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Word on the Social Street:

Examining the Role of Social Media in Decision Making for Graduate Students

By

Katherine Esme Norah Willis

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Abstract

The role of social media in the recruitment of graduate students studying sciences in Canada is not well understood. This research employs qualitative description in an exploratory, descriptive analysis of this subject. Data was gathered through a series of unstructured, one-on-one interviews with recently admitted graduate students studying chemistry in the University of Alberta's Faculty of Science to understand the role that social media played in their post-secondary institution selection process. Interview data was analyzed through the process of inductive coding. The results of this research indicate that social media plays a secondary role in the graduate student post-secondary institution selection process. Instead, participants in this study highlighted the primary importance of relationships in the form of both professional and personal connections to a prospective institution. They also noted the role of informational online media, including websites and web marketing, as a more important source of information and influence than social media. Importantly, their use of different digital and social media is tied to their stage in the selection process. Among these participants, social media has the greatest influence on the student experience after a student has chosen and been admitted to an institution: it is used to help affirm the decision and the student's subsequent integration into their new university community. Based on this finding this study also proposes a potential contribution to student recruitment theory, in the form of an addition to the student recruitment model developed by Hossler and Gallagher (1987) to reflect recent developments in social media. Limitations of the study include small sample size, resource constraints, and subject position of the researcher as both insider and outsider. Future areas of investigation include social media and confirmation bias, the role and potential for social media in the cultivation of personal connections, and the perspective of staff at post-secondary institutions in the recruitment process.

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Introduction

With the mass adoption of social media and proliferation of information via the Internet, organizations, businesses, and institutions have been forced to alter their approach to marketing and communications. Post-secondary education institutions are no exception. In traditional business models that involve the exchange of goods and services, individuals turn to social media as a source of information to learn both about what a brand or product has to say about itself, as well as what others share about it (Tomer, 1998). But the role of social media in the marketing of and search for post-secondary institutions is less certain (Gibbs, 2002).

Current academic and professional literature provides insight into the role of social media use by high school and undergraduate students when making decisions about higher education institutions in Europe and Australia. But what about graduate students studying science in Canada? How do Canadian graduate students use social media to select the institution they wish to attend?

Post-secondary educational institutions target their recruitment efforts to the annual admissions cycle, through which students apply, are offered admission, and accept or decline said offer. One way that post-secondary institutions develop their marketing strategy is by researching the decision-making process that students use to select an institution at which to study. In the world of higher education, undergraduate student recruitment is well understood, while graduate student recruitment remains somewhat of an enigma. Indeed, a recently published industry report explains that the recruitment of graduate students is “often not handled with an optimal level of direction, efficiency, and precision, resulting in a much more irregular and unpredictable process” (Hanover Research, 2014, p. 4).

Current research shows that social media is a source of influence for graduate students as they select which higher education institution they would like to attend (Johnston, 2010; Reddy, 2017). But while the use of social media by post-secondary marketers for recruitment purposes is high, graduate schools are still skeptical about the effectiveness of this application of social media as a marketing and recruitment tool (Hanover, 2014; Vannoozzi et al., 2016). Further, additional investigation is required to understand how graduate students use digital media when making their decisions. Do graduate students refer to institutional web pages or social media accounts? In terms of content authorship, are they interested in blogs or other content produced by students like themselves, or in officially sanctioned institutional communications? Do graduate students turn to different online information sources at different phases of their decision-making?

The following exploratory study is designed to develop a qualitative description of how a specific student population is using social media during the post-secondary recruitment process. The research employs unstructured, one-on-one interviews with recently admitted graduate students for the purpose of understanding how social media and digital resources informed the decision-making process when selecting a post-secondary institution at which to complete their graduate studies. The data gathered through unstructured interviews will be analyzed through the process of coding. The study is informed by the principles of naturalistic inquiry (Morse, 2009). It is grounded in an existing student recruitment model, developed by Hossler & Gallagher (1987), chosen because it provides a robust and widely accepted overview of the student experience during the recruitment cycle.

While much of Hossler and Gallagher's 1987 model holds up today, it was developed before the widespread adoption of social and digital media. The results of this study have led me

to propose a suggested addition to update the model to reflect the experience of graduate students in today's era of high use of connectivity and digital media. While grounded in the existing model, to reflect a more nuanced understanding of how social media affects the graduate student experience, I propose to add a fourth phase to Hossler and Gallagher's work, which I term the "post-choice" phase (their other three phases are predisposition, search, and choice).

Table 1: Hossler & Gallagher's Original (1987) Recruitment Model

Stage	Description
Predisposition	<ul style="list-style-type: none"> - Interest in and ability to pursue graduate studies - Academic requirements - Financial requirements - Ability to relocate for graduate school as necessary
Search	<ul style="list-style-type: none"> - Information-seeking phase - Development of choice set of potential post-secondary institutions - Development of evaluative criteria
Choice	<ul style="list-style-type: none"> - Selection of institution from choice set - Offer of admission, and subsequent acceptance of this offer

The purpose of adding this fourth stage, post choice, is to reflect the experience of students after their decision to attend an institution has been made. It encompasses the community-building and habituation elements of the student experience. My interviews indicated that students use social media to validate their decision and find their niche within their new academic environment and associated communities, including a sense of belonging. The post-choice phase is influenced by confirmation bias, or the common psychological mechanism through which an individual affirms a decision by gathering information that supports said decision and ignoring non-supporting information (Heshmat, 2015). The inclusion of this stage of reasoning in my analysis helped me understand how social media might be used to augment or

support student decision-making after a choice of post-secondary institution has been made, as well as capturing an important and often-overlooked component of the recruitment and selection process, namely, the aftermath. While I recognize that this is an exploratory finding restricted by a small sample size, I suggest that it points to an interesting area for future research on this topic.

The results of this study will inform recruitment specialists, communicators, marketers, and social media managers at post-secondary institutions. It provides exploratory analysis about the role of social media in the graduate student post-secondary institution selection process, as well as in the overall graduate student recruitment process. The ultimate goal of this research is to contribute to efforts to understand how emerging communications tools made available during the era of social and digital media affect the decision making of graduate students.

Communicators and recruitment specialists at post-secondary institutions may find some of these findings interesting when looking to develop new and meaningful best practices for communicating with graduate students. It is my hope that this work might help these professionals support the goals of their respective post-secondary institutions, while simultaneously better meeting the information needs of prospective and recently admitted graduate students.

Literature Review

The role of social media in the marketing of and search for post-secondary institutions by prospective students is not well understood (Gibbs, 2002). But even before the advent of the phenomenon of widespread social media use, the marketing of colleges and universities has been unique. Marketing theories suggest that post-secondary institutions are not based in the traditional marketing model that applies to transactional organizations, such as grocery or clothing stores, entertainment services, and technology industries (Tomer, 1998). Rather, post-

secondary institutions fall within in a humanistic, relational model, in which the goods and services offered are relationships and knowledge (Gibbs, 2002; Humphrey et al., 2017).

The mass proliferation and adoption of social and digital media is further changing this already unconventional marketing landscape (Gibbs, 2002; Humphrey et al., 2017; Vannozzi et al., 2016). For instance, social media provides a platform for indirect, or consumer-generated, marketing, as well as incidental brand exposure, which has been shown to have a positive impact on brand choice (Humphrey et al., 2017). Further, social media provides unique opportunities for consumers to engage with brands as they would individuals, through platforms such as Facebook and Twitter (McCorkindale et al., 2013).

Prospective students are the target market for post-secondary institutions. As such, understanding the relationship between marketing and decision making, and especially the role of social media in it, is a matter of great interest to students and post-secondary institutions, as well as academics and practitioners seeking to understand student recruitment in the era of social media.

In an effort to better understand the role of social media in the student recruitment process, I have conducted the following literature review. The remainder of this chapter will describe the process of a systematic library search, and provide a robust review of the literature in this area.

Literature Review Methodology

In effort to build an understanding of the role of social media for students in their decision-making process, and in student recruitment for post-secondary institutions, I have undertaken a comprehensive review of both academic and professional literature on this topic.

My systematic search for sources was guided by two key questions, one from the perspective of each major party involved, post-secondary institutions and prospective students:

RQ1: How do post-secondary institutions use social media for recruitment purposes?

RQ2: How do prospective graduate students use social media in their post-secondary institution selection process?

These questions were formed in consideration of the principles of engaged scholarship; aiming to bridge the theory-practice gap by creating knowledge base for a research project that “advances a scientific discipline and enlightens practices in a professional domain” (Van de Ven, 2007, p. 1). For academics, understanding the effects of a relatively new factor—social and digital media—on the post-secondary institution selection process will address a gap in the current literature. For practitioners, understanding the use of social media in the recruitment process is of utmost importance in order to attract the best and brightest students and maintain a standard of excellence in both teaching and research. Additionally, this research will inform the social media and digital strategy in order to best meet the needs of prospective students consuming social media content, as well as the colleges and universities looking to recruit prospective students.

In order to inform my research, I completed a review of both peer-reviewed and trade resources, with the intention of building an overview of existing research, best practices, and perceptions. The first step in this process was a systematic library search.

Systematic Library Search

I conducted a library search for relevant sources using the University of Alberta Libraries access to both the EBSCO database and Google Scholar. Using the following selection of

keywords, I employed Boolean logic and searched for a variety of sources, ranging from grey or trade literature, traditional media, peer-reviewed journal articles, and peer-reviewed books.

Table 2: Keywords

Major keywords	Relevant and alternative terms
Recruitment	Application Admission Yield
College choice	College selection College decision making College choice set
Social media	Twitter Facebook Instagram Blogs
Students	Graduate Undergraduate Research-intensive Prospective Post-secondary
Post-secondary	Higher education University College

In order to organize potentially relevant sources for my literature review, I developed a tool in the form of a spreadsheet. As I conducted my library search and found potential sources, I inserted cursory information about each relevant source into this spreadsheet, noting some preliminary data. This data included the type of resource, reference and in-text citation (noting date of publication) in American Psychological Association (APA) style, citation index, methodological approach, population, and a permalink to the resource or a PDF.

Eligibility criteria. In assessing the value of each source, I developed eligibility criteria to help weed out unreliable, outdated, or irrelevant resources. The criteria for including sources were comprised of: date of publication as 2000 or later, unless the source provided foundational knowledge into marketing theory or the recruitment process; reputation of source, including peer-reviewed journals, dissertations, trade literature, or traditional media outlets; citation index, with a preference given to resources commonly cited in the field; methodology, aiming to balance qualitative and quantitative research; and validity of theoretical framework. The scope of my search was also limited to colleges and universities. I excluded secondary education, technical schools, continuing education, or professional development to avoid confounding factors prioritized by different types of students, for instance work experience-based programs, or programs focused on trades. Through this process, I developed a collection of approximately 82 potential sources, contained in tab entitled ‘preliminary search.’

