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Safety Concerns, Fear and Precautionary Behavior among College Women: An Exploratory Examination of Two Measures of Residency

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Safety Concerns, Fear, and Precautionary Behavior among College Women:
An Exploratory Examination of Two Measures of Place

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Abstract

This study examines the impact of two distinct measures residency on college women's perceptions of safety, fear of crime, and precautionary behaviors within both on-campus and off-campus areas. A student's current residency either on or off-campus and a student's prior residency in a metropolitan, micropolitan, or rural county prior to college are compared across these three aspects of campus safety. Current residency is found to be significantly related to a student's perceptions of safety in off-campus areas around campus, as well as the likelihood of engaging in precautionary behaviors such as avoiding specific locations on campus or carrying or keeping items (e.g., weapons) for protection. Prior residency, on the other hand, was not found to impact perceptions of safety, fear of crime, or precautionary behaviors.

KEYWORDS:

college women, fear of crime, safety precautions, place, violence against women

"Safety Concerns, Fear, and Precautionary Behavior among College Women: An
Exploratory Examination of Two Measures of Place"

Since the 1980's, researchers have paid much attention to issues of fear of crime in the United States. Researchers have demonstrated correlations between numerous social phenomena and levels of fear of crime in the United States, including the inflationary role of news media (Altheide, 2002), the effects of gender and age (Fisher & May, 2009; LaGrange & Ferraro, 1989; May & Dunaway, 2000; Warr, 1984), and the interaction between fear of sexual victimization and fear of other crimes (Ferraro, 1995; Fisher & Sloan, 2003; May, 2001; Melde, 2009; Warr, 1985; Wilcox, Jordan, & Pritchard, 2006). In particular, substantial research has investigated the prevalence of fear of crime among college women. This is an important line of inquiry within the literature on fear, since college women experience relatively high rates of sexual victimization risk within the unique spatial and social context of a college campus (e.g., Fisher & Sloan, 2003; Lane, Gover, & Dahod, 2009; Rader & Cossman, 2011; Wilcox, et al., 2006; Wilcox, Jordan, & Pritchard, 2007; Woolnough, 2009).

The importance of "place" in understanding fear of crime has received a good deal of attention. Researchers have examined characteristics of both the surrounding physical environments and the social spaces which contribute to perceptions of safety and risk (Benbenishty & Astor, 2005; Fisher & Nasar, 1995; Kruger, Hutchinson, Monroe, Reischl, & Morrel-Samuels, 2007; Pain, 2000; Swartz, Reyns, Henson, & Wilcox, 2011; Tillyer, Fisher, & Wilcox, 2011; Wilcox, Quisenberry, & Jones, 2003). Some scholars have also drawn connections between fear of crime and community context (Benbenishty & Astor, 2005; Jackson, 2004; LaGrange, Ferraro, & Supancic, 1992; McGarrell, Giacomazzi, & Thurman, 1997; Taylor, 2001), including fear of crime effects related to patterns of rural-to-urban migration (Hunter,

Krannich, & Smith, 2002; Kennedy & Krahn, 1984). Research also has examined the effects of various place-related variables on women's perceptions of safety on campus, but few studies have directly considered students' current and prior residential experiences as possible influences on their perception of safety within a place.

The present study seeks to augment this area of the literature by distinguishing perceptions of safety and victimization risk in on-campus and off-campus places among college women across two measures of residency: current residence while a university student (e.g., living on-campus or off-campus), and residency in different types of communities prior to attending college (e.g., coming from a metropolitan, micropolitan, or rural county). These variables will be used to distinguish whether proximal or distal residency experiences (or both) impacts a woman's concern for safety, fear of crime, and precautionary behavior for on-campus or off-campus places while attending college.

Literature Review

Fear of Crime on College Campuses

Studies examining fear of crime among college students have highlighted substantial sex differences in fear of crime (Hilinski, 2009; Lane, et al., 2009; Rader & Cossman, 2011). This research builds upon a larger body of fear of crime research which robustly supports sex as a key predictor of fear of crime in general (e.g., Ferraro, 1995, 1996; LaGrange & Ferraro, 1989; Schafer, Huebner, & Bynum, 2006; Warr, 1984, 2000). In both college and community samples, the most common distinction between men and women on fear of crime relates to differences

between fear of victimization and perception of risk. Men have been found to express higher levels of fear of criminal assault (e.g., robbery) when they perceive a the risk of victimization to be more likely, while higher levels of fear among women are best predicted by her fear of being sexually assaulted (Ferraro, 1996; Lane, et al., 2009; Wilcox Rountree & Land, 1996).

The extant literature also finds that college women take precautionary actions in response to their fear of crime. Research has found that college women with high levels of fear of crime may limit their activities, interactions, or movements around campus (Hickman & Muehlenhard, 1997; Keane, 1998; Wilcox, et al., 2007; Woolnough, 2009). A number of studies have included measures of avoidance behaviors in conjunction with fear of sexual assault and other crimes with mixed results (Fisher & Sloan, 2003; Hilinski, 2009; Lee & Hilinski-Rosick, forthcoming; Wilcox, et al., 2007). Fear of stranger sexual assault has also been identified as a significant influence on a college woman's increased likelihood of carrying a weapon or other self-protective item (Hickman & Muehlenhard, 1997; Wilcox, et al., 2007).

Research also shows that women experience and perceive certain types of offenses differently than do men. Studies investigating fear of crime among women in general, and specifically among college women have examined how the fear of sexual assault and the fear of stalking shape women's perceptions of safety and their risk of victimization.

One of the most robust influences on women's fear of crime is the fear of sexual assault. The "shadow of sexual assault hypothesis" (Ferraro, 1995, 1996; Wilcox, et al., 2006) postulates that the possibility of co-occurring stranger sexual assault increases fear of other violent crimes among women. This hypothesis has been put forward as an explanation for women's higher levels of fear of crime in general, and has found empirical support among college samples in various multidimensional constructs that control for differences across crime type and victim-

offender relationship (Fisher & Sloan, 2003; Hilinski, 2009, 2010; Hughes, Marshall, & Sherrill, 2003; Lane, et al., 2009; Wilcox, et al., 2006, 2007). For college women, research suggests that fear of stranger sexual assault may be influential to both cognitive perceptions of safety and emotional fear of crime, given the ubiquitous influence that fear of stranger sexual assault exhibits across most measures examined in previous studies.

