



Are students aware of, knowledgeable about, and willing to use campus safety services?

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Abstract

The current study aimed to examine the extent to which students were aware of, knowledgeable about, and willing to use services offered by Campus Safety at Carleton University. Surveying students revealed that most were unaware of the majority of services. When students were aware of the services, typically less than half of the students knew how to access them and very few had used them. Encouragingly, most students indicated that they would use the services in the future. Interviews with Campus Safety officers and a small subsample of students who completed the survey yielded numerous recommendations regarding how the identified gaps in awareness and knowledge may be filled. The problems uncovered in this study may exist at other universities. To the extent that they do, these recommendations may also allow Campus Safety departments at these institutions to increase the degree to which their services are utilized by students.

Keywords Campus security · Student service awareness · Student service use · Safety · Campus services

In order to serve and protect individuals who study and work on post-secondary campuses, many institutions have developed some form of campus police or security service (Patten et al. 2016). While these bodies may look slightly different depending on the campus, they typically offer a variety of services that aim to facilitate their ultimate goal of keeping students, faculty, staff, and visitors safe (Patten et al. 2016). In order for these services to be effective for the student population, students

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need to be aware of them, knowledgeable about how to access them, and willing to access them if they are ever in need.

Unfortunately, to date, empirical evaluations of Campus Safety Services are virtually nonexistent, including studies examining whether students understand the services that are offered on their campuses and how to access them. Understanding the extent to which there are gaps in awareness and knowledge would allow campus police and security services to re-evaluate how their programs are being designed, advertised, and implemented in order to make the programs more useful to university students (and faculty, staff, and visitors). Only by accomplishing this can these organizations ensure they are meeting their safety-related goals.

The current study addresses this issue by examining one specific organization—Campus Safety Services at Carleton University in Ottawa, Ontario, Canada. Campus Safety Services provide 24-h response to calls from the Carleton community related to security, medical, police, and fire services (“Campus Safety Services”, n.d.). They enforce university policies, as well as the Criminal Code and some provincial statutes (“Campus Safety Services”, n.d.). Ultimately, they aim to promote physical security, safety awareness, crime prevention, while also referring individuals to other resources on campus as needed (e.g., Health and Counseling Services; “Campus Safety Services”, n.d.). Campus Safety offers a wide variety of programs including technical services that seek to ensure Carleton’s physical security systems are functioning, parking services, patrol and investigative services, crime prevention services, and community building services in order to carry out their mandate (“Campus Safety Services,” n.d.).

In this paper, we examine the extent to which Carleton undergraduate students are aware of, knowledgeable about, and willing to use the breadth of programs currently being delivered by Campus Safety Services. A secondary goal of the study was to identify how these things vary as a function of student characteristics, such as gender. Finally, we attempted to identify—through interviews with Campus Safety officers and Carleton students—ways in which any gaps in awareness and knowledge could be filled.

Previous research on knowledge, awareness, and use of campus services

While there is limited research specifically examining student awareness of police and/or security services on university campuses, there is research examining awareness and knowledge surrounding other types of campus services (e.g., health-related services, mental health services, sexual assault services). Most of this research highlights potential problems with student knowledge and awareness of such services, which raises the possibility that similar problems may exist in relation to Campus Safety Services.

For example, a study conducted by Schweitzer (1996) examined student awareness of university services in a sample of undergraduate students ($N=441$) at Queensland University of Technology in Australia. This study revealed that less than 50% percent of students knew where to go on campus for health-related issues



and only about a quarter of participants knew where to go should they experience issues with finances, discrimination, sexual harassment, or emotional distress. On the other hand, a larger proportion of students indicated better awareness of services related to academic issues (61%).

Similar gaps in student knowledge can be seen in investigations of university mental health services. In one study, an online survey of students ($N=266$) conducted by Yorgason et al. (2008) revealed that 30% of students had no knowledge about their school's mental health services, 37% were not given adequate information about the services, and 38% knew about the services, but could not provide any information about them. When students were aware of the mental health services, the most common sources of information were friends (29%), advertisements (19%), and the internet (19%). Further, these researchers found that only 17% of participants had used the mental health services provided by their university. When asked about reasons for not accessing the services, responses included that the student did not have enough time (33%), lacked knowledge of the services (25%), had no relevant concerns (21%), did not believe the service would be helpful (19%), did not have the necessary funds to cover the costs of the service (18%), did not want to talk to a stranger (17%), preferred non-campus services (5%), or had a bad experience with previous counseling (5%). Additionally, Yorgason et al. determined that being female and having spent more years on campus was associated with greater service use.

In order to examine whether demographic variables (e.g., student gender) influenced the use and awareness of campus wellness services, Derby (2017) conducted an online study of Health and Physical Education majors and minors at a number of American universities ($N=74$). While the results did not reveal any significant relationship between demographic variables and the awareness of services, the researchers did determine that those who lived on campus were more likely to use wellness services. Furthermore, they found that while students were largely aware of and using academic advising and the fitness and recreation services, they were largely unaware of and not using the other 14 services that were offered (e.g., information technology, multicultural affairs/diversity, disability services).

When examining student knowledge surrounding sexual assault services, Franklin et al. (2017) found that, in a sample of 505 undergraduate students who were enrolled in a criminal justice course at a southern university in the USA, only approximately one-third of students knew how to get information about sexual assault services on campus. Further, student familiarity with the services was also low. Similarly, McMahon and Stepleton (2018) found that in a sample of 6,866 students at an American university, there was very little knowledge of sexual assault services offered to them on their university campuses. However, on average, students reported moderate confidence in knowing what to do if a sexual assault were to occur. Notably, the number of student exposures to messages regarding sexual violence was positively associated with level of awareness and confidence in knowing what to do if sexual violence occurred.

