

STUDENT PERCEPTIONS OF SAFETY AND HELPFULNESS OF RESOURCES

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Abstract: The study purpose was to examine whether college student perceptions of campus safety differed based on seriousness of crime on and off campus, helpfulness of services, and demographic information. Students (N=345) completed a survey assessing perceived campus safety, seriousness of crime, and helpfulness of campus safety resources. Results indicated that campus safety differed based on perceived helpfulness of campus services, seriousness of crime on campus, seriousness of crime around campus, sex, and living situation. This study found that most students have low perceived safety and identified helpful campus resources that may increase their safety. Implications for future research are included.

Keywords: student safety; campus resources; prevention

Campus safety and security is an important feature considered while selecting a postsecondary institution (U.S. Department of Education, Office of the Postsecondary Education, 2011). In conjunction with academic, financial and geographic considerations, campus safety is a factor used in decision-making by students and their families. Despite extensive time and money utilized to reduce crime rates across the nation, steady campus crime rates have been reported at educational institutions around the U.S. (U.S. Department of Education, Office of the Postsecondary Education, 2011). In recent years, perceived fear for personal safety has escalated due to more frequent reports of crime and more attention on crime and safety (Fox, Nobles, & Piquero, 2009).

College campuses are subject to frequent acts of crime including, but not limited to, robbery, theft, sexual assault, physical assault with or without weapons, including firearms (Lane, Gover, & Dahod, 2009). Delving into the scope of the problem, the Violent Victimization of College Students study found that the average annual rates of violent victimization of college students by crime over a 7-year span were 60.7% of violent crimes, 38.4% of simple assaults, 22.3% of serious violent crimes, 13.5% of aggravated assaults, 5% of robberies, and 2.8% of rapes/sexual assaults (Baum & Klaus, 2005). As a result, college campuses with high crime rates may deter students, their parents, faculty and staff, from accepting their student enrollment or employment offers.

Campus Safety and Perceived Helpfulness of Campus Services

Informing students about crimes occurring on campus reduces their perceived risk of becoming victims of crime (Furlong, Michael, & Mor-

ison, 2001), and also assists in lowering students' overall perceived vulnerability (Epstein, 2002). The increasing need for campus safety and security was addressed by the amended Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act in 1998 (Clery Act). The act requires all federally funded universities to publish accessible campus crime data for the preceding three years. Moreover, the Higher Education Opportunity Act in 2008 amended the Clery Act, adding safety and security requirements for institutions including new categories of hate crimes, disclosing the relationship of campus security with state and local law enforcement agencies, and implementing emergency notification and evacuation procedures (U.S. Department of Education, Office of the Postsecondary Education, 2011).

The Campus Safety and Security Data Analysis Cutting Tool has been introduced by the Office of Postsecondary Education of the U.S. Department of Education to enable generations of customized reports on college campus crime (U.S. Department of Education, Office of Postsecondary Education, 2011). Nonetheless, crime statistics are often below the actual numbers of crime (Fisher et al., 2002). While the Clery Act mandate achieved significant visibility for campus crimes, solely depending on such legislation to achieve change might not be a solution. Specifically, limited numbers of college students are observant of the published crime statistics released by their institution, and those who do pay attention to the information and programs provided by colleges are usually female students (Greg & Janosik, 2002).

Campuses aiming to increase perceived campus safety by providing safety information and

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implementing safety interventions is paramount (Garrett & Thomas, 2007). To combat high crime rates, colleges should allocate resources towards increasing campus security by implementing and refining campus safety programs and plans, which ultimately takes away potential resources for academics (Carr, 2007). Additionally, bystanders must feel safe, respected and encouraged when coming forward to report suspicious activities (Esptein, 2002). For example, the Bringing by the Bystander program targets male and female inter-collegiate athletes from across the U.S. and seeks to improve bystander confidence and intent to engage in preventing and intervening in violence (Moynihan, Banyard, Arnold, Eckstein, & Stapleton, 2010). In addition, innovative application of social marketing-based interventions has also demonstrated usefulness in developing prosocial bystander behavior in the context of preventing sexual assault against women (Potter, Moynihan & Stapleton, 2010). Effective violence prevention education within the college campus to alleviate crime is heavily dependent upon interventions in the community and schools (Patricia et al., 2010; Redlener, Garrett, & Thomas, 2007).