Research on stalking among college women also reveals distinctive effects on fear and safety perceptions. For instance, college women who self-defined an experience as stalking expressed higher levels of fear than women who experienced similar behaviors but did not define them as stalking (Jordan, Wilcox, & Pritchard, 2007). In the National Violence Against Women Survey, women who reported stalking were more likely to engage in precautionary behaviors such as carrying items for protection (Tjaden & Thoennes, 1998). Hughes, Marshall, and Sherrill (2003) found that fear of stalking was increased by fear of sexual victimization, but also that context of the victimization mattered. For instance, using the term "Peeping Tom" versus "proowler" resulted in less fear, which the authors suggest may differ because women may presume that the term prowler connotes intent to commit further acts of violence (p.43). Other research suggests that college women who had experienced prior sexual victimization were more likely to experience stalking victimization (Buhi, Clayton, & Surrency, 2009; Fisher, Cullen, & Turner, 2002). Research suggests that when a stalking is by an intimate partner, the associated violence is more severe and threats are more likely to be carried out (Fisher, et al., 2002; Logan, Walker, Jordan, & Leukefeld, 2007; Palarea, Zona, Lane, & Langhinrichsen-Rohling, 1999; Tjaden & Thoennes, 1998). Other research suggests that an intimate relationship with the offender may even decrease acknowledgement of certain behaviors as stalking (Phillips, Quirk, Rosenfeld, & O'Connor, 2004). For stalking, as with sexual assault, these studies suggest that

victim-offender relationship may impact a woman's reaction to stalking, but that in general stalking appears to increase a woman's behavioral safety precautions as well as her risk for intimate victimization.

Current and Prior Residency, Community Type, and Response to Crime

Relatively few studies have considered a female college student's residency experiences – either while at college or before attending college – as possible influences on her place-specific perceptions of safety, fear, or precautionary behavior, though there are some exceptions. For example, Woolnough (2009) found that women who lived off-campus at one large, urban university were significantly more likely to carry a weapon than women living on-campus. Fisher and Sloan (2003) examined fear of sexual assault among college women across multiple universities, and found that living on-campus was positively associated more fear of rape when controlling for age (over 25 years old), while the geographic location of the campus (e.g., urban, suburban, rural) was not a significant influence. Though an effect of prior residency was hypothesized by Woolnough (2009), his study did not find the urban, suburban, or rural character of a student's hometown to be a significant influence on fear or self-protective strategies.

A woman's racial and place-specific background may also be important factors in shaping her response to crime. Research has repeatedly found that race and ethnicity impact women's response to victimization with respect to help-seeking strategies (Amar, Bess, & Stockbridge, 2010; Campbell et al., 2008; Clauss-Ehlers, 2008; El-Khoury et al., 2004; Lipsky & Caetano, 2007; Lipsky, Caetano, Field, & Larkin, 2006; Nicolaidis et al., 2010; Sabina, Cuevas, & Schally, 2011). While not specifically examining college women, limited research on place of

origin and fear of crime suggests that where a woman is from may influence her fear of crime and perceptions of victimization risk after migration. Kennedy and Krahn (1984) found that for women living in an urban area, the place they grew up was the strongest predictor of fear of crime. They found that an urban background was associated with higher fear of crime, while a rural background was associated with lower fear of crime. The authors suggest that this may reflect the use of fear-mitigating strategies common to rural communities, such as getting to know one's neighbors. Other research supports the contention that rural women actively use social networks and informal neighborhood contacts to reduce fear of crime (Donnermeyer & Mullen, 1987; Hunter, et al., 2002). Since coming to a large state university is also a migration from a small community into a large urban area, it is reasonable to suspect that college women from rural backgrounds may exhibit similar patterns.

A qualitative study on rural women's health behaviors, for example, noted references to the way rural culture impacts help-seeking and supportive behaviors, reporting that "because of the familiarity of rural residents with one another, they are often aware of particular needs and lack of resources" (Leipert & George, 2008, p. 215). While personal networks appear to affect help-seeking, it is unclear whether or not college women from small town or rural backgrounds perceive their risk of victimization differently when offenders are known or versus unknown. It is possible women from large urban areas respond differently to the fear of sexual assault than do women from rural places, given different patterns of exposure to victimization in their community of origin. National level data suggest that people in rural places experience lower rates of violent victimization (e.g., Duhart, 2000), however other research challenges the reportedly low rates of sexual victimization in rural places owing to privacy concerns in small communities (Ruback & Menard, 2001). Recent research finds that women living in rural

communities may even experience more stalking than other women (Fisher, Daigle, & Cullen, 2010). Therefore, a woman's geographic background may shape how the possibilities of sexual assault, intimate stalking, or other perceived risk of violence influence her concern for personal safety. It is unclear whether or not these victimization experiences in previous residential places carry over to women's perceptions of fear and safety in other places, such as a college campus.

Summary: Gaps in the Literature

Previous research has not fully considered the effects of a college woman's current and prior residency experiences on her fear of crime, safety perceptions, and behavioral safety strategies. In particular, residency variables have not been examined as potential influences on a woman's experience of place-based fears, such as differences between safety perceptions or precautions in on-campus and off-campus places. Previous research on women's fear of crime at college examined the effects on- and off-campus residency on concerns for safety and precautionary behaviors (e.g., carrying a weapon), but did not disaggregate perceptions of safety across on-campus versus nearby off-campus places (Wilcox, et al., 2007; Woolnough, 2009). Addressing this gap will help us better understand the relationship between current residency (e.g., living on-campus or off-campus) and concern for safety in specific places. Since concern for safety in particular places is important for understanding how women perceive the campus, it is important to identify whether any differences in safety concerns by a student's current residence generalize to all areas (e.g., on- and off-campus) or are specific to a certain place in terms of overall safety perception, fear of specific forms of victimization, and the precautionary behaviors taken to mitigate this fear.

Also, no studies have examined whether or not a college woman's prior residency in large metropolitan areas, micropolitan cities, or rural communities influences a woman's perception of safety either on-campus or in off-campus urban places. Most previous research has only considered the geographic campus location (urban, suburban, rural) as a contextualizing crime variable (e.g., Fisher, Sloan, Cullen, & Lu, 1998) rather than a potential influence on safety perceptions, and few studies ask students about their place-specific background experiences. Notably, Woolnough (2009) controlled for students' type of hometown (urban, suburban, rural) but found no significant effects of safety perceptions of precautionary behaviors in a sample where 70.4% of students reported coming from a suburban hometown. However, it remains unclear whether or not college women's concern for safety, particularly in off-campus areas, is at all related to the type of community she lived in prior to attending college. It is conceivable that moving from a small city or a rural community into a large metropolitan urban area for the purposes of attending college could influence a college woman's perceptions of crime and safety. Previous literature suggests that women moving from rural to urban areas have lower fear of crime, but this has not been systematically examined in the college context. Prior residency experiences may also influence perceptions of specific crime types committed by specific offenders. Examining current and prior residency will help to clarify the role residency experiences play in perceptions of safety within places, and could guide college administrators in developing safety interventions to address concerns for safety either through information tailored to students' current residential location, to students' geographic background, or to both.

