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## Dating Application Facilitated Victimization: An Examination of Lifestyle-Routine Activities, Self-Control, and Self-Efficacy

Vanessa Centelles

University of South Florida, centellesvanessa@gmail.com

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Dating Application Facilitated Victimization: An Examination of Lifestyle-Routine Activities,  
Self-Control, and Self-Efficacy

by

Vanessa Centelles

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Arts  
Department of Criminology  
College of Behavioral and Community Sciences  
University of South Florida

Co-Major Professor: Ráchael A. Powers, Ph.D  
Co-Major Professor: Richard K. Moule Jr., Ph.D  
John K. Cochran, Ph.D

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## ABSTRACT

The current study examines how college students participate in the use of location-based real-time dating (LBRTD) applications and the correlates of in-person and cyber victimization. Using an exploratory lens, the present study draws on the classical criminological theories of lifestyle-routine activities (L-RAT), self-efficacy, and low self-control which have been applied to various forms of abuse. Although the use of LBRTD applications has become relatively common place, with approximately 15% of Americans reporting having used a mobile dating application or online dating site, little is known concerning the role these applications play, particularly among college students (Boillot-Fansher, 2017; Smith, 2016). Using self-report data ( $n=324$ ), the current study uses an adapted survey instrument, reviewing the three theoretical frameworks discussed. Descriptive statistics provided indicate a prevalence of both in-person and cyber victimization, as facilitated by LBRTD applications. Overall, the current thesis' findings and the implemented analyses show mixed support for L-RAT, substantial support for self-control, and no support for self-efficacy.

## CHAPTER I: INTRODUCTION

The extensive availability and accessibility to technology has allowed online communications to become part of our daily lives; nearly 90% of the United States population regularly accesses the internet (Anderson, Perrin, Jiang, & Kumar, 2019). This custom in technology is largely facilitated by the growing use and ownership of smartphones and devices. Nearly 77% of Americans own a smartphone, with 1-in-5 Americans using smartphones as the primary means of internet usage in their home (Perrin, 2018). The rise in dependency on smartphone devices has consequently resulted in an increase of social media engagement, as many social networking applications, such as Instagram, were designed to run on mobile devices. Moreover, social media remains as one of the most common forms of online engagement, nearly doubling since 2008, with approximately 70% of Americans using a type of social networking platform (Perrin, 2018). Younger, more educated adults are more likely to own smartphones and access the internet; data show that 94% of college-aged students (18-24) use the internet to access a social networking site (Poushter, 2016; Smith & Anderson, 2018).

These social networking platforms provide the opportunity to form new relationships, while enabling communications with pre-existing ones. It is important to note that the use of mobile applications is not limited to familial, educational, or business relationships: they also allow for the pursuit of romantic relationships on applications such as Tinder. Approximately 15% of Americans report having used a mobile dating application or online dating site (Smith, 2016). Moreover, the mobile-application versions of these once computer-based dating websites compose “a very substantial subsector of the burgeoning application community” (Albury,

Burgess, Light, Race & Wilken, 2017, p.1). This “digital revolution of modern romance” is large in-part due to the applications’ “tactile functionality and mobility” (Hobbs, Owen, & Gerber, 2017, p.272). These applications, often referred to as location-based real-time dating (LBRTD) applications, have become increasingly popular among college student populations (Boillot-Fansher, 2017). Nearly 30% of persons ages 18-24 have engaged in this method of courting, altering individuals’ experiences concerning courtship (Smith, 2016; Smith & Duggan, 2013).

The convergence of private and social life through LBRTD applications has implications for individual lives and activities, including experiences with victimization. Although the use of LBRTD applications has become relatively common place, little is known concerning the role these applications play, particularly among college students, with most research focusing on gay men and the use of Grindr<sup>1</sup> (Albury et al., 2017). Consequently, the literature of LBRTD applications and in-person and cyber victimization is scarce, even among college-aged populations, a large subset of LBRTD application users (Boillot-Fansher, 2017; Fisico, Harkins, & Filipowich, 2018). With literature reporting between 31% and 70% of college-aged students experiencing some form of abuse or harassment online, it is important to explore the role of LBRTD applications on these instances, and how their use may also be a pathway to victimization (Henson, Reynolds, & Fisher, 2011; Pereira, Spitzberg, & Matos, 2016; Spitzberg & Hoobler, 2002). This consideration is especially important, as college students’ risk of being victimized (in-person) has long-been established in criminological literature, with cases of sexual violence prevalent on college campuses; nearly 1 in 5 women and 1 in 16 men are sexually assaulted while in college (Cantor et al., 2015; National Sexual Violence Resource Center, 2015).