Perceived Campus Safety and Seriousness of Crime on and around Campus

Unfortunately, high robbery rates among colleges across the nation increase students' perceived vulnerability of becoming a victim, which in turn leads to consequences such as fear of walking alone or at night on campus (Ross & Jang, 2000). Rape and sexual assault are also prevalent campus crimes (Catalano, 2005). Even though campus shootings are rare, they have received substantial attention leading to an increase in perceptions of not feeling safe on campus. Institutional responses have worked to enhance safety and preventative measures to buffer the negative effects felt from campus crimes (Kaminski, Koons-Witt, Thompson, & Weiss, 2010). A study among police chiefs reported that a major barrier to a highly visible institutional plan to prevent weapon-related violence was the perception that weapon-related violence was not a prevalent problem on campus (Thompson, Price, Mrdjenovich, & Khubchandani, 2009). Regardless of the type of campus crime, fear of becoming a victim has been linked to poor mental and physical health outcomes including physical and emotional trauma, low self-esteem, and lack of concentration (Fletcher & Bryden, 2007; Moore & Shepherd, 2006).

College crime research has examined the spatial distribution of crime on campuses as an alternative to focusing on how students enhance their risk (Brinkley & Laster, 2003). Researchers emphasize identifying and describing how college campus designs explain the crime patterns on campus by crime type (Robinson & Roh, 2007). For example, assault, sexual assault, vandalism, and theft tend to be committed near or

inside on-campus student housing areas. Another study conducted by Brower and Carroll (2007) on crime patterns based on the time of day found that there was an increase in calls for police service during the night for vandalism, noise complaints, and assault, proposing that time of day is a substantial factor implicated for campus crime. Unfortunately, college students who feel unsafe on campus are less likely to participate in social activities on campus (Cohen, 2004). Students may also choose alternative transportation, such as driving instead of walking, due to having lower perceived campus safety (Ross & Jang, 2000). Having high campus security measures and increasing students' awareness of their surroundings are key factors for maintaining their health status (Fletcher & Bryden, 2007).

Perceived Campus Safety and Demographic Variables

Examining perceived campus safety based on sex differences may exist based on perceived risk by crime type and place (Reid & Konrad, 2004). Previous research has revealed that female students have a stronger association between generalized perceived campus crimes and fear of victimization than their male student counterparts (Wilcox, Jordan, & Pritchard, 2007). Furthermore, Lane and colleagues (2009) conducted a study that found a significant difference among males and females' perceived risk of becoming victims of crime. Specifically, perceived risk is a strong predictor of fear of crime among females, and females who work on campus at night or who live on campus had less perceived risk of becoming victims of crime. Although females may have more fear of becoming a victim, the average annual rate of violent crime against female students was almost half (43 per 1,000) than that of male students (80 per 1,000; Baum & Klaus, 2005). There is a paucity of literature examining age differences regarding fear of crime among college samples. However, previous research reported that younger, female students report having higher fear levels compared to male students (Kaminski et al., 2010). A general population study conducted among three different cities found that age had a direct effect on fear of crime (Gibson, Zhao, Lovrich, & Gaffney, 2002). Specifically, this study concluded that older individuals are more likely to report being fearful of crime compared to their younger counterparts.

Study Objectives

The theoretical framework for the current study is Cohen and Felson's (1979) routine activity theory. This theory emphasizes the characteristics of the circumstances in which offenders carry out criminal acts instead of focusing on the characteristics of the offenders. The routine activity theory states that occurrences of crime require the following three elements to merge in any space and time: motivated offenders; suitable targets; and absence of capable guardians that could inter-

vene against crime. As campus safety still remains a concern for college students nationwide, little is actually known about college students' feelings on campus safety based on spatial areas. This includes what campus safety resources/services students find helpful and what resources/services would improve perceived campus safety. This information will assist health education specialists, prevention specialists, university administrators, and college campus security with creating and enhancing safety initiatives. These programs are necessary to increase students' realistic perceived campus safety, in addition to alleviating some of their concerns by preparing them on how to properly handle and report any issues concerning their health and safety. Therefore, the objectives of this study are to examine the following research questions:

1. What percent of college students report low perceived campus safety and high level of seriousness of crime on or around campus?
2. What campus safety resources/services do college students identify as helpful?
3. What campus safety resources/services do college students identify as least helpful?
4. What campus safety resources/services do college students identify as needing improvement?
5. Does feelings of campus safety differ based on seriousness of crime on campus, seriousness of crime off campus, helpfulness of services, sex, grade level, grades received, housing location, and involvement in a campus organization?