The Present Study

The present study examines two measures of residency and their effects on place-specific concern for safety, fear of specific crimes by specific offender types, and safety-related precautionary behaviors. Residency experiences may affect a college woman's perceptions of place in at least two ways. Residency may have proximal effects, such that a college woman's immediate living environment (e.g., living on-campus or off-campus) directly influences her concerns for safety, fear of victimization, and precautionary behaviors. Residency may also have distal effects, meaning that a woman's prior residency experiences within other types of places (e.g., metropolitan areas, micropolitan areas, or small rural communities) may affect how she evaluates her present environment for safety. Nonetheless, as reviewed above, few studies explicitly test the influence of residency on college women's safety perceptions, fear of crime, and safety behavior. The present study examines current and prior residency experiences across these three domains of campus safety measures.

Methods

Sample

This study investigates college women's fear of crime and response to victimization using survey data collected from college women at a large, Southern university. The university is a land-grant institution with an enrollment of around 30,000 students located in a metropolitan county with a population of around 280,000 residents. The purpose of the survey was to measure female students' perceptions of safety and victimization risk on campus, estimate the prevalence of several types of violence against women on campus (i.e., sexual, physical, and stalking

victimization), and understand the details of the most recent victimization experience of each type including victim-offender relationship, help-seeking, reporting, and service utilization behaviors.

The surveys were conducted using computer-assisted telephone interviews (CATI) by an independent survey research agency in Spring 2007. The target sample size for the study was 2,000 subjects, for which a university-provided random sample of 10,000 phone numbers from student records was given to the interview firm. Of these, 9,433 numbers were dialed resulting in 7,550 valid contacts which were called up to a maximum of 20 times until subject completed the survey, refused, or the target sample size was reached. Ultimately, 3,481 subjects were administered the survey screening questions before the targeted quota 2,000 valid surveys was reached. The survey's cooperation rate was 69.2%. The overall response rate was 34.6%. The final sample consisted of 2,001 completed interviews.

The student population in the survey sample was comparable to the reported population of the university on available measures. Confidence intervals ($p=.05$) placed sample proportions within range of known population data for full-time enrollment (83.4%), percent of White students (84.2%), and percent of undergraduate students (69.9%) in the sample. There were far more seniors and far fewer freshmen represented in the sample than were expected from university-wide data, however with any university sample it is reasonable to expect some discrepancies between fall enrollment numbers and spring retention, particularly for first-year students. However, it is also possible that upperclassmen were more willing to participate in the survey. For subsequent analysis, data have been weighted to correct for academic class based on population parameters. With this adjustment, the sample data appear to be sufficiently representative of the university population for analysis and generalization.

Measures

This study investigates college women's perceptions of safety within two different places, on-campus areas and nearby off-campus areas, by controlling for a student's current and prior residency. Current residency was measured by asking students if they lived in campus dorms, sorority housing, or university-owned apartments; or if they lived in an off-campus apartment or house, or with their parents. A dichotomous variable was then created to indicate whether a student lived on-campus or off-campus. Prior residency was measured by asking students what county they lived in prior to coming to the university. This measure was chosen as a slight refinement over type of hometown (e.g., Woolnough, 2009) so that students would: 1) not be counted upon to classify the demographic character of their previous residence correctly, and 2) would report their immediate prior residence rather than a hometown in which they may have been born but did not recently live. Recording the exact county also allowed researchers to go beyond a simple urban/suburban/rural categories and instead use definitions created by the Office of Management and Budget (OMB) and the USDA's Economic Research Service (ERS) for the purposes of understanding communities' social and economic diversity. The 2003 Urban Influence Codes were used to categorize students' prior residences into meaningful subgroups. The Urban Influence Codes group U.S. counties into one of 12 categories based on urban population centers and adjacency to urban areas. A three-category sub-grouping defined by ERS was used for this analysis. The three major categories are: metropolitan counties (codes 1-2), micropolitan counties (codes 3, 5, and 8), and noncore counties (codes 4, 6, 7, 9-12). Described simplistically, urbanized areas of 50,000 residents or more are considered metropolitan, while

urbanized areas of 10,000 residents or more are considered micropolitan. The designation "noncore" refers to counties that lack an urban center of more than 10,000 residents (see <http://www.ers.usda.gov/Briefing/rurality/UrbanInf/>).

Perceptions of safety were measured both generally and specifically. For example, women were asked about concern for personal safety with the question "How safe do you think you are from crime on [university]'s campus?" measured on a four-point scale (1= "Very safe", 2= "Somewhat safe", 3= "Somewhat unsafe", 4= "Very unsafe"). The same question was asked regarding concern for safety in "residences, neighborhoods, or other areas around campus." Additionally, students were asked to make a direct comparison between their feelings of safety prior to and since coming to college. Students were given two options to the question: "In general, do you feel safer or less safe since coming to [university]?" Several students who refused to endorse either "safer" or "less safe" provided the answer "same/just as safe" which was intentionally recorded by the interviewer, but not offered as a choice unless the subject volunteered this option.

Fear of crime was measured using six survey items that addressed combinations of subjects' worries about sexual, physical, or stalking victimization and their concern that these offenses would be perpetrated against them by either someone they know or a stranger. Survey respondents were asked all six questions in the following format "There has been some discussion in the news recently about *stalking*. How worried are you personally about being *stalked* by *someone you know*?" and also utilized a four-point scale (1="very worried", 2="somewhat worried", 3="just a little worried", 4="not really worried") which was reverse-coded for analysis so that a higher value would indicate more worry. The six variations of this question addressed stalking by a known offender, stalking by a stranger, sexual assault by a

known offender, sexual assault by a stranger, physical assault by a known offender, and physical assault by a stranger. This coding allowed researchers to explore possible relationships between residency and fear of crime across victimization type and offender type.

Precautionary safety behaviors were measured by asking students whether or not they intentionally avoided places on campus out of concern for their safety, or if they kept or carried any item for protection.

Hypotheses and Analysis

The overall objective of this study is to explore the question of whether or not an undergraduate college woman's current residency (living on- or off-campus) or her prior residency (in a metropolitan, micropolitan, or noncore county) impacts her concern for safety in on-campus or off-campus places, her fear of victimization, or her use of precautionary behaviors. Specifically, our study investigates the following:

- 1) Does a person's experience of residency, proximally as current residence or distally as prior residence, impact a woman's concern for safety in either on-campus or off-campus places at college?

We hypothesize that living off-campus will increase concerns for safety, and a non-metropolitan place of prior residence will be associated with less concern for safety at the university.

- 2) Does residency impact fear of specific crime-type and offender combinations?

We hypothesize that students living off-campus will express higher fear of stranger perpetrators. We expect students previously residing in micropolitan and noncore counties to have less fear of known perpetrators than their metropolitan peers.

- 3) Does residency affect the type of precautionary behaviors engaged in by female students out of concern for their safety?

We hypothesize that students living off-campus will be more likely to carry or keep an item for personal protection, while students living on-campus will be more likely to avoid specific locations on campus. We hypothesize that students from metropolitan areas will be more likely to carry protective items than students from smaller communities.

