

School Counselors' Use of Technology for Program Management

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Abstract

The use of technology in school counseling remains largely underinvestigated. In this descriptive study, researchers surveyed school counselors to examine ways in which they are using technology to manage their programs. Findings indicate that technology is underutilized by school counselors and is more likely to be used for program management tasks in the area of organization than for communication with and presentation of information to stakeholder groups. We discuss implications for practice, preparation and training, and future research.

Keywords

program management, school counseling, technology

The use of technology in school counseling is an underresearched topic. However, the presence of technology in schools is undeniable and constantly evolving. The role of the school counselor varies on any given day with time spent in multiple tasks, serving multiple stakeholder groups. Technology, when used with intentionality and purpose, can expand the school counselor's reach and efficiency in serving all students, and increase access to resources, thus contributing to overall student achievement. Keeping pace with technology is not only a matter of efficiency and expediency in program management but also a point of advocacy, for which it is necessary to ensure that stakeholders are receiving timely and consistent information (e.g., testing deadlines, graduation requirements, scholarship information, changes to policies that impact students) through as many channels as possible (Hayden, Poynton, & Sabella, 2008; Sampson, Kolodinsky, & Greeno, 1997). Also, given the broad and ever-evolving landscape of technology in education, the question of professional relevance comes to the forefront. If school counselors do not follow technology trends and find ways to integrate online tools into their work, they may be seen as irrelevant.

Technology, when used with intentionality and purpose, can expand the school counselor's reach and efficiency in serving all students and increase access to resources, thus contributing to overall student achievement.

Given the amount of communication, organization, and presentation their role involves, school counselors should consider technology a valuable tool. In support of technology, the American School Counselor Association (ASCA) School Counselor

Professional Standards & Competencies (ASCA, 2019) include item B-PF2(i). Use current trends in technology to promote student success. Moreover, the 2016 standards from the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2016) indicate that counselor education programs must address the impact of technology on the counseling profession (e.g., F.1.j, F.5.e, F.4.c, F.5.d). In this exploratory study, we sought to understand how school counselors use technology specifically for managing their programs.

Review of Literature

Technological advancements in recent decades have changed the landscape of education, resulting in increased opportunities for educators to embrace technology for learning advancement and productivity enhancement (Nandhini, 2016). Specifically, the advent of Web 2.0, characterized as more interactive, user-driven Internet content (e.g., blogs, Wiki pages, social networking sites [SNSs], online applications), rather than static web pages, reshaped the role of educators and students from passive consumers of technology-based content to also being producers of content (Nandhini, 2016; Pan & Franklin, 2011).

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Today's students and newer educators may be more likely to embrace technology, and many have lived a majority of their lives immersed in technologies (Prensky, 2010). However, a large segment of educators grew up and entered the field before the technology boom and have had to rely on professional development on appropriate and innovative uses of technological platforms (Nandhini, 2016). Pan and Franklin (2011) found that meaningful professional development, school administrative support, and self-efficacy were predictors of teachers' implementation of Web 2.0 tools. Other research has noted that novice educators are more likely to utilize tech-based platforms, with the influx of digital natives entering the workforce and changes to training programs listed as possible explanations (Hur & Brush, 2009; Young & Kaffenberger, 2015). Despite differences in educators' levels of comfort with technology use, these platforms can provide educators with avenues to increase connectivity and productivity.

SNSs, such as Twitter, Facebook, Instagram, and LinkedIn, can provide school counselors with opportunities to connect with stakeholders and engage in online professional learning communities (Carpenter & Krutka, 2014; Hur & Brush, 2009). Dixon (2011) noted that using social media within educational settings promotes engagement with both existing and potential school stakeholders and encourages dialogue among faculty, students, families, and the community. For example, educators can utilize blogging or microblogging platforms to share resources and reminders with students and parents or to provide updates on programs/events occurring within the school (Carpenter & Krutka, 2014; Howard, 2013). Similarly, SNSs provide a global network of educators for consultation, collaboration, and resource sharing (Carpenter & Krutka, 2014; Veletsianos, 2013). Interactions through microblogging via SNSs (e.g., Twitter chats) and videoconferencing platforms (e.g., Google Hangouts) can serve as crowdsourced professional development opportunities that are low cost or even free of charge (Carpenter & Krutka, 2014). Even with these potential benefits, not everyone is comfortable with using social media and technology for these purposes, citing ethical concerns as a reason to be skeptical (Mullen, Griffith, Greene, & Lambie, 2014; Shea, Cinotti, & Stone, 2018; Steele, Jacokes, & Stone, 2015). As these online technology tools and other Web 2.0 services advance, they become more relevant for specific fields within education and human services.