Research Methodology

Following this search, preliminary selection, and categorization processes, I conducted a more complete assessment of each resource in a secondary tab, entitled ‘assessment’. Through this process, the 82 potential sources originally collected were further vetted for reliability, relevance, and validity, as well as for their contribution to a cohesive review of the literature. Approximately 51 sources remained after the assessment stage was complete.

Assessment involved coding each resource, defining, identifying, and recording the specific characteristics of each resource, and then using elements of each “to develop connections with other [resources]” (Oliver, 2012, p. 79). The purpose of coding at this stage is to begin identifying emergent themes and observations of the literature to inform both the

structure of the literature review as well as to identify any potential areas for further investigation in the library search.

In this stage, my sources were coded with respect to five main areas: methodology, type of literature, subject area, theory, and findings.

Methodology. Coding by methodology ensured that my literature review contained a balanced perspective from both qualitative and quantitative sources. Further, this code also included a subcode with a brief description of research design to find resources that employ similar or different research designs, which I used to compare, contrast, or inform my research project. These subcodes included categories such as experimental design, case studies, and qualitative description.

Type of literature. Coding by type of literature served two main purposes in the assessment process. First, it allowed me to maintain a focus on engaged scholarship drawing from both academic and professional literature. Second, it provided me with a well-rounded understanding of my subject area, as well as the ability to identify gaps within or between certain types of literature. The codes included peer-reviewed, trade/grey literature, dissertation, and mainstream media.

Subject area. Coding by subject area facilitated the development of a structure or road map for my literature review. Each resource was categorized into the following six main groups: marketing of post-secondary institutions; post-secondary institutions use of social media; student use of social media; student post-secondary institution selection process; use of social media in the student post-secondary institution selection process; and finally, foundational literature on theory and qualitative methodology, such as modern recruitment practices in post-secondary institutions.

Theory. Coding by theory served the purpose of developing a cohesive theoretical framework, understanding which theories are most prominent in this body of literature, as well as which resources lacked a strong theoretical framework from which to draw larger, overarching conclusions or extrapolate to a real-world application. In this case, theory codes were decision-making theory, post-secondary institution selection theory, naturalistic inquiry theory, and marketing theory.

Findings. Coding by findings allowed me to identify controversy or consensus among authors, as well as the overarching narrative that these resources form, taking into account date, location, and demographic of research. This was the most challenging code to implement, as findings varied significantly from article to article, and coding by categorization fails to incorporate the nuance of each. However, by developing general codes, such as “social media useful for information seeking” and “social media not useful,” I was able to balance nuance and overall findings for my purposes.

Narrative Exposition

The following section explores the three key outcomes from the literature review. The first is an overview of the student recruitment **theory** used to inform this research. This section also outlines a proposed addition to this theory, developed through the process of conducting this literature review and the research that this review informs. Following this, I discuss two overarching narratives in the literature I found on this topic, each from a different perspective. The first is from the perspective of **post-secondary institutions**, following a thread that moves from marketing theory to the advent and adoption of social media and its implications for the changing face of student recruitment. The second is from the perspective of **prospective students**, exploring the use of social media in the post-secondary institution selection process.

By exploring these two major narratives, this exposition demonstrates that the current literature in the area of student recruitment and social media pertains largely to undergraduate and international student recruitment. This points to a knowledge gap with regards to information about graduate student recruitment in the North American context and in the field of science. Following the review is a brief description of overarching themes and findings.

Theory. Hossler and Gallagher (1987) developed a model for the college selection process for prospective undergraduate students that is widely accepted and still in use 30 years later (Bersola et al., 2014; Burdett, 2013; Coker, 2015; English & Umbach, 2016; Hossler, 1999; Martin, 2015). While this model was developed using undergraduate students, it can also be applied to represent the graduate student experience. Therefore, although this model was developed before social media was invented and widely adopted, it remains relevant for the purposes of this study. While the mechanisms for researching and assessing post-secondary institutions have changed (such as by the addition of websites and social media accounts), the phases that students go through during this process remain the same.

In their model, Hossler and Gallagher identified three main phases in the college selection process: predisposition, search, and choice (1987). **Predisposition** refers to the characteristics and environmental factors related to each student and the likelihood of each to choose to pursue attending a postsecondary institution following their secondary education. This includes a prospective graduate student's ability to: meet the academic requirements; reasonably afford or qualify for financial aid; and ability to relocate for graduate studies. This also refers to the student's interest in and propensity to seek out graduate studies. By nature of their completion of an undergraduate degree and associated exposure to academia and the

postsecondary institution setting, graduate students are already predisposed toward postsecondary studies.

The information-seeking **search phase**, in which students identify important characteristics of potential institutions, is also amenable to the graduate student's unique situation. Here the characteristics include, but are not limited to: institutional reputation; program of study; availability of supervisors; and funding. In this phase, students compile a choice set of institutions, selected for their fulfillment of a student's desired characteristics.

Thirdly, the **choice phase** is exactly that of undergraduate students, involving the selection of a postsecondary institution from the choice set, as developed in the search phase, depending upon which institutions have offered the applicant admission. Institutions not on this choice set are disregarded.

In the course of this research, my analysis pointed on the need to add a fourth phase to the model developed by Hossler and Gallagher (1987). This is the **post-choice phase**, which accounts for the time when graduate students begin to find their niche within their new academic environment and associated communities. After a student has selected the institution at which they wish to study, applied, and been accepted, the post-choice phase begins. This involves the creation of a sense of belonging, and confirmation bias to support their decision-making, as discussed above. Below, I summarize the modified recruitment model in Table 3; I describe the post-choice phase in more detail later.

Table 3: Recruitment Model

Stage	Origin	Description
Predisposition	Hossler & Gallagher (1987)	<ul style="list-style-type: none"> - Interest in and ability to pursue graduate studies - Academic requirements - Financial requirements - Ability to relocate for graduate school

		as necessary
Search	Hossler & Gallagher (1987)	<ul style="list-style-type: none"> - Information-seeking phase - Development of choice set of potential post-secondary institutions - Development of evaluative criteria
Choice	Hossler & Gallagher (1987)	<ul style="list-style-type: none"> - Selection of institution from choice set - Offer of admission, and subsequent acceptance of this offer
Post-choice	Adaptation for purposes of this study	<ul style="list-style-type: none"> - Affirming selection made in choice phase - Assimilation into new community at selected post-secondary institution - Influenced by confirmation bias

Post-secondary institution perspective.

Marketing and social media marketing. The role of marketing in higher education is nebulous. The traditional, transactional principles of marketing do not apply to post-secondary institutions. Developed to meet the needs of businesses, traditional models simply fail to meet the needs of colleges and universities (Gibbs, 2002). Rather, post-secondary institutions follow a relational, or humanistic model, in which the goods and services exchanged are actually knowledge and relationships (Gibbs, 2002; Tomer, 1998). Traditional motivations such as consumption and ownership do not drive people to seek out higher education; rather, both students and marketers at post-secondary institutions seek “to build a relationship between institution and learner” (Gibbs, 2002, p. 333). This is termed the ‘relational marketing model’. As posited by Gibbs (2002) and noted above, post-secondary institutions deal in relationships and knowledge production. Humphrey and colleagues also emphasize the importance of dialogue and engagement with other users, rather than simple message dissemination (2017).

For higher education institutions whose services align with the relational marketing model, the development of a unique voice and personality can serve to build brand affinity, and

thereby improve brand performance (Humphrey et al., 2017; McCorkindale et al., 2013). In post-secondary education, the emphasis of marketing is on developing sustainable connections between an institution and its students, faculty, staff, and alumni, as well as developing connections between these groups (Kietzmann et al., 2011). These connections result from a strong and engaged social media presence, which includes the development of an identity, including a voice and brand awareness; maintaining a regular posting schedule with curated, relevant, and accurate content to build reputation; and actively engaging with community members in order to cultivate relationships (Kietzmann et al., 2011). With a strong presence, higher education institutions can use social media to engage with community members in the digital sphere, including prospective and current students. However, specifics regarding the best way and time to connect with potential students in this way is less certain.

Social media marketing in higher education. As a tool for engaging with others and facilitating dialogue, social media is well aligned with the tenets of relational marketing. Approximately 70 per cent of higher education institutions internationally use social media (Vannozzi et al., 2016). Of these, research indicates that Facebook, followed by Twitter, are the two platforms most commonly used by post-secondary institutions (Bélanger et al., 2014; Greenwood, 2012; Cohen & Salaber, 2015). Though many are present social media, social media is not always perceived as an effective tool for marketing and student recruitment by social media marketers and communications practitioners, highlighting an important gap between research and practice (Hanover, 2014; Vannozzi et al., 2016).

One reason this gap may exist might be the way that social media is used. Research shows that two-way dialogue, rather than one-way message dissemination is an important and oft-overlooked factor of social media marketing at post-secondary institutions (Bélanger et al.,

2014; Reddy, 2014; Su et al., 2017; Veletsianos et al., 2017). Further, research shows that indirect marketing, or word-of-mouth marketing generated by community members, is positively correlated with brand recognition, affinity, and choice (Cohen & Salaber, 2015; Constantinides & Zinck Stagno, 2011; Domonell, 2012; Humphrey et al., 2017; Rosenberg et al., 2016; Rutter et al., 2016).

Numerous case studies have demonstrated how institutions of higher education have used social networking and social media as a recruitment tool (Bélanger et al., 2014; Benson & Morgan, 2013; Constantinides & Zinck Stagno, 2011; Galan et al., 2015; Hayes et al., 2009; Hoyt & Brown, 2003; Rutter et al., 2016; Sandlin & Peña, 2014; Sandvig, 2016; Uversity, 2017). Numerous best practices have developed, with the primary highlights being: the importance of interactivity, engaging with students and providing a place for organic conversation to take place; acting in conjunction the annual recruitment cycle; and responding promptly to inquiries, comments, and questions online (Hanover, 2014; Layton-Turner, 2017; Martin, 2015). This further illustrates the necessity of interactivity, rather than one-way message dissemination, for post-secondary institutions on social media.

While adoption is widespread, some social media marketers in post-secondary institutions are skeptical about the efficacy of social media as a marketing and recruitment tool (Hanover, 2014; Vannozzi et al., 2016). Many are hesitant to engage in the two-way dialogue, despite the evidence for its effectiveness, as outlined above (Hanover, 2014). As such, it is reasonable to posit that some post-secondary institutions do not have a social media presence that serves to effectively support their marketing and recruitment efforts, illustrating an important gap between literature and practice.

Student perspective.

As organic users of social media as well as the target audience of post-secondary institution marketers, students have a unique perspective on these issues. Here, I explore the literature regarding student use of social media in the post-secondary institution selection process, first focusing on undergraduate students, and then focusing on graduate students.