Roberts et al. (2018) have conducted one of the few studies that did reveal relatively high levels of student awareness of campus services. They evaluated international students' ($N=333$) awareness of services on an Australian university campus



using university-wide questionnaires, focus group interviews, key informant interviews, and document analysis. Their results revealed that over 90% of the students were aware of many of the services; however, awareness did vary by service. This was similarly the case with service use, in that while some services (e.g., campus security services, international office) appeared to be used by more than 85% of respondents, many of the services were used by less than half of the sample. The most common reason that students did not use any of the services was because it was not required, followed by not knowing how to access the service, and having trouble finding information about the service. Notably, the fact that this study looked specifically at international students could contribute to these positive findings (e.g., being far from home may increase the chance that students rely on services when they are useful).

The current study

Overall, there is virtually no research examining student awareness, knowledge, or use of Campus Safety Services specifically. However, research on other campus services suggests that there may be significant gaps in this area as well. Some of the studies discussed above (e.g., Roberts et al. 2018; Yorgason et al. 2008) also highlight that awareness, knowledge, and use of Campus Safety Services may be affected by demographic factors such as gender, years on campus, and whether or not you are an international student. The current study hopes to address this gap in the literature by answering the following research question: to what extent are Carleton University students aware of, knowledgeable about, and use Campus Safety services? A secondary aim of the study was to see whether the answer to this question depends on student gender, race, whether the student identifies as a domestic or international student, whether the student has ever lived on campus, and their year of study. A third and final aim of the study was to identify recommendations on how to minimize any gaps in awareness, knowledge, and use that were identified by interviewing Campus Safety officers and Carleton students.

Method

The current study consisted of three components. First, we interviewed Carleton Campus Safety officers in order to gain an understanding of the services offered by Campus Safety to Carleton students, perceived gaps in student awareness, knowledge, and use of these services, and recommendations to minimize any identified gaps. Then, we conducted an online survey, which examined student awareness, knowledge, and use of the services identified in the interviews with Campus Safety. Finally, we conducted interviews with a small subsample of students from the online survey regarding any specific gaps in their awareness, knowledge, and use of the services, and how they believed these gaps could be filled.



Participants

Campus safety officers

A recruitment email explaining the purpose of the study and the requirements of the participants was sent to the Campus Safety officers by the Training Investigations and Case Manager of Campus Safety. Five officers volunteered to participate in the interviews. We did not collect demographic information from these officers.

Student participants

Recruitment of students for the purpose of the online survey was through the SONA system at Carleton University. This system allows students in several undergraduate psychology courses to receive course credit for participating in research. If students chose to participate in the survey, they received 0.25% toward their course grade. A total of 973 students responded to the survey, of which 86 were removed because they did not provide responses to at least 10 of the 13 services offered by Campus Safety. The remaining 887 participants had an average age of 20.1 years ($SD=3.8$) and were from diverse majors; however, most commonly the students were from psychology ($n=225$, 25.4%) and criminology ($n=156$, 17.6%).¹ The remainder of the demographics for the sample is presented in Table 1. Unfortunately, because we do not know how many students read our recruitment announcement on the SONA system, we have no way of determining what the response rate was.

Students who participated in the online survey were provided an option at the end of the survey to volunteer to participate in interviews for an additional 1.5% toward their course credit. Of the survey participants, we completed interviews with five students. Demographic information was not collected from these students.

Procedure

The current study received ethical clearance from Carleton University's Research Ethics Board (CUREB-B Clearance #111848).

Campus safety interviews

Upon arrival to the interview location, the Campus Safety officers were provided with an informed consent form that discussed the purpose of the study, risks and inconveniences, possible benefits, data retention issues, as well as providing

¹ At Carleton University, the sort of psychology courses that have access to research participation through the SONA system are courses that cater to students from across the university who are taking the courses to meet their elective requirements.



Table 1 Demographics of the student participants in the sample

Demographic Variable	<i>n</i> (%)
Gender	
Male	321 (36.2%)
Female	560 (63.1%)
Other	3 (0.3%)
Prefer not to say	1 (0.1%)
Race	
Caucasian	477 (53.8%)
Asian	118 (13.3%)
Black	108 (12.2%)
Middle Eastern	61 (6.9%)
East Indian	27 (3.0%)
Hispanic	21 (2.4%)
First Nations/Indigenous/Inuit	13 (1.5%)
Other	56 (6.3%)
Lived on campus	
Yes	399 (45.4%)
No	480 (54.1%)
International student	
Yes	100 (11.3%)
No	782 (88.2%)
Year of study	
First	509 (57.4%)
Second	227 (25.6%)
Third	97 (10.9%)
Fourth	49 (5.5%)

information regarding their right to withdraw and confidentiality. The interviews were semi-structured and ran for a total of 60–90 min each.

During the first interview, which was conducted with a group of three Campus Safety officers, the officers were asked a series of questions including what services are available to Carleton students through Campus Safety, how these services work, how the services can be accessed, if the services are being used to their full potential, and what might be done to reduce any gaps in student awareness, knowledge, and use of the services. The second two interviews were conducted with individual officers. These were run slightly differently from the group interview; the officers were presented with the list of services that had been identified by the first group and they were asked to add any services that had been missed. Since few additional services could be identified in these interviews, the discussions in the second and third interview sessions centered more around students' lack of awareness of these services, why students may be unaware of the services, and what could be done to change this. All of the interviews with Campus Safety officers were audio recorded. At the end of the sessions, participants



were debriefed and provided a sheet with researcher contact information should any questions or concerns arise.

