designated as their default).

explained that name recognition was important, which is why she chooses sites like Livestrong when she sees them in her Google search results.

Participants indicated that they return to online spaces that they are familiar with when searching for exercise and nutrition content. They return to platforms that they have had perceived success with in the past. They use social media platforms that they are familiar with in terms of: (a) their design functions (news and explorer pages, search options, etc.), (b) the content they expect to find (how articles will be written, what videos will be about), and (c) specific channels and accounts they follow or subscribe to. In addition, participants reported using social media platforms and search engines for similar searches to supplement one another. In the same way many indicated a preference for platforms and channels they recognize, several participants indicated that when they search via Google, they will click on website names they recognize. These results are summarized in Figure 4-8.

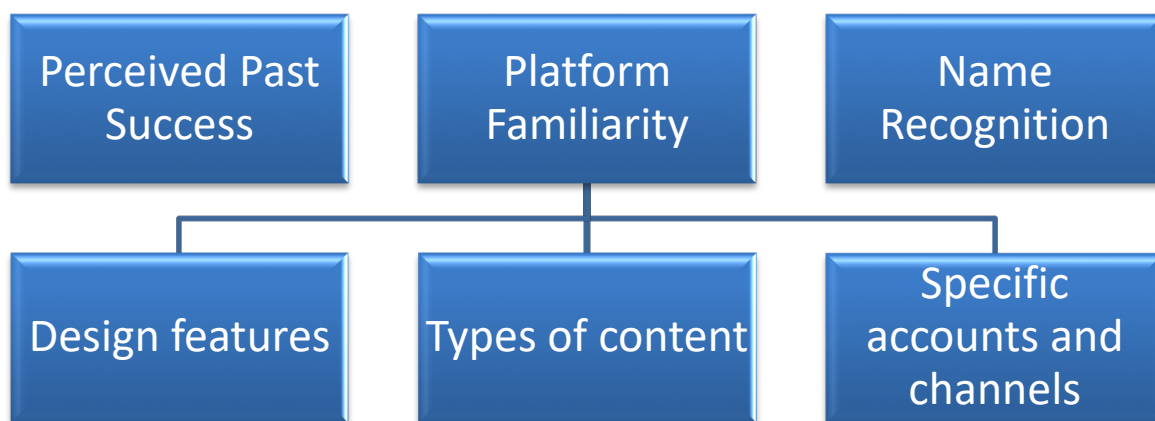


Figure 4-8: How users select a search platform and results

Navigation / Reduction

“Navigation and reduction” is the second sub-construct under search. Based on the literature review Gasser et al. (2012) provide, I identified two sub-themes: (a) how they handle results, and (b) features indicating relevance. Only the first was present during analysis and is discussed below:

How they handle results

When discussing extant literature surrounding how teens navigate search results, Gasser et al., (2012) summarize findings that discuss how youth interact with search results (how far into the results they will look, do they use suggestions offered by the platform, what do they click on, etc.). This was coded as a sub-theme called “handling search results.” Participants were asked to recall their most recent fitness-related search and walk through what they searched and what they clicked on. This sub-theme summarizes what participants did with their search results and how they talked about their process.

During their walk-throughs, several participants indicated that they select the first search result listed. When asked why they selected the first result, a common response was that it fulfilled some immediate criteria. For example, when Monique (18) used Google to search “which is better – gym or swimming,” she selected an article discussing the number of calories burned per hour for each activity. She reflected that it answered her question directly, didn’t have advertisements, and had related articles about fitness linked to it, so it seemed “legit.” Similarly, Jasmine (17) searched for “how to open up my hip flexors” on YouTube and clicked on the first video because the person shown in the thumbnail was a girl. Participants often explained that they clicked on the first search result if it fulfilled a requirement they had in mind.

Not all searches end after selecting the first search result. Some participants explained that they sift through several search results, scanning for criteria¹⁷ they have in mind. When searching for “exercises for lower abs” on YouTube, Renato (18) indicated that he looks at the pictures, descriptions, and number of views on each video. He will click on several videos and read the comments to see if the exercise works. Similarly, Emma (16) explained that when she uses Google to search “which meals are gluten free?”, she will click on multiple results and check each recipe’s ingredients lists. When searching for “how to avoid cramps while running” on Pinterest, Arielle (14) explains that searching is often an iterative process,

Arielle: I'd probably click on the first one, 'cause there's so many, and then I have to choose through them.

Interviewer: Alright, you clicked on this, then what would you do?

Arielle: I'd click on it again to bring me to the website. And then I just read it, and after I read that one, I'd click on a couple others and read those to see if they're all the same idea, and so I could see if it really works, and maybe try it out.

Interviewer: Okay. You look to see if different websites say the same thing?

Arielle: Yeah.

While some participants did click on the first search result, many explained that this is the first step of several in which they use (often subconscious) criteria to filter through search results. In addition, some participants will use the features and suggestions a platform provides based on their search. Vanessa (16) explained that when she searches “fitness plan” on Pinterest, at the top of the search results there will be suggestions for categories. During the walk-through, she demonstrated that one of these categories was “teen” and that she clicked on that suggestion before clicking on any results (see Figure 4-9).

¹⁷ These criteria will be explored in depth in the “evaluation” section of RQ1.

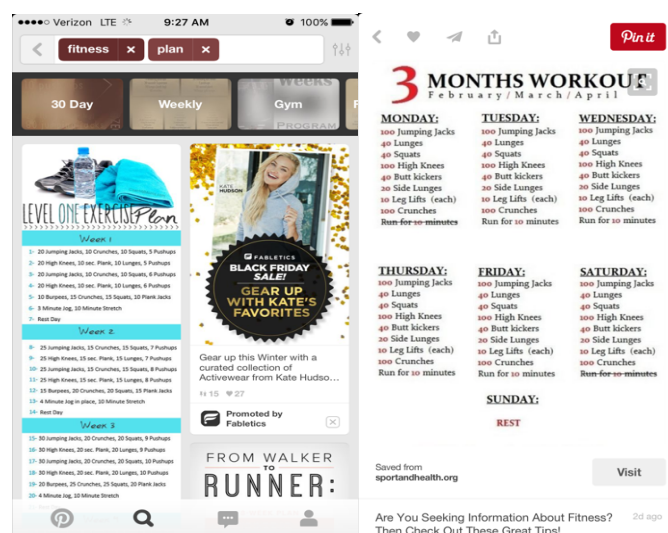


Figure 4-9: Screen shots of Vanessa’s search for “fitness plan” on Pinterest. The first screenshot on the left is her initial search, with the platform-generated suggestions at the top (“30 Day,” “Weekly,” etc.). The image on the right is the result she clicked on after using the suggestion labeled “teen” (not pictured).

Participants reported clicking on the first search results so long as it fulfilled a criterion important to their information needs, as well as clicking through several results and using platform features to refine their search results.

Visual and Interactive Elements

“Visual and interactive elements” is the third sub-construct related to search behavior.

Using Gasser et al.’s (2012) literature review, I identified two sub-themes: (a) preference for content type, and (b) quantity of information / graphics. Only the first was present during analysis and is discussed below.

Preference for information type

When discussing the elements of online content that youth may prefer, Gasser et al. (2012) cite extant literature that suggests young people prefer interactive content (e.g., preferring animation over text-only sources). Similarly, they cite several studies that indicate the attractiveness of an online space and its graphics matter to young users. This sub-theme was

coded as “preference for type of content,” which explored the types of content (photos, videos, text) that participants preferred to interact with to learn about fitness.

More than any other type of content, participants overwhelmingly discussed their preferences for video-related content. Specifically, participants indicated that when they searched for exercise or sports-related content, they preferred videos. Nina (16) “hates” when Instagram profiles link to a blog instead of a YouTube channel. She explains that she doesn’t want to see words instead of videos – she wants to watch a video and then will read later. Angela (18) explained that this is especially true when learning how to do certain exercises; this sentiment was echoed by Renato (18), who prefers YouTube videos for specific workouts, like “exercises for lower abs.” Arielle (14) discussed pictures vs. videos when searching for “workout ideas” on Instagram and explained,

Arielle: I like find an account, this account doesn't look like it gives workout things, I like the accounts that have the videos...

Interviewer: Okay, so you clicked on Workout Facts but you didn't like it.

Arielle: Yeah.

Interviewer: What didn't you like?...

Arielle: It mostly just has pictures of fit people, it doesn't have like, videos. Usually I see videos of just people working out to get the idea. This one didn't seem like it had that.

While most participants indicated that they preferred video content, several also indicated that the type of content isn’t enough (video vs. text). The information in the videos is crucial. Daniel (13) explains that it isn’t enough to *show* how to do an exercise. He also wants an explanation:

Interviewer: Okay, why did you pick that [YouTube video]?

Daniel: It's telling me how to rather than just having random pages that just show people throwing fast, it tells you how to throw it faster.

Interviewer: Okay, so it tells you how instead of...

Daniel: Than just showing you, like other sports players.

Interviewer: Oh, okay, so instead of just showing videos of someone doing it.

Daniel: Yeah.

While most participants preferred video content, James (15) made a distinction between the types of information that are best suited for video vs. text vs. picture:

James: I think tutorials are better searched on YouTube, and specific videos or just short, overall summaries of the exercise is better on Twitter or Instagram.

Interviewer: Oh, tutorials, videos on YouTube. And then summaries...

James: Summaries and short clips of what you wanna do is better for Instagram, and stuff. And Twitter.

Participants overwhelmingly preferred video content, specifically when interacting with exercise / sports content and when learning a new move or skill. In addition, videos that explained and demonstrated how to do something were preferable over videos that only relayed one or the other.

Ending a Search

“Ending a search” is the final search sub-construct. The literature review Gasser et al. (2012) provide underneath “ending a search” was far shorter in length than the reviews explaining the other sub-constructs. This brevity meant there was not enough literature cited to develop sub-themes. To get at the heart of how and why users end searches, participants were asked “how do you decide to end your search?” Responses were open coded. Five themes emerged surrounding what makes participants end their search: (a) they feel their information need is satisfied, (b) they get tired or bored, (c) they want to try what they have found, (d) they have saved their results for later, and (e) perceived knowledge saturation (see Figure 4-10).



Figure 4-10: Five Reasons participants end their fitness-related searches

The most common reason for ending a search was that they felt their information need was satisfied. For some, like Darnell (18), this happens when he finds “exactly what [he] want(s).” For Olivia (18) she feels satisfied when she finds information that she can envision herself actually using,

Interviewer: How do you decide you're satisfied with the answers you found?

Olivia: If I can see myself doing it. I don't know. Just like with the fitness clothes, it will be like, if I saw something that I would wear then I would be satisfied with it. Or if it's more of tips for... Whether it's diet advice or a work out, if it seems reasonable.

For Olivia, this speaks whether or not she can see herself using the information she finds. For others, like Arielle (14) and James (15), satisfaction with their search results comes when several items on their laundry lists are met:

Interviewer: How do you decide you're satisfied with the information you found?

Arielle: If it just has what I'm looking for. Like if it looks like it has ab things and also has food, pictures with food and nutrition. And sometimes if I click on something, one of their posts, I could see they explain the workout in their caption.

Interviewer: Okay, so when you say "explain the workout in the caption," what do you want them to tell you?

Arielle: What it's working, what the exercise is working and also what that X type of exercise is called, like if it's a push-up, I know what a push-up looks like, [chuckle] if it's a sit-up, it'll tell me in the thing.

James: If it has a short summary, it doesn't try to bribe me to do something, and it covers all things I want it to. Yeah, that's basically how I know when I want it to do that. And most sites don't have it all. YouTube has the actual thing I want, but it doesn't... It's much longer most of the time. As is, Instagram is short at what I need, but it's not the full tutorial. So there's really no even meeting point between the two. It's just one or the other.

Interviewer: Okay, so, YouTube is usually too long? But it has what you need?

James: Yeah.

Interviewer: Whereas Instagram is good and short...

James: But it doesn't have what I need. Well, it has what I need, but doesn't have enough...

Interviewer: But not enough detail?

James: Yeah, yeah.

Both Arielle and James speak to wanting the information they're looking for in the specific format they want it in. Arielle wants to know the physiological mechanics behind an exercise and nutritional information, but also wants pictures. James wants a summary of the important information, but without being too long.

While many participants talked about what makes them feel satisfied with the content they find, others indicated that they will stop a search if they feel bored or tired of looking for content. For example, Darnell (18) explains that after 30 or 40 minutes he will get tired of searching. He may come back at a later time, but fatigue will cause him to stop a search.

When searching for exercise-related content, some participants indicated that they will end their search when they find an exercise they want to try. Nina (16) explained that she stops searching when she finds an exercise video that she can do, tries it, and likes it. Similarly, Treyvon (18) reported that when he watches a video about sports-related skills and feels like he has enough information to try what is in the video, then he will stop searching and go actually practice what he's learned. Depending on the platform they are using, some users will save their

results on their profile and will cease searching once they feel like they've found more than they can actually try. Nicole (15) explains that she reaches a ceiling when searching on Pinterest,

“When I'm done... As Pinterest-wise, once I get a couple of things, I will stop. If I get more than five things, I'll probably stop after that, because I know that if I go any further, and if I do 10, 15 things, then I'm not gonna be able to try them all. So I like to find something, try it, if it works, then I'll keep it, if it doesn't work, I'll get rid of it. And after I try stuff, I'll go in and find more things and then try those.”

Nicole stops searching when she feels like she has found more than she can feasibly try offline.

Others stop searching when they feel like they have reached a point of information saturation. For Marcia (17) and Shana (18), this happens when they feel like they're not learning or seeing anything new. For Joaquin (16), it comes when he feels like he has seen enough to “form [his] own theory” and support it with multiple sources. The common theme across why participants reported ending their searches is hitting a “ceiling;” a ceiling where they no longer need, they no longer feel like searching, they want to stop searching and start trying what they've found, they can no longer feasibly try everything they're saving, or they feel like they can no longer learn anything new.

Evaluation

In their review, Gasser et al. (2012) explore literature surrounding the main criteria youth use to evaluate quality, the variables that may influence young people's evaluation strategies, youth “deficiencies” in evaluating information, and how their credibility assessments relate to adult contexts. This analysis is interested in only the section that explores “main criteria,” that is, the literature that discusses the criteria youth use to make decisions about the quality of information. The authors identify four sub-constructs under evaluation main criteria and provided

literature reviews for each. Using these literature reviews, I identified sub-themes. The sub-constructs and sub-themes are depicted below in Figure 4-11. Not all sub-themes were present; those in bold were present and are discussed below. I then engaged in open-coding to analyze the remaining data that was not covered by the framework.

2A) Topicality

- 2A1) **Relatedness to Topic**
- 2A2) Frustrations
- 2A3) Accurate Label
- 2A4) Ease of Access / Visibility
- 2A5) **Organization**
- 2A6) Completeness
- 2A7) **Expected Terms**
- 2A8) **Ease of Use**

2B) Cues & Heuristics

- 2B1) Cues
- 2B2) Heuristics

2C) Visual & Interactive Elements

- 2C1) **Variety of Media Types**
- 2C2) **Design**
- 2C3) **Engagement**
- 2C4) Usability
- 2C5) **Graphic Quality vs. Content Quality**
- 2C6) **Visuals / Media Quantity vs. Quality**
- 2C7) **Differences in Evaluations**

4D) Judgements of 'Objective' Qualities

- 4D1) **Depth & Comprehensiveness**
- 4D2) **Completeness**
- 4D3) Intended Audience
- 4D4) Accurate / Correct Information
- 4D5) **Comparing Websites and Sources**

Figure 4-11: Evaluation (criteria) sub-constructs and sub-themes

Topicality

Based on Gasser et al.'s (2012) literature review, I identified eight sub-themes beneath “Topicality,” only four of which were present in this analysis: (a) Relatedness to topic, (b) Organization, (c) Expected terms, and (d) Ease of use. These sub-themes are explored below.

Relatedness to search topic

The first sub-theme within topicality is “relatedness to search topic,” which refers to how related a piece of information is to the users’ topic of interest (i.e., the topic they are searching for). Users largely talked about evaluating search results based on their relatedness to their search topic in three ways: (a) directly related, (b) irrelevant, (c) deceitful. Participants’ perceptions of how related content was to their search topic informed how they interacted with said content (see Figure 4-12).

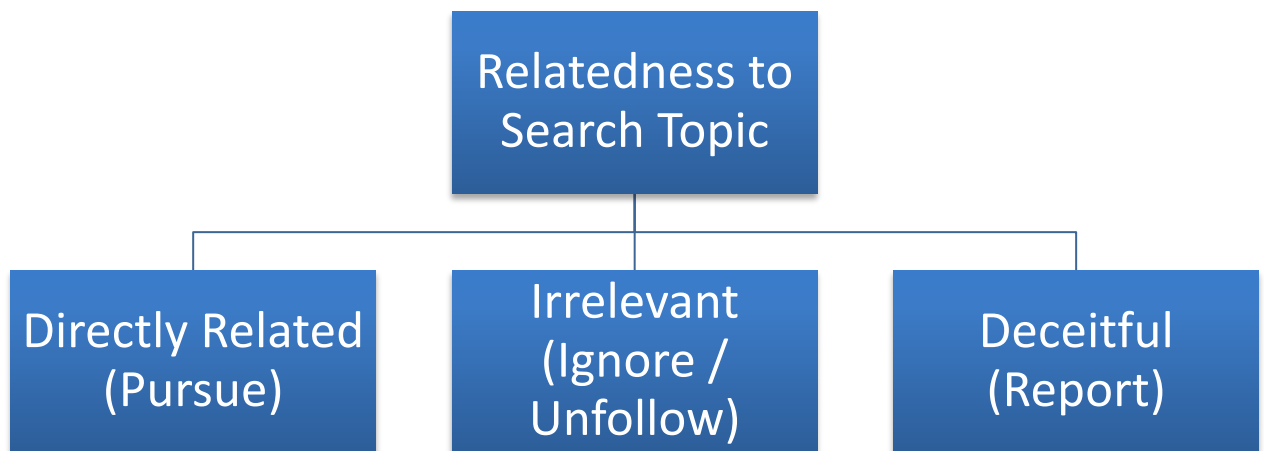


Figure 4-12: How participants perceived content to be related to their search topics

Users preferred content that directly related to the topic they were searching for, especially when they were looking for answers to questions. When users searched by typing questions in the search bar, they valued content that answered their questions directly. For

example, when Monique (18) searched for “which is better gym or swimming,” she found a site that directly compared how many calories an hour-long gym workout burns vs. swimming for the same amount of time. This direct comparison answered her question. Similarly, Daniel (13) walked through one of his recent searches on YouTube. He typed “how to throw the ball better” in the search bar and selected one of the videos. When asked why he chose the video he did, he explained, “It's telling me how to rather than just having random pages that just show people throwing fast, it tells you how to throw it faster.” This video directly answered Daniel’s question of “how,” while he thought the other videos were less-related to what he wanted. This notion of directly answering search questions was used to decide which search results to click on and with which content to interact.

Many participants indicated that they come across content that is not related to their searches. Most participants explained that they will ignore irrelevant results and / or move on from an online space (whether it is a video, webpage, or profile) that has content that is irrelevant to the topic they were searching for. For example, Nina (16) explained that when she sees videos or hashtags that aren’t related to what she’s looking for, she scrolls right past them. In addition to scanning through search results, James (15) explained that he stops following an account “if they're getting off-topic with what their account was made to be for.”

While most indicated that they would scroll past content that does not relate to their topic of interest, some indicated that they would report content that they felt was intentionally deceptive. This act of reporting goes by different names depending on the platform (reporting, flagging, etc.), but generally refers to alerting the platform moderators of unacceptable activity. When asked what types of content he would report, Daniel (13) replied, “Anything that's not really focusing on the topic, like it says something and [then is] completely different or just false information.” Joaquin (16) echoed this sentiment, stating that he valued YouTube channels where

the videos were clearly labeled and weren't misleading. He indicated that he will report content that he finds is irrelevant to the terms in its label or title¹⁸.

This notion of topicality in evaluation directly relates to search behavior. Participants who assessed that content was directly related to their search topic often ended their search (discussed in the aforementioned section in terms of an "information need satisfied"). Those who felt that content they were finding was irrelevant or deceitful often moved on to continue searching (and sometimes reporting content).

Organization

Gasser et al.'s (2012) review suggests that the disorganization of online information may be frustrating for young people and that organization may be one of several "supporting quality criteria," (p. 60). This analysis suggests that the ways in which images organize information may be important. Several participants indicated that they preferred exercise-related content to be organized in terms of time. Specifically, they valued content that organized exercises by when they should be done. Darnell and Shana (both 18) noted that they preferred images that outlined which workouts should be done on a weekly or daily basis. Young women in particular explained that they preferred images with "monthly challenges" where each day of the month is clearly labeled with what exercise to do and how many reps / sets to perform. Figure 4-13 depicts several screenshots of these workout schedules / challenges that participants discussed during their walk-throughs. While calendar-based organization was preferred, Vanessa (16) pointed out that if an image says a specific month (ex: "March Workout Schedule") and it isn't March, she will ignore that image in favor of a non-specified calendar that she can do any time of the year.

¹⁸ This notion of reporting misleading titles overlaps with the evaluation sub-theme "Accurate Label," which is not reported here. While this finding could be discussed in either space, because the participant talked about misleading content in relation to what he searched for, it was discussed in this section.

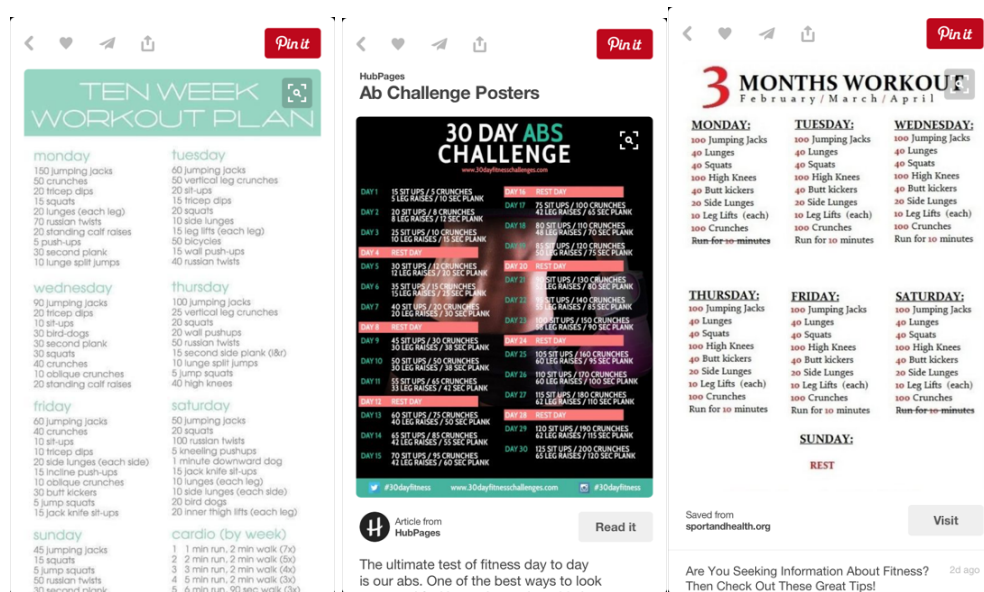


Figure 4-13: Calendar workout screenshots from participant walkthroughs

*Expected Terms*¹⁹

Gasser et al. (2012) summarize extant literature that suggests youth may look for words they expect to find when evaluating content and looking for answers. Participants in this study did not often indicate that they were looking for specific words as much as they were looking for content that matched what they already knew.