Method

Participants

Upon approval from the Institutional Review Board (IRB), eight general education courses were randomly selected. We performed a sample size calculation prior to recruitment by using the Midwestern University's population size, confidence interval (%), and margin of error (%), which suggested a sample size of 350 participants. Of the 367 university students recruited, 345 university students (94% response rate) at a large Midwestern University completed the survey assessing perceived campus safety and seriousness of crime. Participants completed the survey voluntarily and incentives were not offered. All survey responses were kept confidential and anonymous.

Instrumentation

A comprehensive review of literature was conducted to design and develop a new, valid and reliable survey instrument to answer our research questions (Table 1). The present study used the following survey sections: Perceived Campus Safety Subscale; Perceived Seriousness of Crime Subscale; Perceived Helpfulness of Campus Safety Resources/Services Scale; Perceived Campus Safety Resources/Services Improvements Scale; and demographic information. The Perceived Campus Safety Subscale (10 items) requested partici-

pants to rate how safe they felt on and around campus via a 5-point scale (1 = not safe at all; 5 = extremely safe). The Perceived Seriousness of Crime Subscale (2 items) requested participants to rate how serious they felt the level of crime is on and around campus via a 4-point scale (1 = not serious at all; 4 = extremely serious).

The Perceived Helpfulness of Campus Safety Resources/Services Subscale (13 items) requested students to rate how helpful existing campus safety resources/services are in making them feel safe on and around campus via a 4-point scale (1 = not helpful; 4 = extremely helpful). As this subscale assessed available campus safety resources and services offered by the university, a fifth option of "I have not used this" was offered for all 13 items. The Perceived Campus Safety Resources/Services Improvements Scale consisted of 12 items that asked participants to "check all that apply" for resources/services that would help improve campus safety on or around campus. The final section assessed demographic information including participants' sex, grade level, sexual orientation, student group organization, and current living situation. Regarding current living situations, there are nine student residence facilities on the university's campus.

Face and content validity of the survey instrument were established via a panel of experts ($n = 8$). These renowned experts reviewed the survey and made comments and recommended modifications. All suggested revisions were incorporated into the final survey instrument. Stability reliability of the instrument was established by distributing the survey to a sample of college students ($n = 25$) on two separate occasions, seven days apart. Pearson correlation coefficients were computed for parametric items and yielded coefficients $>.80$. Kendall's tau-b coefficients were computed for nonparametric items and yielded coefficients $>.80$. Cronbach's alpha was computed to assess internal consistency reliability for each of the parametric subscales, resulting in alphas $>.80$.

Procedures

Upon IRB approval, general education courses were randomly selected from the university list of course offerings. The research team emailed instructors with the consent form and the survey explaining the study purpose and requesting permission to administer the survey in their courses. After receiving permission, the team distributed surveys to students in their classrooms on campus during one semester. Before administering the surveys to the participants, students were informed of the study purpose, voluntary nature of the survey and assured that all responses would be kept anonymous and confidential. After survey completion, students placed the surveys facing down in a manila envelope at the front of the classroom.

Table 1 Survey Item Descriptions on Perceived Campus Safety and Seriousness of Crime			
Measures	Number of Items	Campus Safety Survey Item Description	Response Options
Perceived Campus Safety Subscale	10 items	Overall, how safe do you feel... 1. On campus in general? 2. On campus during the day? 3. On campus during the night? 4. In surrounding areas around campus (within one to two blocks)? 5. In parking garages and lots on or around campus (within one to two blocks)? 6. Walking around on campus during the day? 7. Walking around on campus at night? 8. While using the campus safety services such as Night-Walk? 9. At school events (ballgames, etc.)? 10. Trusting other students?	1 = Not Safe at All 5 = Extremely Safe
Perceived Seriousness of Crime Subscale	2 items	Overall, how serious do you feel... 1. The level of crime is on campus? 2. The level of crime is around campus (within one to two blocks)?	1 = Not Serious at All 4 = Extremely Serious
Perceived Helpfulness of Campus Safety Resources/ Services Scale	13 items	How helpful is each of the following in making you feel safe on campus? 1. Campus security officers in general? 2. Visibly seeing campus security officers on campus? 3. Receiving crime prevention information through seminars, bulletins, emails, and university newspapers? 4. Current environmental conditions on campus (i.e., lighting, sidewalks, etc.)? 5. Current lighting in the garages/parking lots? 6. Using the campus escort service NightWalk program? 7. Accessing campus security website information? 8. Accessing the annual Campus Safety Report? 9. Receiving emails about crimes on or around campus (within one to two blocks)? 10. Controlled access to on-campus housing? 11. Counseling services? 12. Professors, faculty, or other students present on campus? 13. Knowing contact information in case of an emergency regarding your safety?	1 = Not Helpful 4 = Extremely Helpful
Perceived Campus Safety Resources/ Services Improvements Scale	12 items	Which of the following do you feel would help to improve safety on or around campus (check all that apply)? 1. Campus lighting inside buildings on campus 2. Campus lighting outside on or around campus 3. Campus lighting in parking garages and lots 4. Video monitoring of campus 5. Visible presence of campus security officers 6. Emergency accessibility to campus security officers 7. Controlled 24/7 access to campus buildings & Facilities 8. New student orientation that focuses on campus safety methods and services being offered 9. Increased communications between Campus Safety Services about services offered 10. Increased services offered by Campus Safety Services 11. Free campus safety seminar offered to all students 12 Other (specify)	0 = Not selected 1 = Selected