Online student survey

All surveys were conducted using Qualtrics software. Prior to participating in the survey, students completed an informed consent form. Then, students were presented with a specific Campus Safety service and asked whether they were aware of the service. If they indicated that they were aware of the service they were then asked whether they knew how to access the service, whether they had accessed the service in the past, and whether they would access the service in the future if in need. If they were not aware of the service, they were presented with another service. The survey proceeded this way for 12 of the Campus Safety Services that were identified in the interviews with Campus Safety officers (see Table 2). At the end of the survey, students were asked demographic questions including their gender, age, race, program of study, year of study, whether they had ever lived on campus, and whether they were an international student. Finally, students were provided with information on how to contact the researchers if they had any questions or concerns.

Student interviews

At the end of the survey, students were asked if they would be willing to take part in an additional interview. Some of these students were contacted, and arrangements were made to carry out the interviews. Like the interviews with Campus Safety officers, some of the student interviews were done in small groups, and some were conducted with individual students. These sessions ran for a total of 60–90 min each. Each session was audio recorded. At the beginning of each interview session, students were provided with an informed consent form. Each session then proceeded in a semi-structured format by asking students a series of questions regarding the extent of their knowledge about the Campus Safety services that had been listed in their online survey. The questions then prompted students to think about why there may be gaps in student awareness, knowledge, and use of these services, and how these gaps could be minimized. Following each session, students were provided with information about how to contact the researchers should any questions or concerns arise.



Table 2 A description of the services identified in the Campus Safety officer interviews

Service	Description
Calls for Service	Any time that a Carleton student is in need, whether they are experiencing a medical issue, a mental health crisis, or they've been the victim of a crime, they can call Campus Safety to report the incident and Campus Safety will provide assistance, including an investigation if required. This service runs 24/7
Carleton University Student Emergency Response Team (CUSERT)	CUSERT provides on-call emergency medical response services for the entire Carleton campus 24/7. CUSERT also provides first aid coverage at university events
Safety Planning	A program where Campus Safety works with an individual to develop a personalized, practical plan that can help the student and/or faculty member avoid dangerous situations and learn the best way to react when they are in danger. Safety Planning can include information about a number of other Campus Safety services, such as the Safe Walk Program or the Working After Hours Program
Working After Hours Program	If you're working or studying late, you can let Campus Safety know and they will check in on you, patrol your worksite, and walk you to your vehicle or residence when you're ready to leave
529 Garage/Bike Registration	529 Garage is a method for reducing bike thefts by registering the details of your bike, including the serial number, in a computer database. This also allows you to alert the community about a missing bike and verify ownership if your stolen bike is found
Bicycle Compounds	This service provides several secure Bicycle Compounds on campus, which are available to members of the Carleton community for an annual fee of \$15. Users are given an access card that grants access into the compound
Stop Theft Laptop Registration	This program allows you to register your laptop with Campus Safety for tracking purposes. The information can be used to verify ownership if your stolen laptop is recovered
The Enhanced Assess, Acknowledge, Act Sexual Assault Resistance Education Program (EAAA)	This program offers a free 12-h sexual assault resistance education program for young women on campus. The program is geared towards recognizing characteristics in the environment and in other people that increase the likelihood of sexual assault, explores personal beliefs which create emotional barriers to resistance, and teaches verbal and physical strategies that can effectively deter perpetrators
Safe Paths	Safe Paths are specially designated paths through the university campus, which have increase lighting, call boxes, cameras, and heavier pedestrian traffic



Table 2 (continued)

Service	Description
Battery Boosts	This service can be used if your car battery dies. Campus Safety can provide you with a portable battery charger to help you boost your battery
Welfare Checks	This service allows you, or any member of the public, to contact Campus Safety if you have a concern about someone's welfare. Campus Safety officers will attempt to contact the person to ensure that they are safe
Cease and Desist Notices	Campus Safety can help prepare Cease and Desist notices which, while not legal documents, can help prevent contact between individuals on campus who are experiencing conflict with one another. Once signed by both parties, violations of these orders are dealt with by Student Affairs
Safe Walk	Using this service, students can request (free of charge) for a Campus Safety officer or security officer to walk them from their current location on campus to any other location on campus.

Results

Campus safety interviews

Interviews with Campus Safety officers identified 13² services. These are listed in Table 2, along with brief descriptions of each service. We cross-referenced these services with documentation that was provided to us from Campus Safety, and with information available on their website, and felt that the information identified by the officers was accurate and complete (services that were not listed in documentation or on the website were actually identified in the interviews).

The officers we interviewed additionally identified potential reasons for services not being used by Carleton University students. These reasons included: (1) a lack of awareness of the services, which could be due to (a) a lack of encouragement by the university or Campus Safety to use the services, (b) confusion about certain services (e.g., what they are intended to accomplish) and the role of Campus Safety officers generally, and/or (c) poor advertising (e.g., advertising that is out of date or not consistent with how students find or use information); (2) the fact that some of the services (e.g., Stop Theft Laptop Registration) may not be convenient for students to use compared to if a more streamlined (e.g., online) process was put in place; (3) student demographics may contribute to discomfort accessing some services (e.g., males students may not want to access the Safe Walk or Working After Hours

² We did not ask students in the survey about whether they were aware that Campus Safety responded to calls for service because we assumed that students were aware that they could call Campus Safety in general and they would respond. Therefore, the survey only asked students about the remaining 12 services.



services); and, (4) students may not require the services, or at least perceive that they require the services, which could in part be due to a lack of awareness of crime or other incidents on campus.