Undergraduate. The role of social media in the recruitment process of undergraduate students is relatively well understood (Burdett, 2013; Ezumah, 2013; Han, 2014; Johnston, 2010; Kallio, 1995; Sandvig, 2016; Uiversity, 2017). Undergraduate student priorities are different than that of graduate students, which will be discussed in the subsequent section. Primary factors for undergraduates are: program, cost, location, high school personnel, peers and friends, and campus (Sia, 2013). Research on undergraduate use of social media supports the relational marketing focus of post-secondary institutions. Social media and social networking sites are effective in the recruitment of undergraduate students as they pertain to relationship building, program- and location-specific research, and, most importantly, the opportunity to engage directly with staff or faculty of an institution (Lubbe et al., 2013; Martin, 2015). Undergraduate students also use social media as an alternative information source during the research stage of selecting an institution (Galan et al., 2015; Reddy, 2014). Based on research conducted with undergraduate students, the literature indicates that social media is used in the post-secondary institution selection process in the information-seeking and evaluation stages.

Some studies indicate that while used by undergraduate students as a source of information, social media is not considered a highly influential factor for this purpose (Johnston, 2010). Another paper suggested that students do not use social media as a resource for their admissions decisions at all (Din et al., 2015). However, the majority of research demonstrates that social media is a factor in the search and evaluation stages of Hossler and Gallagher's model

(1987). Students seeking information have been shown to use social media to engage in community-building activities: to connect with admissions staff (Anderson, 2009; Ganim Barnes & Mattson, 2008; Lytle, 2012); share content from or regarding post-secondary institutions (Cohen & Salaber, 2015; Reddy, 2014); and interact with fellow prospective or current students (Coker, 2015; Constantinides & Zinck Stagno, 2011; Martin, 2015; Sin, 2014; Uversity, 2017; Wohn et al., 2013). Research also highlights the importance of being on the platforms that are most popular with the target audience at hand, such as using the Chinese social networking site Renren in the recruitment of international students from China (Saw et al., 2013). Studies also indicate that, in cases where digital media is not considered a source of influence, a possible reason is the lack of content from and engagement opportunities with institutions themselves (Constantinides & Zinck Stagno, 2011; Reddy, 2014; Royo-Vela & Hünermund, 2016).

Graduate. The literature indicates that our understanding of the graduate recruitment process is lacks clarity among both academics and practitioners (Hanover, 2014; Powers, 1990). This has remained the case for more than a quarter century, indicating a gap in the literature as well as a need for foundational research to build our understanding in this area.

Priorities for graduate students differ significantly from those of undergraduate students. Graduate students are often in pursuit of a specific supervisor or research program, and, at the very least, have a particular field of study in mind (Hanover Research, 2014). Additionally, as graduate students are generally at later life stages, non-academic considerations are influential. These include: location; options for residency; academic factors, such as institutional reputation and program options; and work considerations, such as the need to work as a teaching assistant, research associate, or other part-time employment (Kallio, 1995).

Of the few studies on social media conducted with this cohort, the literature demonstrates that, like undergraduate students, interactivity and dialogue on social media are of utmost importance when researching options for post-secondary studies (Galan et al., 2015; Royo-Vela & Hünermund, 2016). Studies also demonstrate that the ability to connect with program faculty and potential supervisors online, including through social media, is crucial for graduate students (Bersola et al., 2014; Lubbe et al., 2013). However, compared to research on undergraduate students, the purpose and specific uses of social media by graduate students is not well understood, with regard to its role in the post-secondary institution selection information-seeking and evaluation processes.

Emerging Themes

Several themes emerge from this literature review, including elements of marketing for post-secondary institutions, the use of social media by such institutions, as well as social media's role specifically in the student recruitment process.

Over time, the literature places increasing amount of emphasis on the importance of social media in student recruitment. This is likely a result of the growth in popularity of social media as well as its proliferation on an international scale. Post-secondary institutions follow a relational-marketing model, and social media is a powerful tool that post secondary institutions can use to build positive relationships between prospective and current community members, as well as to the institution. In order to facilitate these relationships, institutions must engage in two-way dialogue and interact with community members, rather than relying on one-way message dissemination. However, despite this requirement many post-secondary institutions in fact fail to engage in two-way dialogue (Constantinides & Zinck Stagno, 2011). This illustrates a gap between research, best practices, and actual practice. While divided on the relative influence

of social media as a factor in choosing an institution, the literature also shows that access to faculty, staff, and potential supervisors is also important.

While the literature provides perspective into the undergraduate student recruitment process, graduate students, and particularly those studying science, are not well researched. With respect to graduate students, there is an overall lack of research regarding the recruitment process, including a lack of comprehensive studies about important choice factors for graduate students, as well as how, specifically, these students differ from their undergraduate counterparts throughout application, admission, and yield phases. Furthermore, of the few studies on graduate student post-secondary institution selection, few are conducted in the North American context, and fewer yet are field-specific. Fewer still are focused on the role of social media in the graduate student recruitment process. This gap in the literature represents challenges for both the communicators and recruitment specialists at post-secondary institutions, as well as for graduate students who information needs may not be met in the current digital sphere.

Capstone Project

To contribute to efforts to address the gaps in the literature as cited above, my research project examines the role of social media in the post-secondary institution selection process of graduate students interested in studying science in Canada. Specifically, I examined the graduate program in the Department of Chemistry in the Faculty of Science at the University of Alberta, Canada. The results of my study are practically applicable for recruiters and communicators at post-secondary institutions as well as academics or industry professionals wishing to better understand the graduate student recruitment process. Further, they will hopefully inform social media practices for post-secondary recruiters, with the goal of more effectively meeting the information needs of prospective graduate students in the digital sphere. The following chapter

describes my research design, which has the goal of investigating the use of social media by graduate students in the post-secondary institution selection process.

Context

The University of Alberta is a research-intensive university located in Edmonton, Alberta. UAlberta is home to 38,000 students studying in 18 faculties on five campus locations (University of Alberta, 2018). According to current world rankings, UAlberta is rated 90th in the world, and within the top five in Canada (QS World Rankings, 2018). The Faculty of Science, housed with the University of Alberta, is one of the largest faculties on campus, home to approximately 300 faculty members, 6,000 undergraduate students, and 1,200 graduate students (University of Alberta, 2018). Within the Faculty of Science are seven departments: Biological Sciences, Chemistry, Computing Science, Earth and Atmospheric Sciences, Mathematical and Statistical Sciences, Physics, and Psychology.

This research project is focused specifically on the Department of Chemistry. The purpose of this narrowed lens is to eliminate confounding factors such as program and field of study. Moreover, the Department of Chemistry is one of the most active departments in terms of graduate student recruitment efforts, both on and offline. Considered midsize, the Department of Chemistry is made up of 33 faculty members as well as both 48 graduate and 404 undergraduate students. The Department of Chemistry itself is active on Twitter. Individual faculty members, labs, and research groups make up a total of 29 Twitter accounts and seven public Facebook groups or pages. Various faculty members, support staff, and research staff also have professional profiles on LinkedIn. The Faculty of Science is also active on Facebook, Instagram, and Twitter. As such, there is a wealth of digital content available for prospective and current students to browse from a variety of different sources, ranging from public, institutionally

managed accounts to private to members-only pages. The Department of Chemistry also conducts recruitment efforts through a diverse network of alumni, former faculty, and former staff. The department also offers competitive, well-advertised funding opportunities, and hosts an annual prospective graduate student visitation weekend, which welcomes applicants to campus for tours, networking events, and research events. This robust recruitment strategy and the plentiful digital resources offer an ideal subsection of the University of Alberta and Faculty of Science for the investigation the impact of digital recruitment efforts, with specific respect to social media, for graduate students. The investigation was conducted as follows.

Research Question

My capstone research is centred on a single research question:

RQ: How did recently admitted graduate students in the Department of Chemistry at the University of Alberta's Faculty of Science use social media when making a decision about which post-secondary institution to attend?

This qualitative research project employed qualitative description to develop exploratory knowledge that contributes to answering this question. Data was collected through one-on-one unstructured interviews and analyzed through the process of inductive coding and thematic analysis. The following chapter outlines the research methodology and design that I employed. This includes information on: participants, including sampling and recruitment; and procedures, including the instrument, interview protocol, analysis, and reaching saturation.

Methodology

As there is little research addressing the role of social media in the post-secondary selection process of graduate students, the research method I have employed is qualitative description. A strong qualitative description contributes to an exploratory body of knowledge

that is necessary to build before other explanatory research can occur (Sandelowski, 2000). Qualitative description is the method of choice when conducting a naturalistic inquiry, for the purposes of understanding the who, what, where, and how of events while avoiding excessive interpretation or meaning making as the researcher (Sandelowski, 2000). Using this method, I have built an informed description of how prospective graduate students use social media when selecting a higher education institution. As there is relatively little known in this area regarding the experiences of graduate students in North America studying science, an accurate and clear understanding of this phenomenon is required. Through qualitative description, I have endeavoured to capture the elements of this phenomenon that, when brought together, fully represent the phenomenon (Sandelowski, 2000). In this section I will outline the study's design and methodology (how I conducted the research), including participants procedures. Then, I will discuss how the data collected were analyzed.

Participants

Sampling. Participants for this study consist of recently admitted (January 2017 or later) graduate students in the Department of Chemistry at the University of Alberta's Faculty of Science in Edmonton, Alberta. I selected participants via purposeful sampling on the basis of their "[expertise] in the phenomenon of interest" (Morse, 2015, p. 588). Participants were purposively sampled using the following inclusion criteria:

- student in the Department of Chemistry at the University of Alberta;
- enrolled in a graduate program (master's or PhD); and
- has been admitted no later than January 2017.

I focused on the Department of Chemistry in order to narrow the population in question in effort to obtain a more representative sample. Further, to address the knowledge gap I focused

strictly on graduate students, and eliminated undergraduate students from my inquiry. These students are enrolled in either masters or PhD programs and have joined the Faculty of Science in the last 12 to 18 months. The purpose of this time limitation is to gain as accurate and recent information from students as possible, while their search for and admission to graduate programs is fresh in their recent memory.

Similar research has required approximately 12 participants in order to reach saturation (Galan et al., 2015); however given the resource constraints on my capstone project, and the advice of my supervisor, I recruited seven participants to interview. Of the seven participants in this sample, two were female and five were male. Three were enrolled in a master's program and four in a PhD program. Finally, there were three domestic students and four international students. The international students hailed from Mexico, China, and the Philippines. The following chart provides a snapshot of the demographic makeup of the study's participants, in the order in which they were interviewed.