This was particularly true for participants who played sports. For example, Vanessa (16) said that when she was looking for “short fitness plans” on Pinterest, she could tell which ones were “good” based on her experiences in sports, gym class, and dance. While she relies on her past knowledge, Vanessa indicates that she is not a fitness expert and when she comes across conflicting information online and doesn’t know what to believe, she seeks an outside resource in

¹⁹An earlier version of the text in this section and the next section (labeled “Ease of Use”) was previously published in *Booth and Trauth (2016)*.

her gym teacher. While Vanessa relies on prior knowledge, she turns to perceived authority figures in times of uncertainty when it comes to evaluating information online.

Similarly, participants who had years of experience playing a sport would often disregard information that contradicts what they “know.” For example, Treyvon, 18, searched for information about a “crossover²⁰” in basketball. When the content he encountered on Wikipedia didn’t reflect what he knew, he altered his search. He also switched his search from Google to YouTube and looked for a “how to do a crossover” video. He explained that he disagreed with the text he found, so he thought he would find something he agreed with if he searched for visuals. Participants who felt they were well-informed about a topic often disregarded information that conflicted with their existing knowledge.

This suggests not that participants are unwilling to learn new things, but rather that their methods of evaluation may vary based on their familiarity with or perceived expertise surrounding the topics for which they are searching. Participants with strong prior knowledge of different exercises were likely to positively evaluate information that aligned with what they had been taught by gym teachers, coaches, etc. In addition, when participants are uncertain about the quality of online content, many of them turn to the teachers and authority figures who they learned from in the first place. This process suggests that evaluation is collaborative and that while young people may make decisions about quality on their own, they also may turn to those they perceive to be more knowledgeable.

Ease of Use

Gasser et al. (2012) suggest that “ease of use” or how much effort is necessary to process a piece of information may be another way youth evaluate information. Participants talked less

²⁰ A “crossover” is a maneuver used in the sport of basketball, often referring to a player dribbling the ball and changing their position quickly so as to confuse their opponent.

about effort to process information and more about the importance of the effort to do what the information is telling them to do. Participants emphasized “ease of use” in a way that translates to “ease of exercise.” Kimberly (17), Ally (13), and Monique (18) all used the words “extreme” and “impossible” when describing some of the workout videos they’ve seen. When participants are evaluating fitness information, particularly content surrounding exercise, they are actively considering “can I do this?”

When watching exercise videos in particular, participants indicated that one of the first things they think about is whether or not they can do the exercise routine. Participants discussed the content, source, visual features, and required resources they take into consideration when determining whether or not they can perform an exercise / routine. In terms of content, several participants indicated that time matters. For Charlotte (15), the length of the workout and intervals are key - she wants a workout to be between 10 and 15 minutes with 30 second intervals. For Vanessa (16), the first thing she notices are the number of reps for each exercise. For Darnell (18), he wants to be able to go at his own pace. Others like Monique (18) and Ayana (18) emphasized the importance of fun workouts, like hiking, dancing, and swimming. Ally (13) echoed this point saying,

“I usually tend to go for stuff that's more of just things like hiking, or swimming or not something crazy, I'm just looking for fun things to do... but not anything crazy.”

In addition to content, the person doing the workout (source) in the video is crucial. Participants overwhelmingly wanted someone who “knows what they’re doing.” This knowledge is assessed in numerous ways. For example, Nina (16) wants someone to go step by step through an exercise and explain proper form to prevent injury. Without an introduction or thorough step-by-step explanation, she won’t watch.

Lastly, participants indicated that they look for visual features to determine whether or not they can do an exercise. Charlotte (15) explained that she wants to see an explicit label that an exercise routine is for beginners. She also wants to see a “counter” or timer on the screen that she can watch while she works out.

In addition to knowing that they can do the exercises based on their abilities, participants also indicated that their ability to follow certain videos is dependent on what videos require. Participants indicated that they can’t follow along with videos that require equipment (such as weights), ample floor space (many work out in their bedrooms), gym memberships, etc. This will be explored in depth in RQ4.

This analysis does not speak to “ease of use” in terms of how easy it is for youth to process information. It does, however, speak to the features of content that participants used to identify whether or not they could envision themselves using online information in offline spaces. These features are depicted in Figure 4-14.

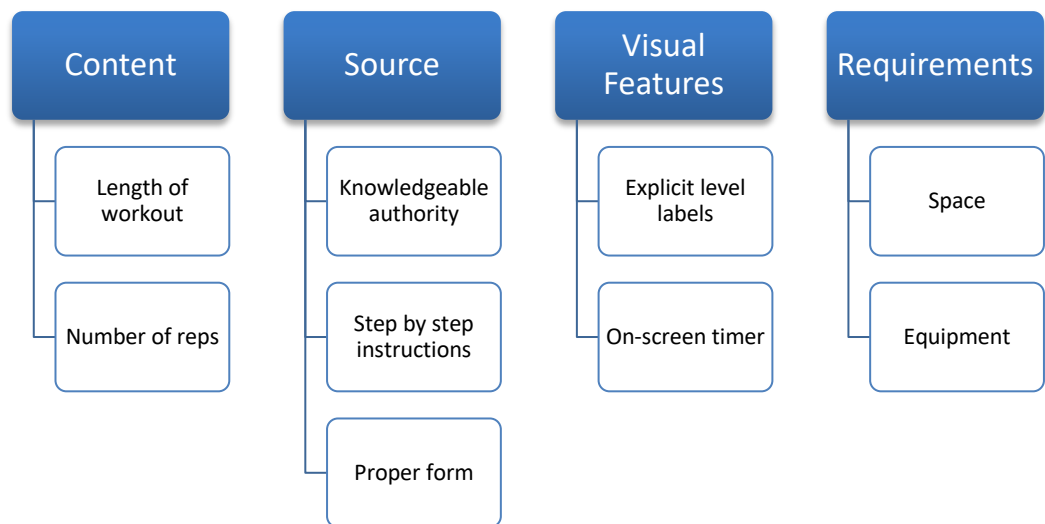


Figure 4-14: Information characteristics participants examined to determine ease of use

Cues and Heuristics

Cues

Gasser et al. (2012) review literature surrounding the cues and heuristics that young people observe and use to evaluate the quality of a site. “Cues” are something a user observes and in the authors’ review, they frame these observations as something teens notice about a *site*. In this study, however, participants reflected on the cues they use to evaluate information and discussed cues relevant to the site, the source (the person who is creating the content), and the piece of content itself.

Advertisements

More than any other cue, participants indicated that the presence of advertising led them to negatively evaluate a site, source, and/or a piece of content. The phrase that emerged across several interviews as participants explained why advertising makes them skeptical was that the information “isn’t real.” When asked if there were specific sites he wouldn’t look for fitness content, James (15) explained that the presence of advertising was a major deterrent:

Interviewer: Is there anywhere you won't look for fitness stuff or places where you found information you don't like?

James: Yeah, websites or accounts or blogs that try to sell you stuff. If the first thing that pops up is like "Oh, buy this, our brand sneakers." Think like "I didn't go on there to buy it. I would have went onto Nike or Under Armour or something to buy it." If they're gonna try to intrigue you to sell you something, that's why I wouldn't want to go on that one.

Interviewer: And what about that don't you like?

James: It's basically the only reason they want you on that page is for you to buy something, really. If the first thing that pops up is a thing they want you to buy and the text is 78 font and it's four letters, it's not gonna intrigue you to look at the page.

Here, James explains that he’s skeptical of sites that he perceives “only want you on that page” to buy something. He identifies pop-up ads, large font, and short words as the specific cues he identifies to determine if selling products is the goal of the site. Similarly, for Monique (18), the

presence of ads made her think that the content “isn’t real,” but she listed the absence of advertisements as one of the reasons she trusted a website she found. That is to say that while the presence of advertising can lead to a negative evaluation, the absence of it may lead to a positive impression.

Participants negatively evaluated sites / platforms with the presence of advertisements, but they also negatively evaluated “sources” or people who advertised within their published content. This was particularly true for people who ran YouTube channels and Instagram accounts.

Daniel (13) explains,

Interviewer: Is there anything that a person could say or do in a video that makes you think: "Oh, I'm gonna ignore this." or "Oh, no."?

Daniel: When they advertise other websites or other things at the beginning of their videos, I don't usually trust those, because, I mean, I just don't know. I just don't trust those ads... Yeah, they're advertising something, like: "Oh you should get this" or "Oh, you should try out this", then I usually don't trust it.

Interviewer: Oh interesting. What is it about advertising that makes you think that?

Daniel: I don't know. It seems more of just a way to get publicity for something else that they need, rather than trying to help other people in that subject.

Daniel prefers fitness content that *helps* people. This sentiment was echoed by several participants, especially when explaining how they evaluate YouTube vloggers or personalities. Joaquin (16) explained that his favorite “YouTuber” is a person named “Nickocado Avocado” who makes videos, often about nutrition. When asked why he liked this person, he explained that he felt this YouTuber genuinely “tries to help people.” To many participants, this notion of helping people appears to be opposed to advertising or selling products. Joaquin explained that people or sites with ads or ways to make money “aren’t real.” He explained that on YouTube, this happens when people try to sell or use products in their videos. With posts on various platforms, you can tell if people are “looking for clicks” based on their posts, specifically how their old posts and new posts have changed in content. He thinks that if a person is only posting for

sponsorships, a user can tell by their multiple posts about a product (or several products). On Twitter, he explains, advertisements are automated.

Most participants indicated that they avoided sites, people, and content that were advertising because they “weren’t real.” They prefer content published by people who they perceive to be motivated by a desire to help others by sharing fitness information. In addition to skepticism about motivations, participants also feared that advertisements, particularly popup ads, would harm their devices. Renato (18) explained that he avoids online spaces with popup ads because they “screw up” his phone and computer.

Negative, Unrealistic, or Dangerous Language

In addition to advertising, participants identified “negativity” as a sign of poor quality. Shana (18) explained that negative comments and judgmental attitudes annoy her. This notion of negativity will be further explored in RQ2, but it is worth mentioning that the presence of positivity was a cue that helped participants evaluate content favorably. This was particularly true for “YouTubers.” For example, Ally (13) explained that she preferred to watch vloggers who are happy and motivated.

Within the vein of “negativity,” participants also expressed distrust of content that is either unrealistic or dangerous. Participants expressed several cues they use to identify unrealistic content, almost all of which were text-based. For YouTube videos, Charlotte (15) explained that she avoids videos with “obnoxious titles” that are used for “clickbait,” like “get a bigger butt” or “lose 50 pounds in a week.” She also explained that she avoids the hashtag #loseweightfast because it sounds “unrealistic.” Several other participants indicated that certain hashtags could be a red flag, particularly when it comes to dangerous content. When asked if there are any hashtags she avoids, Nicole (15) answered,

Nicole: A lot of the ones that I've seen related to fitness is the model status hashtags, the ones that always talk about the modeling industry and how people want that model-type body. I avoid them 'cause I don't like it, I think they're extremely underweight, some of them, and I don't think anybody should really be striving for this underweight, sickly-looking body type... Yeah, I think there's a difference between fitness and this model kind of idea that people want.

Interviewer: Okay. And what do you think the biggest difference is?

Nicole: I think the biggest difference is one's healthy and one can be considered not healthy. I think when you're going for fitness, it's you want just an overall healthy body, but stereotypical, when you're going for that model status, it's underweight, very skinny, very tall and thin, and I don't think it's completely that healthy.

Here, Nicole differentiates between healthy and unhealthy fitness and uses hashtags as a way of weeding out unhealthy content. Hashtags and video titles are text-based cues that participants recalled as being indicators of poor quality. Non-text-based indicators of quality (or lack thereof) are discussed later in this section.

While a few participants mentioned looking for web addresses with .edu or .org (a common cue discussed in youth literacy literature), the majority of participants discussed advertisements and language as the main cues they use to evaluate quality. What is particularly noteworthy is that while extant literature frames cues as unique to *sites*, participants' evaluations were nuanced and included cues from a site / platform, as well as a person / source and the content itself.

Heuristics

In addition to cues, Gasser et al. (2012) discuss heuristics or “evolved [generalization] stored in one’s knowledge base that often gets refined with experience” (p. 60). Participants talked about specific platforms in ways that generalized what they were or were not good for, often using their personal experiences as evidence. Some participants had unique thoughts about platforms, like Ally (13) who generally distrusts WebMD “because I feel like it always says the wrong things,” and prefers BuzzFeed’s health articles. While some of these opinions, like Ally’s

about WebMD, were unique, there were some that were repeated across interviews. The most common generalization was a distrust towards Facebook. Monique (18), for example, stated that “Facebook is fake.” Emma (16) echoed this sentiment, explaining that “there’s a lot of false information on Facebook.” These opinions weren’t based on the content participants saw other users posting on the platform, but rather based on the algorithmically pushed content and advertising they observe. Monique thinks “Facebook tricks you into sharing content,” and Emma recalls that Facebook advertises diet pills, which she doesn’t think should be used.

Pinterest, on the other hand, was discussed by several young women as a platform that “gives good tips for fitness.” Pinterest’s usefulness as a platform for finding fitness content appeared to be well-known. When asked why she uses the social media site for finding exercise and nutrition information, Arielle (14) responded,

“I just always heard about it being very good for getting ideas, getting workouts, and fitness and nutrition. And I download it, and I tried it out, and I found it really useful, because it gives you so many different options, and recipes, and just ideas. And I liked it, 'cause it just, it always, it never left me without an answer.”

Here, Arielle talks about the reputation of the platform as well as her own experiences. Others’ opinions were supported by her own findings, both of which contribute to her generalized knowledge that Pinterest is a good place to search for and find fitness content. These heuristics can be positive or negative and inform the ways that participants evaluate online spaces.

Visual and Interactive Elements

Based on Gasser et al.’s (2012) review, I identified seven sub-themes within “Visual and Interactive Elements”, five of which were present in this analysis: (a) Variety of media types, (b) Design, (c) Engagement, (d) Graphic Quality vs. Content Quality, and (e) Differences in Evaluations. These sub-themes are explored below.

During their “walkthroughs,” participants explained what they liked and disliked about the content they found and what was important to them. There were numerous differences in the ways that participants evaluated videos, images, and text. This section addresses the gap in current literature that Gasser et al. (2012) articulate surrounding what we know about the ways that young people evaluate visual and interactive content.

Variety of Media Types

One benefit of using social media platforms instead of search engines to search for and browse fitness content is the variety of content on each platform. For example, Nina (16) likes Instagram the most because there are all kinds of accounts that she can browse – there’s a variety in terms of content. In addition to a variety of content, there are also different kinds of media within one platform. For example, Shana (18) identified the fitness company Shredz and how their Instagram page is one of her favorite accounts. She explained that the Shredz account uses a mixture of photographs, text, and videos to provide facts, information, and workouts, all on Instagram. Similarly, both Nina and James (15) indicate that they like when one online space is linked or “branches out” to another, particularly with a different kind of media. For example, Nina prefers Instagram accounts that have links at the top to YouTube channels, where she can watch and connect to all of that channel’s past videos. Social media platforms are unique in that (a) there is a wide variety of content all on one platform, (b) a user can find multiple types of media (videos, pictures, text, etc.) all on one platform, and (c) one type of media (like text or photographs) can easily link to another (like video).

Design

Participants were often struggling during interviews to put words to how they judged the appearance of a site. James' (15) sentiments are that he just looks for “a good feel to [the] page”, which was echoed across participants. Participants spoke about the feeling the design of a website gave them, but often struggled to articulate exactly what it was that inspired those feelings beyond the color of the site. Specifically when talking about visual features of design, sometimes participants had more luck explaining what they were glad was missing rather than what they were glad was there. Charlotte (15), for instance, indicated that she was drawn to the BeFit YouTube channel because it “wasn't flashy.” While talking about the elements of site design they preferred proved to be difficult for many participants, many were far more vocal about how they evaluated different types of content (videos vs. text vs. images, discussed later in this section).

Engagement

Several participants indicated valued fitness content that is entertaining or fun. The word “fun” appeared often. Specifically, participants like Ayana (18) who did not necessarily search for fitness information but discovered it via browsing recalled clicking on videos that they thought looked “fun.” This is particularly true for participants who indicated that they don't love to exercise Nicole (15) explained that she likes to find content that “make[s] exercise more fun” and looks for “fun videos.” This notion of “fun” and entertaining content most often related to videos. When asked why YouTube was a good place to find fitness information, Ally (13) responded,

“Just because it's more fun to go and watch. Because I usually click on, the more lifestyle, beauty YouTubers. Because their videos are really fun and exciting to watch. And I always go on, there's this girl, I don't know her YouTube name, but she always post vlogs of her working out. And I just like going on there, because being able to watch a video of people giving you ideas and showing

them make it look really fun. It's just a lot more interesting and satisfying than going on the internet, on like a doctor website, and reading a long article."

Ally prefers these lifestyle bloggers to websites or articles because they are "fun" and "exciting to watch." While many participants who watched YouTube videos followed along with workouts, she went on to explain that she prefers these types of videos instead. An important part of fitness content, particularly videos, is how "fun" and engaging they are. The more "fun" a video is, the more likely participants are to watch them instead of other types of media with similar information (especially text-based).

Graphic Quality vs. Content Quality

When interacting with visual and interactive fitness content via social media, participants indicated that they evaluate both the quality of the graphic and the quality of the content. Participants discussed caring about the quality of videos more than any other kind of visual content. During these discussions, the sign of poor quality that emerged across interviews was blurriness. Many participants echoed Jasmine's (17) sentiments, who said that the quality of a video matters and that bad quality means it's "not professional." Darnell (18) elaborated on what he expects from a video, stating that if it isn't shot with at least an HD720 camera, he won't watch it. This notion of professionalism is discussed in depth later in this section.

Participants evaluated videos based on the graphic quality and blurriness, but they also value the information communicated in the content they find. When asked how they know if information is "good" or "bad," some provided abstract qualifiers such as "if [the content] has facts." Others were more specific, like Angela (18) and Nina (16), who emphasized the importance of "good information" explaining how to exercise safely with "proper form." This emphasis on form was echoed in Charlotte's (15) example, when she explained that she needs

more specifics than “do 10 burpees” because that just leaves her wondering “what’s a burpee?” She wants to be shown technique and how to properly perform an exercise. For Nina, these explanations take shape in the form of step-by-step instructions. For Jasmine (17), she positively evaluated a stretching video on YouTube because the speaker provided explicit “do’s and don’ts” when explaining how to stretch the hip flexors. Renato (18) and Gina (14) echoed these sentiments, but also wanted an explanation of how an exercise works scientifically.

The blurriness of graphics, particularly videos, mattered to participants and served as indicators of poor information quality, but participants also cared about the quality of the information within the visual content they found. They value detailed explanations, particularly when it comes to exercises, that they feel help them perform correctly and safely.

Differences in Evaluations (Text vs. Images vs. Videos)

Videos were the most talked about in terms of identifiable criteria young people used to evaluate their quality. Before even watching a video, participants looked at the number of subscribers the YouTube channel had (as well as who subscribes), the number of views that specific video had, and the number of “thumbs up” or “thumbs down” the video had. All of these criteria are listed right below the video on YouTube. Some participants had specific numbers in mind that clearly communicated quality. Darnell (18) explained that if a video has over 100,000 views, that means it has a good audience. When searching for videos, Jasmine (17) selects the video in her search results that has the most views. Another element that participants look for when deciding which video to watch is the length of the video. While Charlotte (15) prefers shorter videos when choosing a workout to do, Nina (16) explains that long videos are a serious commitment in terms of time.

The criteria listed above are facets of a video that participants can evaluate before pressing “play.” Once they are watching, however, there are several more elements that they consider when evaluating, many of which surround the person in the video. Participants observed the featured person’s: (a) appearance, (b) abilities, (c) demeanor, (d) actions, and (e) professionalism. When considering exercises, participants often wanted the person demonstrating or leading the workout to be the same gender as them. Jasmine (17) explained that she wanted to watch girls of the same age and with bodies that were similar to hers. Similarly, Renato (18) wouldn’t click on a female athlete “because females want to tone and males want to sculpt, which means they’re doing different workouts.” When he chose a video during his walk through, Renato remarked that the guy is “totally built,” which means “whatever he’s doing is working.” Angela (18) felt similarly when she found a video with a woman who she remarked “looks very fit.” She followed up with this observation, explaining that that is her goal, “to look that fit.” Participants wanted to watch videos where the featured person is the same gender and looks similar to their physical goals.

In addition to gender and physique, participants also noticed a video’s featured person’s abilities, particularly when looking for how to do something sports-related. Participants like Emma (16) and Treyvon (18) wanted to see the person demonstrate what they were teaching, not just explain it. They wanted to know that they were learning from someone who knew what they were talking about.

In the previous section, it was discussed that participants cared about the depth and explanations the person in a video provides. For many, this served as an indicator of expertise. Participants also examined the person’s demeanor as a similar indicator. Participants like Nina (16) indicated that a person’s confidence will communicate whether or not they know what they’re talking about.

Also discussed in the previous section was the ways that participants assessed “professionalism,” one of which was the quality of the video (how blurry or clear it is). This notion of professionalism is particularly important to participants. In addition to the quality of the video’s graphics, participants also assessed how professional videos was based on their perception of the *person* in the video. Participants wanted to know that the person in a video was an athlete, a personal trainer, etc. One way of identifying this (beyond whether or not the person listed their credentials) was the setting of the video. For example, when Treyvon (18) searched “how to get a proper swim stroke” on YouTube, he explained that he wanted a person who would show him what to do in a “swimming setting.” He elaborated that he doesn’t like when the person is sitting in a room or a bed explaining things. When he sees that, he’ll either avoid clicking on the video or exit the video immediately.

Participants articulated far more criteria that they used for evaluating the quality of videos than they did for photographs or text. Renato (18) explained that he prefers videos to photographs because it’s too easy to alter a photo using Photoshop. Participants did indicate, however, that sometimes text and images were also important parts of evaluating videos. Joaquin (16) judges whether or not he will watch a video based on the thumbnail photo that appears in the search results. Nina prefers videos where the text-based captions are “straightforward” and relies on the text-based comments of each video to show her what the reactions are. Renato also explained that he reads a video’s comments to see if the featured workout works or if a lot of people disagree with the content. While participants focused on the features they examine to evaluate videos, text and photographs were part of these evaluative decisions.

Judgements of “Objective Qualities”

Based on Gasser et al.’s (2012) review, I identified five sub-themes within “Judgements of ‘Objective Qualities,’” three of which are present: (a) Depth and comprehensiveness, (b) Completeness, and (c) Comparing websites and sources. These sub-themes are discussed below:

Depth and Comprehensiveness

In many ways, this section overlaps with the previous section titled “Graphic Quality vs. Content Quality.” That section identified topics that were present in videos that participants valued (“do’s and don’ts while stretching, explanation of exercise moves, etc.). These topics speak to the questions participants want answered, particularly when it comes to exercise. When these questions are answered, participants often considered the information that answered them favorably. When it comes to exercise, participants want to know: (a) what to do, (b) frequency (how often, how many), (c) how to do it (emphasis on form), and (d) why it works (emphasis on science).

As mentioned earlier, participants liked to know what exercises to do, how often, and how many. This was evident when Shana (18) talked about her preference for graphics that laid out monthly schedules with which exercises to do on each day. Similarly, it is not enough for some participants to name an exercise and assign a number of reps. As Charlotte (15) pointed out, she doesn’t want to be told to do 10 burpees if she doesn’t know what a burpee is. She wants to be shown what a burpee is and how to do it correctly. This notion of correctness was repeated by several participants, who were concerned with safety and form. Finally, many participants were happy with information that provided answers to the first three questions. Some, however, wanted an additional explanation of why and how an exercise works. Participants Renato (10) and Gina

(14) wanted the scientific and biological explanations. Gina explained what she wanted to know about an exercise, stating:

“I'd really like to see how it's, internally, improving your body... I like to see how things internally affect you and how they're actually working, so like build muscles, or lose fat, different things like that. I like to see it internally, not just externally, like, 'Do this workout.' I like to see why it works and how it's targeting different places in your body...”