Counseling and Technology

Technology usage within the counseling field has evolved alongside technology itself, from early computer-based assessment and career guidance systems to more recent web-based counseling and supervision (Baker & Bufka, 2011; Barnett & Kolmes, 2016; Cabaniss, 2001; Mallen, Vogel, & Rochlen, 2005). Counselors have been using web-based technologies for workplace productivity and management purposes (e.g., e-mail, professional websites, videoconferencing) for more than 20 years (Sampson et al., 1997). Due to the increasing use of

technology within the counseling field, the American Counseling Association (2014), ASCA (2016), and other counseling organizations have updated and added technology-related standards to their ethics documents. The Association for Counselor Education and Supervision Technology Interest Network (2007) developed technology competencies for counselor education programs. Despite these updates, scholarly literature that addresses technology implementation in the counseling field is scarce, especially for the subfield of school counseling.

School Counseling and Technology

Research on school counselors' use of technology has not kept pace with technological advancements within the field. Rainey, McGlothlin, and Miller (2008) surveyed school counselors' attitudes and perceived competence with technology and found that school counselors had a mostly positive review of their experiences with technology. However, much of the technology referenced in the findings was not web-based and included devices that would be considered somewhat archaic today (e.g., overhead projector, videocassette recorder). Similar to Rainey and colleagues, Sabella, Poynton, and Isaacs (2010) reported that school counselors perceived technology as important to their work. However, the technologies mentioned in each study have undergone significant changes since their publications.

In a similar line of research, a qualitative study reported that practicing school counselors ($N = 49$) used technology to achieve various goals of the ASCA National Model, suggesting that infusing technology in school counselor training programs can promote student learning and professional work efficiency (Hayden et al., 2008). Nevertheless, even with advancements in school counselor training, many school counselors are cautious of embracing the use of technology within some aspects of practice. For example, Shea, Cinotti, and Stone (2018) found that school counselors are more likely to use paper-based case notes, rather than electronic case notes, due to ethical concerns. Similarly, Steele, Jacokes, and Stone (2015) found that there is considerable disagreement among school counselors as to the importance and relevance of using technology in school counselor practice.

In contrast, Grosshandler (2012) reiterated the potential benefits of using technology in school counseling programs and found that implementation challenges existed in both Recognized ASCA Model Program (RAMP) and non-RAMP schools. His study is one of the first to explore school counselors' professional use of social media, with findings that indicated lower rates of adopting social media in RAMP-awarded schools. Keeping with the idea of how technology use can benefit school counselors, Cronin et al. (2018) found that school counselors who used technology more frequently had higher self-ratings of developing school-family-community partnerships. Although SNSs and other online tools have become widely used in school counseling and widely discussed online (LoFrisco, 2013; Mason, Schumann, & Lopez, 2016),

empirical school counseling literature has not adequately addressed the purpose and prevalence of their use in school counselor practice.

Operational Definitions

In reviewing the literature, more studies (Cronin et al., 2018; Grosshandler, 2012; Hayden et al., 2008; Rainey, McGlothlin, & Miller, 2008; Sabella, Poynton, & Isaacs, 2010; Shea et al., 2018) focused on technology as a support to school counselors in managing their programs than on its potential for direct clinical interventions (e.g., applied counseling techniques, use of websites for social/emotional needs or career development, use of apps for crisis intervention and response).

To delineate the nonclinical tasks that school counselors perform in managing their program, we developed operational definitions to clarify the scope of “school counselors’ use of technology.” The management component of the ASCA National Model served as a guide and identifies the work of school counselors in coordinating their program as a separate set of tasks from delivering their program (ASCA, 2012). As such, the management component includes tracking, analyzing, and sharing data; developing action plans for delivering the core curriculum; maintaining an advisory council with a variety of stakeholders; and clarifying roles and responsibilities through calendars and the annual agreement. After consulting the literature and discussing the primary features of *program management* as outlined by the ASCA National Model (ASCA, 2012), we operationalized program management using three broad categories: (a) communication (e.g., sending out announcements and program updates, reaching stakeholders with social media, maintaining a web page for the program or recruiting volunteers), (b) organization (e.g., storing, organizing, collaborating on, and sharing files; and collecting, tracking, and sharing data), and (c) presentation (e.g., presenting information to stakeholders in a face-to-face setting, and using online platforms to present information).