Table 4: Participants

Participant number	Gender	Program	Domestic or International
1	Male	Master's	Domestic
2	Female	Master's	Domestic
3	Male	PhD	International
4	Male	PhD	International
5	Male	PhD	International
6	Male	PhD	International
7	Female	Master's	Domestic

Procedures

Recruitment. Participants were recruited with the support of the assistant chair (administration) and the associate chair (graduate studies). These individuals are familiar with the graduate student population and, provided access to the population in question while mitigating any privacy or ethical concerns. On March 21, 2018, I received approval from the Research Ethics Office at the University of Alberta. This recruitment process involved two stages, in which graduate student supervisors were identified, and contacted to request the names and email addresses of students in their lab who may be interested in participating in the study. The second stage involved the associate chair of graduate studies contacting these students, with a request to contact the researcher should they be interested in participating.

The use of a third-party intermediary in the form of graduate student supervisors presented an unforeseen and challenging obstacle for reaching students. Following further discussion with the assistant chair (administration) and the associate chair (graduate studies) in the Department of Chemistry, I elected to amend the recruitment process, and submitted an amendment to the Research Ethics Office on April 3, 2018 outlining this adjustment to the recruitment process. Specifically, instead of recruiting participants using supervisors and faculty members as intermediaries, the associate chair (graduate studies) directly emailed all graduate students admitted in January 2017 or later. This adjustment provided access to a broader cross-section of students, while removing barriers in the recruitment process. The Research Ethics Office approved the amendment on April 11, 2018. Following approval, I began recruitment for the study.

Protocol. I initiated the recruitment protocol by having the associate chair (graduate studies) issue a notice to all graduate students in the Department of Chemistry admitted in

January 2017 or later on April 11, 2018. The notice included an invitation to participate in the study, as well as researcher contact information (Appendix A). A second notice was issued to the same pool on April 19, 2018. The study invitation provided a brief overview of the data-collection process, as well as high-level information of key themes of the research. The purpose of sending this information via email before meeting in person was to improve efficiency as well as to add to the participant's comfort level by clearly articulating what to expect.

Interested students contacted me directly via email to express their interest in participating in the study and to schedule an interview time and location. The setting for the study will be on the University of Alberta campus, with interviews conducted either in the participant's office or in a neutral location such as a conference room in the chemistry or science building. The benefits of these locations are convenience as well as access to a quiet space in which the participant is as comfortable as possible (Herzog, 2005; Turner, 2010).

Upon meeting at a previously specified location that meets the criteria above, I introduced myself and explained the purpose and format of the interview, as well as the anticipated duration (Turner, 2010). Following this, I reviewed the informed consent document (Appendix B), explaining the nature of the study, providing my contact information, and ensuring any additional questions were answered (Turner, 2010). This included an explanation of using an audio recording, anonymization process, and data storage. Specifically, I explained that all information collected was coded to protect the participant's privacy, anonymity, and confidentiality. Any identifying indicators will be removed prior to the release of aggregated data to the University of Alberta in the form of the capping project final assignment. In accordance with University of Alberta policy, data will be kept in a secure place, either in a locked filing cabinet or on an encrypted device, for five years following completion of the research project.

Following this period, data will be destroyed. After reviewing the informed consent document together, the participant was encouraged to read through the informed consent document a final time, prior to signing the document.

One potential ethical concern is a perceived conflict of interest between interviewer, as a Faculty of Science employee, and interviewee as recently admitted student. Concerns could have arisen here, including a perceived power differential or perceived potential to influence the participant's experience as a student. These concerns were mitigated through the recruitment tool, which explicitly explained that no power relationship exists and that participation was strictly voluntary, as well as the interview protocol, which ensured the participant is well-informed about and able to withdraw the study, additionally explained that data will be kept anonymous, including through confidentiality agreements signed by individuals involved in the recruitment process.

Instrument. Once I was satisfied that the participant understood the nature of the study, they turned on the voice recorder and initiated the interview. I then began the interview by asking participants to share their experience when selecting a graduate school.

Data was gathered through a series of unstructured one-on-one interviews with the research participants described above. The use of unstructured interviews allowed participants to explore the phenomenon uninterrupted, with the use of an interview guide, rather than specific questions. The interview guide (Appendix C) focused on four themes: 1) stage in the college choice selection process; 2) factors for selecting a graduate school; 3) sources of influence; and 4) ultimate decision. I referred to the interview guide during the discussions to ensure all major areas of inquiry were discussed. As participants discussed their experience selecting a post-

secondary institution, I used probing questions that served to “encourage the interviewee to dig deeper and reflect on the meaning of the experience” (Rudestam & Newton, 2007, p. 110).

Unstructured interviews are a data-gathering method with high fidelity and little structure (ibid). The interviews were conducted at the end of the Winter 2018 term, concluding at the beginning of May 2018, before many students leave campus for the summer. High fidelity was maintained by recording interviews and taking interview notes, as well as taking field notes during and following the interview (ibid).

My personal experience as an interviewer, honed through my role as a communicator in the Faculty of Science, served as a strength throughout this process. Over the last several years, I have interviewed many faculty members, researchers, students, alumni, staff, and donors on a range of topics including research, student life, teaching, and learning. This experience in the interviewing process is important, as I have developed the necessary skills to set research participants at ease, and allow conversation to flow naturally while simultaneously keeping the interview on topic.

Data analysis

Coding. The data analysis process included the development of codes, and the organization of these codes into categories and themes (Sandelowski, 2000). Following each interview, I compiled extensive, descriptive field notes, documenting the environment as well as my observations as the researcher in order to improve validity and reliability of my research (Rodgers & Cowles, 1993). The value of taking and reviewing field notes following each interview was to add context and illustrate my orientation to the data as the researcher, as well as to document the evolution of my findings throughout the iterative qualitative research process (ibid). My field notes contained information on: the setting of the interview; the perceived state

and comfort level of the participant; details from the interview itself; and finally a brief summary of the most salient points of the interview, as well as my reflections as interviewer.

Following the compilation of my field notes, I transcribed the interview recording, word for word, into a word processing document on an encrypted device. The transcription process took roughly two to three times the length of the interview, and was conducted within 24 hours of the interview in order to ensure the freshness in the interviewer's mind. The documents broke participant responses into bite-size paragraphs and used double spacing between lines of text to improve ease of reading and note taking during the first round of coding. Then, leaving raw data untouched for future reference as well as for audit trail purposes, transcriptions will be copied into another file. The transcription was then printed out in hard copy.

The first round of coding was completed by hand, on hard copies of interview transcripts. Conducting this process on paper copies served to minimize distractions and slow down the reading process. This round of coding included the highlighting of salient phrases and quotes, as well as hand-written notes to link important thoughts and ideas.

Following this, I began the next round of coding, returning to the transcription documents and recording my notes and memos. After conducting second and third reads of the interview transcripts, I created a spreadsheet, with columns for participant identification, including the participant number, gender, program, and domestic or international status. The spreadsheet also included a column for the code itself, as well as supporting quotes and the associated stage in the Hossler and Gallagher (1987) recruitment model adapted for the search process of graduate students. Here, I developed preliminary codes, derived during the interview in my field notes, transcription, and initial read stage (Saldaña 2016). The process of reviewing the data a second and third time allowed me to focus on the meaning behind the words of each participant. As I

conducted more interviews and continued the coding process with each, patterns and similarities began to emerge.

Using the spreadsheet-sorting tool, I began to hone individual codes into a cohesive and consistent form across all interview data. Final codes were then be organized into categories and subsequently refined into overarching themes (Saldaña 2016). This has been an emergent and iterative process, through which categories and themes will shift and change as more and more data are collected (Morse et al., 2002).

Ongoing analysis, which involves collecting and analyzing data simultaneously, “results in the dynamic formulation of conjectures and questions that force purposive sampling. The researcher analyses the data, which would then determine future participant recruitment” (ibid, p. 17). Ongoing analysis and research responsiveness to the outcomes of that analysis is of utmost importance (Rodgers & Cowles, 1993). In order to incorporate this into my research, I maintained detailed field notes, and compiled them with the transcribed data immediately following each interview. I then conducted the first stage of coding, as outlined above. Doing so allowed me, as both coder and interviewer, to move back and forth between design and findings, as well as to assess when and where I began to reach saturation (Morse et al., 2002).

Such analysis contributed to the validity of my work, improving my consistency as a researcher and the trustworthiness of my analysis (Rudestam & Newton, 2007). The reliability of my work and the possibility of replicating my results are supported by thorough documentation of this rigorous and iterative qualitative research approach (ibid). As explained by Morse and colleagues (2002), “collecting and analysing data concurrently forms a mutual interaction between what is known and what one needs to know” (p. 18) thereby improving the methodology of the study through the analysis process.

Saturation. Using purposive sampling, as described above, I continued to recruit participants until data saturation was reached (Etikan et al., 2016). Saturation was reached when replication of the “characteristics within categories [have emerged] as significant in the process of analysis” (Morse, 2015, p. 587). That is, when, through the process of coding, categorization, and thematic analysis, characteristics and patterns have been replicated and all appropriate areas of inquiry have been investigated, saturation has been reached. Here, indicators of saturation include consistency in categories, lack of new information arising, as well as becoming “more competent about the topic” as a researcher (ibid, p. 588). Given the nature of the capstone project, and the advice of my supervisor, it was recommended that I interview between six and nine students. For the purposes of this research project, I recruited seven participants to interview. Through purposive sampling and ongoing analysis, I continued to recruit participants until data saturation was reached (Etikan et al., 2016; Morse, 2015). As the researcher, it became clear that saturation had been reached when I saw consistency in categories and lack of new information arising, as well becoming “more competent about the topic” as a researcher (Morse, 2015, p. 588).

Summary

In this methodology chapter, I have outlined how my research project is designed to answer my research question, as well as the techniques I employed to improve the validity and reliability of my research results. This section has provided a robust overview of the participants, protocols, including recruitment and data-gathering methods, as well as data analysis, including the coding process and achieving saturation.

Findings

Despite the mass proliferation of social media and its adoption as a marketing tool in many sectors and industries, its role in higher education recruitment remains unclear. Used as a marketing tool, social media is one method of recruiting potential and prospective students throughout the recruitment cycle, from generating applications to encouraging students to accept their admission (Hossler & Gallagher, 1988). However, as demonstrated in my literature review, there is a significant gap in the literature with respect to the relationship between social media use and graduate student recruitment. In order to address this gap, I conducted a research project that examined the role of social media plays in the post-secondary institution selection process from the perspective of graduate students interested in studying science in Canada. Specifically, I examined the experiences of students in the graduate program in the Department of Chemistry in the Faculty of Science at the University of Alberta, Canada.