Gina wants to know how an exercise affects her body and isn't satisfied with content that only addresses the question of “what do I do?” It is important to note that not all participants want answers to each of these questions. However, when the questions that participants valued were answered, they were likely to feel favorably towards the information that provided the answers.

Completeness

In this study, most participants discussed the impossibility of true completeness. Many participants articulated that the fitness information they interact with online can't ever be fully complete. An overarching theme was the idea that every person's body is different and what works for someone online in terms of diet and exercise may not work for their unique bodies. For example, Charlotte (15) differentiated that she likes to watch workout videos and tutorials, but won't take advice from strangers online. She explained everyone is different, that her body is different from others' and may not react the same way. Similarly, Emma (16) recalled that she found a 20-day squat challenge online (like those discussed in a previous section) and tried to do 50 squats in one day. After being “crazy sore,” she does things dependent on her own body now instead of going from zero to 50 in one day. This is particularly interesting, given 25 out of 30 participants do actively search for fitness content via social media, yet most indicate that this information can never fully be complete for them as individual users.

*Comparing Websites and Sources*²¹

Participants compare the information they find on social media to other sources, both on and offline. In particular, participants discussed their comparative strategies when talking about how they handle conflicting or contradictory information they encounter online.

Online Spaces

Participants compared content across various online spaces of one of several ways to evaluate information. Participants who were highly motivated and invested would search frequently and actively compare information across several sources. This is particularly true when participants would come across conflicting information online. By searching frequently, they encountered far more information and thus were able to identify recurring answers and themes. This familiarity may enable them to recognize patterns in results. For example, Joaquin, 16, discussed that he does a lot of his own research about both nutrition and exercise. When he sees conflicting information online, he explained, “If I see there are more sources saying one side of the subject than the other, then I’m going to believe the ‘more side’ in most situations.” When he encounters differing answers to his search queries, he typically believes the response that he sees the most frequently across all of the sources.

Similarly, Arielle, 14, spends a lot of time interacting with both nutrition and exercise content on social media because of her food allergies and her competitive sports teams. When she sees contradicting information, she believes the one she sees most often. She explains, “[I

²¹ An earlier version of the text in this section was previously published in *Booth & Trauth (2016)*.

believe] which one I see more of...I'll look both up and see which one has more [websites] about it.”

Offline Resources

Participants who had personal relationships with healthcare and fitness professionals showed a preference for collaborating with those individuals when they encounter contradictory information. Several participants talked about their family members who are medical or fitness professionals. These familial relationships with healthcare professionals were routinely mentioned when asked how teens manage the contradictory information they find. Charlotte, 15, talked about her struggles with her weight and gave the example of searching whether it was better to eat an apple before or after her workout. If two sites give different answers, she indicated that she might just disregard them both. If she really wants an answer, she'll ask a professional like a doctor, research it and find “a reliable source that ends with a .org,” or she'll ask her Mom who is a nurse. Similarly, Olivia, 18, talked about how her mom is a nurse and if an online source says something that differs from what her mom says, she avoids that piece of information. Many of the teens with family members in the health industry emphasized the importance of getting advice from healthcare professionals or people with professional training.

In addition to healthcare professionals, some participants had close familial or personal relationships with fitness professionals. These participants often discussed turning to these professionals when uncertain about the conflicting information they find. Angela, 18, talked about finding different information across multiple sites and turning to her family members for answers. She considers her family to be well-versed on these topics, as they're “all really fit.” She

especially turns to her brother, who is a personal trainer, to ask about the workouts she finds online. She also looks to him to make sure her form for each exercise is safe.

Alicia, 14, also emphasized this personal connection when talking about *why* she asks her parents about conflicting information. She explained that she doesn't know the authors on websites. She doesn't know their expertise and they don't know her personally, so their advice won't be specifically tailored to her. "...I see what people I trust have to say, because ...[on the websites] I don't know who they are, I don't know them ... Other people don't know me personally, so [people I know are] going to be more useful to me."

RQ2: How do young people's online content creation relate to their process of search and evaluation?

This research question is answered in three parts. The first is exploring how participants create content online. The second is exploring how these creation behaviors relate to the ways participants search for fitness-related content. The third is examining how participants' creation behaviors relate to the ways they evaluate fitness content on social media. The purpose of this analysis is to not only examine search, evaluation, and creation separately, but how these processes relate to and mutually shape one another.

Creation

In this study, the majority of participants indicated that they create content via social networking sites, while a small number added that they also create via blogs, self-authored sharing content, and gaming. Participants were asked about where, how, and why they engaged in creation, and their responses map to the sub-themes developed from the literature review.

Social Networking Sites

Participants in this particular study reported “creating” content, fitness-related and otherwise, on social networking sites more than any other online space. When participants discussed creating content, they were asked about their creation processes in terms of what they do and what they value. During the analysis of their responses, four topics emerged: methods of content creation, motivations for creation, considerations when creating, and sense of community. These topics are explored below.

Methods of Content Creation

Teenagers “create” content on social media in multiple ways. Participants recalled creating content in several ways: (a) liking, (b) posting, (c) sharing, (d) tagging, (e) sending, (f) commenting, and (g) curation and saving. These behaviors were labeled depending on how the majority of participants talked about them, but the actual terminology sometimes varies across platforms. For example, the term “liking” refers to the act of clicking on an icon associated with “liking” or approving of online content. On Facebook, this means clicking on a “thumbs up” icon and the vernacular of clicking is “liking;” on YouTube, it is also clicking on a “thumbs up” (or down) but participants would say they “gave it a thumbs up;” on Twitter this would mean clicking on a star, referred to as “favoriting” a tweet. The phrases used, icons selected, and nuanced contextual meanings vary by platform, but the sentiment is overall similar in that it is a behavior that indicates approval or positive feelings towards that particular content.

In addition to “liking,” participants talked about “posting” their own content across various social networking sites. “Posting” content, such as making a video and uploading it to YouTube, is perhaps the easiest method of “creation” to think of when imagining how young

people create content via social media. While some participants uploaded or posted videos they made, most reported posting photographs, text, or a combination of the two. Participants also talked about “sharing” content that was originally created or posted by someone else, but in their own posts on their own accounts.

The fourth method of content creation discussed was “tagging.” “Tagging” is most typically done on Instagram and Facebook and is a method of linking one person’s account to a piece of content. This can be “tagging” someone in a photograph to signal they are in it, or it can be tagging someone in a video, article, etc. to signal that they should look at it. Similarly, participants also talked about “sending” content privately. Facebook, Instagram, Pinterest, etc. all have different channels and terms for the action of directly sending text, images, videos, etc. from one user to another, but generally this refers to the act of sending something to a single person or small group privately. This is in contrast to “commenting,” which participants discussed generally as posting text (or images, links to websites, videos, etc.) in response to another person’s posts. This act of creation is typically more public than “sending” a message and can be seen by other, unspecified users depending on privacy settings.

The final method participants discussed was “curation” in which they actively edit their social media accounts. Some participants talked about curating information, specifically on Pinterest, so that the content they “save” is organized in a specific way. Others indicated that they will post content and then delete it later so that their profiles look a certain way or remain a certain size.

“Creating” content via social media takes numerous different shapes and forms. Often times, the vernacular or verbiage varies by platform, but the overall intent is similar. The ways participants create change based on their intended audience, the feedback from their audience, the norms of the platforms, privacy settings, and the affordances of the social networking sites. These nuances are explored in the following sections.

Motivations

Twenty-six participants discussed actively posting on social media. Of those 26, 14 recalled posting content related to nutrition or exercise. When discussing why they post fitness-related material on social networking sites, participants' reasons fell into one of three categories: (a) helpfulness, (b) humor / entertainment, (c) inspiration.

The majority of participants do not post fitness-related content often, but when they do it is when they feel the content will be helpful for their friends who will see their posts. For example, Monique (18) recalled sharing an article that listed symptoms of Type 2 Diabetes (with which she was recently diagnosed). When asked what motivated her to share this content on Facebook, she responded that it contained information that she didn't know before and she thought it might help others who have these symptoms. Joaquin (16) echoed this sentiment, explaining that he will post nutrition content if it is helpful, relevant, or can educate people about healthy meals.

In addition to posting content they think will help others, participants also recalled posting fitness information if they thought it was funny or "phenomenal." Renato (18), Emma (16), and Amy (14) all recalled sharing videos that were humorous videos of people working out ("workout fails") or extreme videos of people doing impressive "tricks" ("80-year-olds doing handstands").

The third category of reasons for posting exercise or nutrition content on social media was if participants thought it would "inspire" others. Shana (18) was dissimilar to other participants in that she estimated that 50% of her online posts were fitness-related. She explained that she likes to post photographs of herself doing pushups with inspirational quotes as captions to inspire others.

Considerations

When asked about the content (fitness and non-fitness) they create or share via social media, participants explained that there are quite a few things to think about before posting. Topics that participants reported needing to consider fell into two categories: (a) audience, and (b) fears of comparison / judgement.

Participants reported thinking about who would be viewing their posts before publishing content via social media. Specifically, they think about what their parents or authority figures (such as teachers) will see (and subsequently how they will react). Emma (16) explained that her family sees what she posts on her Facebook and Instagram accounts and that she posts with them in mind. This specifically influences the text she writes, as she is careful to avoid curse words or other language she doesn't want her family to see. Shana (18) echoes this sentiment, stating that she tries not to post anything illegal because she's cognizant that "people could be watching." While many participants expressed an awareness of who could see their content, others indicated that their parents or guardians actively monitor their social media accounts. Abigail (14) said,

"Yeah, I'm so careful about what I do. Because it's mostly my dad, actually. He's got an account too and he's literally... I don't wanna say stalks me, but he's really protective about that stuff. So if I do anything or curse on social media he'll just get really protective and be like, 'Do you really want colleges looking at what you're saying out there?' I don't know, he's just... I get it but it's just kind of annoying."

Abigail is aware that her dad sees her content and is consequently careful about what she posts because she knows he will talk to her about what he sees. Shana (18) echoes this sentiment, stating that she tries not to post anything illegal because she's cognizant that "people could be watching."

In addition to gauging their parents' reactions, they also gauge their friends' interests. Specifically, they gauge whether or not their friends, who will be viewing their posts, will be interested in the content they are creating. For example, Charlotte (15) actively searches for fitness-content and watches workout videos on YouTube, but doesn't share the content she watches via social media because she doesn't think her friends are "into fitness." This consideration was similar across avid searchers and the few participants who were peripheral viewers of fitness content. Ayana (18), for example, explained that she would re-post dance videos she sees if she thinks other people will like them. Participants would change how they post based on who and how many people they think will be interested in the content they find. For example, Nina (16) explained that if there is one person she thinks will be interested in something she sees, she will "tag" them in the article or video. She recalled that she has tagged her sister in content with smoothie recipes and her aunt in dance technique videos, because she knows that they will be interested in that specific information.

Before sharing information or publishing content on social networking sites, participants considered what their parents' / guardians would see and whether or not their friends would be interested in their posts. In addition, participants also considered how others who see the content they create may negatively "judge" them. Most fitness tracking applications have a feature in which participants can link their accounts to their social media platforms, so their exercises, meals, or fitness-related achievements can be shared publically. Most participants who use these apps did not link their profiles to their social networking sites. Angela (18) actively uses MyFitness Pal (a mobile application that helps users count calories throughout the day), but doesn't enable the settings that shares her progress with her Facebook account (this would enable her Facebook friends to see certain information she puts into her app). She explains that tracking her calories and exercise is just for her and that she's "self-conscious," and doesn't want to compare herself to others. She will re-post videos of other people working out, but when it comes

to her own information she prefers to keep that private. Participants also mentioned deleting posts that don't get enough positive feedback. For example, Abigail (14) said she will delete photos she has posted if they don't get *at least* 130 likes in one day. Similarly, Arielle (14) doesn't like to upload pictures of herself working out like other people do because she doesn't want to post pictures of herself looking "sweaty or tired." In addition to not wanting to post unflattering or personal information, Arielle, Vanessa (16) and Renato (18) don't post fitness content because they feel there are other social media accounts that already publish content about those topics. Participants indicated that they feel that others are more knowledgeable about it than they are. Renato (18) explains that it wouldn't matter to people who see it and asked "what's to say my source is credible?"

Sense of Community

Participants talked about fitness content being published by an online "fitness community," yet when asked, the vast majority indicated that they were not a part of said community. This is particularly interesting given most participants actively search for and interact with fitness information online. When asked why they did not feel like a part of this online community that they were keenly aware of, many responded that it was because of their creation habits (or lack thereof). Of the 25 participants who actively search for fitness content via social media, 14 have *posted* about exercise or nutrition on their own accounts.

Most participants "lurked" in these spaces by searching for, saving, and interacting with fitness-related content, indicating that they are aware of an online fitness community's existence, but did not actively participate by creating their own similar content. For example, Arielle (14) explained:

“I never post anything about fitness and stuff. I follow all the fitness community, and nutrition, and all that. But I don't like to post things on it. I just don't feel like doing that. I feel like I'm using things from the fitness community, but I'm not contributing back to it. I'm not putting things on about me, or what I do.”

Actively “using things from the fitness community” wasn’t enough for Arielle to feel like she was a part of this community because she wasn’t posting. Even Shana (18) who actively publishes her own content and comments on others’ posts said that even though she comments, she still feels like a “bystander.” In addition to posting, sometimes feeling like a part of the fitness community related to the number of fitness-related accounts they actively followed. Ally (13) said that she didn’t feel like a part of the online fitness community, because:

“Just mostly because I don't follow a lot of accounts. Usually, people who are part of the community are people whose accounts are dedicated to fitness. But I follow fitness accounts but not a lot of them.”

This notion of actively posting or following may speak to the idea that being a part of a group may need to be intentional, that their behavior needs to be driven by intentionality. Many participants who did not feel that they were a part of the online fitness community felt that they were a part of one offline. Olivia (18) explains:

Olivia: I'm not a big poster. I don't post a whole lot of information. I just kinda more like take it in, but my accounts aren't super active on anything that I'm on.

Interviewer: Do you feel like you're a part of an online fitness community?

Olivia: Not particularly. I know it's there if I want it, but I'm not super active on it.

Interviewer: And what about in real life?

Olivia: In real life I think I am, because I've been involved in sports for so long, and it's such a huge part of my life, it will always be there.

Participants like Olivia are aware that online fitness community exists and they actively engage with community members’ content, but often do not feel that they are a part of it. While the majority explained that this lack of “membership” relates to their lack of creation behaviors, even those who do post and comment sometimes feel like bystanders. While they may “lurk” online

without creating, participants made a distinction between not being a part of the online community, but still being a part of fitness communities offline.

Skills

In their literature review, Gasser et al. (2012) argue that teens sometimes develop and enhance certain skills when they create content online. The authors evoke Coiro et al. (2008) and define skills as “epistemic values concerned with producing and evaluating knowledge and information” (p. 85). Gasser et al. (2012) distill the skills teens develop into three categories: digital fluency / technical skills, writing and language skills, and social / collaborative skills. Participants were asked about how they created content online and the tools they use. These skills are discussed below.

Digital Fluency and Technical Skills

Gasser et al. (2012) cite extant literature surrounding the skills youth develop during their creation processes. The first category of skills the authors identify in the literature is “digital fluency and technical skills.” Participants talked about learning how to use new types of tools, software, etc. through their creation processes.

Informal Play

While a small number of participants reported creating online content for school via blog posts, the majority recalled creating content and sharing information for fun. Participants created content rooted in activities and areas that were interesting to them. For many participants, this took shape by creating content surrounding the sports they play or their hobbies. For example, James (15) takes and posts pictures for his high school soccer team’s Instagram account. Similarly, Nina (16) ran a fashion blog with her friend by publishing content about hair bows, latest trends, etc. Several participants also expressed a passion for photography. Nicole (15) takes

photography classes at her high school and likes to post the photos she takes on Instagram. She explains,

“On Instagram, that's mostly like... Another big thing for me is photography, but the type of photography I do, I do it of people, so I'll always post new pictures I have on that, or very artistic pictures.”

Nicole is able to combine her photography hobby with the content she creates via social media. While she does take specific classes in school, she gets to experiment online by posting the photographs she takes. Participants engage in this informal play by pursuing and sharing their hobbies via social media. This allows them to experiment and explore in ways not often promoted by academic assignments in which students try to meet the requirements and expectations of authority figures in return for a grade. During this experimentation, participants often (sometimes unintentionally) develop technical skills.

Developing Technical Skills

Participants reflected on the types of content they typically create online. When asked what kinds of skills they need to engage in their specific creation behavior, participants listed a myriad of technical skills. Participants often learned, acquired, and developed these skills during the “informal play” described in the previous section.

Participants often talked about the skills required to post photos and videos on their social media platforms. Most participants completely skipped over the skills required to *take / record* and *upload* photo and video content. When asked about these skills, participants acted like this was pure common sense, something everyone would know.

The skills they explicitly discussed had more to do with editing content. For example, Emma (16) indicated that she was passionate about gaming and explained that she used to run a YouTube channel where she would review bad video games. She recalled having to learn how to edit videos and use new software, emphasizing that this took time. Similarly, several participants

talked about editing photos and adding “filters” to them to make them look better. After his interview, Darnell (18) asked if he could show me his Instagram account and shared how different the landscape photos he takes look before and after adding filters.

Writing and Language Skills

Participants talked far less frequently about the written and language-oriented skills they learn and use during their creation process. This may, however, be because they consider these to be obvious as opposed to technical skills. When talking about these skills, James (15) said:

“You need to know... I mean this is pretty self-explanatory. You need to know grammar, you need to use good words, use easy words, that are appealing to people. If you're gonna give an example of this new sneaker, it has this technology where if you bounce on this heel of the foot, and this ligament's gonna help that, no. If you just say, 'If you take this shoe when running, it'll just help your ligament, and the feeling in your whole leg,' than, yeah. Instead of saying... Being so, so specific.”

Here, James is describing how to market what a product does without losing the reader by providing too much unnecessary detail. This is a valuable skill, but he considers it to be “self-explanatory.” This perspective may provide insight into why fewer participants talked about language-oriented skills than technical skills, which young people may not consider to be “common sense” depending on who they are talking with.

Social and Collaborative Skills

Collaborating

While participants reflected on developing technical skills on their own, several talked about collaboratively running online spaces with others. For example, Nina (16) used to run a fashion blog with her friend and recalled making at least one video with a relative. Emma (16)

used to help her brother with his gaming YouTube channel, as well as run her own. These young women designed, developed, and created content collaboratively with others. Similarly, James (15) takes pictures and uploads content for his high school soccer team's Instagram account, along with his other teammates. These types of collaborations were not discussed as everyday occurrences, but rather as fun, leisurely activities or ways to engage with others around their hobbies.

Collaborative Gaming

Several participants mentioned playing video games, but only one (Emma, 16) discussed her collaborative gaming experiences in-depth. She listed a litany of games she plays, but specifically emphasized Massive Multiplayer Online Role-Playing Games (MMORPGs). Emma explained that she was a part of numerous online communities and ran several "clans" and groups within these multiplayer games. She specifically emphasized that she takes on a creative role within her "clans." While Emma was the only participant who discussed her passion for gaming in-depth and the creativity she was able to collaboratively express, this may be because the interview was framed as being "about fitness" and other participants may not have considered it relevant.

Norms

In terms of content creation, Gasser et al. (2012) review literature surrounding norms young people learn during their creation processes. The authors define norms as "standards, values, attitudes, and expectations that youth have in relation to content creation and dissemination" (p. 88). A summary is in the section below.

Platform-Specific Norms

When reflecting on the content (fitness-related and otherwise) they create via social media, participants described the norms that dictate what kinds of content users should post depending on which platform they are on. That is, each platform has its own standards and expectations when it comes to what / how to create content.

When explaining how they use social media, participants differentiated between different platforms and how they used them. Most favored the phone app Snapchat, with many participants explaining that posting or “snapping” picture / videos is for the “day to day.” This app was specifically used for seeing what friends were doing in real time and showing them what you are doing in a singular moment. Instagram, on the other hand, was not discussed as a platform someone posts on “daily.” Instead, IG is where teens “scroll through” several times per day, but do not post every time they are on the app. Participants talked about posting photographs, specifically on IG, and explained that this platform is for posting pictures with friends, family, and “artistic” photos of landscapes, etc. Abigail (14) shared that she posts photographs on Instagram to “shar[e] what I’m doing on special days.” Her explanation of posting pictures on IG only on “special days” reflects the sentiments of numerous participants. Facebook was similar to IG in that participants talked about “scrolling” through their newsfeed to see what others are posting. Facebook differed from Instagram in terms of how they perceived the purpose of posting on the platform; participants would often talk about creating content on FB in order to share with or communicate with others, including posting, direct messaging, etc. On IG, however, participants talked about posting for “self-expression.” That doesn’t mean that they aren’t conscientious of their audience (they still want positive feedback in terms of likes and positive comments), but the intentions and rationales for why a person posts on each platform were different. Similarly, Pinterest was talked about in terms of “pinning” or saving content in an

organized way so that they could revisit the information they saved. Pinterest was discussed as something users do for themselves rather than for an audience. This makes sense given that saving and “pinning” are the features that drive the site, rather than “liking” or “commenting.” Participants were also clear that Pinterest is for finding recipes and pictures / lists of exercise routines, rather than videos. The vast majority of users did not post their own videos on YouTube, but were aware of the types of content that existed on the site based on their viewing experiences. Within a fitness context, for example, participants understood that there were multiple types of fitness videos on YT, some of which were “lifestyle vlogs” where the “vlogger” recorded their day and the video would include exercise, while other videos were specifically for watching exercise routines and following along. Participants were aware of the types of content they may find on each platform. Their understandings of the norms on each social networking site related to the types of content participants created on each platform, as well as their motivations for doing so.

Success Indicators

Participants were also cognizant of the norms that indicated “success” or popularity on each platform. Abigail (14) explained what matters of her on Instagram, sharing, “And I’m one of those people who cares about the likes a lot and the followers... Yeah, I delete a picture if I don’t get a certain amount of likes.” She later indicated that she would delete a photo if it received fewer than 130 “likes” in one day. Based on her experience using Instagram, 130 “likes” was the threshold she established to determine the success of her content. Participants also learned how to maximize their positive feedback. For example, James (15) explained how to maximize likes and the number of who sees a post on Instagram:

“...the time of day you post it, 'cause the time a day you post it, is a big deal. I know most girls if they wanna get more likes on their photo, they'll post it either five minutes after the bell rings, the last bell rings at school, because everyone's checking Instagram then. Right before dinner or right after dinner, or at 10:30, 11:00 at night because that's when everyone's checking their phone for the last time, or unless you're staying up late, but on weekdays 10:30, 11:00's the best time 'cause everyone's checking their phone. And they'll give it a like, a comment, or a re-post.”

Here, James is talking about the girls in his school having a collective understanding of what time people typically check Instagram. For James, these shared understandings play a role in when users post photographs on that platform in order to maximize the number of “likes” they get.

Based on the time they spend on a social media platform, participants see the types of content other users generate. They also see others receive feedback (and receive feedback themselves) in the form of likes, comments, subscribers, etc. based on what the features of the platform promote. Participants use these cues to create, share, and edit their content; these decisions vary depending on the platforms.

Online Meanness and Bullying

Gasser et al. (2012) point out that young people are typically “subject or witness to cruel behavior” online (p. 89). Of the themes I identified in their review, the only one present during analysis was “reacting to hurtful content.”