Purpose of the Study

To better understand school counselors’ use of technology for program management, we sought to collect descriptive data about program management practices related to communicating with colleagues, students, and stakeholders; program organization; and presenting information. The primary research questions guiding this study were: (a) Are school counselors using technology to manage their programs? (b) With whom is technology being used? (c) How often is it being used?

Method

Participants

This exploratory study used survey data drawn from a national sample to investigate school counselors’ use of technology for program management. Before the implementation of the study,

we received approval from the first author’s institutional review board. A total of 614 participants who identified as “practicing school counselors” completed the survey. However, due to missing data resulting in the removal of 107 cases, only 507 participants were included. These participants represent a cross-sectional, random sample because participants self-selected into the study.

Demographic characteristics. Participant demographics for this study were consistent with previous studies in the field. The vast majority of participants identified as female (87.6%), while 12.4% identified as male. No participants identified as transgender or nonbinary despite the options being provided in the survey. The majority of participants (82.1%) identified as White with the remaining participants indicating their ethnicity as African American/Black (6.7%), Hispanic or Latino/a (3.9%), Multiethnic (2.8%), Asian (2.0%), Pacific Islander (0.6%), or American Indian or Alaska Native (0.2%). A few participants indicated that their ethnicity was not listed (0.8%) or preferred not to answer (0.8%).

The age of participants ranged from 24 to 69 years ($M = 41.05$, $SD = 10.19$) with a span of 0–42 years of experience ($M = 10.14$, $SD = 8.05$). The majority of survey respondents would be considered experts in the field with more than 10 years of experience as a school counselor (44.8%); the remaining participants indicated having 5–8 years of experience (23.9%), 2–4 years of experience (18.5%), or 1 year of experience or less (11.6%).

School setting characteristics. The overwhelming majority of participants indicated that they worked in a single school (88.2%). More than half of the participants worked primarily with high school-aged youth in Grades 9–12 (51.3%), while approximately one third worked with elementary youth in grades PK–5 (29.7%) and another third worked with middle school-aged youth (32.1%). These totals are greater than 100% because some participants worked at sites that serve multiple age groups.

Settings were reported as largely suburban (42.8%), followed by rural (38.5%) and urban (24.3%). The school type was predominantly public (88.8%), followed by parochial/religious (4.3%), charter (3.6%), private (3.2%), alternative (1.8%), and other school types that didn’t fit into any of the categories offered (2.8%; e.g., virtual schools, career/tech schools). Regarding geographic location, the largest number of participants were located in the Midwest (38.7%) and Northeast (28.4%) regions of the United States, while others reported being located in the Southeast (18.3%), Southwest (7.7%), Northwest (4.9%), or from non-U.S. locations (1.8%).

Caseload characteristics. Only 13.2% of respondents indicated that the number of students on their caseload was low (<200) per the ASCA National Model (ASCA, 2012) recommendation of a student-to-school-counselor ratio of approximately 250:1. Most participants had caseload sizes more in line with the national average (Bridgeland & Bruce, 2011) with 201–400

Table 1. Compilation of Data Related to Student Caseload Variables.

Category	Dimensions	Number (n)	Percent
Caseload size	Low (<200)	67	13.2
	Medium (201–400)	222	43.8
	High (401–1,000)	195	38.5
	Very high (>1,000)	21	4.1
Socioeconomic status based on # of students on free and reduced lunch	Low (0–30%)	164	32.3
	Medium (31–70%)	221	43.6
	High (71–100%)	119	23.5
Students with disabilities	Low (0–10%)	125	24.7
	Medium (11–20%)	220	43.4
	High (21–40%)	122	24.1
	Very high (41–100%)	34	6.7
Students who are English language learners	Average (0–10%)	373	73.6
	High (11–50%)	90	17.8
	Very high (51–100%)	39	7.7

Note. Totals under 100% indicate missing responses; majority responses have been bolded. Student variables were coded into categories of low, medium/average, high, and very high (based on national averages reported in the National Center for Education Statistics; U.S. Department of Education, 2017).

students (43.8%), though almost as many participants had high caseloads of 401–1,000 students (38.5%). Alarming, 4.1% of respondents had caseloads of more than 1,000 students.

To facilitate statistical analysis, we coded other student variables into categories of low, medium/average, high, and very high (based on national averages reported in the National Center for Education Statistics; U.S. Department of Education, 2017); we present these in Table 1.

Procedures

Using random sampling, we recruited participants through a variety of professional outlets via online-based and e-mail-based communications. Recruitment procedures included e-mails sent to each state school counseling association requesting dissemination to members and included a study announcement and accompanying e-mail text. We also used school counseling professional networking sites for recruitment, such as pages and groups on Facebook, Twitter, LinkedIn, and the ASCA SCENE, using the same study announcement. Follow-up e-mails and posts were sent through the same channels approximately 3 months after the first round of recruitment.