The following chapter presents the findings of my research project. First, I will explain the data analysis process, highlighting salient details, relationships, and emergent themes. This includes the development of codes and subsequent themes. Following this, I will present the discussion section, situating the key themes of my research in reference to current literature. Finally, I will discuss the potential limitations of this research, as well as outline areas for future investigation.

Research Question

This study was conducted to answer the following research question:

RQ: How do recently admitted graduate students in the Department of Chemistry at the University of Alberta's Faculty of Science use social media when making a decision about which post-secondary institution to attend?

This is an exploratory study that employed qualitative description. Data was collected through one-on-one unstructured interviews with graduate students, and analyzed through the process of coding and thematic analysis.

Participants

As described in the methodology chapter, this study involved seven participants. Each is a graduate student in the University of Alberta's Department of Chemistry, who enrolled in their program in January 2017 or later. The following chart outlines demographic details for each participant, as well as their assigned participant number, derived from the order in which participants were interviewed.

Table 5: Participants

Participant number	Gender	Program	Domestic or international
1	Male	Master's	Domestic
2	Female	Master's	Domestic
3	Male	PhD	International
4	Male	PhD	International
5	Male	PhD	International
6	Male	PhD	International
7	Female	Master's	Domestic

Of the seven participants interviewed, two are female and five are male. Four students were international, and three were domestic. Three students were enrolled in master's programs, while four were enrolled in PhD programs.

Demographic Elements

Participants 1 and 2 were out-of-province domestic master's students. Participant 3 was an international student from Mexico who wished to complete his PhD outside of his home country. Participant 4 was an international student who attended the University of Alberta for his undergraduate degree. During this time, he completed a research project with a supervisor with whom he decided to work with for his PhD. Participant 4 was not identified as a negative case, because he did research, consider, and apply to other institutions prior to accepting a position with the University of Alberta. Participant 5 was an international student who came to the University of Alberta in 2010 for a master's degree. This participant stayed on at the university as a research associate, before applying for the PhD program. As with Participant 4, Participant 5 ought not to be considered a negative case, as he conducted extensive research on potential programs and institutions at which to complete his PhD. Participant 6 was an international student from China, who chose the University of Alberta for the purposes of completing his PhD. Finally, Participant 7 was an out-of-province domestic student who came to the University of Alberta to complete her master's degree.

There were distinct differences in the experiences of students in different demographic categories. The domestic students had not considered attending a school outside of Canada for their graduate studies, whereas most international students specifically sought out post-secondary institutions outside of their home country, or the location where they completed their undergraduate studies. Two of the international students, Participants 3 and 6 were not living in Canada at the time of their application.

Three PhD students expressed that there had been a learning curve when they were in the midst of selecting an institution for their master's degree, which informed their more recent search for PhD programs. Specifically, the PhD students explained that having completed the graduate school search process once before, they were more informed about the specific factors that were important to them as individuals, such as on-campus amenities and fit within their prospective lab or with their potential supervisor, including work style and personality. These participants outlined a robust postsecondary institution selection process, in which they carefully considered and outlined criteria for potential institutions, programs, and locations. One master's student reflected this sentiment as well. The remaining PhD student and master's students did not.

Collective Elements

While individual and demographic differences in participant experiences are important, it is also important to provide an understanding of the collective experience of the cohort involved in this study. The following section will explore this collective representation with reference to common themes I found during my interviews.

The research results revealed 10 elements of collective experience for participants when selecting a post-secondary institution. These elements, which I describe in more detail below, are: social media for personal use; academic or personal connections; traditional web presence; location; ease and personalization of communication; reputation and ranking; administrative complications; job prospects; lab environment; and scholarships. The following chart presents a summary of these elements of collective experience, as well as examples of the codes I used to

determine expressions of each element, and the total number of times participants mentioned each code that reflected these sentiments.

Table 6: Collective elements

Element	Participant mentions	Codes
Social media for personal use by students	24	<ul style="list-style-type: none"> - Email for professional contacts - Facebook for personal and social gatherings - Follows institutional accounts - Instagram for campus life - LinkedIn for career networking - Sense of place developed with website and social media - Social media as tool for facilitating communication and relationships - Twitter for news - Use of social media is personal - Uses institutional social media accounts to find out about professional events/workshops after admittance.
Academic or personal connections to institution by students	18	<ul style="list-style-type: none"> - Attended recruitment event - Contacted current students and/or lab technicians of prospective supervisor - Continued on from master's and working as a lab technician - Continued on with supervisor after undergraduate degree - Friend/colleague connected to UAlberta - Former supervisor connected to UAlberta - Past connection with prospective supervisor/professor
Ease and personalization of communication by institution	6	<ul style="list-style-type: none"> - Personalized communication from UAlberta - Personal contact through application process - Responsiveness of prospective supervisors/professors
Lab-specific environment at institution	8	<ul style="list-style-type: none"> - Contacted current students and technicians of prospective supervisor - Culture in lab - Personality of prospective supervisor - Work style of prospective supervisor
Traditional web presence	7	<ul style="list-style-type: none"> - ualberta.ca sites accessible/attractive/easy to

of institution		use - Used ualberta.ca websites for research
Location of institution	7	- Edmonton - Virtual tour - On-campus amenities (e.g. gym, nearby attractions, housing, etc.)
Reputation and ranking of institution	5	- Anecdotal reputational information - University ranking sites - Program rankings
Administrative complications through application process	4	- Participant felt they had not done enough research - Experienced administrative complications
Job prospects for students upon graduation	4	- Employability of alumni (former students) - Hopes to work in industry following degree
Scholarships available for students	3	- Scholarship prospects - Ease of navigating and accessing scholarship information

Social media for personal use by students. All seven participants in this study indicated that they use social media in their personal lives. Two participants also referenced the use of career-specific platforms, such as LinkedIn, for professional networking. Further, participants expressed an awareness of their digital footprint and an intention to keep their online presence restricted. Echoing the academic literature, participants explained that their use of platforms such as Facebook are to organize social gatherings between friends, whereas Twitter is a source for gathering news, and LinkedIn is for professional networking. Generally, participants used Instagram for both information gathering as well as interacting with friends.

Academic or personal connections to institution by students. Six participants indicated that a pre-existing relationship with the University of Alberta —either academic or personal—was a major factor in their decision to attend. These relationships took numerous forms, including a former supervisor or professor, a friend with personal experience at the

University of Alberta, or another professional connection. These connections were a maximum of two degrees of separation, though most were only one. With respect to international students, these connections were made through former supervisors who were affiliated with the University of Alberta, with former student colleagues now studying at the University of Alberta, and, in one case, the opportunity to meet with a professor from the University of Alberta who visited their home institution to give a lecture.

Ease and personalization of communication. This element of the participants' collective experience is distinct from and simultaneously in alignment with having an existing academic or personal connection at the University of Alberta (above). This took a variety of forms. For one participant, this was in reference to having a personal contact with whom they could correspond directly with questions about the application process. For another, it was the ability to access contact information for and receive responses from prospective supervisors and researchers on the University of Alberta campus. For another participant, this personalization took the form of the acceptance letter itself, which included details relevant to this specific student, rather than a form letter. Access to and personalization of communication was a salient theme.

Lab-specific environment at institution. Participants indicated that they looked for information about the lab environment, including the working style and personality of prospective supervisors, as well as the physical and cultural aspects of the lab. This was important for them to understand prior to acceptance. Several students—mainly in the PhD stream—contacted current students or technicians in specific labs to learn more about the working environment. Important factors include working style and personality of potential supervisors, with specific respect to availability for one-on-one mentorship, and a hands-on or

hands-off student management style, as per the preference of the student in question. One participant specifically highlighted the importance of learning about the resources available in each lab, such as access to lab technicians and specific types of technology, such as mass spectrometers and nuclear magnetic resonance technology.

Traditional web presence of institution. All participants used the University of Alberta (ualberta.ca) website to research the institution and their program of choice. Participants also indicated that they found the website attractive, accessible, and easy to use, especially relative to websites at competing institutions.

Location of institution. Participants indicated that the location of the University of Alberta within the city of Edmonton, as well as the University of Alberta campus itself were contributing factors to their decision making for which post-secondary institution to attend.

Reputation and ranking of institution. Both within Canada and at competing institutions in Europe and the United States, participants indicated that both official and anecdotal rankings and reputation were important. This includes the reputation of the institution itself, in this case the University of Alberta, as well as the Faculty of Science, the Department of Chemistry, and the specific labs and supervisors in which participants were interested.

Administrative complications through application process. Several students also discussed challenges with administrative complications or confusion during their application process. Specifically, this was related to the dates and deadlines for submission. One master's student in particular explained that they felt pressured into accepting admittance to the University of Alberta, as the student had not yet heard back from other institutions to which they had applied. These complications exist both within the University of Alberta, and among similar

Canadian institutions such as the University of Toronto. Deadlines and timelines are not the same from institution to institution, and some participants indicated that they learned deadlines at UAlberta were flexible after they had inquired about an extension.

Job prospects upon graduation. A few participants expressed their interest in working in industry, rather than academia, following their degree. This applied to both PhD and master's students. In these cases, learning about the employability of past graduates, as well as prospects for work in Edmonton in their field, was important. Participants sought this information out through LinkedIn and by connecting with current students in prospective labs and programs. They also examined current job postings in their field using field-specific job boards and LinkedIn.

Scholarships for students. Three participants highlighted the importance of scholarships, including access to and ease of navigating information, as an important part of their decision-making process. One student specifically mentioned that an offer of a scholarship was a major deciding factor for selecting the University of Alberta.

Analysis

The preceding findings section outlines key elements of the data gathered through this research project, with specific respect to demographic and individual elements, as well as to the collective and common experience of the participants interviewed. In this section, I will outline how validity and reliability were maintained, as well as the perspective of the researcher in this study.

Validity and reliability. The validity, or trustworthiness of the results, and the reliability, or dependability of the results (Grbich, 2013) are founded in the research design and

the data-analysis process. The research question, founded in a well-known and widely accepted theory of student recruitment (Hossler & Gallagher, 1987), acted as the driving force and foundation for the data-collection and analysis processes. The guide I used in participant interviews was directly reflective of the research question, as well as founded in the academic literature upon which this study was based. Further, and as described in the methodology chapter, the validity and reliability of this study are maintained through the compilation of descriptive field notes (Rodgers & Cowles, 1993) as well as the ongoing analysis process (Morse et al., 2002). Finally, I continued to recruit participants and analyze data until saturation was reached (Etikan et al., 2016; Morse, 2015), bringing this iterative and emergent data analysis process to its natural conclusion.

Two threats to the validity and reliability of this research include the use of a small sample size and the investigation of a specific research population. The underlying concern for both threats is that of generalizability, in that the study will result in a description of phenomena specific to this population, without applicability beyond the Department of Chemistry in the University of Alberta's Faculty of Science. However, the purpose of this qualitative study is to develop the foundational, exploratory literature on the topic of graduate student recruitment. As such, generalizability to a wider population is not the priority of this research. Indeed, exploratory research provides the necessary frame of reference upon which explanatory research may be conducted down the line.