Reacting to Hurtful Content

Participants did not discuss purposefully posting harmful or cruel content online, but did report an awareness of its presence on social media. Gasser et al. (2012) suggest that when young people see hurtful content online, they must “decide what do with these negative information objects, such as ignore, participate, or intervene in the dissemination process,” (p. 90). Of these three options, most participants indicated that they ignore content they deem to be “negative.” For example, specifically in terms of fitness-related content, Shana (18) explained that she feels that

there is a lot of “judgmental attitudes” on social media. She indicated that when she sees judgmental posts or negativity online, she identifies it as a red flag. She reacts by ignoring these types of posts in favor of more positive content. Shana’s sentiments were echoed by several participants. Emma (16) explained that she hates the “fat shaming” and “skinny shaming” that she sees online where people are shamed or criticized for their weight and body composition. She explained that she gets tired of commenting because someone will always contradict. Emma’s story was echoed by several participants who felt like negative comments or contradiction were an inevitable part of being online.

While most participants indicated that they ignore hurtful content, Joaquin (16) explained that he responds with comments, but carefully. He was emphatic about how he disagrees with other users by commenting “in a polite way” and “[doesn’t] respond with hate.” This relationship between reacting to hurtful content, content creation, and evaluation is discussed in-depth in Section 3 of RQ2.

Relationship Between Search and Creation

This section looks at the sub-constructs and sub-themes related to search and creation behaviors and explores relationships between them. In RQ1, one of the sub-themes that emerged when analyzing how participants began a search was “familiarity.” Participants reported having multiple-stage search strategies that often included several platforms, but these strategies were informed by how familiar they were with each platform and their past experiences. Figure 4-15 was presented to depict the ways participants use familiarity to select a search platform and subsequent search results and is re-printed below:

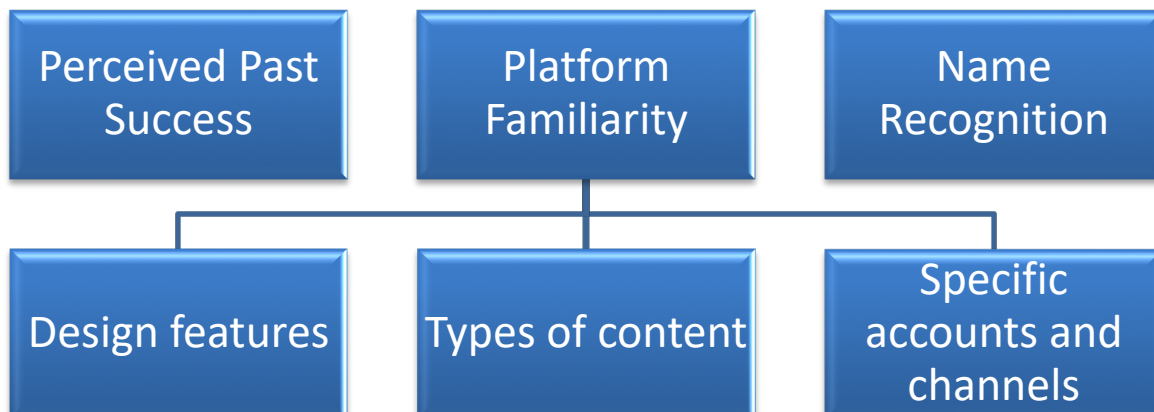


Figure 4-15: How users select a search platform and results

Participants often returned to platforms that they were familiar with when searching for content. Within platform familiarity, three sub-themes were identified based on participants' responses: (a) design features, (b) types of content, and (c) specific accounts and channels. While these sub-themes were identified when analyzing discussions of search, these same sub-themes relate to the content participants create and how they post it. For example, Nina (16) used Instagram to search because she was familiar with how the "popular page" works and how IG allows users to "go back and forth" between profiles in a way she considers easier than Google. Similarly, participants made decisions about what and how to post based on the design features of the platforms with which they were familiar. Participants discussed seven methods of creating content online and their language reflected an understanding of what each platform's features allowed. Participants changed their verbiage with ease depending on the SNS they were talking about - on Facebook they "liked" something, but on YouTube, they "thumbs upped" a video they felt favorably about. This effortless switching back and forth of which words they used to describe different types of content creation reflects a familiarity with the design features of each social media platform they use. In addition, familiarity with design features also related to the

considerations participants had when posting. Participants were keenly aware of who would or could see the content they posted based on the privacy settings each platform allowed. For example, some young women talked about “Path” being an online place for girls to share their thoughts, feelings, and secrets. Arielle (14) explained:

“Path is something that mostly girls use. It's like you get when you're in high school. It's an account where you just share your feelings and it's extremely private so you can allow people who you want to see and who you don't wanna see your stuff or your post on it. And it's mostly just posting, not pictures but just words or sentences and stuff about your feelings and you're... Just how you feel. If you're upset about something, you can post it there and only your close friends or whatever can see it or the people we allow you to follow.”

Arielle was familiar with the platform privacy settings and explained that those influenced the private information people are willing to create and share. This may also be related to the fears of judgement that participants consider before posting fitness content. Of those who had fitness tracking apps, all but one were unwilling to share their information in fear of others judging them. This familiarity with privacy settings and subsequent creation decisions similar to the ways that Nina chose IG to browse based on its design features.

In addition to design features, the types of content participants were used to seeing on different platforms related to both search and creation. Participants reported searching for exercise videos on YouTube and nutrition / recipe ideas on Pinterest based on experience. This familiarity with what content frequently appears on each platform relates to the “norms” that drive the content young people create and share via social media. The majority of participants indicated that they used Snapchat the most often or that it was their favorite platform, yet the vast majority indicated that they did not see or post fitness content on that platform. Because they didn't see fitness content on Snapchat, they didn't post fitness content on Snapchat. For most, it was their most frequently used platform and almost every participant searched for fitness content, yet they know that it isn't on that particular platform.

In addition to design features and types of content, participants were also familiar with specific accounts and channels that are dedicated to fitness across various platforms. For example, several young women talked about the “Blogilates” YouTube channel as a great source of workouts and exercise routines to follow. This familiarity and awareness may relate to how several participants explained that they don’t post fitness content because there are already other accounts dedicated to those topics.

Participants were familiar with the features / affordances, types of content, and specific accounts and channels dedicated to fitness across various platforms. This familiarity is related to the norms that participants reported about the types of content that is appropriate to create and publish. These norms are nuanced and differ depending on the platform and are learned by participants becoming familiar with these online spaces. This time spent helps participants understand the norms that shape what / where they post, as well as how to gauge their own success. For example, Abigail (14) explained that she deletes a photograph from Instagram if it receives fewer than 130 likes in 24 hours. It is likely that she came up with the number 130 based on her familiarity with how many likes other users such as her peers usually get on their photographs. Familiarity with the different features, content, and established accounts across the different social media platforms relates to the ways in which participants decided to (or not to) create and share content on these platforms.

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RQ3: How do the intersections of multiple identity characteristics (race / ethnicity, gender, and socioeconomic status) relate to search, evaluation, and creation behaviors?

This section explores the ways in which participants’ responses varied based on the intersections of race / ethnicity, gender, and socioeconomic status. This section includes a combination of reported and observed analysis. That is, interview transcripts were analyzed based

on what participants actively said (reported), as well as the differences across responses that I observed.

Definitions of “Fitness”

At the beginning of this chapter, the definitions of fitness that participants provided were summarized; these results are reproduced in Figure 4-16 below:

	Food Only	Exercise Only	Food and Exercise	Other
Low-Income District	1	5	4	11
High-Income District	0	8	4	3

Figure 4-16: Participants’ definitions of fitness varied by school district income level

The majority of students from high-income school districts emphasized food and exercise. Only three participants from high-income school districts did not include these two elements. They talked about “feeling good about your body” and self-improvement. The definitions of fitness provided by teens from low-income school districts, however, were far more holistic and included several topics beyond food and exercise. These definitions included stress-management, attending school, making sure their bodies were healthy and working properly, feeling happy, feeling comfortable with themselves, wearing braces, being motivated, mental health, and meeting goals. Participants from high-income public schools emphasized exercise (especially in the form of “being in shape” for sports) and the combination of food and exercise. Participants from charter schools within low-income areas provided a more holistic notion of

fitness that included food and exercise, but also included taking care of the entire body, self-esteem, emotional health, and the idea that fitness means different things for different people. At the intersections of SES and gender, young men from low SES school districts were more likely to note “making sure your body works properly” and functionality, as well as the importance of routines and goals. Young men from high SES school districts, however, were more likely to emphasize the relationships between playing sports and fitness.

Search

Search Topics and Where Searches Begin

Participants were asked to recall a recent fitness search they conducted via social media platforms. Twenty-five out of thirty did this easily and provided not only their most recent search, but several examples of the types of information they look for. The topics included: recipes / healthy meals, how to lose weight / burn fat, muscle growth / how to grow specific muscles, workout tutorials / videos, tips for being fit or getting in shape, how to get rid of cellulite, nutrition facts, the effects of various foods on the body, sports / athletic techniques, and tips on proper exercise form.

Several differences across participant groups were observed. Most notably, many of the young women searched for recipes, most often for special diets, smoothies, and “healthy meals.” None of the young men indicated that they searched for recipes. Most young men did not discuss food-related searches, although one was heavily interested in a “fruititarian diet” where fruit is the main component of a diet. This young man also searched for the dangers of red meat and other foods.

Another difference among genders is that young women, regardless of race or socioeconomic status, used a myriad of SNS for their interactions with fitness content. They mentioned YouTube, Instagram, Facebook, and Pinterest, while the conversations with young men revolved almost entirely around YouTube. While some mentioned Instagram or Twitter in passing, each emphasized YouTube as their primary source, particularly for tutorials related to sports. In addition to differences between genders, intersectional differences also emerged. Young men from high-income school districts talked about actively searching on Instagram far more than young men from low-income school districts.

Similarly, sports dominated the conversations about fitness content young men interacted with. Many discussed searching for how to improve a particular skill, such as pitching in baseball or how to perform a certain basketball move. While young women talked about sports, this was far more prevalent for women from high-income school districts than the women who attended charter schools in low-income, urban areas. Similarly, young men talked about growing muscle mass and targeting specific muscle groups. While two women did talk about wanting to grow muscle, the majority focused on weight-loss and targeting specific areas to “burn fat” such as the abdominal region or inner thighs.

Preference for Content Type

In addition to search topics and which platforms they prefer to begin their searches on, young men in this study (regardless of SES) demonstrated a preference video-based content over photographs or text. This makes sense given their preference for YouTube as their primary platform for fitness-related searches.

This isn't to say that videos were the only content for which young men reported searching. James (15) explains that “I think tutorials are better searched on YouTube, and specific

videos or just short, overall summaries of the exercise is better on Twitter or Instagram.” To James, it depends on what kind of information he’s looking for: tutorials vs. summaries. This sentiment is echoed by James and Daniel (13), who both explained that when they want to know how to improve their athletic performance, they want to watch a video to show them what to do. This emphasis on “showing how” was a recurring theme across young men participating in this study when they explained what they were looking for in fitness-related content.

Evaluation

Organization

Some young women (regardless of SES) explained that when searching for exercises, they had preferences as to how the information is organized. Several preferred images or graphics with “monthly challenges” where each day of the month is clearly labeled with what exercise to do and how many reps / sets to perform. While several young women emphasized that they liked to have specific exercises listed for specific days and how many reps and sets to do of each laid out for them, only one young man mentioned preferring content to be organized this way. In fact, while the majority of young women mentioned at least being aware that there were “30 day challenges” and similar graphics online, only one young man mentioned seeing this kind of content online.

Completeness

More often than any other participants, young women indicated that they didn’t feel like information they found online, especially via social media, could ever really be complete. Several

of these young women indicated that they didn't feel that information or advice coming from strangers who didn't know them could ever really work for their own, unique bodies. The idea that "everyone is different" and what works for one person may not work for another permeated across interviews with young women. This was particularly true for young women from low-SES school districts. These young women seemed acutely aware that their bodies may not react to foods or exercise the same ways as others. This may relate to the more holistic definitions many of the participants had from low-SES school districts. It may make sense that participants who conceptualize fitness to be about a person's mental health, physical status, emotions, etc. would perceive that because there are so many pieces of fitness, one change surrounding food or exercise may not affect everyone the same way based on all of the other factors at play.

Ease of Use

In addition to the perception that information found via social media may never be "complete" in that it doesn't fully apply to their unique bodies, many young women evaluated content based on whether or not it aligned with their perceived fitness abilities. When searching for workouts, young women reported analyzing whether or not they were able to perform the exercises. If they did not feel that they could do the exercises they saw pictured, filmed, or described onscreen, they evaluated that content as not relevant to them and moved on.

These participants evaluated workouts they found via social media based on the content, source, visual features, and required resources when determining whether or not they can perform an exercise / routine. Young women exhibited caution when it came to whether or not they would be able to perform an exercise (and the number of reps / sets the workout demanded). They also demonstrated an awareness that some workouts online are "extreme" or crazy, and that they did not want to try those. These young women used cues to evaluate whether they can perform the

exercises in an online workout. Some participants wanted scientific explanations as proof that the person “knows that they’re talking about.” Nina (16), looked for videos where the speaker explains an exercise step-by-step. Others, like Charlotte (15) want to see explicit labels that indicate the level of physical fitness a workout requires (beginner, expert, etc.). While one young man did indicate that he liked to workout with videos where he could “go at [his] own pace,” young women overwhelmingly talked about the importance of finding exercises that aligned with their perceived abilities. This perceived alignment (or lack thereof) was a significant factor in how many young women evaluated content they found via social media and their decisions to engage or move on.

Participant Reflection

After discussing participants’ search, evaluation, and creation behaviors, I then asked participants to turn back to their identity maps. Through a series of questions, I asked participants to reflect on their responses about their interaction with fitness content via social media and how their behaviors related to how they defined their identities. While the aforementioned sections of RQ3 results draw from observed differences across participants drawing on identity characteristics defined by IS literature, this section presents how participants understood and defined the relationships between their own identities and information behavior.

Relating Identity and Information Behavior

I asked participants to look at their identity maps and identify which of the words they wrote down were the most important when it comes to fitness and looking for fitness content

online. While some participants had written down clearly terms clearly related to food and exercise, the majority of responses included their gender, loved ones, and the sports they play.

A few respondents explained that their gender was an important part of their identity that related to fitness. For example, Renato (18) explained that “being a guy” affects what he searches for because “males have different thought processes than females.” He elaborated that “it’s not common for women to want muscle mass and guys want muscle. It defines your masculinity – people are more likely to fight scrawny people.” He explained that guys in his neighborhood want to look like they’d win in a fight. Vanessa (16) explained that she prefers to look at “suggested” fitness content that aligns with her age and gender. She likes that the exercises that appear on social media geared towards “women” and “teens” appeal to her specifically.

In addition to gender, another common response was their love for their loved ones. For some, their family and friends are the people with whom they pursue their fitness passions or activities. For example, Arielle (14) explained the three terms from her identity map that related to fitness and fitness content online:

Arielle: Sports, nutrition, and friends.

Interviewer: Why friends?

Arielle: I feel like when I'm going with friends they motivate me more and they give me more ideas and they help me, like with sports, my friends will help me with soccer and give me techniques of what I need to work on, and for track, they will help me push. Like if I'm running with a friend, I'll have less of a chance of giving up, or I'll push myself to the end 'cause I see them pushing themselves, so it helps me.

Interviewer: Okay. Do you see these pieces on social media?

Arielle: I see nutrition and exercise and sports on social media. Like sport accounts, like soccer accounts sometimes just pictures of soccer, little clips of soccer games and stuff, they have cool things. And track, I haven't seen that much of track.

Similarly, Marcia (17) explained that she follows workout videos with her mom and that her mom makes most of the fitness decisions, along with her Aunt, who she described as a “fitness freak.”

While both Arielle (14) and Marcia (17) are driven by friends and family to exercise, other

participants indicated that fitness is important to them because they want their families to be healthier. For example, Nicole (15) explained,

“Most of my friends, at least, are still pretty young, they're still pretty fit. But family-wise, I know that my mom and dad always talk about how they wanna get in shape and they wanna be a little bit healthier, and that affects me because I want them to be healthier, and I want a lot of my other family members to be healthier.”

In addition to their gender and loved-ones, the other piece of their identity maps participants tied to fitness is the sports they play. For some, like Gina (14), the sports and activities they are engaged are fitness in and of themselves:

“I'd say dance, 'cause I do wanna start that up again, and I know it was really good for me and stuff, and it made me feel good. When I learned a new move or something like that, it made me feel good on the inside, knowing that I accomplished a skill.”

For others, exercise and nutrition are a means through which they can enhance their athletic performance. Daniel (13) explains:

Daniel: Probably the sports.

Interviewer: Why?

Daniel: Because they have to do with fitness and that's working out and I need to be able to eat healthy or drink a lot of water before game time to perform at the best level that I can.

Participants' reflections on which pieces of their identity maps related to fitness provided a unique insight into *why* they searched for and interacted with fitness content online in the first place. For some, it was to fulfill a gendered-expectation. For others, it was part of their interactions with loved ones or a way of helping their family members become healthier. For many, fitness is either part of something they love (such as a sport or activity) or something they engage with to get better at the activities they love.

Which pieces of their identities are missing online?

I asked participants which pieces of their maps or “circles” they didn’t see in the fitness content they see or on social media in general. Three categories emerged: (a) identity characteristics, (b) personality traits, and (c) hobbies (depicted in Figure 4-17).

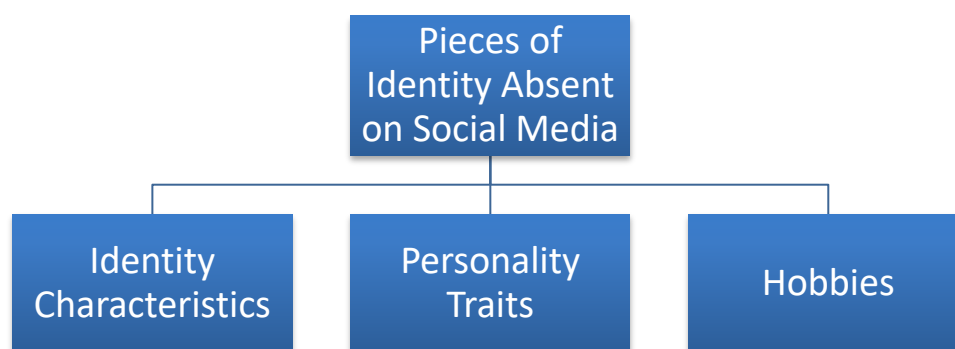


Figure 4-17: Pieces of identity participants’ indicate are missing on social media

Both Charlotte (15) and Joaquin (16) indicated that they don’t see some of the identity characteristics they wrote down on social media. Charlotte (15) wrote that she identifies as pansexual (footnote), but doesn’t see sexuality discussed in any online fitness spaces. Joaquin (16) said, “I don’t see personal things like religion or race.” The absence of religion emerged several times. Olivia (18) said, “I’m Catholic, and there aren’t a whole lot of relatable Catholic accounts, ‘cause I know that can be harder for people to talk about openly.” Joaquin (16) elaborated that he thinks the absence of “serious topics” like religion on social media in general because viewers don’t want to see heavy topics on a daily basis; he explained that “funny things are better.”

In addition to the absence of identity characteristics such as religion, race, and sexuality, participants felt that other important aspects of their identities are not typically present via social media. Several participants explained that they don't important pieces of their personalities represented on social media. For example, Darnell (18) explained "I don't see volunteers... I don't see people helping others, but I don't post that stuff either." He explained that the idea of "pay it forward" is really important to him as a person, but he doesn't see that on social media, or post it himself. Similarly, Treyvon (18) used his identity map to explain what he doesn't see on social media, but would like to find. He explained that he wrote down "drive," "motivation," and "optimistic" because he has younger siblings and needs to "lead the path," but he has to be optimistic living in the city he calls home because there are a lot of "bad influences" and "a lot is up to you to get out." He elaborated that he would like to see people talk about "their motivations and why they're successful. It motivates you to keep going if you know others have failed and then succeeded."

Thirdly, participants also mentioned hobbies and school as pieces of their identities that were important to them, but did not see via fitness content or social media in general. For example, Arielle (14) said, "I don't see things about school, really, if I'm following accounts on fitness and nutrition, there's nothing really in school, or on reading, or shopping, stuff like that." Similarly, Ally (13) and Gina (14) both pointed out that they wrote down "reading" and "writing," but they don't see much to do with those hobbies via social media.

Perceived similarities and differences with online fitness gurus

The vast majority of participants actively sought out fitness content online and many indicated that they returned to the same person's YouTube channels and other social media

accounts. I asked participants if they thought the people they watch, follow, or subscribe to are similar to them or would have similar identity maps. Responses were split across *yes* and *no*.

For those who responded that the people they see and follow via social media for fitness content are not similar to them, they largely attributed their differences to (a) perceptions of their bodies, (b) approaches to fitness, and (c) lived experiences. In her identity map, Charlotte (15) wrote that being overweight was a key part of her identity and that the people she watches in online workout videos are never overweight, so she doesn't see herself like them. Similarly, Angela (18) also said that the people in online videos are different than her because "they look like naturals working out," but working out is hard for her. For some, the athletic appearance and ability online figures embodied can be coupled with obsession. Marcia (17) pointed out that the people she sees online seem "like they're always working out." Laticia (18) echoed this sentiment, explaining that sometimes she "wants the body" of "fit people online," but thinks they can be too "extreme." Others, like Renato (18) felt that they couldn't relate to fitness personalities online at all because "they come from different places." He explained that "people from the city don't get YouTube famous." When asked why not, Renato (18) explained that it's because they're not seen as credible and that "you don't see this environment on social media. It's not interesting or extraordinary. It's not grandiose here."

While many participants perceived that the people they see online are different than them, others indicated that they felt similarities with online personalities. These similarities were largely attributed to having similar motivations and goals. For example, Ally (13) explained that "I feel like, just like the people I follow are just people going through the same thing I am just like people are trying to get healthier and trying to lose weight, so they're more relatable just because they're going through the exact same things like you are. Olivia (18) echoed this sentiment, explaining, "Yeah, I think so because we both have the goal of wanting to feel good about ourselves and our bodies and taking care of our bodies because it's the only one that we have."

RQ 4: How do teenagers' individual search, evaluation, and creation behaviors surrounding fitness information on social media reflect intersections of societal inequality and systems of oppression?

The results from RQ3 discussed in the previous section were constructed from an interpretive perspective, which valued and emphasized participants' lived experiences and subjective realities. Research Question 3 focused on participants' intersecting identities *as individuals*. Participants were encouraged to define and reflect on their own identities and how their perceptions of self relate to how they interact with fitness information via social media. However, an intersectional analysis requires moving beyond an individual level of understanding to a societal level. That is, using a critical epistemology to explore how these lived experiences reflect larger systems of inequality and oppression. This is primarily achieved through exploring connections between participants' individual, lived experiences expressed in the interviews and larger social structures. This critical analysis shifts from focusing on participants' discussions of their individual identities towards observed similarities across participants, particularly emergent themes that were not covered by Gasser et al.'s (2012) IQ Framework. I engaged in open-coding and found themes of societal expectations and barriers which echoed across participants, but not uniformly. Participants' discussions of societal norms and barriers to both "getting fit" and technology use are beyond the scope of individual teenage experiences; rather, they speak to and are emblematic of larger, structural inequalities and oppressions. These emergent themes are discussed below:

Body Image

Because of their age and the sensitive nature of the subject, participants were not asked directly about their *body image*, or how they feel about and perceive their bodies. This being said,

23 participants initiated dialogue about their bodies. Twenty (or two-thirds) of the participants expressed unhappiness with their body shape and/or weight. During these conversations, three themes emerged: body dissatisfaction, gender-norms and expectations, and goals to change their bodies (depicted below in Figure 4-18).