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<sup>1</sup> Grindr is a LBRTD application catered to the LGBTQ+ community and the first gay geosocial app to launch for smart devices (Blackwell, Birnholtz, & Abbott, 2014).

To that end, the current thesis examines how college students participate in the use of LBRTD applications and the correlates of cyber and in-person victimization. To do so, the current study draws on lifestyle-routine activities, self-efficacy, and low self-control theories, each of which has previously been applied to victimization (e.g., Bandura, 1977; Cohen & Felson, 1979; Cohen, Kluegel, & Land, 1981; Hindelang, Gottfredson, & Garofalo, 1978). Notably, criminological theory has neglected addressing the component of dating violence and risky lifestyles in a virtual setting (Reyns, Henson, & Fisher, 2011). With LBRTD applications becoming increasingly pervasive, particularly in the college-setting, it is important to explore their implications for victimization. The study assess (1) the relationship between LBRTD application usage and in-person victimization, (2) the relationship between LBRTD application usage and cyber victimization, and (3) the explanatory power of classical criminological theories (i.e., lifestyle-routine activities, self-control, and self-efficacy) in understanding both forms of victimization, as facilitated by LBRTD applications.

The current thesis proceeds as follows: Chapter 2 provides a review of the relevant literature, discussing the prevalence, motivations, and consequences of both LBRTD application use and in-person and cyber victimization. Chapter 3 presents the theoretical frameworks that informs the current study, reviewing lifestyle-routine activities theory, self-control, and self-efficacy and their applicability to in-person and cyber victimization. Chapter 4 presents an overview of the current study, reviewing the proposed research questions, study objectives, and proposed contributed to the literature. Chapter 5 discusses the methodology of the current study, detailing the sampling procedures, sample characteristics, variables, in addition to the analytic strategy used to address the research questions, followed by the study's contribution to the literature. Chapter 6 presents the empirical findings of the current analyses. Finally, Chapter 7

includes a discussion of the findings, including theoretical and methodological considerations for future research and an overview of project limitations.

## CHAPTER II: REVIEW OF RELEVANT LITERATURE

### Use of Technology and History of Online Dating

The growing accessibility of technology has allowed opportunities for individuals around the world to connect with one another, transcending the barriers of geography. In a 2019 global report, over 4 billion people were identified as internet users (We Are Social, 2019).

Respectively, 89% (nearly 292 million) of Americans reported using the internet on a “regular basis”, with 26% claiming to be online “almost constantly” (Perrin & Jiang, 2018). Furthermore, the use of home broadband systems has plateaued in the last several years, leaving many to use smart devices as their primary mean of access to the internet (Pew Research Center, 2017).

Around the world, over 5 billion people access mobile devices, with ownership of devices growing rapidly in advanced economies (Taylor & Silver, 2019; We Are Social, 2019). In 2018, approximately 77% of Americans reported owning a smartphone, while 53% reported owning a tablet computer or other smart device (Pew Research Center, 2018).

Society’s reliance on “on the go” technologies has allowed for “everyday life to entangle with digital media, especially mobile media” (Albury et al., 2017, p. 1). As a result, there has been an increase in the use of social media and mobile applications. A 2018 Pew Research Center study of 39 countries (including the United States) reported that a median 53% of individuals used a social networking site (Poushter, Bishop, & Chwe, 2018). In the U.S. alone, nearly 70% of persons use some form of social media, with Facebook as the most popular (Pew Research Center, 2018). Many of these social media platforms are formatted for smart devices, allowing for additional means of connection at one’s fingertips. It is important to note that social

media platforms and applications are not limited to engagement in entertainment, news, and business, but also serve the opportunity to navigate platonic and romantic relationships. With methods of companionship evolving in the last decade, it is to be expected that the use of location-based real-time dating (LBRTD) applications are on the rise. For instance, one in 10 of Americans, ages 24 to 34, reported using a dating application on their phone (Smith & Duggan, 2013).

Nearly half of the American population reports knowing someone who has used a dating website or LBRTD application in efforts of establishing romantic relationships (Rosenfeld & Thomas, 2012; Smith & Duggan, 2013). Accordingly, online dating has become increasingly popular in the last decade, although websites such as Match.com have existed since the mid-1990s (Kallis, 2017; Smith & Duggan, 2013). Many traditional online dating websites (such as Match.com) require users to create profiles, providing personal information such as photographs and biographical information. After establishing their online presence, users are paired (or “matched”) with other users who fit their preferences in a potential partner. This dating system is known as “see-and-screen”, one of three types of traditional online dating website systems (in addition to “algorithm” and “blended”) (Tong, Hancock, & Slatcher, 2016).