Another threat to the validity and reliability of this research is the lack of a secondary coder. Unfortunately, due to the time and resource constraints in which a capstone project such as this is conducted, the use of a secondary coder is not possible. This presents a challenge for the researcher, specifically to ensure that one's biases and, in this case, background and

familiarity with the research population does not affect the results generated. In order to support this, a strong research design, use of ongoing analysis, and approach to this qualitative research as an iterative process through which themes inductively emerge to support the validity and reliability of the findings outlined herein.

Perspective. The perspective of the researcher embedded within this qualitative research study is that of both an insider and an outsider (Mayan, 2009). My position as communications associate in the Faculty of Science as well as a graduate student in the University of Alberta's Faculty of Extension provided me with inside knowledge of various systems, processes, and experiences similar to those of my research subjects, in terms of both the inner workings of the Faculty of Science as well as my experiences as a University of Alberta graduate student. However, significant differences exist as well. While I am a staff member in the Faculty of Science, I am not a student of that Faculty, and therefore do not have particular experience with the administrative, practical, and cultural environment of the graduate programs within the Department of Chemistry. Further, my experiences as a student in a course-based, professional graduate program in a different Faculty (Extension) do not directly mirror those of research-intensive, thesis-based programs, such as those offered through the Department of Chemistry.

Discussion

The following chapter will outline the findings of this study, placing them within the wider context of the current literature and explaining the contributions this research makes to our understanding of social media in the realm of graduate student recruitment. I will first explore the theoretical contributions of this research, highlighting my proposed addition to Hossler and Gallagher's (1987) student recruitment model. To support my argument to include this "post-

choice” phase and reflect the role of social media in graduate student recruitment, I refer to three key themes that emerged in this research: the importance of relationships; the dominant role played by digital media in the recruitment landscape; and the value of social media for graduate students in the post-choice phase. I end by outlining the limitations of this research project, and potential directions for future research. The purpose of this study was to answer the following research question:

RQ: How did recently admitted graduate students in the Department of Chemistry at the University of Alberta’s Faculty of Science use social media when making a decision about which post-secondary institution to attend?

The goal of this study was to understand the role that social media plays in the decision-making process for graduate students. While there is a great deal of literature and a robust understanding of undergraduate recruitment, specific knowledge in the field of graduate student recruitment is lacking. As these students present a distinct population with different priorities and factors of influence, the purpose of this research was to conduct an exploratory investigation into this arena and begin to contribute to efforts to develop an understanding of how North American graduate students in the sciences decide which post-secondary institution to attend in the era of social and digital media.

This research was informed by and developed in consideration of the principles of engaged scholarship, with a focus on producing findings that bridge the theory-practice gap by creating knowledge base, simultaneously “advance[ing] a scientific discipline and enlighten[ing] practices in a professional domain” (Van de Ven, 2007, p. 1). For academics, understanding the effect of social media on graduate students will help address a gap in the current literature. For practitioners, understanding the use of social media in recruitment process is of utmost

importance in order to attract students and maintain a standard of excellence in both teaching and research. The results outlined herein will serve to inform best practices for communicators and recruitment specialists at post-secondary institutions to better support the information needs of prospective and recently admitted graduate students, as well as to supplement the current academic and professional literature, therefore helping address a gap in the current knowledge base.

Theoretical contributions

The theoretical foundation of this research is informed by the principles of naturalistic inquiry as described by Sandelowski (2000), as well as a student recruitment model developed by Hossler and Gallagher (1987). While this model was originally intended for undergraduate students, it was adapted, to include the post-choice phase, to fit graduate students in this study. Importantly, this model recognizes that people do different things at different stages of the student recruitment process: they use different resources to learn about different things. Specifically, the authors identified three key phases in their model: predisposition, search, and choice. Here, **predisposition** refers to a prospective graduate student's ability to: meet the academic requirements; reasonably afford or qualify for financial aid; and ability to relocate for graduate studies. The information-seeking **search** phase, in which students identify important characteristics of potential institutions, is also amenable to the graduate student's unique situation. Here the characteristics include, but are not limited to: institutional reputation; program of study; availability of supervisors; and funding. Thirdly, the **choice** phase involves the selection of a postsecondary institution from the choice set, depending upon which institutions have offered the applicant admission.

Hossler and Gallagher's model (1987) was adopted before the Internet and social media were part of the landscape of our lives. My research indicates that the theory remains relevant and useful, because although the mechanisms through which students research and assess post-secondary institutions have changed, the phases through which students pass in the recruitment process remain the same. In order to create space in this existing model for a more nuanced understanding of how social media affects the graduate student experience, I propose to add a fourth and final phase, which I term the **post-choice phase**. The purpose of adding this fourth stage is to capture the experience of students after their decision has been made, as they validate their decision and being to find their niche within their new academic environment and associated communities, including a sense of belonging. My research indicates that social media use is a resource used by students during this phase. The post-choice phase is influenced by confirmation bias, or the common psychological mechanism through which an individual affirms a decision by gathering information that supports said decision and ignoring non-supporting information (Heshmat, 2015). The inclusion of this stage in the model helped me understand how social media might be used to augment or support decision-making, as well as capturing an important and often-overlooked component of the selection process, namely, the aftermath.

As illustrated further in this chapter, in my study the role of social media in the decision-making process was most prevalent in this "post-choice" stage.

Table 7: Recruitment Model

Stage	Origin	Description
Predisposition	Hossler & Gallagher (1987)	<ul style="list-style-type: none"> - Interest in and ability to pursue graduate studies - Academic requirements - Financial requirements - Ability to relocate for graduate school as necessary

Search	Hossler & Gallagher (1987)	<ul style="list-style-type: none"> - Information-seeking phase - Development of choice set of potential post-secondary institutions - Development of evaluative criteria
Choice	Hossler & Gallagher (1987)	<ul style="list-style-type: none"> - Selection of institution from choice set - Offer of admission, and subsequent acceptance of this offer
Post-choice	Adaptation for purposes of this study	<ul style="list-style-type: none"> - Affirming selection made in choice phase - Assimilation into new community at selected post-secondary institution - Influenced by confirmation bias

In the remainder of this section, I will explore how the three themes identified in this study (relationships, the role of digital media, and social media in the post-choice phase) map onto the four phases, described above, in the modified Hossler and Gallagher (1987) model used in this study.

Theme One: Relationships

During all four phases of the model, in their experiences as prospective graduate students, the participants in this study placed **a great deal of value on existing and new relationships**. Some of these pre-existing relationships included former academic or professional contacts, such as a former supervisor, who were affiliated with the University of Alberta's Department of Chemistry either as alumni, research collaborators, or other personal connections. Also included were personal connections, including family members who had previously studied at the University of Alberta or peers who were also fellow prospective or current students in the University of Alberta's Department of Chemistry.

The information and sentiment exchanged through these relationships was the greatest source of influence for graduate students in the three early stages of the decision-making process, including predisposition, search, and choice. In the **predisposition phase**, both personal and professional connections were instrumental in whether or not students perceived attending

graduate school as a viable or valuable option. For one participant in particular, the prospect of graduate studies had not been considered at all until it was presented and encouraged by a former supervisor in a face-to-face conversation. In another case, a participant's past experience at the institution and with a prospective supervisor for his new graduate program was critical in deciding to apply to graduate school and ultimately to attend the University of Alberta.

In the **search phase**, relationships were critical for information gathering. Several participants also noted the value of initiating communication with current students via email in labs in which they were interested in joining. Current students provided valuable information about the working environment, working style, and resources available in the lab, as well as contributing to the prospective student's knowledge of campus life and the University of Alberta more widely. The information drawn from these connections was largely used to inform participants about the reputation of particular streams of research or individual programs within the Department of Chemistry, as well as to provide anecdotal and personal experiential information about the culture of the department and specific labs, as well as life on the University of Alberta campus.

In the **choice phase**, the value of new relationships played a valuable role in the practical and administrative processes. For one student, it was working directly with a prospective supervisor for support during the application process that was important. These contacts were made using the University of Alberta website. For another, a support staff member who aided the student in putting together and pushing through an application was critical. Support during the more practical aspects of the recruitment cycle, including application and acceptance, cannot be overlooked, as several participants cited administrative challenges as a major and deciding factor for selecting an institution.

It is also worthy of note that these connections, whether academic or personal, were a maximum of two degrees of separation from the University of Alberta, though in most cases just one degree. As for the role of social media in these connections, participants stated that social media platforms such as Facebook, Twitter, and Instagram did not play a role in maintaining relationships, but rather acted as a tool for facilitating communication and accessing other modes of communication such as email, text, and phone. The most valuable conversations took place in person, where participants were able to have face-to-face conversations. However, social media's role as a tool for facilitating this exchange of information or acting as the initial link cannot be overlooked. A 2011 study of social media users showed that there were only 3.44 degrees of separation between all Twitter users (Bakhshandeh, Samadi, Azimifar, & Schaeffer). This study also indicates that, as social networks, such as Twitter, continue to develop increasingly large user bases, the degrees of separation between each user become smaller and smaller (Bakhshandeh et al., 2011).

There is strong value for relationships and word-of-mouth marketing for post-secondary institutions, and specifically in the graduate student post-secondary institution selection process. Whether conversations take place on social media or through other mediums, such as telephone, email, or text message, is perhaps not the critical piece. Rather, understanding the role that social media plays in initiating or maintaining these connections in the first place, as a tool for deepening connection or facilitating communication elsewhere, is an important area of future investigation. It is in the way that social media and the role of the web continue to align with the model developed by Hossler and Gallagher (1981) and its subsequent adaptation for the purposes of this research project. One area of future research is to explore the relationship between social

media and the maintenance and facilitation of relationships, as well as the role it plays in word-of-mouth marketing.

Theme Two: Digital Media

The second emergent theme from this research highlights the importance of both traditional and new traditional media for the graduate student post-secondary institution selection process. For the purposes of this analysis, digital media refers to web marketing, with specific respect to the ualberta.ca domain websites, as well as the access of individuals, including support staff members, prospective supervisors, and current students in a prospective lab, via email. Like social media, these digital media were not part of the student recruitment toolkit when Hossler and Gallagher developed their model in 1987. However, as discussed above, their model provides a valuable and relevant framework for understanding the processes through which a graduate student uses digital media in the recruitment cycle.