In order to improve the validity of our prior residency measure, several considerations were made. Initially 1,881 students reported a valid U.S. county of previous residence. Students who reported their previous residence as the same county as the university (n=316) were removed, since comparison against a previous place of residence was a key element in this analysis. Controlling for students who previously lived in the same county also improved the validity of our measure of current residency by eliminating students who lived off-campus but in their parents' home. Additionally, 437 graduate students were removed from the sample because it was unclear whether or not their previous county of residence was a hometown, or simply the location a previous college or university. The final sample consisted of 1,124 undergraduate females.

Results

Of the female students in our sample with valid responses, 45.7% lived on-campus. Students from metropolitan counties comprised 70.1% of the sample, micropolitan students accounted for 14.6%, and 15.2% were from noncore counties according the Urban Influence Code for their previous county of residence. At least one form of victimization since coming to college was reported by 36.6% of the sample, with 21.2% experiencing sexual victimization (including 5.2% who reported being raped), 11.7% experiencing physical victimization, and 16.3% experiencing stalking. Overall, 55.1% of students reported feeling as safe or safer since coming to the university. Most students were white (85.7%), Black students comprised 7.6% of the sample, Asian students accounted for 2.2%, and 3.2% were mixed race. Only 2.4% of students reported having a Hispanic background. The majority of students were currently involved in a romantic relationship (59.2%), while 32.0% reported consuming alcohol at least once per week. Many students reported engaging in precautionary behaviors such as avoiding specific places on campus out of concern for safety (78.9%) and carrying or keeping some item at home for protection (52.0%).

Variables of interest in this study include place of current and prior residency. Students living on-campus versus those living off-campus significantly differed on a number of study variables (Table 1). Notable differences by current residence include higher rates of alcohol use and victimization for students living off-campus. Students were more likely to live on-campus early in their time at college (freshman, sophomore) and more likely to live off-campus as upperclassmen (junior, senior). In contrast, only race and alcohol use significantly differ across any of the three categories of prior residence (Table 2).

[Insert Table 1 about here]

[Insert Table 2 about here]

Concern for Safety

Our first research question asks: does a person's experience of residency, proximally as current residence or distally as prior residence, impact a woman's concern for safety in either on-campus or off-campus places at college? On the four-point scale asking how safe do you think you are from crime, college women regardless of current residency expressed a significantly higher mean level of safety concern when considering "residences, neighborhoods, or other areas around [university]'s campus" compared to "on [university]'s campus." Overall, students expressed significantly more concern for safety in off-campus areas around campus compared to on-campus areas (mean: 2.11 vs. 1.76, $t=13.08$, $p<.000$). One-way ANOVA indicates that women who lived on-campus expressed significantly higher mean levels of concern for safety than women who lived off-campus when considering both on-campus areas (mean: 1.81 vs. 1.70, $F=9.297$, $p=.002$) and off-campus areas (mean: 2.21 vs. 2.00, $F=29.100$, $p<.000$).

Prior residence, categorized using the Urban Influence Codes, did not significantly impact concern for safety on- or off-campus. In a one-way ANOVA, prior residence was not significantly related to mean level of concern about safety on-campus (mean: metro, 1.76, micro, 1.81, noncore, 1.70; $F(2)=1.431$, $p=.240$) or off-campus (mean: metro, 2.11, micro, 2.15, noncore, 2.13; $F(2)=.266$, $p=.766$). Prior residence was also not significantly associated with whether or not a student lived on-campus or off-campus, and mean levels of concern for safety between students from different categories of prior residency did not significantly vary across current

residency. Likewise, there were no significant differences with respect to prior residency on the question directly asking "do you feel safer or less safe since coming to [the university]?" even if controlling for current residency.

Given that several variables significantly differed between on-campus versus off-campus residents (see Table 1), it was necessary to examine the relationships between current residence, prior residence, and concern for safety in specific places using multivariate models in order to control for these variables. The concern for safety measures are ordinal variables, however preliminary analysis revealed that the proportional odds assumption would be violated due to an extremely small number of subjects endorsing the "very unsafe" category. The concern for safety dependent variables were instead re-coded into dichotomous variables where 1=Safe ("very safe" and "somewhat safe"), and 2=Unsafe ("somewhat unsafe" and "very unsafe"), allowing us to use binary logistic regression as a more robust alternative. Model variables were first examined using bivariate correlations which did not reveal any highly correlated variables. Independent variables included in the final models were examined for multicollinearity, and all variables had tolerances between .456 and .983, indicating no serious collinearity between predictors (generally indicated by tolerances around or below .100). Final models also passed the Hosmer & Lemeshow goodness-of-fit test.¹

Neither measure of residency significantly affected the odds of a female student feeling unsafe on-campus (Table 3). However, concern for safety in nearby off-campus areas was significantly related to a student's current residence. The odds ratio for living on-campus was 1.743, indicating that the odds of a female student feeling unsafe in off-campus areas was 74% higher for students living on-campus compared to those living off-campus. In both models, prior

¹ Fear of stranger sexual assault was not included in the either concern for safety model, since it had a detrimental effect on model fit for concern for safety off-campus.

victimization experiences had a significant, negative effect on the odds of feeling unsafe. The betas for academic class standing (using freshmen as a reference group) were all negative and in some cases significant, suggesting that general concern for safety may decrease somewhat over time in college.

[Insert Table 3 about here]

Fear of Crime

Our second research question asks: does residency impact fear of specific crime-type and offender combinations? Previous research on fear of crime (e.g., Wilcox, et al., 2006) suggests that victim-offender relationship and type of crime strongly influence fear of crime among college women. This study builds up this previous work by also controlling for the possible influences of current and prior residency in shaping crime- and offender-specific fear of crime. Mean levels of fear of crime, measured by a four-point scale (1-4), revealed significant mean differences across current residency when compared across specific crime type-offender configurations (Figure 1). Overall levels of fear of specific forms of victimization were extremely low, with means less than 2 on a 1-4 scale for all combinations except fear of stranger sexual assault, and stranger physical assault. In fact, fear of victimization by a stranger offender was significantly higher than fear of victimization by acquaintances within each of the three crime types examined: stalking, sexual assault, and physical assault.

[Insert Figure 1 about here]

With respect to current residency, ANOVA reveals significant differences for all three crime types between women living on-campus and off-campus with respect to fear of

victimization by known offenders. Women living on-campus were significantly more worried about being victimized by an acquaintance than women living off-campus for the crimes of stalking ($F(1)=7.368, p=.007$), sexual assault ($F(1)=4.855, p=.028$), and physical assault ($F(1)=4.893, p=.027$). There were no differences between on- and off-campus residents on any measure of stranger victimization. Among all subjects, fear of stranger sexual assault was significantly higher than all other crime type-offender combinations, a finding consistent with previous literature.