Participants completed the survey online through the Qualtrics platform (Provo, Utah). The process of proceeding to and answering survey questions on the following screens constituted consent on the part of the participant. The survey took approximately 15–20 min to complete.

Instrumentation

The survey consisted of 16 demographic items and 40 items related to technology use. Of the technology items, 14 were multiple response and 1 was open-ended. Participants responded to questions about their general use of technology.

Questions included some single-answer format (“yes” or “no”) items, such as, “Do you use a unique website or separate page on the school’s website just for your school counseling program?” and “Do you use a Twitter account specifically for your school counseling program?” Other items about general technology use were multiple-choice, single-answer format, such as “How many technology devices do you actively use to do your work as a school counselor?” with the participant’s choice of responses ranging from “0” to “more than 5.” The open-ended question was “Name the three tech tools that are most useful to you in your work as a school counselor.”

Participants then indicated the frequency of their use of technology with various stakeholders (e.g., students, school staff, families, other school counseling professionals) or on specific tasks in the defined program management areas of communication, organization, and presentation (e.g., communicating with social media, storing and organizing files, delivering presentation). Response options for frequency included “daily,” “weekly,” “monthly,” or “never.”

Survey development was a multistep process. The first author examined other surveys and literature to determine what kinds of questions had been asked in previous studies about school counselors’ use of technology. She then drafted potential items and sent them to three practicing school counselor reviewers in various settings, one of whom was also a doctoral student in counselor education, to strengthen both content and face validity. The first author and reviewers met virtually to discuss the items and made suggestions for edits and additions. Finally, the reviewers approved a revised version of the survey.

Results

Before data analysis, we tested for assumptions, outliers, and missing data. Assumptions were met and no outliers were found, although we removed 107 cases due to missing data (respondents who only answered demographic questions and not questions related to their use of technology). Therefore, a total of 507 participants were included in the final analysis.

We observed that drop-off rates increased over time, indicating that instrument fatigue was a factor in participant attrition. The largest drop-off occurred between the demographics section and the technology survey items. A high number of respondents ($n = 107$, 17.4%) did not complete any of the technology-related questions after providing demographic information, and although Enders (2003) notes that a missing response rate of 15–20% is routine in educational studies, we determined that the risk of including these cases in the final analysis in biasing findings was sufficient to necessitate listwise deletion of those cases.

Another drop-off point indicating instrument fatigue occurred between a set of technology-related questions that required only a single answer, such as “Do you use an Instagram account specifically for your school counseling program?” (answer: yes/no), and questions that had more intricate, nested responses, such as “As a school counselor, how often do you use publicly available social media tools to

connect with the following groups?" (answer: never/monthly/weekly/daily for students; school staff; families/parents/guardians; other school counseling professionals; other educators, nonschool counselors; agencies, associations or groups). In this final set of questions, drop-off rates started at 6.9% and eventually increased to 9.3% over the course of the remaining survey. After using Little's test to determine that data were missing completely at random rather than related to another instrument variable, we kept these cases in the sample and used mean substitution to account for the missing data, because a rate below 10% tends to have minimal impact on survey bias (Bennett, 2001).

School Counselors' Use of Technology

The primary purpose of this study was to understand whether school counselors are using technology to manage their programs, with whom are they are using it, and how often they are using it. Program management was operationally defined as tasks involving communication, organization, and presentation with a variety of stakeholders.

General technology use. Most participants (84.4%) reported using between two and four devices (e.g., desktop computers, laptops, and smartphones). The majority used a Microsoft PC operating system (64.1%), and more than one fourth used Mac/Apple (27.8%); a small number of participants indicated that they used a different third-party platform (1%; e.g., UNIX) or had no preference (0.1%).

Many school counselors indicated "yes," that they used a unique website or maintained a unique page on their school's website to communicate information (67.5%). However, more school counselors indicated "no" when asked whether they employed work-specific use of SNSs such as Twitter (22.7%), Facebook (12.2%), and Instagram (3.9%). When given the option in an open-ended question to report tech tools of value to their work as school counselors, tools frequently mentioned included Google, iPads, and Naviance.

The majority of participants (82.4%) did not receive any training related to the use of technology during their master's program. Instead, the school counselors indicated that they were much more likely to learn about new tech tools, applications, or software through professional development (78.5%), word of mouth (78.5%), online from others (e.g., through social media posts, blog posts, instant messaging; 61.1%), their own online research (50.9%), and professional print publications (e.g., *ASCA School Counselor* magazine; 42.6%).