Participants in this study indicated that the bulk of their research, conducted in the **search phase**, was directly through the ualberta.ca website, including related faculty- and department-level sites as well as individual professor pages and lab websites. In most cases, participants noted that the ualberta.ca site was attractive, accessible, and easy to use, and illustrated this as an important factor for their decision-making, especially relative to websites at competing institutions, such as the University of Toronto. Two participants mentioned that, while they experienced administrative complications at the University of Alberta, these complications also arose and often proved more challenging at competing institutions. As such, the ease and speed of finding information through the ualberta.ca website contributed positively toward the participant's choice of the University of Alberta's Department of Chemistry for

pursuing graduate studies, thereby becoming an important factor in the participant's choice phase as well.

Other websites, including the Center for University World Rankings and RateMyProf.com, were also mentioned as useful tools for learning about the standing and reputation of both the University of Alberta as an institution as well as the Department of Chemistry and specific research streams. This too occurred in the **search phase** of the graduate student recruitment model. However, it is worthy of note that, here again, participants did not use social media as a method for gleaning information regarding the University of Alberta, the Faculty of Science, or the Department of Chemistry. Rather, participants chose to seek out this information using more traditional web-based tools methods.

Access to support staff, prospective supervisors, and current students of prospective supervisors via email was also of utmost importance for participants in this study. Participants indicated that access to contact information, specifically email addresses, and the responsiveness of both support staff and prospective supervisors was important for gaining a sense of the University of Alberta and the Department of Chemistry, as well as critical for fostering a sense of being valued as a prospective student. This contact information was most often acquired through the ualberta.ca website, though in one case, a participant gathered this information through LinkedIn. In addition to this, the use of personalized communications—using the participant's name and including information pertinent to their specific individual cases in formal email communication throughout the application process—was also noted as an important feature and a contributing factor to selecting the University of Alberta. Specifically, personalized communication gave participants a sense of being valued as a prospective student, as well as connection to the University of Alberta as an individual.

Personalized communication and access to individuals through digital media, particularly institutional web pages and in some cases third-party websites, was important in both the **search** and **choice phases** of the graduate student recruitment model. This use of digital media does not disrupt the existing Hossler and Gallagher model (1987). Rather, it serves to support the continuing utility of this model for understanding the recruitment cycle. With this information in mind, recruitment specialists might consider emphasizing the resources and effort put into maintaining an informative and easy-to-navigate website, as well as providing prompt, responsive, and personalized communication to prospective students via email.

Theme Three: Social Media in the Post-Choice Phase

The third and final major theme that emerged from this research is the value of social media in the “post-choice” phase that I added to the Hossler and Gallagher (1987) graduate student decision-making model. Social media is a new condition that was not accounted for in the model developed by Hossler and Gallagher in 1987; its unique peer-to-peer communication style does not fit with the approach they outlined. Instead, the older model focuses on traditional, one-to-many platforms. At the time in which this model was established, such platforms may have included traditional advertising, print pieces, and school visits. More modern one-to-many communications channels can include digital media, such as websites. In this study, students indicated that websites and other one-to-many channels were useful during the search and choice phases.

Social media’s peer-to-peer communication and emphasis on dialogue, while simultaneously removing barriers of distance and geographical location were not accounted for in Hossler and Gallagher’s model developed in 1987. However, during the course of my interviews, I found that students did not attribute their social media use to the three phases that

Hossler and Gallager (1987) describe, namely predisposition, search, and choice. Instead, they typically spoke about social media use after their decision had been made: such as to following their supervisor on Twitter, learning about events from the institutional Instagram account, and using Facebook Messenger to make social plans with lab mates.

In my analysis of this data, which did not fit in the 1987 model, I decided to adapt it by including a **post-choice phase** for the purpose of this research. This next phase allows me to interpret the use of social media by graduate students after a selection has been made, to account for the important role that they told me it plays when a student acclimatizes and becomes embedded within their new environment and community. My research found that prior to this new, post-choice phase, interview participants did not directly use social media in their decision-making process, except as a tool for direct communication between peers or connections also affiliated with the University of Alberta. But at the onset of the **post-choice phase**—that is, after a student has accepted admission to the Department of Chemistry—social media plays an important role in **affirming the decision to begin graduate studies** in their chosen program at the University of Alberta, rather than another post-secondary institution. Prior to this phase, social media is used as means for reaching personal connections and to facilitate access to other means of communication, such as telephone, text messaging, and email. However, the role that social media plays in the post-choice phase appears to have an important effect on the student experience moving forward. It helps them to acclimatize to and developing a sense of belonging within their new community at their chosen post-secondary institution. This is achieved on an individual, case-by-case basis, depending on each student's personal use of social media, including their preferred platforms.

Following admittance to the Department of Chemistry, participants told me they chose to follow institutional social media accounts, with the general purpose of getting a look at the goings-on on campus, including social events, campus life, and professional networking events and conferences. This included elements such as following institutional profiles on social media platforms like Facebook and Instagram to learn about current events at the University of Alberta. For example, one participant learned of the University of Alberta's welcome week activities—a week of events to kick off the new school year that occurs each September—through Instagram and spontaneously decided to join. Other participants used Facebook and LinkedIn to share and learn information about scholarship opportunities, upcoming networking events at the University of Alberta, and conferences. All of this activity occurs in the post-choice phase, after a student has been admitted to the university and begun their studies at the University of Alberta. In other words, participants indicated that their relationship with postsecondary institutions on social media took place following the post-secondary institution selection process. Interestingly, one participant also highlighted his use of social media to promote the University of Alberta to other prospective students.

While the specific reasons for the high value of social media in the post-choice phase relative to its lower value in the three previous phases were not the subject of this research, one may speculate that confirmation bias and the development of a sense of belonging in the university community may play a role. Selecting an institution for graduate studies is a large and multifactorial decision. Once such a decision is made, it is natural that an individual would wish to confirm the validity of their choice, while simultaneously derogating potential alternatives. By seeking out positive, affirming information on social media that reflects their selected institution

in a positive light, it is possible that individuals are meeting a need to confirm the choice they have made as the right one.

Therefore, the role that social media plays in graduate student recruitment is most important after the decision to enroll has been made: I suggest that it is used by students to enhance their individual student experience and acts as a tool for integrating into the campus community. As such, the role of social media in the post-choice phase does not disrupt Hossler and Gallagher's (1987) model. Rather, this demonstrates that the addition of the post-choice phase serves to augment their model with reference to today's world, strengthening its applicability for understanding student recruitment with particular respect to the widespread adoption of social media. Recruitment specialists might think about social media as a tool to share current events, opportunities, and other elements of campus life that serve enrich the experience of current students, while simultaneously informing prospective students about what they might expect should they choose the University of Alberta.

This theme presents opportunities for future research, which will be discussed in greater detail in the concluding chapter.

Conclusion

The nature of my research is exploratory, with the intention of contributing to efforts to address a gap in the literature about the way that prospective graduate students use social media when making a decision about which post-secondary institution to attend. It is guided by an application of the Hossler and Gallagher (1987) model, updated to account for social media. Using purposive sampling, I recruited recently admitted graduate students in the Department of Chemistry in the Faculty of Science at the University of Alberta. I gathered data from these participants using individual unstructured interviews and analyzed my results on an iterative,

ongoing basis in order to maintain reflexivity and produce the most accurate, reliable data possible.

The results of my study are useful for post-secondary institutions, with a specific emphasis on communications and recruitment staff, as well as for academics and other professionals who wish to better understand the graduate recruitment process in the era of social and digital media. Beyond this, the findings may inform the social media practices and policies of post-secondary institutions, with a secondary effect of hopefully providing more desirable and valuable information to prospective students that better meet their needs in the digital sphere. The design and methodology outlined above provide a clear means of studying the population and phenomena at hand.

This study also provides a potentially useful theoretical contribution to the literature regarding graduate student recruitment. In this research I propose the addition of a fourth phase to Hossler and Gallagher's student recruitment model (1987). The original model, developed over 30 years ago, remains relevant today, providing a useful theoretical context for student recruitment. While the mechanisms for researching and assessing post-secondary institutions have changed, such as the introduction of social and digital media, the phases that students go through during this process remain the same. In this research, I have augmented Hossler and Gallagher's model (1987) with the introduction of a fourth phase, which I refer to as post-choice phase. This adaptation encapsulates the experiences of both students and post-secondary institutions that occur after a student has selected a specific institution at which to complete their studies. The proposed post-choice phase captures the ways in which students affirm their decision and integrate into their new community, a time at which social media appears to play an important role in that process. Indeed, the results of this study show that the role of social media

in the decision-making process is most prevalent in this post-choice stage, supporting the notion that the post-choice phase that is a useful and valuable addition to the model developed by Hossler and Gallagher in 1987 for the purposes of this research study.

As outlined in the literature review, the perspective of both students and post-secondary institutions are valuable and provide unique insight into the dual elements of the phenomena described herein. While the data gathered in this research project were drawn from graduate students, their responses inform and serve to illustrate the need for changes to the practices of communicators and recruitment specialists in post-secondary institutions. The following description of each perspective will also situate the results of this research within the existing literature and the wider context of graduate student recruitment as a whole.

Graduate Student Perspective

Priorities for graduate students and their subsequent information needs are very similar to those outlined by Kallio in 1995. It is interesting that these priorities have not changed significantly in the last two decades, although emphasis on the student experience work-style fit is emphasized in this study. The value of individual connection, relationships, and personalized, authentic dialogue when selecting a post-secondary institution are critical components for the graduate students interviewed in this study.

The role of social media in the graduate student recruitment process is twofold. In the early stages of the Hossler and Gallagher (1987) model, including predisposition, search, and choice phases, social media plays a supporting role, acting as a tool through which relationships are initiated and connections are maintained. Social media is not used for research and does not serve a purpose for information gathering for prospective students. Rather, as one participant stated, “It is *social* media after all,” with an emphasis on its function for illustrating connections.

Social media use in the graduate student recruitment process also takes place in the post-choice phase. In this phase, students have selected the post-secondary institution at which they will complete graduate studies. Here, students use social media to settle in to their new communities, learn about campus life and opportunities therein, and otherwise affirm their decision to study at this particular institution.

Participants indicated that the majority of information gathering, which occurs in the search and choice phases, is done through digital media, including both institutional and third-party websites, as well as individual connections, remain the two most powerful and influencing factors in a graduate student's post-secondary institution selection process. This study is simultaneously in contrast to and supportive of previous literature and research in this area. While social media remains an important element for recruiting undergraduate students (Burdett, 2013; Ezumah, 2013; Han, 2014; Johnston, 2010; Kallio, 1995; Sandvig, 2016; Uversity, 2017), its role for graduate students lacks clarity, due to their different and often competing priorities (Hanover Research, 2014; Powers, 1990). While the role of social media remains nebulous, it is clear that more traditional forms of marketing remain the dominant sources of influence and information gathering for prospective graduate students.