With respect to prior residency, mean fear of stalking, sexual assault, and physical assault did not significantly differ by prior residency category, even when controlling for victim-offender relationship (Figure 2). ANOVA revealed no significant differences by prior residence. It is notable that micropolitan areas almost always had lower levels of fear across crime type and victim-offender relationship, though these levels were not significantly lower than either metropolitan or noncore students.

[Insert Figure 2 about here]

As with the concern for safety analysis above, multivariate models were employed to control for additional influences on fear of specific crime-offender combinations. Preliminary ordinal logistic regression models violated regression assumptions, so fear of crime variables were re-coded into 0,1 binary variables, with 1 indicating "somewhat or very worried" about a given crime-offender combination. Six binary logistic regression models were created to examine the likelihood of a female student experiencing high levels of fear of specific forms of victimization (Table 4). In addition to other independent variables, high fear of stranger sexual assault was controlled for in the models for stalking and physical assault. This variable was

included in order to control for the "shadow of stranger sexual assault" effect found to be significant in previous literature.

[Insert Table 4 about here]

Binary logistic regression models found that neither current nor prior residency significantly influenced whether or not a student was "somewhat or very worried" about any of the six crime-offender combinations examined. However race, prior victimization, and fear of stranger sexual assault were significant in most models. The odds of a minority student expressing high fear of stalking by either a known person or a stranger were approximately double that of white students. High fear of stranger sexual assault significantly increased the odds of a female student expressing high fear of stalking by a factor of 3.48 for known offenders and 5.46 for strangers. Prior victimization experiences at college significantly increased the odds of fearing stalking by a known person (OR: 2.26) and was near significant ($p=.053$) for fear of stalking by a stranger (OR: 1.394). Only prior victimization experiences were significantly related to concern for sexual assault by either a known person or a stranger, and in both cases prior victimization was associated with significant increases in the odds of expressing high levels of fear of sexual assault. Prior victimization increased the odds of fearing sexual assault by a known person by a factor of 2.52, but only increased odds of fearing of stranger sexual assault by a factor of 1.56. Finally, the odds of having high fear of physical assault by a known person and by a stranger were significantly increased by having high fear of stranger sexual assault (OR: 5.870 and 18.126, respectively). This is consistent with previous literature, which finds that fear of stranger sexual assault is highly correlated with other types of assault, in particular by stranger offenders. Odds of having high fear of physical assault by a known perpetrator were significantly

increased for minority women (OR: 2.046) and those experiencing prior victimization in college (OR: 2.029).

Precautionary Behaviors

Our third research question asked: does residency affect the type of precautionary behaviors engaged in by female students out of concern for their safety? Precautionary behaviors were examined using binary logistic regression models to examine how current or prior residency might shape the odds of a female student: 1) carrying or keeping an item for protection, and 2) avoiding locations on-campus out of concern for safety. Like the above analyses, these models included the following independent variables: current residence, prior residence, and the control variables of race, romantic involvement, alcohol use, victimization at college, and academic class. In addition, these models also controlled for concern for safety on-campus and off-campus, and fear of stranger sexual assault as potential predictors (Table 5).

[Insert Table 5 about here]

A student's current residence was significantly related to both forms of precautionary behavior, while no prior residency category significantly impacted the odds of engaging in either of these forms of self-protection. A female student's odds of carrying or keeping some object for protection were significantly increased by currently being in a romantic relationship (OR=1.486) and by having high levels of fear of sexual assault (OR=1.476), while the odds were significantly decreased by living on-campus (OR= .700). The odds of avoiding places on-campus out of concern for safety was significantly increased by living on-campus (OR=2.391), high fear of stranger sexual assault (OR=1.935), increased concern for safety on-campus (OR=1.789),

increased concern for safety off-campus (OR=1.712), and junior (OR=2.026) or senior (OR=1.705) class standing. All academic classes had positive coefficients compared against freshman class standing, but only junior and senior were significant in the model for avoiding places on campus.

Discussion

This study asked three questions exploring whether or not a female student's reactions to crime and safety are affected by her residency experiences, either proximally by where she currently lives, or distally by considering differences in character of a student's prior residential community. This study considered residency in the contexts of place-specific concern for safety, fear of specific forms of victimization by specific types of offenders, and use of certain safety precautions. These two measures of residency have very different implications for targeting safety interventions to college women, namely whether a student's prior residence or her current residence has a bigger influence on how she perceives and mitigates her risk of victimization while at the university.

Our study first examined the question: does a person's experience of residency, proximally as current residence or distally as prior residence, impact a woman's concern for safety in either on-campus or off-campus places at college? Direct comparisons find that college women in our sample expressed significantly higher concern for safety in nearby off-campus areas than on-campus, regardless of where students currently reside. Controlling for other variables, current residence did not impact women's concern for safety on-campus, however current residence did impact concern for safety in off-campus areas. Living on-campus

significantly increased the odds that a female student worried about her safety in nearby off-campus areas. It is possible that living off-campus mitigates the fear of off-campus places as a student establishes a familiar routine in these specific areas. If students who choose to live off-campus did so because they were generally less fearful, we would expect concern for safety on-campus to also be lower for these off-campus residents. This was not the case. Therefore, it seems that location of current residency is itself directly important.

Second, our study asked: does residency impact fear of specific crime-type and offender combinations? This analysis examined the relationship between type of victimization (sexual, physical, stalking) and offender (stranger, known person) while controlling for our two residency variables. One important finding in this study is that the fear of specific forms of victimization by specific offenders is, in general, extremely low. That is, with the exceptions of stranger sexual and physical assault, most of these female students expressed very low levels of fear. Nevertheless, we hypothesized that off-campus residents would experience higher fear of stranger offenders, since they would perceive a greater likelihood of exposure to potential stranger perpetrators. The data, however, show that instead of increased fear of stranger perpetration, living off-campus was only associated with significantly lower fear of acquaintance perpetration when compared to on-campus residents. The question of why students living off-campus would express less fear of victimization by a known perpetrator should be investigated in future research, especially in light of the fact that students living off-campus experienced higher rates of victimization, and most often by people they knew. Multivariate models showed that other factors, namely race, prior victimization, and fear of stranger sexual assault were more important than current residence in predicting fears of specific forms of victimization.

Finally, we asked: does residency affect the type of precautionary behaviors engaged in by female students out of concern for their safety? We examined two precautionary behaviors: carrying or keeping an item at home for protection, and avoiding places on campus out of concern for safety. Consistent with prior literature, living off-campus increased the odds that a student would carry or keep in her home something for protection. Also, being involved in a romantic relationship increased the odds of carrying or keeping safety objects in the home. It is unclear why this particular item is significant, however it may be possible that male romantic partners encourage this specific form of safety behavior. Another possibility is that simply having a boyfriend may be seen by some women as protective from crime, and thus being in a committed relationship may be part of multiple strategies used to increase feelings of safety.