Recommendations identified by the Campus Safety officers, for reducing awareness, knowledge, and use gaps will be discussed below when we discuss recommendations that were identified in the student interviews.

Student survey

In general, a significant portion of students were not aware of many of the services offered by Campus Safety. Of the students who were aware of the services, typically less than a third of students had ever accessed these services in the past. Furthermore, when the students who were aware of services were asked whether they knew how to access the services, generally less than half of the students indicated that they did. However, of the students who were aware of the services, the majority indicated they would use the service in the future if in need.

Below, we provide information related to student awareness of services, previous access of the services, whether the students know how to access the services, and whether they would be willing to use the services in the future. We also use logistic regression analyses to examine how survey responses for each of these topics varied across student gender, race, whether the student is international or domestic, whether the student has ever lived on campus, and the student's year of study. Due to the small number of individuals who indicated other ($n=1$) when asked to indicate their gender or preferred not to specify their gender ($n=2$), analyses were run comparing only individuals who identified as male or female. Further, analyses examining race compared Black, Indigenous, and people of color (BIPOC) to White students. Finally, the analysis involving year of study compared students from lower years (i.e., first and second) to upper years (i.e., third and fourth).³

Note that given so many comparisons were examined, we adopted Benjamini and Hochberg's (1995) False Discovery Rate (FDR) procedure. For each comparison, the p value is compared to a new threshold that is calculated by taking into consideration the rank of the p value relative to all of the p values, as well as the number of comparisons made overall. This procedure holds the proportion of false discoveries constant while still maintaining reasonable statistical power (Benjamini and Hochberg 2002).

Awareness of services

As mentioned, the majority of students were not aware of most of the services offered by Campus Safety. The exceptions to this were the Safe Walk Program,

³ These decisions were made to reduce the number of comparisons overall and to allow these comparisons to be made more appropriately when service awareness was low and we were assessing previous use, knowledge regarding access, and willingness to use.



Table 3 Frequency of students who are aware of, previously accessed, know how to access, and are willing to access safety services

Service	Are you aware of the service?		Have you ever accessed the service?		Do you know how to access the service?		Would you access the service in the future?	
	Yes n (%)	No n (%)	Yes n (%)	No n (%)	Yes n (%)	No n (%)	Yes n (%)	No n (%)
Safe Walk	759 (85.9%)	125 (14.1%)	21 (2.8%)	735 (97.2%)	410 (54.2%)	346 (45.8%)	624 (82.2%)	135 (17.8%)
Working After Hours	234 (26.4%)	651 (73.6%)	22 (9.4%)	211 (90.6%)	107 (45.9%)	126 (54.1%)	193 (83.2%)	39 (16.8%)
CUSERT	501 (56.6%)	384 (43.4%)	71 (14.2%)	428 (85.8%)	243 (48.6%)	257 (51.4%)	477 (95.2%)	24 (4.8%)
Safety Planning	128 (14.4%)	759 (85.6%)	12 (9.5%)	114 (90.5%)	34 (27.0%)	92 (73.0%)	112 (11.1%)	14 (88.9%)
529 Garage Bike Registration	70 (7.9%)	816 (92.1%)	9 (13.0%)	60 (87.0%)	22 (31.9%)	47 (68.1%)	48 (69.6%)	21 (30.4%)
Bicycle Compound	209 (23.8%)	670 (76.2%)	14 (6.7%)	194 (93.3%)	56 (26.9%)	152 (73.1%)	162 (22.1%)	46 (77.9%)
Stop Theft Laptop Registration	65 (7.4%)	818 (92.6%)	17 (26.6%)	47 (73.4%)	19 (29.7%)	45 (70.3%)	57 (12.3%)	8 (87.7%)
E.A.A.A.	217 (24.5%)	670 (75.5%)	12 (5.6%)	204 (94.4%)	44 (20.4%)	172 (79.6%)	187 (86.6%)	29 (13.4%)
Safe Paths	230 (26.0%)	655 (74.0%)	48 (21.1%)	179 (78.9%)	117 (51.5%)	110 (48.5%)	202 (89.0%)	25 (11.0%)
Battery Boosts	104 (11.8%)	781 (88.2%)	37 (35.9%)	66 (64.1%)	68 (66.0%)	35 (34.0%)	98 (95.1%)	5 (4.9%)
Welfare Checks	41 (4.6%)	844 (95.4%)	11 (27.5%)	29 (72.5%)	16 (43.2%)	21 (56.8%)	35 (14.6%)	6 (85.4%)
Cease and Desists	29 (3.3%)	856 (96.7%)	12 (44.4%)	15 (55.6%)	15 (55.6%)	12 (44.4%)	23 (82.1%)	5 (17.9%)



Table 4 Demographic differences in awareness of Campus Safety services

Service	Constant		Race		Year of study		Gender		International		Lived on campus	
	β	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Safe Walk	1.59	0.22	-0.49	0.22	0.04	0.28	0.30	0.21	0.03	0.33	0.65	0.22
Working After Hours	-1.51	0.19	0.57	0.18	0.65	0.21	0.17	0.18	0.20	0.26	-0.23	0.17
CUSERT	-0.36	0.17	-0.47	0.17	0.56	0.22	0.36	0.16	-0.36	0.26	1.35	0.16
Safety Planning	-1.82	0.23	-0.03	0.25	0.17	0.27	-0.03	0.22	1.45	0.30	-0.66	0.22
529 Garage Bike Registration	-2.52	0.29	-0.16	0.32	1.09	0.29	-0.43	0.27	0.55	0.42	0.01	0.27
Bicycle Compound	-0.73	0.18	-0.43	0.20	0.83	0.21	-0.51	0.17	0.57	0.28	-0.37	0.17
Stop Theft Laptop Registration	-2.82	0.33	1.06	0.33	0.54	0.34	-0.62	0.29	0.46	0.37	-0.46	0.30
EAAA	-1.59	0.20	-0.09	0.19	0.12	0.22	0.62	0.19	0.47	0.27	-0.01	0.17
Safe Paths	-1.26	0.19	-0.25	0.18	0.45	0.21	0.47	0.18	-0.15	0.30	-0.13	0.17
Battery Boosts	-2.04	0.25	-0.18	0.26	0.56	0.27	0.01	0.23	0.83	0.34	-0.33	0.23
Welfare Checks	-4.03	0.48	-0.86	0.54	0.96	0.40	0.75	0.42	2.66	0.40	-0.25	0.37
Cease and Desists	-4.45	0.57	0.52	0.60	-0.19	0.58	-0.40	0.44	2.15	0.53	0.51	0.45