Use of technology for communication. School counselors were least likely to use social media (e.g., Facebook, Twitter, Instagram) to reach out to students, followed by families. However, the majority of the school counselors indicated using these tools to communicate with staff, educators, school counselors, and outside groups every month or more frequently. Participants reported using social media most often and at much

higher rates with their fellow school counselor colleagues, with nearly one quarter reporting daily contact.

The majority of school counselors also reported never using other online tools (e.g., Remind, Smore) to communicate with stakeholders, although they were slightly more likely to use these methods with students at least monthly (35%) or more frequently than they use social media (32%). School counselors appear to be using technology on at least a monthly basis for sending program-related announcements and sharing program updates. However, they were least likely to use technology to introduce themselves or to recruit volunteers. These data are reflected in Figure 1.

Use of technology for organization. School counselor participants reported using technology (e.g., Dropbox, GoogleDrive, Box, Evernote, EZAnalyze) quite frequently to work with files, manage data, and track their activities. This was particularly true for storing and organizing their school counseling program-related files, with half of the school counselors doing so daily, and approximately 65% on at least a weekly basis. Furthermore, the majority of participants reported using technology on at least a weekly basis for sharing files, collaborating on work with colleagues, collecting and storing program-related data, and sharing data with others. School counselors were least likely to use online tools to track student progress or to track how they spent their time. Figure 2 summarizes these data.

Use of technology for presentation. The majority of the school counselors used technology (e.g., GoogleSlides, Prezi, YouTube, Vimeo, VoiceThread) to deliver presentations and information on a monthly basis or more frequently to student populations (63%) versus to staff (51%), families/parents/caretakers (33%) or other groups such as outside agencies, groups, and/or conferences (31%). For all populations, presenting on a monthly basis was far more popular than doing so weekly or daily. Participants were less likely to present to outside groups, and of those who did, approximately half made information available online for asynchronous delivery. Across all categories, "never" was selected by 29–59% of participants. Figure 3 summarizes these data.

Discussion

The primary purpose of this study was to investigate whether school counselors are using technology tools to manage their programs, with whom are they are using it, and how often they are using it. Overall, the findings indicate that school counselors' use of technology for program management is generally low and that they use it more for organization tasks than for communication with or presentation to stakeholders. Organization tasks that utilize technology are also likely to be done on a daily or weekly basis, as compared to presentation tasks that are more likely to be done on a monthly basis. Technology for communication with stakeholders is variable by subgroup, but school counselors appear most likely to use social media when