A “see-and-screen” system allows a user to sort through (or screen) a list of profiles, allowing individuals to pick their own partners based on preference (Tong et al., 2016). Websites with an “algorithm” design are dependent on information supplied by the user, allowing the website’s algorithm to provide potential matches; a “blended” design includes a combination of both systems (Tong et al., 2016). These systems differ by a user’s ability to control what profiles they see, with traditional dating websites commonly employing a “see-and-screen” design (Finkel, Eastwick, Karney, Reis, & Sprecher, 2012). As a result, a user’s match success may vary



dependent on the dating website they are using, consequently impacting one's opportunity in establishing relationships.

The motivation for establishing relationships on online dating websites vary across users, with some individual's looking to fulfill a sexual need or, rather, looking for a potential spouse or partner (Boillot-Fansher, 2017; Ellison, Heino, & Gibbs, 2006; Sumter, Vandenbosch, & Ligtenberg, 2017). Online dating websites also allow for individuals of whom have no personal ties, to meet (Hobbs et al., 2017; Rosenfeld & Thomas, 2012). Furthermore, online dating websites allow users to "repackage" themselves, altering their cyber self-presentation (Toma, Hancock, & Ellison, 2008). As noted by Hobbs, Owen, and Gerber (2017), LBRTD applications also allow for unique experiences, different from those on traditional dating websites. These applications often follow a "algorithm" design, using a photo-swipe system to match users within the designated distance (Hobbs et al., 2017; Tong et al., 2016). LBRTD applications provide more fluid dating experiences, in comparison to traditional dating website use (Stampler, 2014). To quote Hobbs and colleagues (2017): "this design philosophy is reflected in the features of the software, where people's profiles are similar to a deck of playing cards, and love, sex and intimacy are the stakes of the game" (p. 272). To that end, it is important to understand the role LBRTD applications play in modern-day relationships.

### **The Role of LBRTD Applications: Usage, Behaviors, and Motivations**

LBRTD applications, commonly referred to [in the literature] as geo-social networking (GSN) applications and location-based dating applications (LBDA), are smart device applications used to "enable local, immediate social (or sexual) encounters" (March, Grieve, Marrington, & Jonason, 2017, p. 140). Historically, LBRTD applications have catered to individuals in the LGBTQ+ community, with applications like Her and Grindr (Blackwell et al.,

2015). Only recently have applications such as Tinder, catered toward a younger, heterosexual audience, taken the lead in the realm of LBRTD applications (Ranzini, Lutz, & Gouderjaan, 2016). Tinder is now the fastest growing LBRTD application in the United States, hosting over 26 million matches per day (Baxter & Cashmore, 2013; Kallis, 2017). The rise in popularity of these applications is due to their locatability, portability, availability, and multimediality (Schrock, 2015). Users are no longer restricted to the formats of online websites: they can access users at any time from any location (Ranzini & Lutz, 2017). This method of GPS-based technology allows for users to access a wide range of locations (with many LBRTD applications extending beyond 100 miles), increasing the number of people a user may be able to connect with (Ranzini & Lutz, 2017). Although dating applications are more commonly used by persons 25-34, Tinder often ranks as the most popular dating application for persons 18-24 (Ayers, 2014; McGrath, 2015; Smith & Duggan, 2013; We Are Flint, 2018). Consequently, college students are twice as likely to use online dating sites than non-college students (Smith & Duggan, 2013).

LBRTD application matches can lead to users meeting in-person, providing potential in forming relationships that stem outside the virtual world, with potential implications for romantic bonds. Applications like Tinder allow users to identify these relationships with lesser social anxiety (March., Grieve, Marrington, & Jonason, 2017). Conversely, some LBRTD applications also accommodate individuals who may be seeking platonic friendship (e.g., Bumble's BumbleBFF feature) or relationships that are strictly sexual (e.g., Grindr) (Licoppe, Rivière, Morel, 2016). Although Tinder promotes the application as a means of finding committed relationships, it is often recognized as a place for casual sex (Kallis, 2017). Sumter, Vandebosch, and Ligtenberg (2016) found that almost 19% of matches that led to an offline encounter resulted in a one-night stand. With nearly 63% of college students engaging in "hook-

up” culture during their academic experience, sexual rendezvous as a motivational factor to using Tinder is reflective of the “self-exploratory and autonomous nature” of a university setting (Adkins, 2015; Boillot-Fansher, 2017). These casual sexual encounters and various degrees of hooking-up have been found to be associated with increased risk of in-person victimization (Flack et al., 2016; Mellins et al., 2017).