Significant differences are indicated in bold. Services are only bolded if the demographic comparisons are significant



which 85.9% of the sample was aware of ($n=759$), and the Carleton University Student Emergency Response Team (CUSERT), which 56.6% were aware of ($n=501$). As indicated in Table 3, the remainder of the services were associated with relatively low levels of awareness, in particular Welfare Checks (4.6%, $n=41$) and Cease and Desist notices (3.3%, $n=29$).

The logistic regression analyses revealed that after controlling for the influence of the other demographic variables in the model, there were significant differences in awareness across gender, international and domestic students, having lived on campus or not, and years of study (see Table 4). All of the results are interpreted using the exponentiated beta coefficient in order to determine the difference in odds between groups.

There were differences in gender for the Bicycle Compound and the EAAA sexual assault service. More specifically, compared to men, women were associated with a 40% reduction in the odds of being aware of the Bike Compound. However, compared to men, women were associated with an 85% increase in the odds of being aware of the EAAA sexual assault service.

When examining differences between international and domestic students, international students had significantly higher awareness of Safety Planning, Welfare Checks, and Cease and Desist services. Specifically, compared to domestic students, the odds of international students being aware of the services were 327% higher for Safety Planning, 1,300% higher for Welfare Checks, and 760% higher for Cease and Desist notices.

Students who had lived on campus were significantly more aware of Safe Walk and CUSERT, and less aware of Safety Planning than those who had not lived on campus. Having lived on campus was associated with a 92% increase in the odds of being aware of Safe Walk and a 287% increase in the odds of being aware of CUSERT. However, having lived on campus was associated with a 49% reduction in the odds of awareness for Safety Planning.

In terms of year of study, upper-year students were significantly more aware of the 529 Garage Bike Registration and the Bicycle Compound than lower year students. Specifically, compared to lower year students, the odds of upper-year students being aware of these services were 198% higher for the 529 Garage Bike Registration and 129% higher for the Bicycle Compound.

Previous service access

Typically, the students who indicated awareness of the services had not accessed the services in the past.⁴ The services with the highest percentage of students who had previously accessed them were providing Cease and Desist notices (44.4%, $n=12$),

⁴ It is important to note that the percentages presented for the questions regarding whether students have accessed the service, whether they know how to access the service, and whether they would access the service in the future are relative to the number of individuals who indicated that they were aware of the given service (if they were not aware then they did not see these questions).



Table 5 Demographic differences in previous use of Campus Safety services

Service	Constant		Race		Year of Study		Gender		International		Lived on Campus	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Safe Walk	-4.22	0.62	0.86	0.59	0.78	0.56	-0.87	0.51	0.56	0.63	0.52	0.62
Working After Hours	-3.04	0.68	0.97	0.64	0.61	0.53	-0.63	0.51	0.69	0.59	0.38	0.51
CUSERT	-2.46	0.37	0.51	0.30	0.21	0.34	-0.47	0.28	-0.22	0.47	1.12	0.33
Safety Planning	-3.15	1.18	1.30	1.28	0.12	0.93	-0.41	0.81	1.14	0.94	-19.14	5991.92
529 Garage Bike Registration	-3.43	1.29	1.55	1.29	-0.07	0.99	0.50	0.91	1.46	1.03	-0.87	0.97
Bicycle Compound	-3.60	0.76	-0.50	0.95	0.86	0.64	0.79	0.67	2.23	0.99	-0.65	0.66
Stop Theft Laptop Registration	-3.51	1.39	0.48	1.28	1.78	1.03	0.96	0.88	3.21	1.09	-1.08	0.95
EAAA	-4.15	1.12	-1.17	1.34	0.94	0.78	0.14	0.83	3.14	1.31	0.53	0.77
Safe Paths	-0.78	0.37	-0.85	0.45	0.68	0.39	-0.82	0.37	0.37	0.69	0.19	0.35
Battery Boosts	-0.79	0.51	-0.05	0.56	0.43	0.50	-0.23	0.47	0.74	0.66	0.17	0.45
Welfare Checks	-22.20	10,079.68	1.90	1.75	20.55	10,079.68	-0.09	1.15	19.75	10,079.68	0.05	1.13
Cease and Desists	0.51	1.41	0.10	1.63	-0.01	1.18	-0.44	0.98	0.61	1.23	-1.13	1.06

Significant differences are indicated in bold. Services are only bolded if the demographic comparisons are significant



followed by the Battery Boosts service (35.9%, $n=37$), Welfare Checks (27.5%, $n=11$), and the Stop Theft Laptop Registration (26.6%, $n=17$).