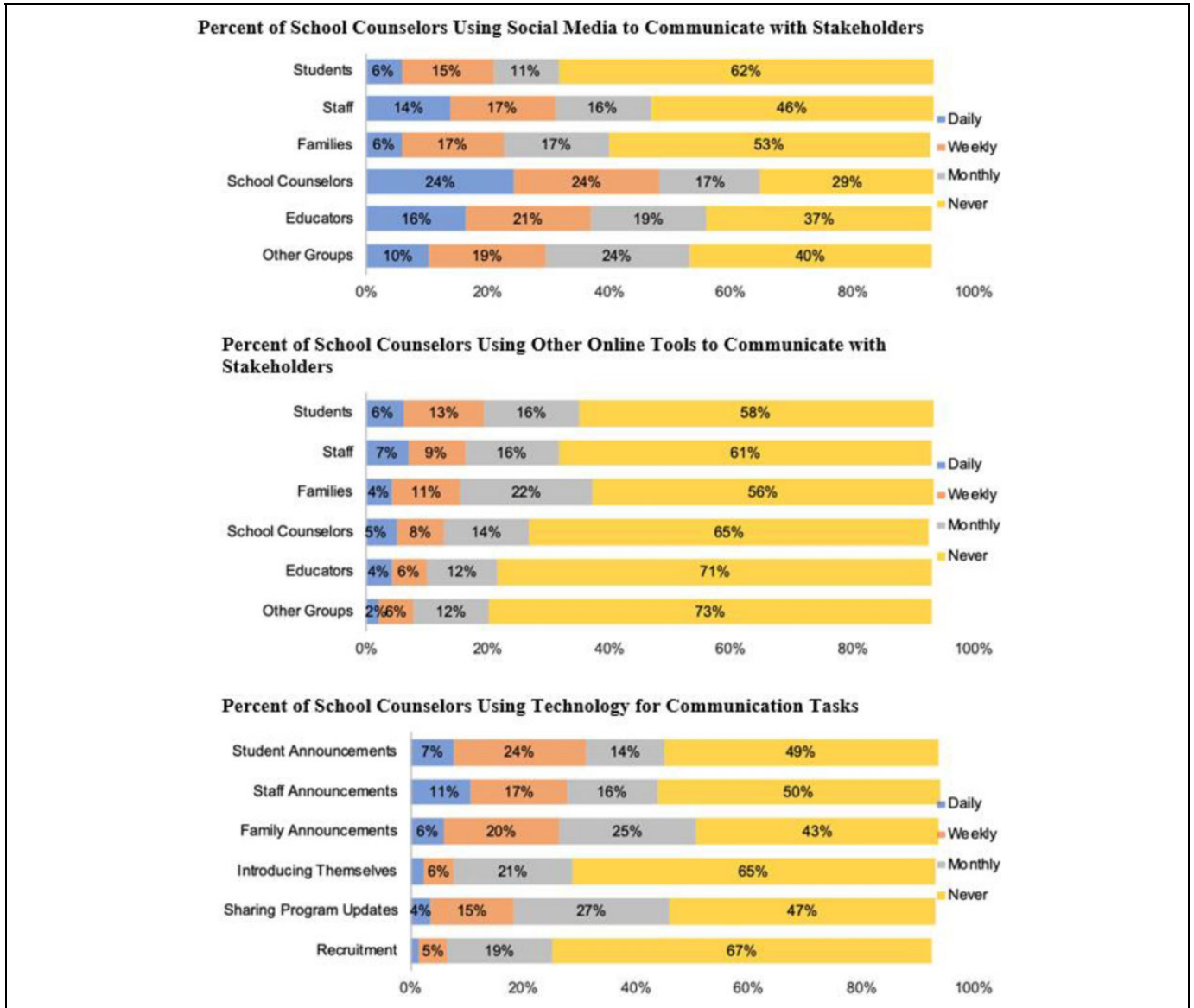


Figure 1. School counselors' frequency of technology use for communication. Totals under 100% reflect a 6.9% missing response rate for these survey questions.

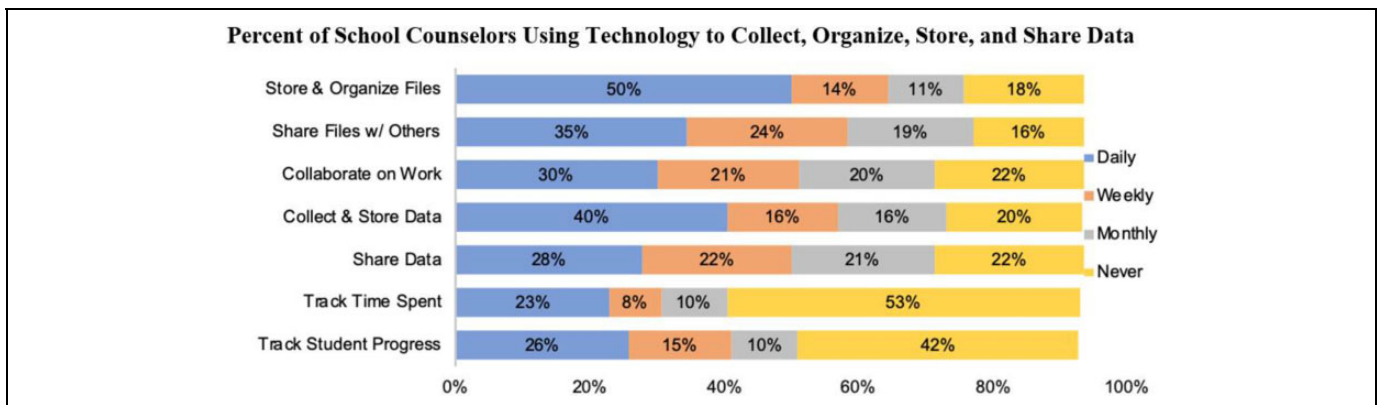


Figure 2. School counselors' frequency of technology use for organization. Totals under 100% reflect a 7.3% missing response rate for these survey questions.