Data Analysis

The Statistical Package for Social Sciences (SPSS) software package analyzed all data. Descriptive statistics (frequencies, means and standard deviations) were calculated to describe demographic information and seriousness of crime on campus, seriousness of crime off campus, and helpfulness of services. A series of multivariate analyses of variance (MANOVAs) were conducted to determine whether students' feelings of safety differed based on seriousness of crime on campus, seriousness of crime off campus, helpfulness of services, and demographic variables (sex, grade level, grades received, housing location, and involvement in a campus organization). In order to conduct MANOVAs, certain variables were dichotomized. Helpfulness of services, seriousness of crime on campus, and seriousness of crime around campus were recoded and dichotomized based on the median split. Regarding scale scores, a helpfulness of services score was computed ranging from 14 to 65. The total helpfulness of services score was dichotomized into high levels (45 to 65) and low levels (14 to 44) based the median split. Seriousness of crime on campus was dichotomized into two categories: perceived crime on campus is of low seriousness (not serious at all/slightly serious) and perceived crime on campus is of high seriousness (moderately serious/extremely serious). Similarly, seriousness of crime around campus was dichotomized into two categories: low seriousness of crime around campus (not serious at all/slightly serious) and high seriousness of crime around campus (moderately serious/extremely serious). Grade level was dichotomized into two levels: Freshman/Sophomore and Junior/Senior/Graduate Student. Grades received were dichotomized into two levels: Mostly A's/Mostly B's and Mostly C's/Mostly D's/Mostly F's. When MANOVAs were found to be significant, univariate F-tests were subsequently performed to identify specific items in the subscale that were significant. The alpha level of significance was set at $<.05$.

RESULTS

A total of 345 college students completed the survey. Of respondents, 67% were female and 33% were male. Regarding grade level, 51.9% of participants were freshman/sophomores, 48.1% of participants were juniors/seniors/graduate students. More than half (52%) of students responded that they perceived crime around campus with a high level of seriousness. Concerning seriousness of crime around campus, 93.1% of students responded that they perceived crime on campus with a high level of seriousness. Regarding grades received, 93.7% of students self-reported that they had mostly received A's and B's and 6.3% of students self-reported that they had mostly received C's, D's, or F's. Additionally, 46.9% of participants belonged to a student group organization and 30.9% of students lived on campus.

Perceived Helpfulness of Services

Students were requested to rate how helpful they perceived 13 campus safety resources (1 = not helpful; 4 = extremely helpful). Of the 13 items, based on means, the top five helpful campus safety resources that made students feel safe on campus were "visibly seeing campus safety officers on campus" ($M = 3.16$; $SD = .97$), "professors, faculty, or other students present on campus" ($M = 3.05$, $SD = 1.00$), "current environmental conditions on campus" ($M = 3.02$, $SD = .75$), "knowing contact information in case of an emergency regarding your safety" ($M = 2.99$, $SD = 1.20$), and "receiving emails about crimes on or around campus" ($M = 2.95$, $SD = 1.05$). The five least helpful campus safety resources were "current lighting in the garages/parking lots" ($M = 2.43$, $SD = 1.06$), "using the campus escort services night walk program" ($M = 1.99$, $SD = 1.78$), "accessing the annual campus safety report" ($M = 1.56$, $SD = 1.47$), "accessing campus security website information" ($M = 1.58$, $SD = 1.53$), and "counseling services" ($M = 1.50$, $SD = 1.61$).

College Students' Perceived Safety Improvements Needed for Increased Campus Safety

Students were requested to "check all that apply" assessing what students feel would help to improve safety on or around campus. The top five improvements students identified are emergency accessibility to campus security officers (18.7%), campus lighting in parking garages and lots (15.1%), campus lighting outside on campus or around campus (13.6%), increased communications from campus safety about services offered (11.3%), and increased services offered by campus safety (10.4%).