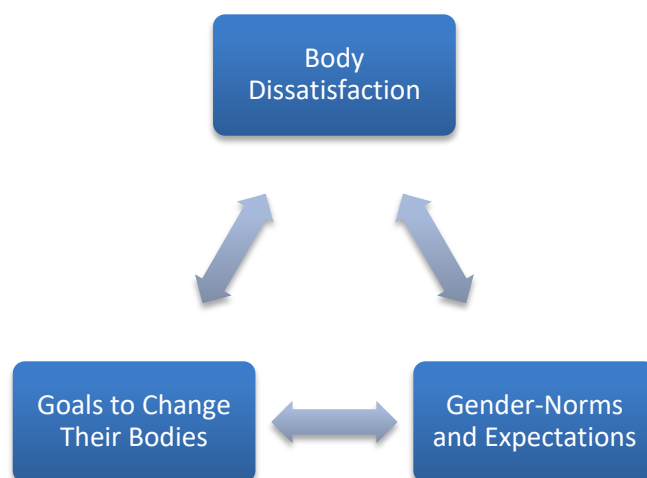


Figure 4-18: How participants talked about their bodies

The first theme that emerged is body dissatisfaction. Reports of these evaluations ranged from feeling “a little self-conscious” to talking about the severe emotional toll perceptions of being overweight has caused them. For example, in the identity mapping exercise, Charlotte, 15, identified being overweight as the second most important piece of her identity. She discussed how her friends know that she’s sensitive about her weight, and typically avoid talking about it with her. While few participants included their weight in their identity maps, several indicated that they were not satisfied with their appearances. While some young women discussed wanting to lose weight, several talked about wanting to be more “toned,” indicating that thinness was not enough. For example, Ayana, 18, said that she’s “skinny, but not where [I] want to be in terms of looks.” Ayana’s sentiments were echoed across the majority of interviews with young women

(regardless of school district), but the ways young women talked about their bodies was complex. What is particularly noteworthy is this idea of “I’m skinny, but...”. Participants talked about being “skinny” or “thin” as if it were a baseline of acceptability. If participants identified as “not skinny enough” or overweight, like Charlotte, 15, and Ally, 13, the conversation revolved around losing weight. For the young women who either identified as “skinny,” overtly said that they “don’t need to lose weight,” or said nothing about their *weight* specifically, many echoed Ayana’s sentiments that their bodies didn’t look the way they wanted them to look. Several young women used language such as wanting to “tone” or “tighten” their bodies. It is as if weight and size are the first items in an imaginary checklist that no single participant discussed, but the majority alluded to; after weight and size comes the way skin or specific body parts look, which was evidenced by the numerous searches for “how to get rid of cellulite” and searches for exercises that “target and tone” legs and abs. While many participants expressed body dissatisfaction, it is worth noting that two young women from low-income school districts, who identified as Black and Hispanic (separately), reported positive feelings about their bodies, saying “I love my body, I love the way I look” and “I like my body, I like my weight.”

The second theme that emerged was appearance-based pressure and norms that participants experienced based on their gender. Eight young women directly talked about the relationship between gender and expectations about how they look and behave. Three young women talked explicitly about the pressure they felt as women to be thin. Nina, 16, talked about how “there’s a lot of pressure for girls to look a certain way.” Similarly, Vanessa, 16, said that she needs to always have a good appearance as a woman so people won’t “judge her.” She indicated that this is particularly important coming from a Puerto Rican household, where “as a female, you have to carry yourself as a classy person,” and alluded that maintaining a certain weight was a part of meeting these expectations. Ally, 13, articulated where she thinks weight-related expectations come from, saying that “I feel like in magazines - it’s always in magazines

and with celebrities and all that stuff you always have to be, there's a lot of pressure with a lot of things you do to be skinny because everyone always thinks that just being beautiful is being skinny.”

While young women discussed the pressure to be thin, young men often talked about the importance of being muscular or strong. This was particularly important for young men who lived in high-crime neighborhoods, because the more muscle they have the tougher they look, and the less-likely it is that someone will try to fight them. Renato, 18, talked about how muscularity often defines masculinity. He explained that looking muscular and tough is important in an urban environment with a lot of crime, because “people are more likely to fight scrawny people they think they can win against.” For these men, their bodies are messages to strangers who may yield danger; if they appear physically weak they are at a disadvantage, yet if they appear muscular and strong, they may be safer when (presumably male) strangers decide to avoid confrontation. In addition to muscularity, young men also discussed the importance of fitness in relation to sports and athletic performance.

In addition to expectations about their appearances, participants also talked about social norms surrounding food. Young women across age ranges, race, and socioeconomic status also talked about what is considered appropriate behavior surrounding food for girls. Nina, 16, indicated that eating large meals “looks bad” for girls. This sentiment was echoed by Emma, 16, who told a story about coming from a previous school where eating disorders were common and she was often the only girl eating at her lunch table. Some participants talked about eating unhealthy foods, but feeling guilty afterwards. There was a consistent discussion of guilt and negative feelings associated with feelings of eating “too much” or “junk food.” For example, Olivia, 18, said, “I've always been conscious of what I'm eating and making sure that I'm not eating too much junk food in one day because I know I'll feel gross if I eat too much of it.” This notion of *feeling* “gross” aligns with other participants’ explanations that women eating junk food

looks “wrong.” The theme that emerged across interviews with young women was that eating (a) too much food, or (b) food that is considered unhealthy or “junk food,” looks wrong for women, as if it is not hegemonically feminine behavior. Young women participants explicitly said that this was inappropriate for women, but not for men. Young men did not echo similar pressures or feelings of guilt surrounding their eating behaviors.

The second theme that emerged in their discussions about their bodies was their goals to *change* their weight and/or shape. Participants talked about these goals in a myriad of terms; some talked about who they wanted to look like, others used terms such as “getting in shape,” while others talked about weight-loss. Angela, 18, indicated that she has several fitness goals that she’s trying to achieve right now: (a) to bench press²² 150 pounds, and (b) to look like the fitness models she sees on social media. Some participants had already achieved their goals. Laticia, 18, talked about how she “used to be big” and lost weight after seeing a number she didn’t like on the scale. She talked about the positive feedback she received from her peers and how they would often ask her for advice. She recalled actively changing her diet by eliminating dark soda, eating smaller portions, and eating more whole grains and fruits, as well as walking twice per day.

The ways that young women talked about their goals was also complex. While some women, like Angela, overtly say that their goals are to look like the women they see in fitness videos online, others indicate that they “just want to be healthy.” While this is an admirable and important goal that many health professionals strive for young girls to want, there is somewhat of a misalignment between participants’ stated goals and what participants showed me during their walkthroughs. For example, Alicia, 14, explained that she interacts with fitness content during soccer season more often than any other time, “because it’s really intense in high school so you have to make sure that you’re working out and you’re eating right so that you can get a chance to

²² A bench press is a weightlifting exercise in which one lies on a bench and lifts a weight vertically and then lowers it down to chest-level.

be on the Varsity or even the JV team, 'cause it's like very competitive so you have to make sure that you're doing all the right stuff.” While she indicated many times that her focus on fitness is sports-driven, when asked to recall a recent fitness-related search, she said “how to burn fat on your inner thighs.” This was frequently the case for young, White women from high-income school districts: they often indicated the importance of exercise and nutrition to perform well in their sports, yet their searches sometimes reflected a goal related to aesthetics. This is not to say that athletic performance is not a driving motivator for young people to interact with fitness content online, but based there may be others related to physical appearance. In almost every interview with young women from high-income school districts, an exchange similar to this conversation with Abigail, 14, emerged:

Abigail: I totally think all the models out there that are just basically posting pictures of their bodies and saying... And they're advertising stuff too like, "Here, get this to look like me." And they've all got a nice butt, perky boobs, flat stomach...So it's not real. I've been taught that, it's really not. But just some of my friends need to be taught that too. Sometimes they'd show me... I don't know, have you heard of Alexis Renn?

Interviewer: No, what's that?

Abigail: No, no, she's a model that everyone literally looks up to.

Interviewer: Okay. So this is a model?

Abigail: Instagram model, yeah. She's stunning. I don't know, her body can't be real. All my friends are like, "Oh my gosh, did you see what Alexis posted last night?" I don't follow her. I don't follow just random women that are ideally nice to look at.

This conversation is emblematic of three themes that emerged across the majority of the interviews with young women, especially those from high-income school districts. The first is an acknowledgement of Instagram models and “perfect bodies” that are thin with large breasts, “a flat stomach and a nice butt.” The second is a perception that her peers look up to and want to be like these women, suggesting that there is popular consensus that this aesthetic is positive and that young people want to emulate it. The third, and perhaps the most interesting, is this proclamation that the participant, in this case Abigail, doesn’t [search for, “follow,” etc.] this ideal because it’s “fake,” “not healthy,” or “not realistic.” The common theme is that participants feel that they do

not subscribe to or try to embody these societal ideals, but their peers do. Each participant had a sense of pride in the maturity and wisdom in this attitude, as though wanting these bodies is a popular, but negative perspective. This outlines an interesting pattern across participants: participants express some level of bodily dissatisfaction, confirmation that there is societal pressure to have a certain kind of body, acknowledgment that peers are looking to attain this kind of body (and societal standard of beauty), confirmation that they themselves actively seek nutrition and exercise information (often the same kinds that their peers seek), and an insistence that they are doing so for health or sports instead of in pursuit of this ideal. I point this pattern out not to suggest that participants are avoiding telling me the “truth” or are purposefully being deceptive, but to indicate that while there is clearly a social pressure to look a certain way, as well as exercise and eat healthily, there is a perceived stigma against pursuing fitness to achieve a socially-desirable aesthetic. Many young women participants framed pursuing fitness for enhancing health and athletic performance as admirable, while framing the pursuit of fitness for aesthetics as if it is vain or shallow. There is a tension here suggesting that participants perceive that there are socially acceptable ways for women to look and behave, but their behavior shouldn't be motivated by their desires to achieve said look.

Three of the seven young men who participated also indicated that they wanted to change their bodies, but instead of losing weight and “toning,” their goals were to put on muscle mass. While the majority of the seven men emphasized the importance of enhancing athletic performance through exercise, several also indicated that there is a connection between muscles and masculinity. While this is discussed at length above, it is worthy to note that both men and women indicated that there is a socially acceptable and desirable aesthetic for men and women, yet the young men did not express the reluctance or shame associated with the pursuit of achieving this look that emerged in interviews with young women.

Without ever being asked how they felt about their bodies, the majority of participants expressed dissatisfaction with the way they looked. Young men, without talking with one another, explained the connection between having muscles and “being a man.” Similarly, young women agreed that there are societal expectations as to how women’s bodies should look and that there is an expectation that they should maintain a certain size to achieve societal standards of beauty. Young women expressed discontent with their bodies and a desire to change them through nutrition and exercise, yet suggested that pursuing fitness to achieve physical beauty is considered socially undesirable or taboo. These societal norms and expectations about how to look and behave (essentially, how to *be*) men and women was deeply engrained across participants and influenced the ways in which they interacted with fitness content via social media. These themes emerged across interviews, which indicates that while these expectations and norms are experienced by individuals, they are rooted in, maintained, and perpetuated by larger social narratives that prescribe what we value and demand bodies to look like.

Barriers

While both men and women expressed feeling social pressure to look a certain way based on hegemonic standards of masculinity and femininity, patterns emerged across participants from low-income school districts in their discussions of perceived barriers to fitness. Many participants talked about their interactions with and searches for fitness content in terms of barriers, or external forces that make fitness difficult (illustrated in Figure 4-19).

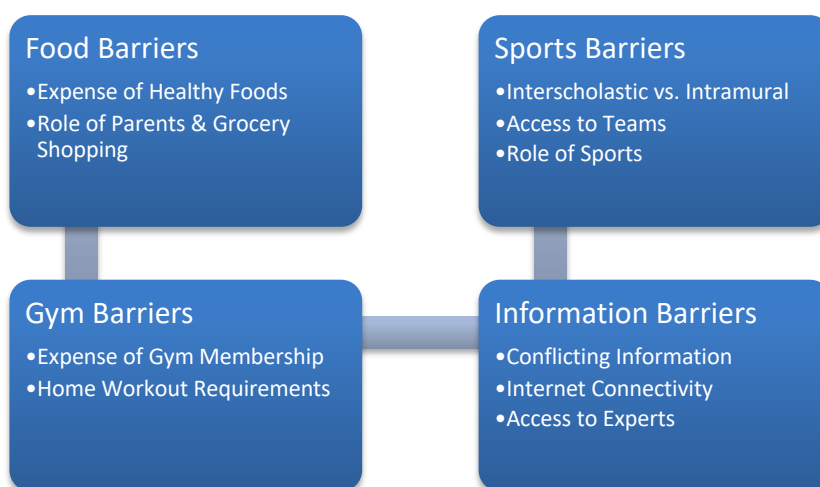


Figure 4-19: Participants' expressed barriers to fitness

Food Barriers

Young women from low SES school districts were the only participants who discussed the high cost of food. For example, Laticia, 18, said that “food stuff irritates her” because healthy food is so expensive. She explained that she gets annoyed by online content and advertisements that promote eating healthy because it’s too expensive to do so. Nina, 16, echoed this sentiment, saying “Living [here] is hard because my Mom can’t afford the healthy stuff.” She emphasized that this expense was especially true in the city in which they live. As a result, she explained, she specifically searches for recipes that include ingredients she already has in the house.

This discussion is in direct contrast to young women from high SES school districts, not one of whom mentioned the cost of healthy food (or the cost of food in general). These young women did, however, emphasize their preference for organic food. For example, Alicia, 14, explains:

Alicia: ...I always think about if I'm not eating something healthy, I'm like, "I shouldn't be eating this", and I always try to eat... For breakfast I have an apple and peanut butter 'cause it's healthy, and I eat all natural peanut butter so that it doesn't have any extra chemicals in it and stuff like that. I always try to get my parents to buy me more organic stuff.

Interviewer: Okay. And what do you like about organic stuff?

Alicia: I don't know. I just like to think that it's better for my body so I'm doing something good for myself.

Several of the young women from high SES school districts indicated that they preferred food “without chemicals,” yet young women from low SES school districts did not mention organic food. Across the board, however, young women referenced their parents. For those in low SES regions, participants emphasized that their mothers did not have the financial means to purchase healthy food. For those in high SES regions, they indicated stronger preferences and recalled asking their parents to purchase groceries accordingly. The young men did not discuss food preferences or costs.

Gym Barriers

In addition to discussing the prohibitive costs of “healthy” food, participants from low-SES school districts also mentioned the financial barrier to accessing gyms or fitness centers. Nina, 16, discussed the expense of gym memberships and workout equipment, saying that she navigates these barriers by using bricks for weights and working out at home. Similarly, Monique, 18, talked about saving her weekly allowance to pay for a membership at the local YMCA for her and her younger sister. Participants from low SES school districts also talked about the demands of following exercise workouts at home. Darnell, 18, discussed how he used to follow workout videos at home when he lived in a larger space, but now doesn't have the physical room to workout in his new location. Several participants employed strategies similar to Nina, by finding ways to exercise without the financial cost, such as walking around the block. Worthy of mention is how participants framed these exercise activities as adjustments. Participants often

referenced gyms as the obvious spaces for exercising and explained that financial barriers kept them from these spaces. Many participants presented exercise as an activity that costs money. By discussing financial barriers and how they worked around them, they presented gyms and equipment as the social norms and walking / free movement as a deviation from these norms.

Information Barriers

When it comes to fitness, participants also expressed coming up against information barriers. Young women often discussed how difficult it is to know which foods are actually healthy, compared to what is labeled as “healthy” in its packaging but perhaps not the best option. Nina, 16, also indicated that it’s hard to access certain types of information at times when her family can’t afford to pay for an Internet connection. She talked about how her computer is broken and the keyboard doesn’t work, so she largely uses her phone for accessing social media. This sentiment was echoed by several participants who rely largely on their phones to access the Internet.

In addition to the barriers that participants actively discussed, there were several observable differences between the resources to which participants had access. Several individuals from high-income school districts reported seeing personal trainers, individual sports coaches, nutritionists, attending meetings at organizations like Weight Watchers, and having a preference for organic foods. Participants from lower-income school districts did not discuss or report having access to these types of resources, other than one individual whose brother is a personal trainer. These types of resources and foods are typically paid for out of pocket and can be expensive, which may account for these differences. Similarly, individuals from lower-income school districts reported getting the majority of their fitness information (in terms of offline sources) from school-provided experts, such as coaches and health and physical education

teachers. While participants from high-income districts reported relying on these sources as well, but also had access to nutritionists, personal trainers, etc. More than any other participants, young women from high SES school districts cited their coaches from organized sports as sources of information.

Sports Barriers

In addition to financial and information barriers, there was a distinct difference between the types of school districts and the types of sports in which participants had the opportunity to be involved. Every participant except two from high-income districts reported being involved in an interscholastic²³ sport. Within low-income districts, the numbers were far fewer, especially for the girls. While young men indicated that they played intramurally and on organized teams, only two young women from low-income school districts indicated that they played sports on organized teams.

Not only did participation in sports vary, but the types of sports participants engaged in varied as well. For example, both young women and men from high-income districts were involved in soccer and several of the girls were involved in competition cheerleading. Only participants from high-SES school districts mentioned playing soccer. One young woman from a low SES school district mentioned cheerleading for her school team, rather than a “competition” team. The latter is particularly expensive and requires significant commitment from both the participant and their guardians. Participants who were on competition teams talked about how the location of practices was a 45-minute drive from their town and the practices took place several times per week. In comparison, all but one individual from lower-income districts who played

²³ Interscholastic sport models are typically very competitive and do not allow many students to participate, while intramural sports tend to focus on participation instead of competition.

sports, played basketball. Basketball courts are typically available and free to access in urban areas, as opposed to other types of recreational spaces. For example, Treyvon, 18, plays basketball and talked about how he used to swim for a team, but cannot any longer because of the lack of teams and pools available in his area of the city.

Participants also varied in the ways they talked about the sports they played. Young women from high SES school districts heavily emphasized their organized sports teams as driving factors and motivators for exercising and eating well. Several participants spoke about the need to “stay in shape” year-round for their highly competitive interscholastic sports teams. In contrast, the two young women from low SES school districts who spoke about playing organized sports referred to them as part of their larger overall health regiment.

The themes surrounding societal norms and barriers emerged across interviews. While these themes were identified by talking with individuals, they speak to larger systems of inequality. The barriers participants spoke of do not exist in a vacuum and are not uniquely experienced by these individuals. Rather, they illustrate the outcomes of laws and policies written, implemented, and enforced in ways that create barriers to health for some and not others. These laws and policies are examined in the next chapter.

Chapter 5: Discussion

Discussion Chapter Roadmap

This chapter discusses the key content-related findings associated with each research question, as well as this dissertation's theoretical and methodological contributions. The chapter begins by discussing the key findings of each research question. The key findings of research questions 1 and 2 are divided into three parts: 1) key findings surrounding youth and information quality behavior, 2) key findings surrounding youth information behavior within a social media context, and 3) key findings surrounding youth information behavior within a fitness context. Research Questions 3 and 4 are discussed in terms of key findings and contributions to epistemology. Subsequently, the chapter explores the theoretical contributions, particularly surrounding the ways in which I applied and extended Gasser et al.'s (2012) Youth-Oriented Information Quality Framework. The final section explored the additional constructs that were developed to add to said framework.

Key Findings

Key Findings: Research Question 1

RQ 1: How do youth search for and evaluate the quality of fitness information they interact with via social media?

This section explores the key findings from RQ 1 in two sub-sections. The first is devoted to the results surrounding how participants' search for fitness information via social media. The second looks at how participants evaluate the quality of said fitness information. Each section discusses potential implications for: 1) youth and how they assess information quality, 2)

information quality and social media, and 3) information quality within the context of fitness content. This section is longer than the other RQ key findings sections because participants talked more in-depth about search and evaluation than they did any other topic.

Key Search Findings

This dissertation departs from the majority of prior studies surrounding youth's online search behavior in its focus on social media rather than search engines. Results suggest that social media may change the nature of online searching. Participants discussed their search behaviors in terms of both "active searching" and "browsing." In this dissertation, "active searching" refers to purposefully typing words and / or phrases into a search bar, or what is traditionally thought of as information seeking behavior. "Browsing" refers to "scrolling through" or looking at content that they didn't actively look for, but was algorithmically generated and recommended for them by the social media platform. On Facebook, this is the Newsfeed. On Instagram, this is the Explorer Page. On YouTube and Twitter, this can be what is "trending" on the home page or video thumbnails on the former that are recommended based on what a user is already watching. The names change depending on the platform, but what they have in common is that participants talked about "scrolling through" these online spaces even when they have a specific topic they'd like to find information about.

RQ1 results suggest that there are relationships between active searching and browsing. Participants spent time browsing social media platforms, so they were aware of the types of content and potential topics they can find on each SNS they frequent. This awareness of the types of information they can find on YouTube, Pinterest, Instagram, etc. can inform their decisions to use (or not use) that platform for active searching. This was particularly true if participants knew that they have seen the type of content they're looking for on a certain platform in the past. While

browsing habits informed where participants chose to search for different types of information, participants also indicated an awareness that the content they actively search for influences what appears in their recommended “feeds,” and so prior searches are often reflected in what is algorithmically generated as they browse. Participants discussed their search processes as iteratively switch back and forth between active searching and browsing; one did not always precede the other. Sometimes a user would actively search and then browse the content that appeared in the “recommended” section (such as YouTube’s recommended videos). Other times participants reflected that they would browse generated content while intentionally searching for a certain topic. Other times they recalled browsing without the intention of interacting with fitness information, but would “stumble upon it” and would “spiral” by clicking from link to link. While participants offered various scenarios, their recollections of their search process often have two commonalities: 1) they iteratively switch back and forth between active searching and browsing, and 2) algorithmically-generated content (and the features that help them navigate this content, like “recommended” sections of a page) shapes how they navigate their search processes. This contrasts some of the extant literature that suggests that young users do not use the recommendations that search engines provide (Druin et al., 2009).

Participants’ recollections suggest that the ways content is generated, as well as the design features that are implemented on social media platforms, may play a fundamental role in how young users search for information and interact with search results. Also important to note is that participants demonstrated an awareness of how their actions on social media (“liking” content, what they search for, etc.) influences the content they see on each platform. This awareness speaks to larger themes when it comes to criticisms of adult-normative approaches. Gasser et al. (2012) point out that in some studies exploring youth’s perceptions of credibility, younger participants did not understand the concepts that they were being asked about (Flanagin

& Metzger, 2010). Not a single participant in this study used the word “algorithm,” and yet almost everyone interviewed demonstrated an understanding that their actions online had a relationship to the content they are shown. Young users may not always use the terminology adults use (ethnicity, algorithms, etc.), but they have an understanding of how these concepts work and they use these understanding to inform their information behavior.

What is Different About Search and Social Media?

One of the key content-contributions of this dissertation is that it explores search behavior via social media, as opposed to the majority of prior studies that explore youth behavior using search engines. This contribution begs the question, what did participants report doing and feeling about their social media searches that differs from extant literature? Participants places a significant emphasis on using and understanding social networking sites’ *features*. That is, features that are built into the platform to aid navigation (beyond the search bar). Participants demonstrated a familiarity with the various features across SNS and discussed them to explain their behavior and what they value. In their review, Gasser et al. (2012) summarize several studies, including Druin et al. (2009), who found that their participants did not engage in using Boolean phrases or multi-stage searching. Gasser et al. (2012) summarize that “Although these alternative strategies may not take full advantage of search engines’ optimal functionality, they reveal youths’ capacity for adaptive searching behavior,” (pg. 43). Participants in this study, however, demonstrated a thorough understanding of how social media platforms worked and how to use various features to narrow and / or navigate their search results. This may speak to the amount of time that participants spend on social networking sites, and that many of them find themselves browsing social media for fun when they are bored or have down time. This immersion may help familiarize young users with advanced features in ways that they do not

experience with search engines.