The graduate student model developed by Hossler and Gallagher (1987) remains viable. The introduction of the post-choice phase, included for the purposes of this research, gives an opportunity to better investigate the role of social media in a nuanced way, by capturing the phase during which students begin to assimilate into their new community and the means by which students affirm their decision to select a particular institution.

Post-Secondary Institution Perspective

The results of this study indicate that the skepticism of communicators and recruitment specialists regarding social media and its role in the graduate recruitment process is not entirely unfounded (Hanover, 2014; Vannozzi et al., 2016). What I learned is that timing is crucial; by that I mean that marketers must think about the different phases of the recruitment process, and how different communications tools may best fit with these phases. I learned through this study that social media has the largest impact upon the student experience after a student has decided to attend a particular post-secondary institution. Rather than focusing on social media in the recruitment cycle, post-secondary marketers might instead focus their social media presence on, for example, community building, supporting students as they integrate into and acclimatize to their post-secondary institution of choice.

On a more practical level, the results of this study provide valuable insights for recruitment specialists at post-secondary institutions who wish to better understand and serve the prospective graduate student population. First, the results of this study indicate that students are not using social media as an information-gathering tool with respect to prospective post-secondary institutions. Instead, students are using social media to connect with other individuals and to affirm their decision and integrate themselves within the community of their chosen post-secondary institution. As such, recruiters would be advised to consider their use of social media for recruitment-specific purposes, focusing on sharing information about campus life, current opportunities, and, perhaps, upcoming important deadlines regarding application.

This study shows that the new traditional methods of engaging with students, including email communication and robust websites, continue to have a strong impact. The importance of dialogue on social media (Bélanger et al., 2014; Reddy, 2014; Su et al., 2017; Veletsianos et al.,

2017) is reaffirmed, though importance of dialogue and personalized communication off social media is perhaps even more important. Further, encouraging current students to share their experiences and providing an accessible, digital space for this sharing to occur is a positive and forward-thinking marketing strategy (Rosenberg et al., 2016) and works as a form of peer-to-peer engagement. I suggest that further research is required in this area.

This study also highlights the value of personalized and responsive communication with prospective students. This communication may occur through various channels, including social media, email, and telephone. Responding promptly and providing individualized service helps to build an affinity between students and prospective post-secondary institutions.

Finally, recruitment specialists at post-secondary institutions should maintain their emphasis on recruitment and reputation building through the facilitation of positive experiences for current students, faculty, and staff. This results of this study emphasize the importance of relationships, including both personal and professional or academic connections, as influencing factors during the first three stages of the recruitment model, including predisposition, search, and choice. Though more ephemeral in nature, the experiences of current students and alumni continue to be a powerful method of recruitment through word-of-mouth marketing.

Limitations

A major limitation of this study is the use of a small sample size, as well as sample bias due to varying demographic features within this sample size. Time and resource constraints limited the sample size to seven. Further, as previously discussed, the Department of Chemistry is one of seven departments in the faculty, and the Faculty of Science is one of 18 faculties at the University of Alberta. Presumably, the population of graduate students in this department cannot be expected to be representative of all graduate students at the University of Alberta and beyond.

However, generalizability is not a key focus of this qualitative study. Rather, the research aims to address a gap in the literature by developing an exploratory, rich and in-depth description of the use of social media by prospective students when selecting a post-secondary institution, with a specific focus on graduate students studying science at a research-intensive institution in North America.

Another limitation of this study was challenges experienced through the student recruitment process. Due to timing constraints, ethics approval was received at the end of the winter 2018 semester. As such, recruitment emails were sent during the examination period, leading to a lower than anticipated response rate following the initial call for participants. Students, who are already naturally preoccupied during this time, also tend to leave campus in the month of May, leading to added constraints for scheduling interviews with interested participants. However, despite these challenges, a sample size of seven participants was assembled, which successfully met the needs of the research project.

An additional potential limitation of the research is the perspective of the researcher as both insider and outsider to the research population, contributing to the potential of researcher bias. Further, due to the nature of the time and resource constraints in the MACT capping project, this research did not employ a second coder and, as such, researcher bias is an unavoidable concern. However, to mitigate this potential limitation, the use of third parties, including the associate chair (graduate studies) in the Department of Chemistry to support the recruitment process was of great import. The use of an intermediary served to avoid any perceived power imbalance, as well as mitigate challenges of the researcher as both insider and outsider to the research population.

Future Research

There are numerous future areas of investigation on this topic. First, the role of social media in enhancing the student experience in the post-choice phase is a topic of interest. Future studies might examine how social media enhances the student experience and the role of confirmation bias in affirming the selection of one post-secondary institution for graduate studies over another. Future studies might also examine the use of social media in building a sense of belonging as well as a sense of affinity to the institution, department, and lab or supervisor in question.

Additional studies might also examine the role of personal connections and the value that networking plays in the post-secondary institution selection process for graduate students. Further, an investigation of how post-secondary institutions can leverage these connections, as well as other neo-traditional marketing tools such as the web, to enhance graduate student recruitment efforts could be of great import.

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APPENDIX A – Recruitment Letter

You are invited to participate in a study investigating the role of social media in the recruitment of graduate students at the Faculty of Science at the University of Alberta.

My name is Katie Willis and I work as communications associate for the Faculty of Science. I am also in the midst of completing a capping project required the completion of my master's degree in communications and technology at the University of Alberta.

With the mass adoption and proliferation of information through social media, higher education institutions have a vested interest in understanding how prospective students use these platforms when making decisions about which institution to attend.

As a recently admitted graduate student, your experiences provide invaluable insight into this study.

Interviews will be conducted in order to gather data in the weeks of April 16, April 23, and April 30. Should you choose to participate, I look forward to selecting a date and time that is most convenient for you. Interviews will be one-on-one in a private location of your choosing on the University of Alberta campus, and will last approximately 60 minutes.

All information collected will be coded to protect your privacy, anonymity, and confidentiality. Before releasing aggregated data to the University of Alberta, any identifying indicators will be removed. Anything you say will be held in confidence, and you will have the right to withdraw at any time for any reason. Choosing to participate or not participate in this research will not have any effect on your experience or standing as a student whatsoever. Your supervisor will not be informed should you choose to participate or not participate.

Should you wish to participate or should you have any questions, please contact me by email at katie.willis@ualberta.ca or at 780-267-0880.

Thank you and I look forward to hearing from you.

Warmly,

Katie Willis

Communications Associate (Faculty of Science)
MACT student (Faculty of Extension)
6-208B Centennial Centre for Interdisciplinary Science
University of Alberta, Faculty of Science
katie.willis@ualberta.ca
780-780-248-1215

APPENDIX B – Informed Consent

Title: Word on the Social Street: Examining the Role of Social Media in Decision Making for Prospective Graduate Students

Researcher

Katie Willis
Communications Associate (Science)
MACT Student (Extension)
6-208B Centennial Centre for Interdisciplinary
Science
University of Alberta, Faculty of Science
katie.willis@ualberta.ca
780-267-0880

Supervisor

Rob McMahon
Assistant Professor
Master of Arts, Communications and
Technology
10230 Enterprise Square
University of Alberta, Faculty of Extension
rob.mcmahon@ualberta.ca
780-248-1110

Background

- You are invited to participate in a study investigating the role of social media in the recruitment of graduate students at the Faculty of Science at the University of Alberta.
- With the mass adoption and proliferation of information through social media, higher education institutions have a vested interest in understanding how prospective students use these platforms when making decisions about which institution to attend.
- As a recently admitted graduate student, your experiences provide invaluable insight into this study.

Purpose of the study

- The purpose of this research is to understand how prospective graduate students in the Faculty of Science at the University of Alberta use social media when making a decision about which institution to attend.
- The study's findings will be used initially to meet the final project requirements for a Master of Arts in Communications and Technology.
- The results may also be incorporated into the Faculty of Science communications strategy, in effort to better meet in the information needs of future prospective graduate students.

Study procedures

- Interviews will be unstructured, one-on-one interviews, approximately 60 to 90 minutes in length and will be voice-recorded for transcription purposes only. Interviews will be arranged directly with participants based on availability.
- Interviewees will be selected based on their acceptance to the Department of Chemistry on or after January 1, 2017.
- The study will be completed by August 2018.

Voluntary participation

- You are under no obligation to participate in this study. Participation is completely voluntary, and you are not obliged to answer any specific questions.

- You also have the right to opt out without penalty and to have any collected data withdrawn and not included in the study (request for withdrawal of data must be received by the author in writing by May 1, 2018).
- There are no known risks or personal benefits from participation in this study.

Confidentiality and anonymity

- The research will be used to enhance the Faculty of Science communication strategy as well as the final capping project for a Master's degree.
- All information collected will be coded to protect the participant's privacy, anonymity, and confidentiality. Before releasing aggregated data to the University of Alberta, any identifying indicators will be removed.
- Data will be kept in a secure place five years following completion of the research project. Following this period, data will be destroyed.

Ethics approval

The plan for this study has been reviewed by a Research Ethics Board at the University of Alberta. If you have questions about your rights or how research should be conducted, you can call (780) 492-2615. This office is independent of the researchers.

Participant informed consent

I, _____, have read and understand the information given in this form and all my questions have been answered to my satisfaction. I have had sufficient time to consider whether or not to participate in the study and consent to participate. I understand that my participation is completely voluntary.

Yes	No	
		I support the use of my information in any research papers or other outputs resulting from this interview.
		I would like my name to be included in any research papers or other outputs resulting from this interview. That is, I do <u>not</u> want my name to be kept confidential.
		I would like my name to be included in the acknowledgements section of any research papers or other outputs resulting from this interview.
		I would like to receive a copy of research papers resulting from this interview. If yes, please provide your preferred e-mail address: _____

(Participant Signature)

(Date)

(Researcher Signature)

(Date)

APPENDIX C – Interview Guide

The following interview guide is centered on four major themes, rather than specific questions. The themes are: stages in college choice selection process; factors for selecting a graduate school; sources of influence; and ultimate decision.

The data-gathering strategy for this study is unstructured interviews. The use of this thematic guide allows participants to explore the phenomenon of interest uninterrupted, while still providing a guiding tool for the researcher to ensure comprehensive data is gathered. Further, this will allow participants to provide data in the most authentic way possible, while also providing the flexibility for the researcher.

Theme One: Stages in college choice selection process

- Predisposition
- Search phase
- Choice phase

Theme Two: Important factors for selecting a graduate school

- Student life
- Location
- Supervisor and research program

Theme Three: Sources of influence

- Platforms used (Twitter, Facebook, Instagram, etc.)
- Source of data (friends, institutional, faculty-level, department-level, specific supervisors, etc.)
- Value placed on sources

Theme Four: Ultimate decision

- How decision was reached
- Why decision was made
- Reflection on decision