Campus Safety and Perceived Helpfulness of Campus Services

Results indicated that campus safety differed significantly based on perceived helpfulness of campus services, $F(10, 196) = 2.16$, $p = .022$. Subsequent univariate F-tests were conducted and revealed specific perceived safety items that differed significantly based on perceived helpfulness of campus services (Table 2). Students with high perceived helpfulness of campus services were significantly more likely than students with low perceived helpfulness of campus services to feel more safe while using campus safety services offered by the university ($p < .001$), at school events ($p = .009$), and trusting other students ($p = .044$).

Perceived Campus Safety and Seriousness of Crime on Campus

A MANOVA found that campus safety differed significantly based on seriousness of crime on campus, $F(10, 197) = 3.03$, $p = .001$ (Table 3). Students who reported perceiving crime on campus with low levels of seriousness were significantly more likely than students who reported perceiving crime on campus with high levels of seriousness to feel safe on campus in general ($p = .001$), on campus during the day ($p < .001$), on campus during

Table 2.

College Students' Perceived Campus Safety based on Perceived Helpfulness of Campus Services

Overall, how safe do you feel . . .	Perceived Helpfulness of Campus Services		F	p
	Low M (SD)	High M (SD)		
On campus in general	3.52 (0.83)	3.56 (0.70)	0.12	.73
On campus during the day	4.12 (0.78)	4.28 (0.70)	2.17	.14
On campus during the night	2.59 (1.07)	2.73 (0.85)	1.11	.29
In surrounding areas around campus (within one to two blocks)	2.17 (0.92)	2.26 (0.91)	0.41	.53
In parking garages and lots on or around campus (within one or two blocks)	2.31 (1.01)	2.37 (0.91)	0.24	.63
Walking around on campus during the day	4.11 (0.81)	4.31 (0.74)	3.49	.06
Walking around on campus during the night	2.61 (1.08)	2.77 (0.98)	1.14	.29
While using the campus safety services such as NightWalk	3.88 (0.96)	4.43 (0.73)	19.76	<.001
At school events (ballgames, etc)	4.02 (0.91)	4.33 (0.69)	6.99	.009
Trusting other students	3.17 (0.99)	3.43 (0.83)	4.12	.04

Note. *N* = 345; Missing values excluded from analyses. Means based on a 5-point Likert-type scale (1 = Not Safe at All; 5 = Extremely Safe).

Table 3.

College Students' Perceived Campus Safety based on Perceived Seriousness of Crime on Campus

Overall, how safe do you feel . . .	Perceived Seriousness of Crime on Campus		F	p
	Low M (SD)	High M (SD)		
On campus in general	3.74 (0.77)	3.37 (0.74)	12.28	.001
On campus during the day	4.40 (0.61)	4.03 (0.81)	13.73	<.001
On campus during the night	2.87 (0.95)	2.47 (0.97)	9.02	.003
In surrounding areas around campus (within one to two blocks)	2.36 (0.87)	2.08 (0.93)	4.93	.03
In parking garages and lots on or around campus (within one or two blocks)	2.59 (0.89)	2.12 (0.98)	12.58	<.001
Walking around on campus during the day	4.38 (0.72)	4.03 (0.81)	10.24	.002
Walking around on campus during the night	3.03 (0.99)	2.39 (0.99)	21.92	<.001
While using the campus safety services such as NightWalk	4.29 (0.88)	3.97 (0.90)	6.89	.009
At school events (ballgames, etc)	4.29 (0.82)	4.03 (0.84)	5.33	.02
Trusting other students	3.39 (0.88)	3.18 (0.97)	2.64	.11

Note. *N* = 345; Missing values excluded from analyses. Means based on a 5-point Likert-type scale (1 = Not Safe at All; 5 = Extremely Safe).

the night ($p = .003$), in surrounding areas around campus ($p = .03$), in parking garages and lots on or around campus ($p < .001$), walking around on campus during the day ($p = .002$), walking around on campus during the night ($p < .001$), while using campus safety services ($p = .009$), and at school events ($p = .02$).

Perceived Campus Safety and Seriousness of Crime around Campus

Results indicated that campus safety differed significantly based on seriousness of crime around campus, $F(10, 197) = 1.95$, $p = .04$ (Table 4). Students who reported perceiving crime on campus with low levels of seriousness were significantly more likely than students who reported perceiving crime on campus with high levels of seriousness to feel safe in surrounding areas around campus ($p = .02$), and in parking garages and lots on or around campus ($p = .04$).