Avoiding specific locations on-campus out of concern for safety is also significantly related to student's current residency, with on-campus students having more than twice the odds of engaging in this particular precautionary behavior. This behavior is also significantly associated with general concern for safety both on-campus and off-campus, as well as positively associated with higher academic standing. Consistent with previous literature, fear of stranger sexual assault significantly increased the odds of engaging in both forms of precautionary behavior measured. High fear of stranger sexual assault increased the odds of avoiding places on campus by 94% and increased the odds of carrying a protective item by only 48%. These findings suggest that women are more likely to utilize avoidance rather than resistance strategies in response to fear of sexual assault. Future research should examine in greater detail the relationship between fear of sexual assault and different types of precautionary strategies in the context of sexual victimization, especially given that place avoidance strategies may not be

appropriate for the majority of sexual assault incidents which are usually perpetrated by acquaintances.

A notable finding throughout this dataset is that concern for safety, fear of victimization, and precautionary behaviors are supportive of a "stranger danger" bias in campus safety perception. For instance, students who had been victimized since coming to college were less likely to rate the campus as unsafe. This apparently counterintuitive result can again be reconciled with the fact that students were far more likely to be victimized by a known offender rather than a stranger. A good deal of the extant literature suggests that fear of strangers, and particularly stranger sexual assault, strongly influences general safety concerns for women. Significantly higher mean worry about stranger sexual assault and stranger physical assault found in the fear of crime section of this study certainly support such an interpretation. While it is also possible that prior victimization may increase safety precautions (and thus mitigate safety concerns), the fact that prior victimization was not associated with either of the precautionary behaviors in this study suggests that this second explanation is unlikely. Prior victimization at college was only associated with significant increases in the odds of expressing high fear of crimes perpetrated by known offenders. These findings corroborate the "shadow of sexual assault" hypothesis in that prior victimization seems to only impact worry about perpetration by known persons, while fear of stranger sexual assault has a more ubiquitous effect.

Finally, no hypotheses regarding prior residency were supported. Type of prior residency was not directly significant in any models, nor does it influence whether or not a student chooses to live on- or off-campus. This result is consistent with Woolnough's finding that hometown was not a significant factor in fear of crime or safety behaviors (Woolnough, 2009). The use of the Urban Influence Codes rather than self-reported urban, suburban, or rural hometown is, in our

view, a slight improvement in the quality of a measure of prior residency, nonetheless yielding similar results. It is also possible that broad, community-level measures are not the best way to understand how a person's geographic background shapes their understanding of new places. Since previous literature suggests that prior residency shapes help-seeking in response to victimization, it is possible that place prior residency simply does not significantly shape either of the two precautionary behaviors examined, but may impact how a woman responds to an actual victimization experience. However, the present study suggests that with regard to role of prior residency in perceptions of crime and safety, students may quickly adapt to their new residence when making safety assessments, and thus perceptions of campus or adjacent areas are not strongly influenced by prior residency experiences.

Limitations

The results of this study are affected by a few important limitations that should be noted. First, because this study is cross-section in design, we cannot definitely say if the differences in student safety perceptions by their current residence are caused by living in these places, or if differences in safety perceptions affect a college woman's choice of where to live. It is possible that students who are less concerned with safety choose to live off-campus, since they also appear to be more likely to engage in risk behaviors such as alcohol use. This, in turn, may contribute to higher rates of victimization. Though we examined a number of personal background variables which may affect choice of living arrangements (e.g., race, relationship status), it is always possible that some other factor not measured influences both a woman's choice of residence and perception of safety. Overall, a slight majority of students (55.1%) felt as

safe or safer at the university compared to their previous residence, and regardless of whether or not they lived on-campus, and most students expressed greater concern for safety off-campus than on-campus.

Second, most dependent variables in this study were ultimately reduced to binary variables because ordinal regression assumptions were not met (e.g., number of cases in each cell for ordinal regression). Recoding key dependent variables to binary measures may have prevented us from detecting significant differences in our multivariate models that are suggested by bivariate comparisons, particularly between place of residence and fear of crime measures. Future research on fear of crime should consider utilizing scale rather than ordinal measures in order to allow for a wider range of analytic techniques (e.g., Lee & Hilinski-Rosick, forthcoming).

Conclusion

This study provided an exploratory look at how residency experiences affect college women's perceptions of safety, fear of victimization, and precautionary behaviors. This study distinguished between a proximal effect, a student's current residence, and a distal effect from a student's prior residency. This study consistently found that students living on-campus and students living off-campus at one large, state university had significantly different levels of concern for safety and engaged in different types of precautionary behaviors. The results of this study also suggest that students from smaller or larger communities of prior residency have similar experiences safety on campus. However, a student's current residency either on-campus or off-campus significantly shapes concern for safety in both on-campus and off-campus places,

and changes the types of precautionary behaviors taken out of concern for safety. Owing to the overall low levels of fear of any crime-offender combination and to the strong effects of "the shadow of sexual assault" and prior victimization, place of residence did not impact fear of specific forms of victimization by specific offenders. These findings suggest that college administrators should pay particular attention to whether or not female students live on- or off-campus when targeting safety information to improve overall perceptions of safety among students.

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Table 1. Bivariate comparison across place of residency.

Variable	On-Campus (n=492)			Off-Campus (n=583)			p-value
	N	Mean (s.d.)	Percent	N	Mean (s.d.)	Percent	
Age	492	19.21 (1.07)	--	583	22.41 (5.18)	--	<.000
White (non-Hispanic)	391	--	79.5%	528	--	90.6%	<.000
Romantically involved	249	--	50.7%	383	--	66.0%	<.000
Victimized at college	164	--	33.3%	232	--	39.8%	.017
Sexual	85	--	17.3%	143	--	24.5%	.002
<i>known offender</i>	64		80.0% ^A	103		74.1% ^A	.162
Physical	52	--	10.6%	75	--	12.8%	.145
<i>known offender</i>	48		94.1% ^A	61		81.3% ^A	.020
Stalking	72	--	14.6%	102	--	17.5%	.118
<i>known offender</i>	37		56.1% ^A	59		62.8% ^A	.197
Uses alcohol once a week or more	120	--	24.4%	233	--	40.0%	<.000
Carry or keep something for protection	222	--	45.2%	335	--	57.7%	<.000
Academic class	491	--	99.8%	582	--	99.8%	
Freshman	267	--	54.4%	44	--	7.6%	<.000
Sophomore	129	--	26.3%	98	--	16.8%	<.000
Junior	59	--	12.0%	169	--	29.0%	<.000
Senior	36	--	5.5%	271	--	46.6%	<.000

Note: P-values calculated using two-proportion z-test, except for mean age which uses a t-test.

^A Percent based on valid cases within victimization type.

Table 2. Bivariate comparison across place of origin.