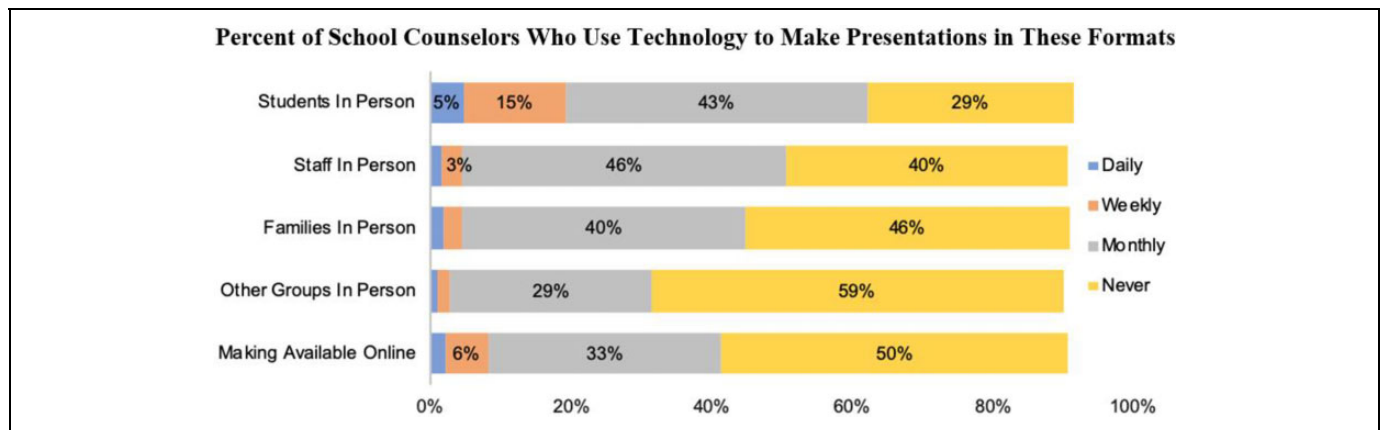


Figure 3. School counselors' frequency of technology use for presentation. Totals under 100% reflect an average of 9.4% missing response rate for these survey questions.

communicating with each other or other educators rather than with other groups.

An unexpected result was the number of school counselors who reported not using technology at all in their school counseling program. "Never" was often the most selected category for numerous questions in the survey and most often those related to communication with stakeholders. The sizable gaps between school counselors' use of technology for organization compared to its use for communication and presentation warrant consideration. We suspect these gaps point to school counselors' lack of comfort with technology, ethical concerns, fear of improper use, reticence with maintaining boundaries, and district messages and supports around technology use. In particular, these findings seem to point to a need for direction from the district level about acceptable uses of social media by school counselors. It is possible that other educator groups such as teachers are being targeted for this purpose but that school counselors are left out of the loop or not perceived to benefit from training on social media and technology use.

An unexpected result was the number of school counselors who reported not using technology at all in their school counseling program. "Never" was often the most selected category for numerous questions in the survey and most often those related to communication with stakeholders.

Participants also reported an overwhelming lack of training in technology during their master's programs. Several possible reasons for this result exist. First, a perceived gap in technological expertise may exist between older professors and younger students. The existence of "digital natives" is a highly debated topic, and the aforementioned gap has been challenged by some researchers (Kirschner & De Bruyckere, 2017) and supported by others (Prensky, 2010). Second, if younger students have experienced more technologically infused settings, they may not view or take note of technology as a separate topic about which to learn (Adobe Blog, 2018; Clark & Avrith, 2017).

Implications for School Counselors and School Counseling Programs

The ASCA National Model (ASCA, 2012), the widely proliferated framework for comprehensive school counseling programs, underscores the programmatic aspects of what school counselors do, with elements like the advisory council, annual agreement, action plans, use of data, and calendars comprising the management system. These elements require communication, organization, and presentation of information. The findings of this study indicate that some school counselors are using technology to assist them with these tasks, but many are not, potentially leaving them vulnerable to role confusion and budget cuts.

School counselors who are receptive to the use of technology may be more likely to incorporate it into their school counseling programs. Many schools and districts are incorporating technology into day-to-day operations (e.g., Google Classroom, Chromebooks, learning management systems), often at rapid rates, in all manner of activities including classroom instruction, student assessment, data management, and parent/family communication. Students themselves, as digital natives, are accustomed to the prevalence of technology in their lives both in and out of school (Gallo, Rausch, Smith, & Wood, 2016). Therefore, it behooves school counselors to keep up with educational technology trends, to examine critically the available options, and to utilize those that assist them in doing their jobs.

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With multiple devices, cloud-based storage, and social media being used in education, keeping a focus on ethics in their use of technology is important for school counselors. Further, if school counselors are using both school-issued and

personal devices, they must also consider how to ensure the security of information across devices and know the legal, ethical, and practical parameters of working across platforms, especially where school-specific data and files are being shared. The ASCA Ethical Standards for School Counselors (ASCA, 2016) provide guidelines for using personal accounts, social media, and apps; for the protection of data; and for the teaching of digital citizenship, but they do not specifically address devices or cloud-based storage systems. Districts can help by providing technology support, conducting professional development, establishing policies about acceptable use, involving school counselors in policy development, and ensuring that the provision of technology is equitable across educator groups.