Perceived Campus Safety and Demographic Variables

Results indicated that there was a significant difference in perceived campus safety between male students and female students, $F(10, 197) = 4.92$, $p < .001$ (Table 5). Male students were significantly more likely than female students to feel safe on campus in general ($p = .004$), on campus during the night ($p < .001$), in surrounding areas around campus ($p < .001$), in parking garages and

lots on or around campus ($p < .001$), and walking around on campus during the night ($p < .001$).

Results demonstrated that there was no significant difference between freshman/sophomore students and junior/senior/graduate level students regarding perceived campus safety, $F(10, 197) = 1.738$, $p = .08$. Results indicated that there was no significant difference in perceived campus safety between those who received mostly A's and mostly B's compared to students who reported mostly C's, mostly D's, and mostly F's, $F(10, 196) = 1.13$, $p = .34$. Results indicated that there was no significant difference in perceived campus safety between students who belonged to a student member group and students who did not belong to a student member group, $F(10, 196) = 1.34$, $p = .21$.

Results indicated that there was a significant difference in perceived safety based on living situation, $F(10, 196) = 2.02$, $p = .03$ (Table 5). Students who lived on campus were significantly more likely than students who did not live on campus to feel safe at school events ($p = .02$).

DISCUSSION

Campus safety and security offered by universities aim to increase current safety and security initiatives. Consistent with previous research (U.S. Department of Education, Office of the Postsecondary Education, 2011), this study found

Table 4.
College Students' Perceived Campus Safety based on Perceived Seriousness of Crime around Campus

Overall, how safe do you feel . . .	Perceived Helpfulness of Campus Services		F	p
	Low M (SD)	High M (SD)		
On campus in general	3.72 (0.83)	3.52 (0.77)	1.17	.28
On campus during the day	4.28 (0.58)	4.18 (0.77)	0.26	.61
On campus during the night	2.94 (1.16)	2.62 (0.96)	1.85	.18
In surrounding areas around campus (within one to two blocks)	2.67 (1.14)	2.16 (0.88)	5.18	.02
In parking garages and lots on or around campus (within one or two blocks)	2.78 (1.26)	2.28 (0.93)	4.35	.04
Walking around on campus during the day	4.00 (0.91)	4.21 (0.78)	1.11	.29
Walking around on campus during the night	2.83 (1.30)	2.66 (1.01)	0.47	.49
While using the campus safety services such as NightWalk	3.72 (0.90)	4.15 (0.90)	3.66	.06
At school events (ballgames, etc)	3.78 (0.94)	4.18 (0.82)	3.81	.052
Trusting other students	3.06 (1.11)	3.29 (0.91)	1.09	.30

Note. $N = 345$; Missing values excluded from analyses. Means based on a 5-point Likert-type scale (1 = Not Safe at All; 5 = Extremely Safe).

Table 5.
College Students' Perceived Campus Safety based on Sex and Living Situation

Overall, how safe do you feel . . .	Sex		Live on Campus					
	Male M (SD)	Female M (SD)	F	<i>p</i>	Yes M (SD)	No M (SD)	F	<i>p</i>
On campus in general	3.75 (0.88)	3.42 (0.69)	8.67	.004	3.42 (0.71)	3.58 (0.80)	1.86	.17
On campus during the day	4.32 (0.74)	4.13 (0.75)	2.97	.09	4.08 (0.82)	4.24 (0.71)	2.02	.16
On campus during the night	3.03 (1.01)	2.45 (0.91)	17.08	<.001	2.66 (0.86)	2.64 (1.04)	0.02	.89
In surrounding areas around campus	2.61 (1.05)	2.00 (0.77)	22.50	<.001	2.23 (1.04)	2.18 (0.86)	0.15	.70
In parking garages and lots on or around campus	2.88 (0.96)	2.05 (0.85)	40.83	<.001	2.30 (1.05)	2.34 (0.94)	0.10	.75
Walking around on campus during the day	4.32 (0.72)	4.12 (0.82)	2.87	.09	4.19 (0.71)	4.18 (0.83)	0.01	.96
Walking around on campus during the night	3.17 (1.08)	2.42 (0.92)	27.24	<.001	2.66 (1.00)	2.68 (1.06)	0.02	.89
While using the campus safety services such as NightWalk	4.26 (0.85)	4.04 (0.93)	2.86	.09	4.28 (0.79)	4.03 (0.95)	3.49	.06
At school events (ballgames, etc)	4.29 (0.82)	4.07 (0.84)	3.14	.08	4.34 (0.67)	4.05 (0.89)	5.58	.02
Trusting other students	3.33 (0.82)	3.24 (0.98)	0.42	.52	3.19 (0.85)	3.31 (0.97)	0.74	.39