This immersion and familiarity did not render search engines obsolete. Participants engaged in search behavior via a combination of social media platforms and search engines. When one doesn't satisfy or sparks an additional question, participants recalled moving between the two. This was particularly the case when participants found exercises they wanted to try on social media, but turned to search engines to explore the "scientific" explanations behind them. Similarly, some recalled starting with a search engine, but desiring content that was more "fun" or entertaining and subsequently turning to SNS. This suggests that one is not replacing the other, but rather that young users may move back and forth between various online spaces depending on their needs and which spaces they perceive to be the most appropriate to satisfy them based on their past searching and browsing experiences. Participants expressed generalized ideas about previous successes with Google vs. Bing and other search engines. In terms of platform-specific familiarity, however, participants expressed a deeper level of awareness: a familiarity with design features, the types of content they know to exist on each platform, and a recognition of specific accounts and channels across these platforms.

Participants indicated similar reasons for ending a search on social media to what outlined in the literature surrounding search engines (feeling their information need is satisfied, getting tired or bored, and perceiving knowledge saturation). Participants did, however, also mention an additional concern surrounding using platform features to save their results for later. This was particularly the case on Pinterest where users "pin" exercises they want to try; some users did not want to save more than they could feasibly re-visit and try at a later date. This isn't to say that internet browsers do not offer the same ability to "save" search results via "bookmarking," but participants only mentioned this when referring to social media searches.

This again speaks to a level of familiarity with the features on SNS and participants' desires to manage and curate their accounts in particular ways. These levels of familiarity with platform features were embedded in the discussions participants had about their search behaviors, as well as the meanings they subscribed to said behaviors.

What is Different About Search and Fitness Information?

In addition to the context of social media, another contribution of this dissertation is the specific exploration of *fitness information*, which is a recent area of scholarly inquiry given its prevalence in US youth's health-related online searches (Wartella et al., 2015). This inquiry begs the question, what is different about participants' searches for fitness information when compared to extant literature about other types of information? The first difference, particularly when compared to academic searches, is the level of familiarity *some*²⁴ participants' expressed towards exercise and nutrition content. Some participants indicated that when sifting through search results or browsing content, they recognized famous names such as Jillian Michaels²⁵. This recognition was often interpreted positively as a signal of quality. Participants explained that they heard about fitness at home from their parents and family members, as well as in school from their teachers and athletic coaches. Given that there is such a high level of disordered fitness content online, this may be beneficial. Content that has been verified by adults may sound familiar to young users and therefore be interpreted as higher quality than something unknown. This level of familiarity may be unique to fitness information in that young users are not always familiar with the academic searches they employ for school assignments.

²⁴ A deeper discussion on which participants expressed these levels of familiarity is below in the discussion of RQ3.

²⁵ Jillian Michaels is a famous fitness instructor who stars in at home workout videos, runs a fitness mobile application, and has been featured on several US TV shows.

Fitness content might also be unique in that it may be algorithmically pushed at young users in ways academic-topics may not be. Young people in the US search for nutrition and exercise content more often than any other health content, so it may be pushed towards young users because of their past searches. On the other hand, it also may be pushed towards them because so many *other* users with similar age demographics search for it. This may generate young people clicking on this content while they are browsing, which may then make fitness content appear more often. This has significant implications when we consider the challenges young people often face with surrounding body image (this is explored further in the discussion of RQ3). This came up for one participant in particular who is recovering from an eating disorder; she actively avoids fitness content online, but indicated that it still “shows up” in advertisements and suggested content.

In addition to how social media algorithms may handle fitness information differently, participants indicated that they end fitness-related searches differently than what is outlined in the literature. When ending a search, participants listed similar reasons to what is listed in the literature surrounding various search topics, with one addition: the desire to get up and try what they have found and / or test out what they have learned. This desire to get up and apply what they’ve learned immediately may not necessarily be the case with searches for academic topics. This urgency speaks to how important it is to understand how young people make decisions about fitness information because participants actively got up and implemented the information they found, sometimes immediately.

Key Evaluation Findings

This dissertation approaches evaluation by exploring how participants make decisions whether to use (or not use) a piece of information. This is a departure from certain veins of

credibility literature that identify a moment where decisions happen and shifts the inquiry to what young users value when making these decisions. One noteworthy finding was how participants handle information they did not feel was relevant. Specifically during active searches, participants wanted to find information that was directly related to their search (particularly by answering their typed in questions directly). While this makes sense intuitively, participants had strong responses to information they perceived to be irrelevant info. While many ignored information that didn't answer their questions, others explained that they take action (unfollowing accounts, reporting an account to platform moderators, etc.) depending on their perceptions of intention. Participants didn't like to feel like they were being fooled or manipulated, which was a recurring theme throughout their explanations of how they make decisions. The ways that they handled "irrelevant" or unrelated information was related to whether they felt that the account or user who published the information was intentionally or maliciously posting said content. Participants valued the perceived intentions of the person who posts the content when making decisions about the quality of the information they interact with.

Another finding is the prevalence of "30 day challenges" and scheduled workouts. Participants talked about these graphics often; these were often found on Pinterest and were visually represented (Figure 4-12). Most participants (especially young women) were aware that this type of content exists on Pinterest, even if they did not actively search for it. Many participants felt positively about this type of content, particularly that these workouts explained what to do (i.e. crunches, jumping jacks, squats, etc.), how many to do, and when / how often to do them. Participants also valued how specific and organized these calendars / workout schedules are, but indicated that they would completely disregard one that had the wrong month in the title (ex: "March" workouts if they were searching in June). This has two implications: 1) Many participants valued extremely specific workouts. This is particularly interesting in that this

preference contradicts the “my body is unique and what works for others might not work for me” narrative that many expressed. This is interesting in that these graphics do not typically say “beginner” or indicate which fitness level these workouts are appropriate for (unlike many of the videos participants mentioned watching). Some participants, like Emma (16), found that when they tried the workouts on these graphics, the exercise routines were too extreme for them. 2) Not once did participants indicate that they look at who makes these challenges (personal trainer vs. novice). This is contrary to how they talked about evaluating videos, where many participants reported more carefully considering who is speaking in a video. When it came to these visual schedules that were graphics and not videos, they instead placed importance on specifics and liked the content to be visually organized. It may be perceived as an inability or unwillingness to adapt when participants say that they will dismiss content if it just has the wrong month listed at the top; however, this quick dismissal may speak to the fact that there is an abundance of these calendars, many of which do not require an extra step. In the case of abundance, it may make sense to rule out the ones that do as a quick method of eliminating options.

Another method participants used to evaluate fitness information was alignment with expected content. Participants in this study did not often indicate that they were looking for specific words (outlined in Gasser et al.’s 2012 review) as much as they were looking for content that matched what they already knew. This suggests not that participants are unwilling to learn new things, but rather that their methods of evaluation may vary based on their familiarity with the topics they are searching. Participants with strong prior knowledge of different exercises were likely to positively evaluate information that aligned with what they had been taught by gym teachers, coaches, etc. In addition, when participants are uncertain about the quality of online content, many of them turned to the teachers and authority figures who they learned from in the first place. This process aligns with subsequent analysis that suggests that participants’ evaluation

processes are collaborative. Participants employ strategies both on and offline to verify information with other sources. While young people may make decisions about quality on their own, they often turn to those they perceive to be more knowledgeable.

Another way participants evaluated exercise-specific content was not based on whether the information was easy to use (as outlined in Gasser et al.'s 2012 review), but whether or not they were able to do the exercises they saw. Participants evaluated content with exercises they perceived were "doable" based on their fitness levels more favorably than content that had exercises they perceived to be beyond their capabilities. When discussing how they assessed what was "doable" for them, there was an echo across participants that some fitness figures online are "extreme" or over the top. This aligns with some of the extant literature that discusses how online fitness content can border on obsessive and can be disordered in nature. Many participants compared themselves to the people they saw working out in videos and a juxtaposition emerged across interviews. Participants wanted to see that a person in a workout video was "fit" to see whether or not the exercises are working. If the person is too extreme, however, then they feel alienated from that particular video.

Participants felt alienated from people featured in workout videos who they felt were "too extreme" and often used this extremism as a cue to distrust or negatively evaluate information. Another "red flag" that participants indicated would make them negatively evaluate content was the presence of advertisements. Participants noted an important difference in that advertisements could happen on a site, but they could also happen within a post or video. Many expressed distrust of YouTubers or Instagram accounts that were constantly promoting products or sponsorships. This notion that advertisements could exist on a site, as well as within content was novel compared the literature that Gasser et al. (2012) reviewed. The reviewed literature

emphasized cues and heuristics that made young people negatively evaluate a site, but participants in this study suggest that similar cues can negatively affect perceptions of videos of photographs as well.

Participants had trouble articulating the elements of a site that they felt indicated high quality, but they had a lot to say about how they evaluated the quality of videos. One of the main criteria across interviews was the element of popularity – did other people watch and like this video? Before even watching a video, participants indicated that they look to see how many views and likes the video has, as well as the number of subscribers the channel has. They also used text (comments and captions) and photographs (thumbnail pictures) to evaluate videos. Once they play the video, participants listed several criteria that they evaluate about the person featured *within* the video, including appearance, abilities, demeanor, actions, and professionalism.

What is Different About Evaluation via Social Media?

One difference between the ways young people evaluate content they interact with via search results vs. social media is their ability to interact with the content and provide feedback. Participants recalled reacting to content they felt was irrelevant to their search or deceitful by unfollowing accounts and / or reporting them to the platform's moderators. This notion of two-way interaction was not mentioned in Gasser et al.'s (2012) review and may be a unique way for social media users to provide input about the content they prefer and potentially alter the content that is algorithmically shown to them.

In addition to the ability to provide feedback, one of the biggest differences between the extant literature surrounding cues and heuristics young people use for static websites vs. social media platforms are the categories of evaluation levels. This is most clearly depicted in Figure 4-

20:

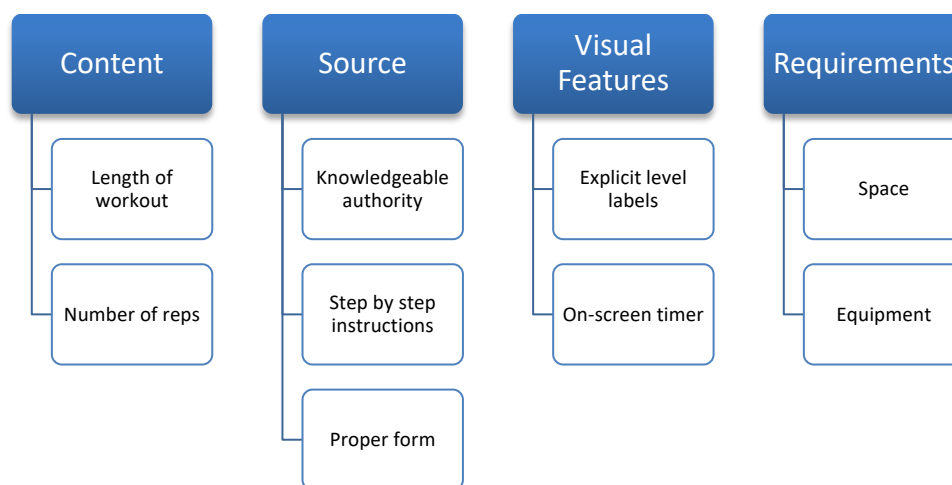


Figure 4-20: Information characteristics participants examined to determine ease of use

This figure demonstrates that participants did not just evaluate the content or the site. Instead, they recalled evaluating elements of the content, the source (this was often the person leading or demonstrating a workout or recipe), the visual features, and the offline requirements the content necessitated. This is shift from talking about evaluation as a decision that is made about a site and piece of information to much more nuanced discussion that includes the information, the platform, the source, as well as the offline requirements associated with the online content. These varying levels were also discussed when participants talked about the different ways advertising can be present. It's not just advertising or pop-ups on a site that participants disliked, but also when a platform allows automated advertising messages or the source advertises within the content they are sharing / posting.

Based on participant responses, social media platforms are also unique based on the heavy presence of visual and interactive media. Participants indicated that specifically when it comes to this type of content (as opposed to text), they valued when: (a) there is a wide variety of content all on one platform, (b) they can find multiple types of media (videos, pictures, text, etc.)

all on one platform, and (c) one type of media (like text or photographs) can easily link to another (like video). This is not to say that this is impossible using search engines, but that these are the elements that were repeatedly discussed in interviews as positive indicators of quality when assessing fitness information via social media.

While participants positively evaluated certain features of platforms and social media accounts / channels, they also indicated that there are several ways they make decisions about contradictory information they find via social media. While some of these strategies include asking trusted adults or perceived experts, two others included agreeing with the piece of information that aligns with that they already know to be true and seeing which piece of information appears more frequently than the other. In some ways, participants consulting multiple online sources is a promising sign in terms of devoting time to validate concepts before implementing them offline. Recognizing patterns across multiple sources is in many ways one established part of conducting and analyzing qualitative research. On the other hand, however, the design of social media platforms (and the Internet at large) may complicate the benefits of this approach. In a study exploring how conspiracy theories evolve and are disseminated via Twitter, Starbird (2017) points out that “alternative media domains” that seek to spread conspiracies (such as the 2016 Orlando mass-shooting being a government-organized hoax) may benefit from users’ perceptions of diverse sources on social media. Starbird explains:

“We found the same stories on multiple domains, sometimes as exact copies, but also in different forms. This means that an individual using these sites is likely seeing the same messages in different forms and in different places, which may distort their perception of this information as it gives the false appearance of source diversity,” (p. 9).

In addition to giving the false impression of source diversity, “alternative media domains” can promote multiple conspiracy theories or “fake news” messages at once. Starbird (2017) elaborates, stating,

“...alternative media domains may be acting as a breeding ground for the transmission of conspiratorial ideas. In this way, a “critically thinking” citizen seeking more information to confirm their views about the danger of vaccines may find themselves exposed to and eventually infected by other conspiracy theories with geopolitical themes, with one conspiracy theory acting as a gateway to others,” (p. 9-10).

Starbird echoed these sentiments later in a Seattle Times article, stating, “Your brain tells you ‘Hey, I got this from three different sources... But you don’t realize it all traces back to the same place, and might have even reached you via bots posing as real people,’” (Westneat, 2017). She adds that in her research, the common thread across many of this “alternative media ecosystem” is anti-globalism, which includes messages that are “anti-mainstream media, anti-immigration, anti-science, anti-U.S. government, and anti-European Union,” (Westneat, 2017). While anti-science may relate directly to fitness information, these ecosystems speak to larger political phenomena across the US and the globe. These patterns of checking multiple online sources, especially via social media, may be problematic in an age where a message can appear to come from multiple sources but are truly from one or two “alternative domains.”

What is Different About Evaluation and Fitness Information?

There are three juxtapositions when it comes to how participants reported evaluating fitness information. The first is the contradiction between wanting the common preference towards wanting extremely specific workout plans (what exercise, how many, how often, etc.) and feeling that no fitness information online could ever be complete for them because “everyone’s body is different.” The second contradiction echoed across participants, particularly young women. The same participants who insisted that “I’m not trying to lose weight” would also recall recent fitness-related searches that along the lines of “how to burn fat on the inner thighs.” The third juxtaposition was mentioned earlier in this chapter and refers to participants wanting to see that the people exercising in videos are “fit” or “ripped” so they know the workouts are

effective, but not wanting them to come off as “extreme” in their exercises or approaches to fitness. These juxtapositions do not necessarily indicate a lack of clarity or “truthful” reflection. Rather, these speak to how complicated young people’s relationships with their bodies can be. The complexities for young people and body image are further explored in the discussion of RQ3, yet these juxtapositions also mirror the tensions between “fitspiration” and “thinspiration” content online. The latter speaks to an online movement promoting “inspiration to be thin,” often advocating for eating disorders as lifestyles rather than serious mental health conditions. “Thinspiration” is often accompanied by the tagline “Nothing tastes as good as skinny feels.” “Fitspiration,” on the other hand, is named after the inspiration to be fit and healthy. In comparison to its counterpart, the tagline for this movement “strong is the new skinny.” While these sound like opposite messages in terms of disordered content vs. healthy content, Boepple & Thompson (2015) found that there is considerable overlap in the messages within thinspiration and fitspiration content. The authors found that between 100 sites (50 belonging to each movement), “sites did not differ on guilt-inducing messages regarding weight or the body, fat/weight stigmatization, the presence of objectifying phrases, and dieting/restraint messages. Overall, 88% of Thinspiration sites and 80% of Fitspiration sites contained one or more of the coded variables,” (pg. 98). While these terms are meant to stand for and promote different behaviors, goals, and attitudes towards body image, exercise, and nutrition, their messages are often similar. This contradiction between healthy attitudes and a strive for thinness is mirrored in the responses from participants who say that they understand that their body is unique, but seek specific fitness routines from online (often non-professional sources). It is the same contradiction across participants who don’t want to lose weight, but recently searched for how to burn fat. This may speak to competing desires to be healthy, but also fit in with societally prescribed ideals of attractiveness and idealized body types. In terms of evaluation and information quality, these juxtapositions are complex. Young people may be attracted to content that walks the line between

these two desires, or has a combination of both a healthy approach to attaining a societally-endorsed body-type.

In addition to juxtapositions in what participants value when evaluating fitness information, the ways in which participants talked about “ease of use” may be unique to fitness content. Participants emphasized the importance that they be able to complete the exercises they see on social media, particularly via videos. This provides a unique insight into how participants conceptualized how useful a piece of information may be. Gasser et al. (2012) invoke Hilligoss and Rieh (2008) to define information quality as “people’s subjective judgment of *goodness and usefulness of information* in certain information use settings with respect to their own expectations of information or in regard to other information available [emphasis original],” (pg. 22). Within the context of fitness information, participants’ responses suggest that workout videos may be useful only if the user can see themselves performing the exercises on screen; participants’ own expectations were often expressed as finding exercises that they themselves could try.

Three additional findings that may be unique to fitness information are: 1) participants’ preferences towards the motive for content sharing and posting, 2) an awareness of the importance of safety, and 3) specific questions they want to be answered. When discussing what they liked about certain platforms or YouTube channels, one recurring theme was the preference for the people who run fitness channels to be motivated by a desire to help people,” and that the idea that altruism makes them “more real.” This may be unique to fitness or social media content and may not relate to academic searches. Similarly, participants positively evaluated content that emphasized safety in terms of exercise and using proper form. In many ways, the sub-constructs and sub-themes that were present during the evaluation analysis speak to the questions participants want answered, particularly when it comes to exercise. When these questions are answered, participants often considered the information that answered them favorably. When it

comes to exercise, participants want to know: (a) what to do, (b) frequency (how often, how many), (c) how to do it (emphasis on form), and (d) why it works (emphasis on science). The more of these that are addressed, the more favorably they may be evaluated.

Key Findings: Research Question 2

RQ2: How do young people's online content creation relate to their process of search and evaluation?

This section discusses: 1) the key findings surrounding how participants created fitness-related and general content on social media, and 2) how these findings relate to participants' search and evaluation processes discussed the previous section.

Participants created content via social networking sites more than any other online space. While 25 out of 30 participants searched for fitness content, not a single one ran or managed an account / profile / or channel dedicated to fitness. In fact, most participants did not create fitness-related content often. While participants indicated that they did not do it often, 14 were able to recall creating some kind of fitness-related content via social media. When discussing what motivated them to create this type of content, participants offered three reasons: 1) helpfulness, 2) humor / entertainment, 3) inspiration. This is interesting, because these are all things they liked about other content – they wanted to feel like people wanted to help them. These reasons are particularly interesting in that helpfulness, or posting motivated by the desire to help people, was one of the ways in which participants positively evaluated content they interacted with online. Participants valued content they felt was posted by someone who is trying to help people. Similarly, participants often talked about searching via social media when they wanted

entertaining or “fun” content, as opposed to simple text. The characteristics they positively evaluate and search for are the same characteristics they want their own content to embody.

While 14 participants indicated that they did create fitness-related social media content, many of them indicated that they did so infrequently. Participants reported considering two things when posting: 1) audience, and 2) fears of comparison / judgment. Specifically when considering whether to post fitness-related content, many participants indicated that they didn’t think their friends were “into fitness” or would be interested. This often prevented them from publically sharing content. Similarly, several participants were reluctant to enable the “sharing” features on their workout apps, which share their workouts via their social media accounts. When asked why, the common response was that they didn’t want to compare themselves to others or have friends judge them.

What is Different About Creation and Social Media?

Participants reported seven ways to “create” content via social media: (a) liking, (b) posting, (c) sharing, (d) tagging, (e) sending, (f) commenting, and (g) curation and saving. The ways in which participants chose to post content (fitness-related and otherwise) were informed by each platforms’ norms. Participants indicated that they learn these norms about how to create and when over time from searching and evaluating content in that space. This speaks to levels of familiarity with different SNS, which as mentioned before may result from the immersion that many teens experience within social media. This understanding of norms may not be unique to social media, however the ways in which *the majority* of participants spoke about norms across platforms and were able to effortlessly alter their language to reflect the nuanced differences across SNS may be worthy to note. Similarly, several participants indicated that they frequently curated and edited their profiles based on peer-feedback (“likes” and “comments”) and preferring

their profiles to look a certain way. These iterative processes, as well as the awareness of potential parental / authority viewership, were recurring themes across interviews. These careful consideration of audience / potential viewers, as well as ritualistic behaviors, may speak to how pervasive social media platforms are in the lives of many teens within the US.

What is Different About Creation and Fitness Content?

Every participant was familiar with the presence of fitness content on social media platforms. Twenty-five out of thirty had actively searched for fitness information via social media. Of those 25, 14 estimated what exact percentage of their social media searches are for fitness-related content. One participant said 5%, six said between 20% and 40%, and seven said over 50%. Fourteen participants have created some kind of fitness-related content on SNS. Despite this, many participants expressed the belief that their friends are not interested in fitness or would not “like” fitness-related content. Similarly, the majority of participants indicated that they are aware that a fitness community exists and they “lurk” to find information, but they do not feel like they are a part of this community. When participants elaborated as to why they do not feel like they are a part of said community, they indicated either that (a) they don’t feel like they know enough, or (b) they don’t feel that they contribute enough to an online fitness community to be a part of it. This perception that their friends are not interested in fitness and that they do not belong to an online community based on lack of knowledge or contribution may speak to how difficult it is to talk about fitness. Insecurities about their knowledge or showing their interest level may align with previously mentioned fears of judgement from peers. This may also reflect the contradictions between wanting to engage in fitness for health, rather than weight maintenance vs. the desire to achieve idealized body types. There is significant stigma around discussing health, especially as it related to weight, and these tensions may make discussing fitness a challenge. This speaks to potential IRB implications. While this study was exempt from

IRB review, it may be worth examining the stigma and difficulty of discussing exercise and nutrition (particularly with young people), as they are often conflated with weight and body image.

Key Findings: Research Question 3

RQ3: How do the intersections of multiple identity characteristics (race / ethnicity, gender, and socioeconomic status) relate to search, evaluation, and creation behaviors?

Fitness Definitions and Search Topics

This study was driven by two intersectionality-related research questions (RQ3 & RQ4) that embodied a hybrid epistemological approach. Each question and its informing epistemology maps to the identity vs. structure tension articulated in recent intersectionality work (Grzanka, 2014). RQ3 was informed by an interpretive epistemology that valued individual participants' experiences and identities. The subsequent analysis found variations in participants' responses in how participants related to a category of health information across multiple intersections of identity characteristics. This individual level of analysis can be particularly helpful when seeking to understand how users feel about and understand health information and content. Similarly, it can help explore users' experiences and subsequent analysis can explore ways in which users vary, providing a deeper level of analysis than a single axis (such as gender alone) may provide.