Logistic regression analyses revealed no differences in previous use of services in terms of gender, race, or year of study (see Table 5). However, compared to those students who have not lived on campus, having lived on campus was associated with a 208% increase in the odds of having used CUSERT. Further, being an international student was associated with a 2,373% increase in the odds of having used the Stop Theft Laptop Program over domestic students. That being said, this result should be interpreted with caution because the analysis included 63 students total, only 15 of which were international students.

Knowledge about accessing the service

Often less than half of the students who were aware of the services indicated knowing how to access them. The only exceptions to this were the Battery Boost (66.0%, $n=68$), Cease and Desists (55.6%, $n=15$), Safe Walk (54.2%, $n=410$), and Safe Paths (51.5%, $n=117$) services. In each of these cases, over half of the students indicated knowing how to access the service.

Logistic regression analyses revealed no differences in knowledge regarding how to access services in terms of gender, race, whether the students were international or domestic, or year of study (see Table 6). However, having lived on campus was associated with a 219% increase in the odds of knowing how to access CUSERT over students who had never lived on campus.

Willingness to access services in the future

While many students had not accessed Campus Safety services in the past, the majority of students who were aware of the services indicated that they would access them in the future if in need. Indeed almost all of the services had over 75% of students who indicated awareness also indicating that they would use the services in the future if in need. The only exception to this was the 529 Garage Bike Registration. In this case, only 69.6% of students who were aware of this service indicated that they would use it in the future ($n=48$).

Logistic regression analyses did not reveal any significant differences in willingness to use services across race, year of study, whether the students were international or domestic, or whether the students had lived on campus (see Table 7). However, there were gender differences in willingness to use Safe Walk, EAAA, and Safe Paths. Specifically, identifying as a woman was associated with a 525% increase in the odds of using Safe Walk, a 1,043% increase in the odds of using EAAA, and a 372% increase in the odds of using Safe Paths in comparison to men. That being said, the analyses examining EAAA and Safe Paths had smaller samples of just over 200, and only about a quarter of those samples were men. Therefore, these results should be interpreted with some caution.



Table 6 Demographic differences in knowledge about accessing Campus Safety services

Service	Constant		Race		Year of Study		Gender		International		Lived on Campus	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Safe Walk	0.32	0.18	-0.06	0.17	-0.52	0.21	-0.15	0.17	-0.49	0.27	0.27	0.16
Working After Hours	-0.08	0.33	-0.06	0.31	-0.09	0.34	-0.16	0.30	0.54	0.43	-0.16	0.29
CUSERT	-0.52	0.24	0.12	0.23	-0.32	0.25	-0.28	0.21	-0.21	0.36	1.16	0.20
Safety Planning	-1.51	0.60	0.85	0.61	0.47	0.60	-0.71	0.49	0.41	0.58	-0.15	0.52
529 Garage Bike Registration	-2.27	0.77	0.90	0.73	0.65	0.63	0.52	0.63	1.34	0.86	0.43	0.62
Bicycle Compound	-1.26	0.34	0.10	0.40	0.51	0.36	0.41	0.34	0.51	0.52	-0.53	0.34
Stop Theft Laptop Registration	-2.15	0.90	1.15	0.90	-0.24	0.77	-0.01	0.65	0.60	0.73	0.42	0.66
EAAA	-1.46	0.46	0.09	0.43	0.26	0.46	-0.21	0.41	0.47	0.55	0.09	0.37
Safe Paths	0.14	0.33	-0.13	0.32	0.03	0.35	-0.42	0.32	0.20	0.54	0.65	0.29
Battery Boosts	0.74	0.53	-0.14	0.53	-0.26	0.54	-0.02	0.50	2.48	1.13	-0.31	0.47
Welfare Checks	-2.49	1.38	1.60	1.35	1.33	0.95	-0.24	0.98	0.27	1.30	1.81	0.97
Cease and Desists	21.90	14,071.66	-19.77	14,071.66	0.90	1.60	-1.71	1.41	20.65	14,071.66	-21.77	14,071.66

Significant differences are indicated in bold. Services are only bolded if the demographic comparisons are significant



Table 7 Demographic differences in willingness to access Campus Safety services

Service	Constant		Race		Year of Study		Gender		International		Lived on Campus	
	B	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Safe Walk	0.40	0.21	0.45	0.25	-0.35	0.27	1.83	0.22	1.11	0.48	0.03	0.22
Working After Hours	1.17	0.42	-0.28	0.42	-0.27	0.47	0.94	0.41	1.45	0.81	0.05	0.41
CUSERT	1.43	0.42	1.14	0.65	0.55	0.66	0.94	0.48	17.35	5739.1	1.44	0.51
Safety Planning	0.83	0.70	0.62	0.87	0.42	0.91	1.65	0.76	0.49	1.06	0.62	0.78
529 Garage Bike Registration	0.70	0.61	-0.49	0.69	-0.74	0.59	0.49	0.59	-0.03	0.85	0.89	0.60
Bicycle Compound	1.58	0.39	-0.12	0.44	-0.68	0.39	-0.62	0.38	0.12	0.62	1.03	0.41
Stop Theft Laptop Registration	0.61	0.76	1.60	1.28	19.21	10,380.0	0.54	0.97	-1.63	1.27	1.32	1.16
EAAA	0.37	0.46	0.88	0.61	-1.16	0.55	2.44	0.52	0.85	0.94	0.14	0.50
Safe Paths	0.89	0.43	0.35	0.56	0.63	0.66	1.55	0.48	0.21	0.90	0.20	0.48
Battery Boosts	3.44	1.16	-1.00	1.09	-0.77	0.99	0.94	0.98	0.95	1.36	-0.94	0.98
Welfare Checks	20.36	13,071.9	1.49	2.12	-0.11	1.41	-19.04	13,071.9	-1.00	2.06	-1.17	1.47
Cease and Desists	23.89	15,437.5	-21.25	15,437.5	-1.62	1.68	-0.73	1.65	1.26	1.73	-21.25	15,437.5