Note. *N* = 345; Missing values excluded from analyses. Means based on a 5-point Likert-type scale (1 = Not Safe at All; 5 = Extremely Safe).

that that perceived campus safety is a prevalent issue among university students. The present study found that more than half of students perceived crime on campus with a high level of seriousness and the majority of students perceived crime on campus with a high level of seriousness around campus. Thus, the university community, including campus officers, administrators, faculty, and students, may need to exert more resources to raise awareness and promote campus crime prevention. Responding to campus crimes is a multi-level task requiring the joint participation of a multitude of agencies, disciplines and individuals. This is highlighted by Carr (2007) who cited the American College Health Association's campus violence committee recommendations, which includes building a sense of community to combat campus crime. Unfortunately, little is known on college students' perceptions of campus safety based on spatial areas and time. This study sought to decrease these gaps and utilized the routine activity theory (Cohen & Felson, 1979), which states that crime occurrences require motivated offenders, suitable targets, and absence of capable guardians that could intervene against crime to merge in any space or time. Thus, this theory examines the characteristics of the circumstances versus the offenders' characteristics. The present study revealed that students had low perceived safety in surrounding areas around campus, in parking garages and lots, at school events, and on campus during the night. Therefore, in accordance with the routine activity theory, these circumstances should be targeted to increase safety and intervene against crime.

The present study found that helpfulness of campus services is significantly associated with perceived campus safety. Those who reported high helpfulness of campus services felt more safe while using campus services (e.g., night ride program) offered by the university, more safe at school events (e.g., ball games), and more trusting of other students compared to their counterparts who reported low helpfulness of campus services. Regarding helpfulness of campus safety resources, the current study found that the top five resources were visibly seeing campus safety officers on campus, the presence of faculty and other students on campus, current environmental conditions on campus, and knowing contact information in case of an emergency regarding safety, and receiving emails about crimes on or around campus. These findings highlight and underscore that both social and structural safety resources are deemed highly beneficial to students. The present study suggests that increasing the visibility and presence of individuals on campus and having positive environmental conditions on campus is necessary to make students feel safer. Additionally, knowing who to contact in case of an emergency and also being notified of crimes are perceived helpful to students. Future research should assess whether these changes are beneficial to the perceived safety of college

students. Further, students and employees receive timely warnings by email required by the Clery Act from the university's police about crimes on or around campus that allows individuals to take precautionary steps to avoid the crime threat.

The five least helpful campus safety resources were current lighting in the garages/parking lots, using campus escort services, accessing the annual campus safety report, accessing campus security on the website, and counseling services. Based on study findings, college campuses should make simple structural changes, such as adding more lighting in parking garages and offer student escort services, to increase the long-term helpfulness of campus safety resources. The effectiveness of these structural changes should also be assessed in further work. In this study, students felt lighting in garages and parking lots were problematic. Colleges may evaluate current lighting conditions and implement potential changes as needed. Previous research revealed that college campus structural changes, including lighting and campus escort services, can deter the risk of victimization (Turner & Torres, 2006). A study conducted by Tseng, Duane, and Hadipriono (2004) at a Midwestern university found that lighting was the most significant factor that impacted safety perceptions of parking garage users, and that the incidence of campus crimes that occurred in the improved campus parking garage declined by more than half of the average annual incidence of crime the four years prior to improvements. Also, it is not surprising that the annual campus safety report and accessing campus security information on the website were deemed unhelpful, since few students pay attention to published crime statistics under the Clery Act mandate (Greg & Janosik, 2002). Perhaps, formatting such statistics in a clear and efficient manner such as graphics for university web pages and social media messages may increase students' use of such information. Although counseling services were reported as the least helpful of resources, one of the main roles counseling services have in the university community is to contribute to campus safety (Counseling Center Standards, 2011). Education geared toward students on the role of counseling in campus safety may be warranted.