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Given the call of the profession and the ASCA National Model (ASCA, 2012) to serve all students, finding innovative ways to share information broadly and equitably becomes important, especially in, though not exclusively for, large schools or when school counselors have large caseloads. Technology tools that help school counselors communicate and present information through technology (e.g., Remind, Canva, Instagram, YouTube, Weebly) not only address issues of efficiency by automating and digitizing delivery but may also help them reach more students, families, or staff (Cleveland & Sharp, 2019). Some of these tools have language translation and closed captioning features to meet the needs of often underserved groups.

Although districts and school administration will research potential educational technology brands for adoption, many of these brands are targeted at the work of classroom teachers. Therefore, school counselors may need to do their own research on the value of such brands for their work or advocate that their programs be considered when adoption decisions are made. School counselors may find themselves needing to advocate for or justify the use of technology as it pertains to the school counseling program.

Implications for School Counselor Preparation and Training

Findings from this study present some very actionable items around school counselors' use of technology, especially for graduate programs and for district supervisors and coordinators of school counseling. A glaring finding of this study is that graduate programs are the least likely source of training on technology for school counselors by a very large percentage. This seems to suggest that graduate programs are not providing

training in this area. Given the pervasiveness of technology in education, graduate programs in school counseling should consider how the topic of technology is addressed.

Another reason school counselors may report not learning about technology in their programs is faculty use of technology. If faculty are not comfortable with utilizing technology in their roles, then students may not see it as a priority. Conversely, those faculty who do utilize technology may be modeling its use and importance as a tool.

Given that participants highlighted professional development and word of mouth as strong sources for their learning about technology, we encourage district leaders and professional associations to provide technology training. Districts that provide technology training for teachers or administrators would be wise to also include school counselors. In the ideal scenario, school counselors would receive training in technologies that are specific to their roles and be given adequate time to practice new tools in a supportive setting before using them on the job.

Future Research

The need for research on school counselors' use of technology will continue as long as technology is utilized in schools. Studies exploring relationships between this survey and other related constructs, such as the use of technology for professional development, self-efficacy in using technology, knowledge of available online tech tools, and awareness and adherence to ethical standards and district social media policies, would shed more light on school counselors' interactions with technology.

As most studies to date have focused more on technology in the day-to-day management of school counseling programs, future research can focus on the clinical aspects of the services school counselors provide. For example, how are school counselors utilizing technology in individual counseling, group counseling, or for skill development? Future studies may also examine how school counselors are involved with helping students navigate both the positive aspects of technology, such as emerging careers in science, technology, engineering, and mathematics (STEM) fields, and the negative aspects, such as online bullying and harassment.

Limitations

As with all research, this study had limitations. Most are due to the design and development of the instrument, lack of a pilot, and subsequent concerns during the analysis phase. The order of items presented the demographic items first instead of last per Dillman, Smyth, and Christian (2014); this may have accounted for missing data that resulted in the large percentage of cases removed. Also, the lack of forced completion of items may have resulted in missing data.

The use of self-report instruments is often considered a limitation (Howard, 1994). Furthermore, assessing school

counselors' use of technology using digital (e-mail) and online recruitment strategies may have resulted in a bias toward tech-savvy participants and thus the presence of a nonresponse error (Dillman, Smyth, & Christian, 2014).

The sample consisted of mostly White females. Although this demographic skew mostly reflects the current population of school counselors, it is possible, to a degree, that this group is somewhat overrepresented compared to the national average (Bridgeland & Bruce, 2011); therefore, the results may be less generalizable in settings that reflect more diversity in terms of gender and race/ethnicity.

Conclusion

This exploratory study sought to understand how school counselors use technology for program management, with whom, and how often. Findings indicate that many school counselors do not integrate technology and those who do are more likely to use it for managing files and communicating with other school counselors. As the findings from this study show, graduate training programs are not likely to teach school counselors how to integrate technology, and most learn about tools through professional development, online, or by word of mouth.

Technology, as it continues to evolve in educational settings, has substantial potential for assisting school counselors in their work for and with their stakeholders. Furthermore, having technology skills is likely to position school counselors in the future as more competitive candidates in the job market. However, many school counselors are not taking advantage of technology and thus may not have the reach or the impact that they could, which has significant implications for serving all students and other stakeholders.


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