Significant differences are indicated in bold. Services are only bolded if the demographic comparisons are significant



Recommendations from the interviews

The interviews with both the Campus Safety officers and Carleton students revealed numerous recommendations to increase awareness, knowledge, and use of the services offered by Campus Safety at Carleton University. Most of the recommendations provided by both Campus Safety officers and students related to better ways to advertise services on campus. For example, Campus Safety officers and Carleton students both felt that Campus Safety could make better use of social media platforms in their advertising efforts (e.g., Facebook, Instagram, Twitter, Snapchat, TikTok, LinkedIn), especially because this is the primary way in which current undergraduate students at Carleton consume most of their information. A number of students also indicated that effort should be put into making social media advertising engaging, such as through the use of appropriate humor or personalizing the messages being conveyed.

Additionally, both Campus Safety officers and students made recommendations regarding more traditional forms of advertisement. First, they recommended using eye-grabbing posters on campus in high traffic and high-risk areas that make sense relative to the service (e.g., posters related to laptop registration in areas where laptops are stolen, bike posters near bike racks). Both groups also thought there was value in giving presentations to undergraduate classes, so long as effort was put into making sure that these were engaging presentations (e.g., some students suggested using Kahoot quizzes about Campus Safety services to make the presentations more memorable) and set up in the right way (e.g., during smaller tutorial sessions so that conversations about the services, and Campus Safety's role on campus, could take place). If resourcing this level of interaction proved to be difficult, the students recommended considering the use of trained student volunteers who could spread the word about Campus Safety and their services. Campus Safety officers additionally felt that presentations could occur throughout Frosh Week and in residence, and that blitzing certain programs for a week (in terms of advertising) may assist in boosting awareness.

Other recommendations from both Campus Safety officers and students related to the streamlining of services to increase the ease with which they can be used by students on campus. Both groups felt that moving services (e.g., laptop and bike registration) entirely online to the extent possible should be encouraged, and that more work could be put into developing user-friendly interfaces when this is done. Further, both groups felt that it would be useful to update the Campus Safety website and mobile app to make sure information about the full range of services that are provided by Campus Safety is listed, along with relevant information about these services. Campus Safety officers additionally felt that the website should include a clear description of the roles of Special Constables and Student Safety Patrollers.⁵

⁵ Campus Safety Special Constables are sworn Peace officers who have the authority to enforce various statutes including the Criminal Code of Canada, the Controlled Drugs and Substance Act, and the Mental Health Act, whereas Student Safety Patrollers are students who are employed by the university as licensed security guards (University Safety Special Constables and Student Safety Patrollers Keep Campus Safe 2017).



Finally, both Campus Safety officers and students felt that students often did not use services on campus because they are unaware of the risks that students face on Carleton's campus. For instance, the students indicated that they did not know what the risk level was for crimes on campus (e.g., bike or laptop thefts), and if they did, they may be more likely to use Campus Safety services that are designed to minimize the risk of victimization. Providing students with more information about crime/incident statistics on campus, including where those crimes/incidents occur, might have a significant impact on the use of certain services, according to the students we interviewed.

There were also some recommendations that were specific to the interviews we conducted with the Campus Safety officers or students. For example, while this was not raised by the Campus Safety officers, the students we talked to specifically recommended that Campus Safety needs to consider the information that they include in their knowledge and awareness strategies. They felt that highlighting services is important, but that additional effort needs to be put into informing students how to access specific services. The students also suggested that Campus Safety consider specific ways to advertise services to students who are not on campus as much. They recommended that this could be done via emails, ads on cuLearn (Carleton's Learning Management System), in the *Charlatan* (Carleton's student newspaper), or during breaks for video on demand courses (Carleton courses that are delivered via the Internet). Some students also thought it would be very useful to include Campus Safety contact information on the back of their Campus Card, which they said they use frequently. Finally, some of the students also recommended that Campus Safety review other services on campus where knowledge, awareness, and use seem to be less of a problem to see if Campus Safety could learn how they might enhance knowledge, awareness, and use of their services. The very popular Carleton Therapy Dog program was highlighted as a specific example of a program that students and faculty know about and use regularly, despite being relatively new to Carleton's campus.

In terms of recommendations that were made by the Campus Safety officers, but not students, there was a strong recommendation that Campus Safety should engage more with researchers on campus to explore issues that may mutually benefit Campus Safety, Carleton students, and faculty researchers. Examples that were discussed included evaluations of Campus Safety Services, how services, crimes, or other incidents could be visually displayed on maps of Carleton's campus, and how Campus Safety could effectively communicate risk to students and faculty members (i.e., providing useful information without creating unnecessary fear). A wealth of expertise exists at Carleton in each of these areas (and many more).

Discussion

The current study's findings are consistent with previous literature examining student awareness, knowledge, and use of university services, such as mental health services and sexual assault services (McMahon and Stepleton 2018; Yorgason et al. 2008). Specifically, the current study found low levels of awareness for almost all



of the services offered by Carleton's Campus Safety Services with the exception of Safe Walk and CUSERT. This lack of awareness was additionally suggested as one explanation for low service use by Campus Safety officers, which they suggested could be due in part to poor advertising. Both Campus Safety officers and Carleton students provided several recommendations that may increase service awareness. These largely centered around increasing efforts to advertise services through the use of social media (e.g., TikTok, Twitter), noticeable signage in relevant locations (e.g., Bicycle Compound signs near bicycle racks), as well as engaging presentations in classrooms, tutorial sessions, and during other events on campus (e.g., Frosh Week).