Variable	Metro (n=787)			Micropolitan (n=164)			Noncore (n=171)			p-value (df = 2)
	N	Mean (s.d.)	Percent	N	Mean (s.d.)	Percent	N	Mean (s.d.)	Percent	
Age	787	20.83 (4.11)	--	164	21.18 (4.13)	--	174	21.13 (4.19)	--	.472
White (non-Hispanic)	660	--	83.9%	145	--	87.9%	158	--	92.4%¹	.011
Romantically involved	453	--	57.6%	103	--	63.6%	105	--	62.1%	.261
Victimized at college	298	--	37.9%	60	--	36.6%	53	--	31.0%	.240
Sexual	172	--	21.9%	36	--	22.0%	29	--	17.0%	.350
<i>known offender</i>	125	--	74.4% ^A	30	--	90.9% ^A	20	--	71.4% ^A	.100
Physical	98	--	12.5%	13	--	7.9%	20	--	11.7%	.260
<i>known offender</i>	85	--	88.5% ^A	11	--	78.6% ^A	17	--	85.0% ^A	.564
Stalking	130	--	16.5%	32	--	19.4%	21	--	12.4%	.210
<i>known offender</i>	76	--	63.3% ^A	13	--	50.0% ^A	12	--	57.1% ^A	.427
Uses alcohol once a week or more	274	--	34.8%	38	--	23.0%¹	47	--	27.6%^{1,2}	.005
Carry or keep something for protection	403	--	51.2%	86	--	52.4%	94	--	55.0%	.665
Academic class	787	--	100.0%	164	--	100.0%	171	--	100.0%	.230
Freshman	222	--	28.2%	44	--	26.8%	58	--	33.9%	(df = 6)
Sophomore	167	--	21.2%	34	--	20.7%	34	--	19.9%	
Junior	181	--	23.0%	37	--	22.6%	24	--	14.0%	
Senior	217	--	27.5%	49	--	29.9%	55	--	32.2%	
Lives off-campus	403	--	53.3%	88	--	55.7%	92	--	57.5%	.581

Note: Proportions are calculated using a χ^2 test with degrees of freedom as indicated.

¹ Significantly differs from Metro in a one-tailed Z-test at $\alpha=.05$.

² Significantly differs from Micropolitan in a one-tailed Z-test at $\alpha=.05$.

^A Percent based on valid cases within victimization type.

Table 3. Binary logistic regression models for concern for safety on-campus and in nearby off-campus areas.

Variable	Concern for safety on-campus			Concern for safety off-campus		
	B	S.E.	Odds Ratio	B	S.E.	Odds Ratio
<i>Place of Residence</i>						
Lives on-campus	-.147	.300	.863	.556**	.191	1.743
<i>Place of Origin</i>						
Micropolitan place of origin	.073	.340	1.076	-.194	.208	.823
Noncore place of origin	.335	.392	1.398	-.241	.208	.786
<i>Control Variables</i>						
Non-white race/ethnicity	-.328	.328	.720	-.037	.226	.964
Currently romantically involved	-.007	.245	.993	-.177	.154	.837
Uses alcohol 1x week or more	.080	.262	1.083	-.022	.161	.978
Experienced victimization in college	-.695**	.242	.499	-.747**	.151	.474
Sophomore standing	-.229	.391	.795	-.518*	.230	.596
Junior standing	-.963*	.379	.382	-.452	.248	.637
Senior standing	-.442	.409	.643	-.070	.252	.933
Constant	3.298	.440	27.061	1.640	.273	5.154

* p<.05, ** p<.01

Table 4. Binary logistic regression models for fear of specific victimization-offender combinations (1=somewhat or very worried).

Variable	Fear of Stalking by Known Person			Fear of Stalking by Stranger			Fear of Sexual Assault by a Known Person		
	B	S.E.	Odds Ratio	B	S.E.	Odds Ratio	B	S.E.	Odds Ratio
<i>Place of Residence</i>									
Lives on-campus	.338	.293	1.403	.046	.215	1.047	.164	.244	1.178
<i>Place of Origin</i>									
Micropolitan place of origin	-.064	.327	.938	.277	.232	1.320	-.283	.296	.754
Noncore place of origin	.097	.317	1.102	-.034	.242	.967	-.076	.282	.927
<i>Control Variables</i>									
Non-white race/ethnicity	.693*	.277	2.000	.667**	.220	1.949	.418	.260	1.519
Currently romantically involved	.116	.228	.891	-.013	.170	.987	-.092	.193	.912
Uses alcohol 1x week or more	-.114	.248	.893	-.086	.184	.918	.370	.203	1.448
Experienced victimization in college	.815**	.227	2.259	.332	.172	1.394	.923**	.194	2.518
High fear of stranger sexual assault	1.248*	.310	3.484	1.697*	.237	5.459	--	--	--
Sophomore standing	-.189	.354	.828	.150	.273	1.162	.143	.266	1.153
Junior standing	-.122	.377	.885	-.031	.277	.970	-.236	.313	.790
Senior standing	-.531	.230	.588	-.232	.172	.793	-.381	.317	.683
Constant	-3.447	.424	.032	-2.504	.312	.082	-2.423	.336	.089

* p<.05, ** p<.01

Table 4a. Binary logistic regression models for fear of specific victimization-offender combinations (1=somewhat or very worried).

Variable	Fear of Sexual Assault by Stranger			Fear of Physical Assault by Known Person			Fear of Physical Assault by Stranger		
	B	S.E.	Odds Ratio	B	S.E.	Odds Ratio	B	S.E.	Odds Ratio
<i>Place of Residence</i>									
Lives on-campus	-.201	.163	.818	.600	.358	1.821	-.019	.213	.981
<i>Place of Origin</i>									
Micropolitan place of origin	-.263	.186	.769	-.598	.481	.567	-.302	.240	.740
Noncore place of origin	.026	.181	1.026	.021	.390	1.021	.048	.233	1.050
<i>Control Variables</i>									
Non-white race/ethnicity	.191	.183	1.211	.716*	.344	2.046	-.063	.235	.939
Currently romantically involved	.050	.131	1.052	-.057	.281	.945	.222	.169	1.249
Uses alcohol 1x week or more	.044	.139	1.045	.039	.305	1.040	-.247	.181	.781
Experienced victimization in college	.446**	.133	1.563	.707*	.282	2.029	.127	.171	1.135
High fear of stranger sexual assault	--	--	--	1.770*	.375	5.870	2.897*	.241	18.126
Sophomore standing	.125	.186	1.133	.537	.456	1.711	.513*	.273	1.670
Junior standing	-.181	.207	.834	.357	.471	1.429	.211	.271	1.235
Senior standing	-.217	.207	.805	.133	.321	1.142	.314	.167	1.369
Constant	-.458	.219	.633	-4.763	.569	.009	-2.390	.309	.092