An interpretive, intersectional analysis provides insights into three important elements in this study: (a) variation in definitions of fitness, (b) variation in search motivations, and (c) variation in sources of information. Teenagers in the US are searching for fitness (nutrition and

exercise) information online more than any other type of health information (Wartella et al., 2015), but this study suggests that there may be variation across intersections of race / ethnicity, gender, and SES in their understandings of what fitness means and why it's important. As Information Systems scholars, this is worthy to note as technology and online information plays a larger role in how users self-manage their own health (Morgan, 2016). It's important to understand how users conceptualize aspects of health (like fitness) because these understandings may inform their information behavior, such as how they search and evaluate.

As mentioned in the results section responding to RQ3, participants from lower-income school districts had a far more holistic definition of fitness than those from high-income districts. Their definitions included emotional health, mental health, self-care, education, self-esteem, and a focus on the entire body, as opposed to their peers who largely considered only food and exercise. This may be a result of the concentrated efforts each charter school has put forward to addressing fitness. For example, one of the schools has several fitness class options such as triathlon training, dance, yoga, etc. For students to graduate, they need to pass take and pass four of these options. Participants at this school frequently talked about the impact of their teachers, who often discuss the importance of self-care, mental health, compassion, and treating the body well with nutrition and exercise. The second charter school also heavily emphasizes the importance of health and fitness. They recently built an indoor fitness center with machines and an indoor track, as well as offer dance courses and fitness courses all year-round. These school makes a concerted effort to address fitness in areas of cities that are considered low-income. This may help to combat what is often referred to as the socioeconomic status (SES) health gradient. This term speaks to multiple dimensions such as income, education, race, ethnicity, and occupation that comprise SES and have a relationship to health (Cutler et al., 2008); specifically, the better off a person is within these areas, the better their health will be. This approach to valuing health and offering multiple

opportunities for dialogue may indicate why these students had a more holistic, comprehensive definition of fitness.

There was a distinct gender difference between the fitness-related topics young women and men interacted with on social media. The young men who were interviewed often discussed two topics: sports and putting on muscle mass. While these are the reports of individuals, they speak to larger pressures of masculinity. Hegemonic, or culturally dominant, “traditional” masculinity within the United States (US) suggests that to be masculine or “manly” is to be powerful, dominant, and in control (Stibbe, 2004). In an examination of models in *Men’s Health* Magazine, Stibbe argues that this sense of masculinity is embodied and enacted in the physical appearance of muscle (and presumably strength). He writes, “The ideal shape is reflected by the “cover models,” a group of identically shaped men— hugely muscular, lean, tanned, body hair shaved...., (pg.)” He continues his discussion of muscularity and masculinity to also include sports or perceived athleticism, stating “men’s ‘greater sporting prowess,’ which is related to biological factors, is given social significance and becomes ‘symbolic proof of men’s superiority’” (p.33). That is, muscularity and athletic performance are perceived to be key markers of strength and power associated with masculinity.

This may be especially true for Black men. The young men who identified as Black or African American each emphasized wanting to build muscle mass and better their athletic performance. Majors (2009) articulates that sports and athletic roles have served a unique and historical purpose for Black men in the US. He argues, “Black males often utilize sports as one means of masculine self-expression within an otherwise limited structure of opportunity” (p. 15). Majors argues that while African American men often feel the pressure to be a breadwinner for their families, or provide the main income within a household, they have been historically isolated from economic advantages that enable them to fulfill this role. Sports, however, have historically been a space where Black men are socially allowed (and encouraged) to excel. This

contextual history matters when considering young Black men, masculinity, and sports / athleticism.

Overall, the majority of participants' definitions of fitness included food and exercise, with the former emphasized more often and heavily than the latter. Participants from low-income school districts had far more holistic definitions of fitness than those from high-income districts. They included aspects of mental health and self-care, while the majority of participants from high-income schools emphasized exercise (in isolation, not in combination with nutrition or any other topic) more than anything else in their definitions. These participants also emphasized the importance of fitness in relation to playing sports and building muscle. This is echoed by high-SES participants' emphasis on sports being their motivation for pursuing and searching for fitness content (young men from low-SES school districts also mentioned sports-related motivations for searching, but the majority of young women from low-SES school districts did not).

In terms of information behavior, an interpretive analysis suggests that there are differences in search motivations and sources of information at the intersections of race / ethnicity, gender, and socioeconomic status. Most participants expressed a desire to change their bodies, but young women wanted to "tone" and "burn fat," while young men wanted to "build muscle." Young women largely indicated that they searched for food and exercise information, but their motivations for doing so differed across race / ethnicity and socioeconomic status. Similarly, participants cited different online and offline sources of information that varied by intersectional identities (preferences for different social media platforms, a deference to athletic coaches vs. school-provided experts).

Within the context of young people and fitness information, this demonstrates that there is variation in information behavior among users that is beyond gender differences, but rather lives at the intersections of race / ethnicity, gender, and SES. This may be of particular importance when considering that young people are searching for fitness information more than

any other type of health information and that many teenagers change their behavior based on the information they interact with online. This study sheds light on how some diverse users conceptualize fitness, why and where some search for this content, and the barriers they experience when interacting with fitness content.

In addition to the findings from the analysis of *observed* differences across participants based on their intersecting identity characteristics, participants were also encouraged to define and reflect on their identities and how they relate to the behavior they described and enacted during the interviews and walk-throughs. By doing so, rather than deciding which identity characteristics are important in this context, participants are able to express what they believe is salient. Participants indicated that while gender is an important piece of their identity that influences their information behavior, so are their loved ones and the sports they play. This is particularly important, given how participants indicate that both fitness activities and the process of assessing information quality are done with and through their friends, coaches, teachers, parents, and families. This suggests that these individuals play key roles in how young people both engage in fitness and make decisions about information they find, and thus it may be beneficial to root educational interventions around these figures. This collaboration makes fitness a unique context in that young people typically seek other types of online health information online because of its taboo or sensitive nature (sexual health, drugs, etc.) (Lenhart, 2010). Based on its popularity with young people and their willingness to engage with both peers and adults (at least adults with perceived expertise) around the information they find, fitness may be an excellent context to use within educational interventions. Methodologically speaking, creating a space in which participants are able to define and reflect on their own identities and information behavior, rather than prescribing which characteristics are important as researchers, provides insight into how they relate to the information they find.

Key Findings: Research Question 4

RQ 4: How do teenagers' individual search, evaluation, and creation behaviors surrounding fitness information on social media reflect intersections of societal inequality and systems of oppression?

Body Image

In the Western world, particularly within the US, attractiveness and beauty are frequently associated with thinness (Williams, 2017; Sastre, 2014; Stice & Shaw, 2002). Often referred to as the “thin ideal,” many scholars have explored the relationships between societal norms about how bodies should look and how people feel about and perceive their own bodies, or their body image. This is particularly important for young people, as adolescence is typically a time in which people are most at risk to develop eating disorders and are establishing their eating and exercising habits.

As mentioned in the RQ4 results, two-thirds of participants expressed dissatisfaction with their bodies, which is noteworthy considering interview questions did not cover body image. Extant literature suggests that the pressure to be thin comes from a myriad of sources, ranging from family members, to mass and social media, to peers, and significant others (Stice & Shaw, 2002). The ways in which these pressures manifest are persistent and can be both overt and subtle. Stice & Shaw (2002) point out that when women internalize these pressures, they sometimes believe that “achieving thinness will result in... positive social benefits, such as acceptance and academic success...” (p. 987). This notion that thinness can often equate to or result in various types of socially desirable measures of success may speak to why so many participants talked about actively striving to change their bodies.

Literature suggests that the relationships between body image and race are complex. Some scholars suggest that Black women sometimes have better, healthier body image and higher body satisfaction (Miller et al., 2000) than white women. Extant literature discusses a “buffering

hypothesis” in which Black and Latina women may be protected from unrealistic body weight goals based on cultural expectations in which various body types are valued. Other scholars, however, argue that this is not the case (Perez and Joiner, 2003).

Many scholars speculate that this disparity may also relate to media representation. Schooler (2007) notes that in addition to thinness, the mainstream media in the US often portrays beauty as synonymous with whiteness and that “women of color are severely underrepresented on television and in magazine covers and advertisements; those that are included typically have European hair, skin tone, and features,” (p. 116). Schooler subsequently identifies two arguments when it comes to Black women, body image, and the media. The first is that some girls of color are better at resisting internalizing the messages idealizing thinness in the media than their white peers. This argument stems from qualitative data that suggests Black girls reject media depictions of thinness as “unrealistic” and “unimportant to others in the Black community,” whereas while white girls can identify that ideals are unattainable, they feel like these ideals are endorsed and desired by those around them. Rather than getting their body image ideals from the media, Schooler suggests that some turn to loved ones and real-life role models for their ideals instead. The author points out that while some research indicates that their reports of body image are often comparable to their white peers, focus groups with young Latinas suggests that they turn to their “communities and Spanish-language media” for more realistic ideals. The second argument, however, is that because of this media underrepresentation, that women and girls of color are at even higher risk than their white peers. Because mainstream media presents whiteness as the standard for beauty, young women of color may be affected in ways that have not typically been studied when it comes to body satisfaction.

While body image is typically often researched in the context of women, men are increasingly experiencing poor body image and decreased body satisfaction. While young women typically strive for weight loss and thinness, young men’s desires can depend on their body type.

For young men who see themselves as overweight, they often strive for weight loss. For men who see themselves as underweight, they often strive to gain muscle mass and definition. Similarly, “hegemonic” or culturally dominant ideas about masculinity often include strength, aggression, and power, which are sometimes considered to be physically represented by muscle and a large frame. This connection between masculinity and muscle relates to a recent classification of eating disorders called “bigorexia,” which is categorized by intense fear of being too small and spending hours in the gym to gain muscle mass (Holt and Bryant, 2007). While extant literature suggests that body image and satisfaction ranges across race and ethnicity for women, studies suggest that there is less variation in men. Several studies suggest that the relationship between muscularity and masculinity, as well as the emphasis on strength to accomplish tasks and perform in sports, is present in men of various races (Sheldon and Foster, 2016).

Food Barriers

One of the starkest contrasts across participants emerged during discussions of “barriers.” Many participants discussed barriers surrounding healthy food, access to gyms / fitness centers, and the opportunities to play certain sports. The only participants who talked about the high cost of healthy food were young women from low-SES school districts. As illustrated above, participants indicated that healthy food was “too expensive” and one participant noted that to be the case specifically for where they lived. These individual reports are mirrored by larger phenomenon that low-SES and minority communities living in urban areas (which is applicable to *these* participants) experience in the US. These communities often experience “food deserts,” a term which refers to “areas where there is little or no access to healthy and affordable food” (Treuhaft and Karpyn, p. 7). The emergence of food deserts has been attributed to a myriad of causes (the emergence of large supermarket chains at city limits and closure of neighborhood

grocers, the subsequent difficulty traveling to said supermarkets without a car and / or funds for public transportation, economic segregation resulting in supermarkets closing, zoning laws, and a decreasing need for low-wage workers) (Walker et al., 2010; Guy et al., 2004; Alwitt and Donley, 1997; Gittel and Thompson, 1999). Policy makers have tried to address food access and affordability disparities in low-SES households through programs such as food stamps, and eventually the Supplemental Nutrition Program (SNAP). Unfortunately, many individuals who are eligible for SNAP have difficulty accessing supermarkets / retailers that accept SNAP funds (Wood and Horner, 2016).

It's important to note that not all participants from low-SES school districts discussed the expensive nature of healthy food – only young women mentioned this barrier. The perception of grocery shopping and cooking as domestic, feminine tasks may help explain why only young women talked about the challenge of food prices.

Gym Barriers

In addition to discussing the prohibitive costs of “healthy” food, participants from low-SES school districts also mentioned the financial barrier to accessing gyms or fitness centers. This point is echoed in the literature, which suggests that young people from low SES areas experience financial and location-based barriers to physical activity (Dagkas and Stathi 2007, Azzarito and Solomon, 2005). Commercial gyms, fitness centers, and recreational spaces are less likely to be present in low-income neighborhoods (Powell et al., 2004; 2006). Similarly, while gym memberships are expensive, there are often additional costs to personal training sessions and classes within fitness centers. In addition to financial and location-based barriers, extant literature suggests that African American women from low SES urban neighborhoods cite work commitments, poor weather, costs, and family obligations as barriers to going to the gym

(Kirchhoff et al., 2008). In this study, young men of color from low SES school districts discussed having jobs and the time commitment they require, while participants from high SES districts (both young women and men) did not mention having jobs.

It is particularly worthy to note that the ways both young men and women from low SES school districts spoke about their approach to fitness reflected a perceived deficit model. That is, they cited gyms and healthy foods as parts of fitness and then explained how they deviated from these norms because of finances and subsequently developed alternatives. For example, they talked about substituting walks around the block and using bricks as weights for gym memberships; participants also talked about the high costs of healthy food and “working with the ingredients [they] already had” in their homes instead. This structure suggests that the ways in which participants conceptualize exercise and nutrition reflect the norms for what is accessible to high SES groups. That is, gyms and nutrient-dense, more expensive foods that are more easily accessed by high SES populations. Participants considered their alternative approaches to be less than or deviations from the norms of gyms and equipment. There are many ways to exercise, but these participants considered exercise with high price tags to be “normal” and free exercise to be “less than.” This suggests that the perception of fitness is or the way to be “fit” is equated with money.

Participation / Types of Sports

Participants, especially young women, from high SES school districts reported playing more sports than those from low SES school districts. This finding is echoed by research across disciplines and suggests that there is a gradient between SES and participation in sports. Some studies suggest that those with lower levels of education and income are less likely to participate in sports (Kamphuis et al., 2008; Kanters et al., 2013). Participants from low-SES school districts attended schools in urban areas, which are less likely to have the physical space and financial resources to support large sports programs (Brake & Williams, 2008). Kanters et al. (2013)

articulate several structural barriers that may prevent low SES students from playing sports: lack of access to activities, reduced school budgets resulting in increased participation costs (parents or guardians may be responsible for uniforms, equipment, travel, etc.), the cost of outside “skill development” that may keep students off competitive rosters, access to appropriate facilities (pools, fields, etc.), and parental / adult involvement and supervision. Financial barriers stem from multiple levels, from school budgets to tax brackets to family income and can influence athletic opportunities. In addition to SES, there are also disparities in sports participation across race and gender. Physical activity decreases for young women from childhood to adolescence and adulthood, but young, Black women tend to experience a steeper decline (Kanters et al., 2013; Gordon-Larsen et al., 2002).

While participation in sports tends to differ across participants, there are also differences across the *types* of sports participants discussed and to what extent. Participants from low SES school districts, both young men and women, discussed playing intramural sports (although young women discussed this far less often). Only one young woman from a low SES school district discussed playing a sport on an interscholastic team and explained that she participated through a different school than the one she attended. In contrast, most participants, both young men and women, from high SES school districts reported playing sports for interscholastic teams.

Some scholars attribute higher rates of young women participating in interscholastic sports vs. intramural sports to Title IX laws²⁶. Kanters et al. (2013) explain that Title IX creates more opportunities for young women who are interested in interscholastic sports, but “because participation in intramurals is not officially restricted by gender, compliance with Title IX in these programs as it relates to participation is less understood by schools and providing

²⁶ Title IX refers to the prohibiting of discrimination based on sex in schools that receive federal funds. “Sex” is purposefully used instead of “gender” in this footnote based on the 2017 Trump administration’s decision to rescind protection for transgender students.

opportunities specifically for girls may be less intentional” (p. 118). The benefits of Title IX have not been equally experienced by *all* women, but rather that these effects vary based on intersections of race, gender, and socioeconomic status (Pickett et al. 2012). For example Pickett et al. (2012) point out that young women of color from low SES families are the least likely to participate in sports at the high school level. Similarly, at the collegiate level, college’s recent approaches to complying with Title IX include “adding growth sports” to the sports offered at their institutions. This strategy often leads to adding sports like volleyball, crew, and soccer, which are dominated by young, white women. This may detract from scholarships and opportunities for young Black women who have typically dominated sports that are less expensive for both schools and families, such as basketball and track and field (Pickett et al. 2012).

In addition to disparities in benefits from Title IX, gender norms appear to have a relationship with participation in sports. Participation in intramural athletic programs tends to be male-dominated, and Kanters et al. (2013) point out that these programs tend to “retain masculine sport values (e.g., aggression)” (p. 118). The authors suggest that young girls may be hesitant to participate in intramural or co-ed sports programs because of social pressure, fear of being embarrassed, a fear of injury, and may be more likely to participate in sports programs without young men present.

In addition to the type of sport program (intramural vs. interscholastic), there were also differences in the types of sports participants played (outlined in RQ1 results). Some scholars argue that these differences emerge because young people opt to participate in sports that align with what they consider to be socially acceptable for their racial or gender identities (Coakley, 2008; Bourdieu, 1978; Kanters et al., 2013). Others suggest that types of neighborhoods and insufficient space for activity is a major factor (Kamphuis et al., 2008), while others articulate

that financial differences are a major barrier for many young people when it comes to sports participation (Hultsman, 1992).

Epistemology

Research Question 4 question shifted from an individual to a structural focus and was informed by a critical epistemology. This approach focused on barriers that participants experienced and explored the ways in which this affected their information behavior. This question explored social phenomenon that relates to and may explain the reasons why search behaviors, barriers, and motivations were experienced differently across various intersections.

Combining these two epistemological approaches provides a more holistic understanding of how people relate to and experience health information, both on an individual level and how these experiences reflect larger social structures. For example, within this fitness example context, some participants discussed socio-economic barriers to healthy foods and space to exercise and how these barriers relate to their information behaviors. This focus on individuals enabled an exploration of differences across identity intersections and an implementation of youth-oriented work that values their experiences. The addition of a critical perspective, however, demonstrates that these barriers are not only individually experienced; rather, they exist within a larger context shaped by zoning laws, food deserts, and SNAP-fund accessibility issues.

These individual experiences exist within a larger societal context that privileges some users and disadvantages others. This is not to say that every individual is a physical representation of social structures; rather, it is to say that individual experiences exist within and are influenced by social contexts. A blended epistemological approach to Intersectionality can help understand information behavior at multiple levels of analysis. A more thorough understanding of this behavior may be particularly advantageous when it comes to designing interventions.

Interventions can be successful when they are designed to address multiple levels of a phenomenon. These deep levels of exploration may inform design, education, and healthcare.

Users search for and interact with information differently depending on context. These contexts are both individual and structural. By exploring information needs, motivations, and barriers at the individual and structural levels, we can better design interventions that maximize benefits and minimize harm. Taking into account intersectional diversity of both individuals and the structures they exist within may enable a deeper consideration of unintended consequences.

What does this do for future research within health and IS sphere? This example analysis aims to provide a template for exploring diverse users' information behavior, especially surrounding health. Understanding what users value and consider has its own theoretical, educational, and design contributions, but exploring the larger context in terms of why these differences may exist can lead to "understanding the problem" or challenges and developing theoretically informed interventions.

While this study offers several contributions, it also has several limitations. While recruitment was informed by extant literature, true intersectionality work is not meant to privilege one identity characteristic above another. By recruiting based on school-district SES, this may unintentionally emphasize SES above race / ethnicity and gender. Similarly, I took great care not to conflate race and SES in the analysis, but the discussion of race / ethnicity was limited. Participants did not actively discuss race / ethnicity to anywhere near the extent that they talked about the implications of SES and gender roles.

Due to ethical and IRB constraints, I did not explicitly ask participants to disclose their sexuality, yet several participants noted that they identified as LGBTQ. While participants mentioned their sexuality, I did not ask follow-up questions relating to that specific identity characteristic. I did this because most participants were under the age of 18. I felt that asking explicitly about sexuality could be potentially harmful in that: (a) discussing sexuality was not a part of the discussion with parents / guardians when we requested consent, and (b) I did not want to jeopardize participants' privacy and / or safety in case they had not disclosed their sexualities

to their teachers / parents / guardians (interviews took place in classrooms and participants' homes). Because I did not ask follow-up questions about this particular identity characteristic, conversations about sexuality were not as in-depth as gender and SES. This study is limited in its ability to talk about the relationship between sexuality and participants' experiences for this reason.

Future work is necessary to further tease out and explore identity characteristics such as race / ethnicity and sexuality, which were only peripherally discussed by participants in this study. This is particularly important given that some identity characteristics may be more salient than others depending on the context of the study.

Theoretical Contributions: Applying and Extending the Framework

One of the primary contributions of this dissertation is theoretical in nature. Gasser et al. (2012) do not present their manuscript as a fully finished or polished framework. The authors introduce their publication by stating that it “offers a conceptual framework to inform future research initiatives on this topic...,” (p. 6). The authors then devote ~150 pages to reviewing literature, which they summarize as:

“...studies in English that discuss digital media, youth (which we limit to individuals up to 18 years of age, i.e., legal minors under U.S. law), and information quality, with a primary focus on works from library and information science, sociology, and education, complemented by a review of ethnographic studies and research in the field of “new literacies.” The literature has been screened and organized along several interrelated, but not necessarily sequential, phases of youth interaction with information: determining information needs, searching for information, evaluating information, adapting and applying information, creating new information, and disseminating information,” (p. 7).

In many ways, the bulk of their manuscript is a transdisciplinary literature review that

they categorize into three categories: search, evaluation, and creation / dissemination. The authors use their extensive review to argue for:

“...expanding the currently dominant theoretical model with its focus on credibility towards a more holistic notion and *framework* of information quality. Second, we suggest a stronger *process-orientation* when exploring information quality issues by looking at the entire process of youth interaction with information, which today includes not only the evaluation of a piece of information, but also the search, creation, and dissemination of information,” (p. 20).

Gasser et al. (2012) present their literature review to argue for a framework that moves beyond exploring how youth decide whether or not information is “credible.” Instead, they argue that researchers who want to understand how young people make decisions about information should look at their process of interacting with said information. The authors argue that, according to the literature, this process involves search, evaluation, and creation.

The authors argue that the context in which young people interact with information is particularly important for exploring how young people assess quality. They differentiate between three contexts:

“The academic context, a set of patterns associated with school and homework; the personal context, a set of patterns associated with time alone; the social context, a set of patterns associated with places and spaces of socializing and peer interaction,” (p. 8).”

The authors acknowledge that these three often overlap. While their manuscript reviews papers that explore all three contexts, Gasser et al. (2012) indicated that their primary context of interest was the academic context. This dissertation sought to apply and extend Gasser et al.’s (2012) proposed framework in two ways. The first was to use the literature review surrounding search, evaluation, and creation to develop interview questions and ask participants about their online information behavior. This approach was meant to apply the ways in which this “process-

oriented” framework with these three components spoke to participants’ behaviors. The second was to apply the constructs (search, evaluation, and creation) to a different context, outside of the academic realm Gasser et al. (2012) were interested in. This dissertation explored participants’ search, evaluation, and creation behaviors within the context of *fitness information on social media*. This context embodied a hybrid of the personal and social contexts the authors define. Participants reflected on occasions when they individually chose to interact with fitness information, most often alone. This speaks to the personal context in that this information behavior was often self-initiated and conducted alone. Exploring this behavior specifically on social media (rather than search engines and scholarly publication venues) speaks to the social context, in that social networking sites are typically built on the premise of “socializing and peer interaction.”

This dissertation sought to apply: (a) how this “process-oriented” framework reflected participants’ experiences in assessing information quality, and (b) what kinds of insights this approach could provide. Beyond theory application, it sought to extend this framework beyond the academic context into the personal and social contexts. This dissertation seeks to contribute to theory by applying and extending Gasser et al.’s (2012) framework. These constructs are applied within the context of fitness and social media. This context is particularly important, given that young people within the US search for exercise and nutrition more often than any other health-related topics (Wartella et al., 2015). Young people often dominate social media sites and these platforms often have an array of content that ranges from healthy to extremely disordered. This frequency of search, combined with the array of healthy and dangerous content, provides a need for scholarly exploration based on scholars’ findings that young people use the information they find online to influence their offline health-related behavior. This dissertation applied and extends the authors’ framework in an up-and-coming research space surrounding youth and online health

information.