Perceived Campus Safety and Seriousness of Crime on and around Campus

Findings from the present study indicated that campus safety differed significantly based on seriousness of crime on campus and around campus. Regarding crime on campus, students who reported perceiving low levels of seriousness of crime on campus were significantly more likely to feel safe on campus in general, on campus during the day and night, in surrounding areas around campus, in parking garages and lots on or around campus, walking around on campus during the day and night, and while using campus safety services. Concerning crime around campus, students

who reported perceiving low seriousness of crime around campus were more likely to feel safe in surrounding areas around campus, in parking garages and lots on or around campus, and at school events. Therefore, students with high perceived seriousness of crime either on campus or around campus felt less safe in surrounding areas of campus and in parking garages and lots. At the Midwestern University, campus police officers are able to support the local law enforcement agencies and patrol areas around campus (University of Cincinnati Public Safety, 2013). Therefore, campus security officers may increase their visibility on areas around campus, in parking garages and lots, and at school events. The current study calls for reducing the seriousness of crime by ultimately increasing security measures. Future research should seek to examine crime patterns based on time of day and find ways to decrease environmental circumstances that may influence crime. This may help to efficiently appropriate campus security measures, such as the visibility of security officers (Brower & Carroll, 2007; Robinson & Roh, 2007). Universities may consider creating and implementing safety educational prevention programs for students and employees of increase knowledge and awareness on crime (Turner & Torres, 2006). Future research should explore the implementation and evaluation of such programming.

Perceived Campus Safety and Demographic Variables

The present study adds to the current literature that sex differences do exist based on time and place. Specifically, the present study indicated that males were more likely to feel safe on campus in general, on campus during the night, in surrounding areas on campus, in parking garages and lots on or around campus, and walking around on campus during the night. Interestingly, these times and places are when and where a combination of environmental conditions and the visibility of individuals on campus may be lacking. For example, there may be a limited amount of students, faculty, and staff on campus during the night and in parking garages and lots where the current environmental conditions may not support safety. Therefore, females may feel lower perceived safety due to lacking appropriate lighting on campus during the night and in parking garages and lots, and lacking the visibility of individuals. More research is needed to more thoroughly understand this sex difference.

The present study also revealed that there was a significant difference of perceived campus safety based on students' living situation. More specifically, students who lived on campus were significantly more likely to feel safe at school events than students who did not live on campus. Students who feel less safe on campus are less likely to participate in any social activities that take place on campus (Cohen, 2004), and may choose alternate transportation than walking if they do not

feel safe (Ross & Jang, 2000). A probable explanation of why this study found a difference based on students' living situation is that students who live on campus spend more time on campus and are more familiar with their surroundings. For instance, previous research has found that students who live on campus have a lower perceived risk for their safety since they commute routinely on campus (Lane et al., 2009). Increasing the awareness of college students' surroundings on campus, in addition to campus security measures is important (Fletcher & Bryden, 2007).

Although previous literature reported that there is an age difference regarding fear of crime (Gibson et al., 2002), no significant difference based on grade level within the present study's university setting was identified. There was also no significant difference based on grades received. However, the majority of students self-reported that they had received A's and B's, and so the present study's findings may be contributed to the uneven distribution. Additionally, no significant difference was found based on belonging to a student group organization. Despite being insignificant, this finding is interesting since students who belong to an organization are perhaps on campus more than students who do not belong to a member group. Even with the present study result's indicating several significant differences, it is important to note that the means of perceived campus safety for most groups being compared, outlined in the tables, had a tendency of being lower than the median with respect to perceived campus safety. As a result, increasing overall perceived campus safety should be a main priority at universities especially since feeling unsafe and having high crime rates may dissuade students and faculty from joining the university.

Limitations

Even though the study presented noteworthy findings, the study limitations should be noted. First, all responses were obtained through a self-reported survey instrument, which may have caused students to respond with socially desirable answers. Second, this study was delimited to a convenience sample of college students from a large Midwestern university, and therefore may not be generalizable to other geographic areas. Third, the present study was exploratory and cross-sectional in nature, and thus cause-and-effect relationships could not be determined.

Conclusions

The entire campus community is responsible for increasing campus safety through providing safety education and awareness programs, and implementing effective measures to address problematic times and places on campus. Educating and promoting simple crime prevention tips to students and employees, such as locking all car doors or reporting any suspicious individuals to

campus police, can assist in reducing crime. In addition to educational prevention programs and raising awareness of crime prevention, the present study suggests improving current environmental conditions and making all possible structural changes that promote increased safety. More specifically, campus lighting in parking garages and lots should be addressed, in addition to increasing lighting in other areas on campus and around campus. Social changes are also needed to increase perceived safety, which include increasing the visibility and accessibility to campus security officers. Improving communications and increasing services offered by campus safety and security is warranted. Although typically there are multiple services and resources offered by campus safety and security, promoting these would help to alleviate low perceived helpfulness of campus safety, while simultaneously increasing the overall safety climate. Bringing awareness to emergency planning and how to respond to emergency situations may help to increase perceived safety. Since most colleges encourage students and staff to design personal emergency plans, campus communities should assist in designing these plans.

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