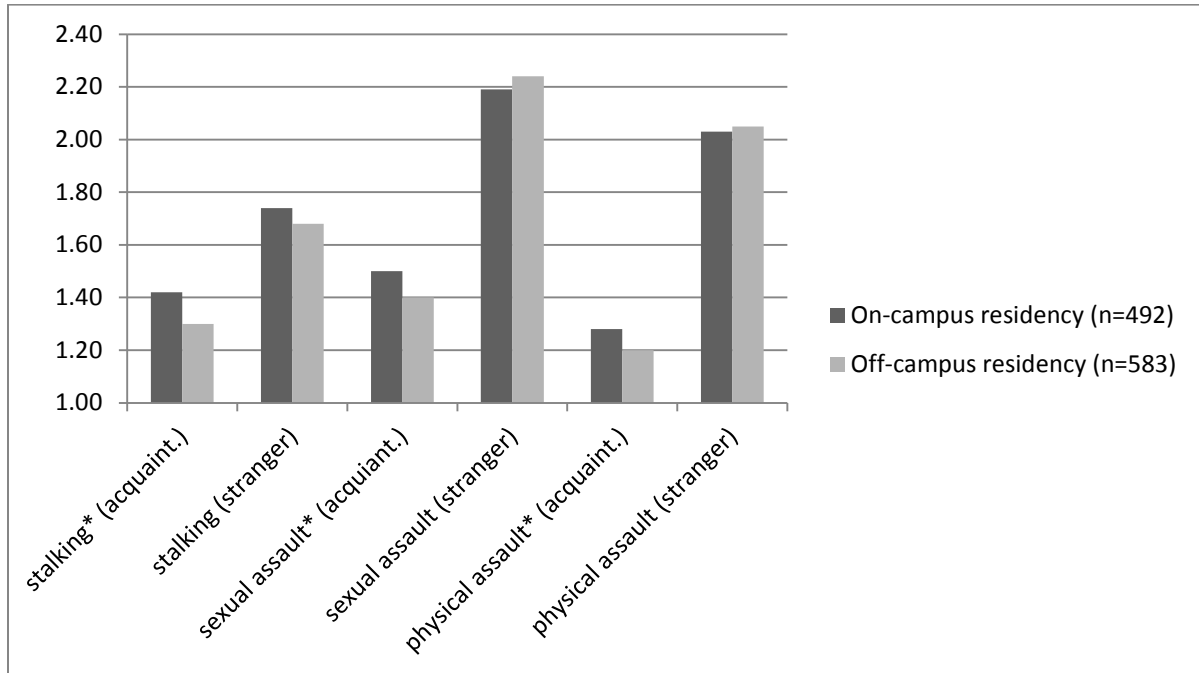
* p<.05, ** p<.01

Table 5. Binary logistic regression models for engaging in precautionary behaviors.

Variable	Carrying/keeping an item for protection			Avoiding places on campus		
	B	S.E.	Odds Ratio	B	S.E.	Odds Ratio
<i>Place of Residence</i>						
Lives on-campus	-.356*	.163	.700	.872**	.217	2.391
<i>Place of Origin</i>						
Micropolitan place of origin	-.012	.181	.989	.241	.242	1.272
Noncore place of origin	.152	.181	1.164	.005	.227	1.005
<i>Control Variables</i>						
Non-white race/ethnicity	-.168	.184	.845	-.239	.232	.788
Currently romantically involved	.396**	.130	1.486	-.242	.169	.785
Uses alcohol 1x week or more	-.222	.140	.801	-.157	.176	.855
Experienced victimization in college	.065	.136	1.067	.054	.179	1.055
High fear of stranger sexual assault	.389**	.187	1.476	.660**	.244	1.935
Concern for safety on-campus	.090	.207	1.094	.582**	.273	1.789
Concern for safety off-campus	.043	.207	1.044	.538**	.264	1.712
Sophomore standing	-.081	.134	.922	.285	.183	1.330
Junior standing	.244	.123	1.276	.706**	.164	2.026
Senior standing	.009	.114	1.009	.534*	.150	1.705
Constant	.000	.315	1.000	-.827	.406	.437

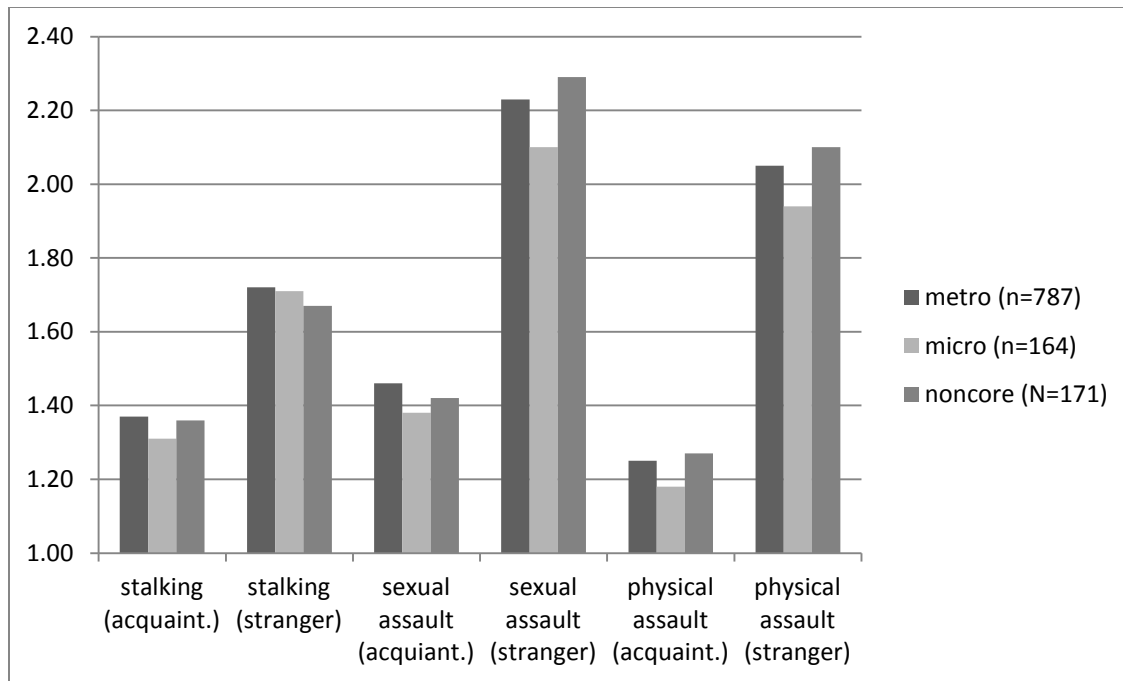
* p<.05, ** p<.01

Figure 1. Mean fear of crime by crime type, victim-offender relationship, and place of residence.



*Difference between place of residence within crime type and victim/offender relationship is significant at $\alpha=.05$.

Figure 2. Mean fear of crime by crime type, victim-offender relationship, and place of origin.



Note: No significant differences by place of origin within any crime type and victim/offender relationship comparisons.