Constructs Developed During Research Design & Analysis

The process of applying and extending Gasser et al. (2012)'s framework evolved over several steps (these steps are described in the "Methodology" Chapter). While their literature review-based framework is expansive, the authors do not provide explicit directions for applying this framework towards future research. The authors do, however, devote a section to search, evaluation, and creation. Within these sections, Gasser et al. (2012) provide a definition of each, as well as a transdisciplinary review of extant literature surrounding youth and each of these categories of behavior within a mediated context. I treated search, evaluation, and creation as three well-defined constructs of the framework. Each of these constructs had a literature review, which the authors organized by sub-titles. This dissertation was interested in the sub-titles that reviewed studies about how young people made decisions. In the literature review devoted to search, there were four sub-categories: 1) Introduction, 2) Main Behavior, 3) Variables, and 4) Problems. Because of the focus on participant behavior and perception, I focused on the literature reviewed in the "Main Behavior" section. This section had five sub-categories, which were treated as "sub-constructs:" 1) Beginning a Search, 2) Navigation and Reduction Behavior, 3) Visual and Interactive Elements, 4) Exploration, and 5) Ending. Each of the "sub-constructs" had their own literature reviews beneath them. In order to build interview questions that embodied each of these sub-constructs, I coded the content of each of their associated literature reviews. I called each of these codes "sub-themes." Figure 5-1 is a visual representation of the sub-constructs and sub-themes within the "search" construct.

1A) Beginning a Search

- 1A1) **Where searches begin**
- 1A2) **Browsing**
- 1A3) **Search terms**
- 1A4) **Planning**
- 1A5) **Familiarity**

1B) Navigation / Reduction

- 1B1) **How they handle results**
- 1B2) **Features indicating relevance**

1C) Visual and Interactive Elements

- 1C1) **Preference for content type**
- 1C2) **Quantity of information / graphics**

1D) Exploration

- 1D1) **Exploratory vs. focused searching**
- 1D2) **Single vs. multiple sources**

1E) Ending

Figure 5-1: Search sub-constructs and sub-themes

I repeated this process for the second construct: evaluation. In their review of the extant literature surrounding youth, evaluation, and mediated information, Gasser et al. (2012) divided their review into six sections: 1) Defining Evaluation, 2) Quality and the Turn to Digital Media, 3) Main Criteria, 4) Variables, 5) Youth Deficiencies, and 6) Credibility, Adult Contexts. This dissertation is interested in how young people make decisions, which was covered in the section called “Main Criteria.” This section had four categories, which were treated as sub-constructs: 1) Topicality, 2) Cues and Heuristics, 3) Visual and Interactive Elements, and 4) Judgments of ‘Objective’ Qualities. Each of the “sub-constructs” had their own literature reviews beneath them. In order to build interview questions that embodied each of these sub-constructs, I coded the content of each of their associated literature reviews. I called each of these codes “sub-themes.” Figure 5-2 is a visual representation of the sub-constructs and sub-themes within the “evaluation” construct:

2A) Topicality

- 2A1) Relatedness to Topic
- 2A2) Frustrations
- 2A3) Accurate Label
- 2A4) Ease of Access / Visibility
- 2A5) Organization
- 2A6) Completeness
- 2A7) Expected Terms
- 2A8) Ease of Use

2B) Cues & Heuristics

- 2B1) Cues
- 2B2) Heuristics

2C) Visual & Interactive Elements

- 2C1) Variety of Media Types
- 2C2) Design
- 2C3) Engagement
- 2C4) Usability
- 2C5) Graphic Quality vs. Content Quality
- 2C6) Visuals / Media Quantity vs. Quality
- 2C7) Differences in Evaluations

4D) Judgements of 'Objective' Qualities

- 4D1) Depth & Comprehensiveness
- 4D2) Completeness
- 4D3) Intended Audience
- 4D4) Accurate / Correct Information
- 4D5) Comparing Websites and Sources

Figure 5-2: Evaluation (criteria) sub-constructs and sub-themes

I repeated this process for the third and final construct of the framework: creation. This review was divided into four categories: 1) New Literacies, 2) Content Categories, 3) Skills, and 4) Norms. The last three related to participants' information behavior and perceptions. The categories Gasser et al. (2012) provided in the literature reviews beneath "Content Categories," "Skills," and "Norms" all had "sub-constructs" beneath them. Each of the "sub-constructs" had their own literature reviews beneath them. "Content Categories" had: 1) Social Networking Sites, 2) Wikis, 3) Personal Websites, 4) Blogs, 5) Self-Authored Content Sharing, and 6) Games. "Skills" had: 1) Digital Fluency and Technical Skills, 2) Writing and Language Skills, 3) and Social / Collaborative Skills. "Norms" had only one sub-construct, which was Online Meanness

and Bullying.

Chapter 6: Conclusion²⁷

Summary

This dissertation employed qualitative methods to examine how teenagers assess the quality of information online in an age of fewer gatekeepers and increased user-responsibility. More specifically, it explores how teens search for, evaluate, and create information via social media. Looking specifically at the context of fitness (i.e. nutrition and exercise) information, this dissertation was guided by two theoretical approaches: Gasser et al.'s (2012) Youth-Oriented Framework and Intersectionality. These theoretical approaches served two purposes. The first enabled a youth-oriented approach that deviated from prior “adult-normative” perspectives. This approach shifted the understanding of quality away from asking “are young people thinking about quality and behaving the way we want them to as adults?” to “how are young people thinking about quality, what do they value, and how are they already making decisions to guide their behavior?” This perspective guided data collection and analysis, and provides a unique insight into US teens’ strategies and information behaviors by valuing their subjective realities and experiences.

The second theoretical approach, Intersectionality, allowed this dissertation to build on extant IS literature that values human difference and diversity and how these differences relate to the relationships people have with information and technology. Rather than looking at identity characteristics as separate categories, this approach informed an analysis of the interview transcripts that valued the intersections of participants’ identities as they related to search, evaluation, and creation behavior. I combined these theoretical approaches to build a qualitative

²⁷ Portions of this text were submitted for journal publication in 2018.

dissertation that examined how and why young people assess information quality they interact with via social media in a way that honors their agency as users, as well as values their diverse lived experiences and the ways that these experiences relate to their information behavior.

Contributions

Theoretical

This dissertation applied and extended Gasser et al.'s (2012) framework. The authors' manuscript was a 150-page literature review outlining how to move towards a process-oriented information quality framework that valued youth's perceptions. I used this manuscript to develop and articulate sub-constructs and sub-themes beneath their proposed constructs of search, evaluation, and creation. I applied these sub-constructs and sub-themes to collect and analyze my data and extended the framework to include sub-constructs and sub-themes that were not present in the Gasser et al.'s (2012) review, yet emerged during open-coding of my data. This dissertation not only applied, but extended the framework to a new (fitness information and social media) context by using it to guide data collection and analysis. The authors highlight three contexts in which young people typically engage with information online: academic, social, and personal. By applying this framework to examine young people's behavior surrounding fitness information via social media, this dissertation moves beyond the "academic" context that Gasser et al. (2012) focus on, and applies it to a combination of the social and personal.

Methodological

An intersectional approach has been employed within IS research, but there has been some dispute as to how this should be carried out methodologically. This dissertation suggests that this debate is epistemological in nature and may be addressed with an interpretive-critical hybrid approach. This approach values the identity and subjective reality of an individual, as well as the structural forces and inequalities of a larger context. This hybrid approach sheds light on individual differences, as well as the structural forces and societal contexts in which users interact with information. This blended epistemological approach provides: (a) an insight into how users conceptualize health and interact with information, and (b) how their realities exist and are shaped by larger, systemic forces in which barriers to health and information are created and perpetuated. Exploring information behavior at the individual level and the social, structural context in which a person interacts may help us explore phenomena at multiple levels of analysis. This approach may be particularly important given the dynamic, individually-experienced and socially-shaped nature of health. Finally, this hybrid-epistemological approach may help better inform educational and design interventions (see below) that maximize benefits, minimize harm, and consider unintended consequences by exploring behavior and the structures in which behavior is enacted.

Contextual

Within the topic of health information, there is a substantial amount of research surrounding youth and teens' information seeking and evaluation behaviors surrounding sexual health and drug / alcohol use. Gasser et al.'s (2012) review in particular focuses on these contexts, yet extant literature suggests that fitness information is the health-related topic for

which teenagers search online most often. This dissertation is informed by decades of youth and information quality research, but applies a framework to a new, socially relevant health-related context. Similarly, this dissertation takes a youth-oriented perspective to fill one of the gaps Gasser et al. (2012) articulate in that their review, which discussed relatively few studies devoted to how young people assess video and image content (much of which dominate social media). Participants in this study discussed their strategies for assessing this type of content far more frequently than they did text-based information.

Believability

Drawing on the work of several IS scholars, I evaluated the quality and believability of my findings using several techniques. The first techniques I utilized are from Klein and Meyers (1999), who acknowledged both the importance of interpretive work within Information Systems research and the need to establish a set of criteria by which the quality of interpretive work can be assessed. The authors draw from anthropology, phenomenology, and hermeneutics to propose seven principles by which interpretive work should be evaluated. These principles are: 1) the fundamental principle of the hermeneutic circle, 2) the principle of contextualization, 3) the principle of interaction between the researchers and the subjects, 4) the principle of abstraction and generalization, 5) the principle of dialogical reasoning, 6) the principle of multiple interpretations, and 7) the principle of suspicion. This section focuses on two of these principles.

The first principle I utilized was the fundamental principle of the hermeneutic circle. This principle essentially states that human understanding emerges via an iterative process between assessing interdependent parts of a whole and the whole itself. During analysis, I iteratively went back and forth between analyzing participants' individual quotes and examples and taking a step

back to look at the thirty interviews a whole and seeing what commonalities exist across participants' responses, particularly across the intersections of race, SES, and gender. This iteration helped me explore youth's information behavior beyond the stories of a single participant. While this principle is meant to speak to interpretive research, employing a blended interpretive-critical epistemology also speaks to the hermeneutic circle. By examining the relationships between participants' experiences and how they relate to intersections of systemic inequality established in the literature, the application of a systemic and societal context showed me a larger "whole" of which both the participants and I are a part.

The second principle I employed was the principle of dialogical reasoning. This principle requires researchers to be sensitive to the notion that the theories used to guide the research design may not align with the actual findings. Gasser et al.'s (2012) Information Quality Framework has many sub-constructs and sub-themes, some that the authors provided and others that I articulated from their literature review when applying the framework. Throughout analysis, I was cognizant that not every piece of the framework may be in evidence. The majority of these sub-constructs and sub-themes were present during analysis; however, when a sub-construct was not in evidence, I was sure to be transparent and articulate that as a finding in and of itself.

In addition to the seven principles Klein and Meyers (1999) propose, Trauth and Jessup (2000) articulate four criteria for evaluating interpretive findings: 1) triangulation, 2) authenticity, 3) breakdown resolution (or the hermeneutic cycle), and 4) replication. This section focuses on three of these criteria. The first is triangulation, which the authors define as "the use of multiple sources, methods, and investigators to provide corroborating evidence," (pg. 66). I triangulated my results through member-checking and peer-reviewed publication. I engaged in member-checking, a process in which the researcher discusses their findings with "representatives of the people being studied," (pg. 68), in several ways. The first was throughout the interviews, where I would periodically repeat back my understanding of what a participant was saying to ensure that I

was understanding what they had to say; participants would either correct me or affirm what I was saying²⁸. This served to check and make sure I was not appropriating my own adult understandings to their experiences. As I started to see patterns in responses across interviews, I would tell participants towards the end of the interviews about what I was seeing and ask for their feedback; this technique was meant to gauge whether what I was observing made sense to other participants. Finally, I spoke with the group of teens who helped me create the recruitment flyer with the fitness themes about what I was finding. They often confirmed that my findings seemed reasonable, given their personal experiences and the experiences of their peers.

In addition to member-checking, I also triangulated my findings through peer-reviewed publishing. Throughout the dissertation process, I attended three doctoral consortiums where I presented my research at various stages and received feedback from peers and established scholars in the field. I also submitted a poster, three conference papers, and book chapter surrounding my dissertation topic and using my data to peer-reviewed venues, all of which were accepted, in addition to co-authoring a journal article with my advisor. I gained valuable feedback during both the formal review processes and the presentations, which influenced how I proceeded to conceptualize this dissertation. In addition to publishing-oriented feedback, I also presented and discussed my dissertation's research design at an internship at the Berkman Klein Center for Internet & Society at Harvard University (Summer 2014), as well as during my time as a PhD research fellow at the Oxford Internet Institute's Summer Doctoral Programme (Summer 2016). During these presentations, I was able to receive (and subsequently apply) feedback from both peers and established scholars in the realm of internet research. I have also applied these conceptualizations to analyzing a colleague's dataset, which resulted in co-authoring a journal article and conference paper (both of which are published in peer-reviewed venues). The process

²⁸ This technique also speaks to Klein & Meyers (1999) principle of interaction between the researchers and the subjects, in which the participants and I co-create meaning.

of writing multiple publications forced me to more clearly articulate my ideas, while peer-reviews and presentation feedback from scholars in my field serve as evidence of the quality of my findings.

In addition to triangulation, I also evaluated the quality of findings via “replication.” Trauth and Jessup (2000) articulate that replication across multiple cases can demonstrate that findings are “generalizable beyond the immediate case,” (pg. 69). During analysis, quotations from each individual interview transcript (case) were pooled into a single excel file. Quotes were coded and organized according to the themes and sub-themes outlined in the framework. The themes and sub-themes that are presented in the results chapter are those whose excel cells had multiple quotes across different participants. That is, the themes discussed were present across multiple interviews and the quotes employed to illustrate each theme were representative of these multiple cases.

Finally, I also utilized “authenticity.” Trauth and Jessup (2000) discuss authenticity as when the results make sense to the reader by establishing an understanding of the participants’ worlds. To promote authenticity, I took detailed notes during each interview and in the results section, I made sure to communicate when participants were particularly excited or reticent to talk about a topic. This served to ensure I was paying attention to non-verbal communication and how my participants were feeling, as well as clearly communicate what readers cannot see about *the way* participants talked about a topic. Similarly, I used participants’ direct quotations throughout the results section, which preserves their agency and voice. This served to embody the youth-oriented approach this dissertation was built upon. Finally, I also captured screenshots of participants’ behavior during the “walkthroughs;” presenting these screenshots in the results section allows readers to not only see what I saw during the interviews, but also to see through the participants’ eyes by seeing what they see and interact with on a daily basis.

Implications for Practice

This dissertation was designed to embody a youth-oriented approach, which values the perspectives, meanings, and understandings of the participants. At a high level, what emerged is that the teenagers in this study do have active strategies for assessing the information they interact with. While these strategies may not align perfectly with those outlined by digital literacy scholars and other authorities, participants in this study and others (cited in the Literature Review and Discussion) do actively think about information quality. In his book discussing how to leverage social media in educational settings, Junco (2014) articulates that it is important not to demonize social media when working with young people. He argues that young people in the US spend a considerable amount of time on social media and derive important meaning surrounding social relationships and self-identity. Because of this importance and ubiquity of social media in the lives of many teens, adults who demonize or dismiss social media as frivolous run the risk of having the young people they are trying to teach “tune them out” because they don’t feel understood.

This is particularly important in an educational context; Junco (2014) discusses how adult-normative attitudes can be embedded in how we teach young people. From an information quality perspective, if we as adults allow our negative perspectives of social media and fear of potential dangers of poor quality to dominate our narratives while teaching, students may tune us out altogether. Participants in this study preferred the visual types of content that they interact with on social media, such as photos and videos, as opposed to text-based content. While it may be important to emphasize the benefits of reputable sites and .gov domains when talking to teens about information quality, it may also be helpful to “meet students where they’re at” by: 1) talking about the pros and cons of social media; 2) showing how to leverage social media content in beneficial and healthy ways; and 3) discussing the strategies they already employ and using

them as a foundation to build upon. Similarly, the sheer prevalence of participants in this study and others who 1) search for fitness content via social media, 2) encounter it even when they aren't looking for it, and 3) report seeing "unhealthy" or dangerous content suggests that discussions surrounding social media, fitness, and body image should be embedded in high school (if not earlier) curricula.

Limitations and Future Research

While this dissertation offers several contributions, it also has several limitations. While recruitment was informed by extant literature, true intersectionality work is not meant to privilege one identity characteristic above another. By recruiting based on school-district SES, this may unintentionally emphasize SES above race / ethnicity and gender. Similarly, I took great care not to conflate race and SES in the analysis, but the discussion of race / ethnicity was limited. Participants did not actively discuss race / ethnicity to anywhere near the extent that they talked about the implications of SES and gender roles.

While I had to be careful not to conflate SES and race, I also had to take care not to conflate age and SES. I would have liked to analyze differences between younger and older participants (13-15 versus 15-18), however the majority of the participants who fall into the first category were from high-SES districts, while the majority of the participants who were 15-18 were from low-SES districts. Moving forward, it may be beneficial to compare students' information behavior and strategies within the same school districts, but across age groups (early teens vs. late teens), based on life experiences and cognitive development. Another particular area of interest for future research is to also compare levels of expertise and education across participants when it comes to search, evaluation, and creation. Participants who considered themselves domain experts evaluated information very differently than those who evaluated as

content novices – it may be useful to see how perceived expertise at searching, evaluating, creating, etc. compares to perceived domain expertise.

Due to ethical and IRB constraints, I did not explicitly ask participants to disclose their sexuality, yet several participants noted that they identified as LGBTQ. While participants mentioned their sexuality, I did not ask follow-up questions relating to that specific identity characteristic. I did this because most participants were under the age of 18. Ethically, I felt that asking explicitly about sexuality could be potentially harmful in that: 1) discussing sexuality was not a part of my discussion with parents / guardians when I requested consent, and 2) I did not want to jeopardize participants' privacy and / or safety in case they had not disclosed their sexualities to their teachers / parents / guardians (interviews took place in classrooms and participants' homes). Because I did not ask follow-up questions about this particular identity characteristic, conversations about sexuality were not as in-depth as gender and SES. This dissertation is limited in its ability to talk about the relationship between sexuality and participants' experiences for this reason.

Future work is necessary to further tease out and explore identity characteristics such as race / ethnicity and sexuality, which were only peripherally discussed by participants in this dissertation. This is particularly important given that some identity characteristics may be more salient than others depending on the context of the study. Similarly, while this dissertation focused on fitness information, results indicate that participants have active strategies for assessing social media content. These strategies may be worthy of exploration given the dominant narrative surrounding social media, fake news, and the political process within the United States.

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Appendix A

List of Fitness-Related Topics

A recruitment flier showed the icons of several popular social networking sites (Facebook, Instagram, Pinterest, Tumblr, and YouTube) and asked readers if they follow accounts that talk about:

- Tips for getting in shape
- Fitness / “Fitspiration”
- Healthy living advice
- Exercise
- Nutrition
- Recipes
- Weight Loss

Parental consent was written as mandatory for participation.

Appendix B

Social Media Survey

A survey asked for basic demographic information, including race and ethnicity. It also asked for:

- Social media platforms participants had an account with
- Social media platforms participants used at least once per month
- Social media platforms participants used at least once per week
- Social media platforms participants used daily
- Social media platforms participants used to interact with exercise or nutrition information

Options listed popular social networking sites as well as an *other* option for participants to fill in.

Appendix C

Identity Mapping Exercise (Photocopied from Congdon et al., 2002)

MAPPING MY IDENTITY PROJECT GUIDE

Part One

Use the following prompts to guide your responses in the outer ring of your identity map:

Religious Identity/Community

- I consider my religious identity to be what?
- I share it, or do not share it, with others because why?
- I consider myself as an isolated or an active religious community member because?
- I would prefer to explain my religious identity in a different way (for instance, I am a privately spiritual person; I consider religion a lifestyle, etc.).

Gender and Sexual Identity/Community

- Most of, some of, very few of my choices in life are influenced by my gender/gender identity and/or sexual identity.
- Most of, some of, very few of my teaching decisions are influenced by my gender/gender identity and/or sexual identity.
- My gender/gender identity and/or sexual identity affects my relationship with my male/female students.
- My gender/gender identity and/or sexual identity has had an impact on my choice of career because?
- I most often choose to spend leisure time with friends of the same? opposite? sex because?

Geographical Identity/Community

- When people ask me where I am from, it is easy or hard to answer because?
- I consider my home to be?
- I am a rural or urban person because?
- I need or do not need to have a sense of roots in a particular place or geographical community because?
- I express my geographic roots to others by my (politics, community work, gardening, accent, clothes, etc.).

Family Identity/Community

- Family is of great significance, somewhat significant, not at all significant to me because?
- I choose to or do not choose to spend leisure time with members of my family because?
- My definition of family is?

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Age Identity/Community

- I consider myself young, middle-aged, old because?
- Aging is hard or easy because?
- I like to or do not like to spend time with others my own age because?
- Generational things I identify with that are age specific are (certain music, clothing, politics, experiences such as going to school in the 60s, etc.).
- If I were the opposite sex, I'd think of aging differently because?

Economic Identity/Community

- Economically, I consider myself to have low income, moderate income, or high income?
- I consider myself to be poor, middle class, or wealthy?
- I do or do not think one's economic situation is an appropriate topic for discussion in this context or many others.
- I am comfortable or uncomfortable with my economic status because?

Political Identity/Community

- Politically speaking, I consider myself to be (conservative, liberal, Republican, radical, apolitical, Democrat, etc.) because?
- My political identity comes mostly from my (family, growing up in the 80s, personal experience, religious identity, etc.).
- I think our political values inform most of what we do, or I would prefer not to make politics too much of an issue in education, or "let's tip-toe around political issues, please," because?

Recreational Identity/Community

- In my spare time, I (work out at a gym, spend time with a gardening group, engage in politics, read, relate to the world of cyberspace, etc.).
- I belong to a recreational community in the following ways (read the same magazines, have a similar language, wear the same kinds of shoes, bowl at the coolest alleys, etc.).
- I don't take time for recreation because?

Aesthetic Identity/Community

- You can or cannot tell who I am by the way I dress.
- My outward appearance is representative of the above other communities to which I belong.
- I spend a lot or a little energy, money, and/or time on shoes, tee-shirts, jewelry, etc. because?

Racial/Ethnic Identity/Community

- My ancestors are mainly (Spanish, Italian, African-American, Amish, etc.).
- I consider myself to be (White, Black, mainstream, mixed, I don't like being asked this question, etc.).
- I consider my ethnic identity a heritage that is informed by my biological heritage or my cultural experience because?
- This part of my identity is important or relatively unimportant because?

Occupational Identity/Community

- I consider myself to be first and foremost an artist, a teacher, a student, an art educator, or something else.
- I like this part of my identity, I am ambivalent about this part of my identity, or I want to change this part of my identity, because?
- The rest of the world respects my occupational identity or does not respect it because?
- Members of my occupational community respect or do not respect their identity because?

Health and Body Identity/Community

- My physical attributes greatly affect or do not affect the way I see myself and the way others see me because?
- My physical and mental health play an important role in the ways that I view the world because?
- Members of my health and body identity communities recognize and communicate their shared experiences with one another in what ways?

Appendix D**Information Quality Framework Constructs**

Construct	Sub- construct
Search	Main Behaviors
	Variables
	Problems
Evaluation	Main Criteria
	Variables
	Youth Deficiencies
Creation	Content Categories
	Skills
	Norms

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