Previous use of Campus Safety services by students in our survey sample was also very low, which is consistent with previous literature (e.g., Derby 2017; Yorgason et al. 2008). However, it is worth noting that the low rates of previous use reported here are relative to students who were aware of the services. The rates of use would be even lower if we considered the students who were not aware of the services (who, of course, could not have used them). Further, this means that the students in our sample who reported never using the service did so for a reason other than that they were not aware of the service. Interviews with the Campus Safety officers highlighted that potential reasons for this may include that students do not have a need for certain services (e.g., Cease and Desist notices) or that they do not feel comfortable accessing certain services (e.g., male students accessing the Safe Walk program). Both Campus Safety officers and students noted that it may be useful to make students more aware of certain risks on campus (e.g., thefts), to enable students to make more informed choices regarding the usefulness of various Campus Safety services.

In line with these results, students also had little knowledge of how to go about accessing Campus Safety services at Carleton, with less than a third of the sample knowing how to access almost all of the services. This is concerning considering that not knowing how to access services acts as an additional barrier to their use. This finding is consistent with our Campus Safety interviews. Officers in these interviews identified that one potential explanation for lack of service use is confusion about certain services (e.g., what they are intended to accomplish). The lack of knowledge surrounding how to access services is consistent with Schweitzer (1996) and Franklin et al. (2017) who both found that students lacked important information regarding how to access health services and sexual assaults services on university campuses, respectively. Consistent with this previous research, interviews with students in the current study highlighted that it is important for Campus Safety to not only make students aware of services, but also how to access them. They additionally recommended online and email-based strategies to reach students that do not come to campus as often so that this group is also aware of how to access services.

On an encouraging note, the majority of students who were aware of Campus Safety services also indicated that they would use these services in the future. While this is promising, there were still many students who indicated they would not. The interviews with Campus Safety officers identified a couple of potential reasons for this including that student demographics may contribute to discomfort accessing some services (e.g., male students may not want to access Safe Walk services)



and that students may not require the services, or at least perceive that they do not require them (which could in part be due to a lack of awareness of crime or other incidents on campus). The fact that male students may be uncomfortable accessing certain services has been found in previous research in the mental health context, which associates this discomfort to gender-role stereotypes, socialization, and stigma (Davies et al. 2000). This may be a contributing factor for why significantly more female students reported that they would access the Safe Walk and Safe Path services in the future (compared to males).

Notably, there were important differences in awareness, previous use of services, knowledge about how to access services, and willingness to access services in the future between students who varied by gender, whether or not they had lived on campus, year of study, and whether they were domestic or international. The development of advertising strategies should consider these differences. For example, different groups might need to be targeted by advertising in different locations (e.g., in residence vs through email). It is also important to consider barriers to accessing services that may relate to demographic differences (e.g., gender). For example, when there were differences in the odds of future use of services, men were less likely to report a willingness to access some of the services. Therefore, some work may need to be done to deal with gender barriers if a service is deemed useful to both male and female students. Despite these demographic differences, overall awareness of Campus Safety services at Carleton, and knowledge about how to access them, was quite low across different demographic groups. This suggests that, ultimately, campaigns aimed at advertising these services would likely assist in educating students in general about their existence.

Study limitations and future directions

The current study had several limitations that are worth mentioning. First, we used a limited sample of students for the online survey (e.g., students in first- and second-year psychology courses) and we only conducted interviews with a small sample of students who completed the surveys. Future research should attempt to use random sampling from across the university and sample a larger number of students for the follow-up interviews in order to obtain additional recommendations from a more diverse sample. Despite these limitations, the student survey sample was quite large and it was reasonably diverse: almost half of the sample identified as BIPOC, it was fairly balanced in terms of gender, it had representation from both international and domestic students, it included a variety of majors from across the university, it had students who had and had not lived on campus, and it included students from all four years of undergraduate study. While we cannot say with certainty that the research generalizes to other Carleton students not included in our study, based on the diversity of our sample we are relatively confident that it does. To the extent that other universities have safety departments that act like Carleton's Campus Safety Services, and have campuses that are like Carleton's with respect to student make-up and crime/incident occurrences, we also expect that the research findings would likely generalize to other locations.



Additionally, while the current study fills a significant gap in regard to awareness of Campus Safety Services, knowledge of how to use them, previous use, and willingness to use the services, the study only provides a preliminary attempt at understanding *why* university students may not be using Campus Safety services at Carleton, or are willing to use them in the future. This lack of awareness, knowledge, and use is unlikely to be unique to Carleton, and therefore, our research encourages other universities to examine the extent to which these issues are a concern on their campuses. Our research also provides some useful suggestions for how these issues may be addressed. Future research should aim to examine whether students find these sorts of services useful, and why they may not be willing to use them. This research should draw from a large and diverse sample of students so that we can gain a better understanding of the challenges facing university students of various backgrounds. This research would allow Campus Safety Services at Carleton, and potentially at other universities, to make modifications to their services as required to make them more useful.

Conclusion

The current study represents an initial attempt at understanding student awareness, knowledge, and use of Campus Safety services at Carleton University. Overall, the study found a general lack of awareness and knowledge surrounding most of the services. However, encouragingly, most students who were aware of the services indicated that they would be willing to use the services in the future. Students and Campus Safety officers came up with numerous recommendations regarding how Campus Safety at Carleton University (or at other universities facing similar issues) might improve student awareness, knowledge, and use of the variety of services that they offer. If any of these recommendations are implemented, research should be conducted to examine their impact.

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