### **In-person Victimization**

As previously discussed, sexual victimization on college campuses occurs for nearly 1 in 5 women and 1 in 16 men (Cantor et al., 2015; National Sexual Violence Resource Center, 2015). The idea of sexual violence “is an all-encompassing term that refers to crimes like sexual assault, rape, and sexual abuse” (RAINN, 2019). Boillot-Fansher (2017) notes that information on sexual violence as a result of online communication is limited, although in-person victimization rates [for college students] are prevalent and constitutes a public health issue (Mellins et al., 2017).

Marret & Choo (2018) is one of the few of peer-reviewed articles that evaluates in-person victimization as facilitated by online communication, with about 6% [of 3,000 respondents] reporting victimization offline. Powell and Henry (2017) also note the possibility of LBRTD applications as a means of promoting sexual assault, discussed in the next section. An offender begins by communicating and befriending the victim via the application. They then agree to meet in person. Here, a sexual assault can occur either prior to or after casual dating or consensual acts (Powell & Henry, 2017). Prior to its changes in terms of service in 2016, Tinder had often appeared on the news concerning cases of sexual predators and underaged youths and several sexual assaults (Powell & Henry, 2017). Misuse of the application continues to occur, indicating that additional measures must be taken to reduce the accessibility of offenders in targeting victims to more effectively reduce risks of victimization.

Fansher & Randa (2018) address the offline consequences of cyber victimization, finding over 10% of respondents reported being a victim of stalking or sexual victimization as a result of meeting someone on social media. It is important to note that this study still fails to address the facilitation on in-person victimization by LBRTD applications; the authors attribute this to limitations of the survey items in the original instrument.

Risk-taking behavior has been found to be associated with sexual victimization (Casey et al., 2016; Hill, Stein, Rossi, Magill, & Clark, 2018; & Dinero, 1989). Defining risk-taking behavior offline has remained relatively consistent across the available literature and is commonly characterized to include sexual behaviors or drug and alcohol use (Boillot-Fansher, 2017). Data have also shown that taking part in sexting is often associated with risky behaviors, particularly sexual risky behaviors, such as unprotected sex and substance abuse prior to sexual relations (Klettke, Hallford, & Mellor, 2014). These risky sexual behaviors raise the possibility for both pregnancy and sexual transmitted diseases (STDs). Linked to the component of deception, LBRTD applications often make it difficult to know the current and accurate status of the user, as “there is no guarantee that the person will confess the truth” (Kee & Yazdanifard, 2015). Kee & Yazdanifard (2015) also note that an increased frequency in casual sex and partners can produce more cases of STDs. It is important to note that before this in-person victimization takes place, LBRTD application users may experience forms of cyber victimization. The following section will discuss the different forms of this technology-facilitated violence in detail.

### **Cyber Victimization**

College students experience an array of cyber victimization, or technology-facilitated sexual violence (TFSV) (Powell & Henry, 2016). Incidents of TFSV encompasses research on the

relationship between technology and interpersonal victimization (Henry & Powell, 2015). One form of this TFSV is cyberstalking, defined as “an extension of offline forms of stalking using electronic means” (Henry & Powell, 2018, p. 200). Duggan and colleagues (2015) report that forms of cyber harassment can often turn into cyberstalking. Thompson (2016) supplies an example of cyberstalking (coupled with sexual abuse, discussed in a the latter section) in which a user reported that after rejecting the offender on a dating application, he proceeded to find her on a different social media site, sending a picture of his penis alongside a knife. Individuals on LBRTD applications sometimes find ways to find additional information (or cyberstalk) potential matches. Although similar to cyber harassment, cyberstalking is often prolonged for extended periods of time. Boillot-Fansher (2017) notes that the average cyberstalking offender engages in the behavior for about two years.

Beyond cyberstalking, sexual harassment, another form of cyber victimization, encompasses a multitude of harassing behaviors, although defined as “unwanted or unwelcome sexual behavior, which makes a person feel offended, humiliated or intimidated” (Henry & Powell, 2018, p. 198). Women are often the victims of this harassment (nearly 4 times as much as men), with most between 18-24 years old (Boillot-Fansher, 2017). One form of this sexual abuse that has recently received attention in popular media as well as research is “dick pic” (i.e., an unsolicited picture of male genitals) (Powell & Henry, 2018). This can occur if LBRTD users exchange cellphone numbers via the LBRTD application or if the user is contacted on a different social networking site or application (most LBRTD applications do not allow for users to send personal pictures from one’s device gallery). These unwanted pictures can make a user feel uncomfortable and offended. Additionally, the concept of sexually explicit messaging is popular in college-aged populations (Hertlein & Twist, 2017). It is defined as “the creation, distribution,

or threat of distribution, of intimate or sexually explicit images of another person without their consent” (Henry & Powell, 2018, p. 202). Reynolds, Bradford, Henson, and Fisher (2014) categorize this act as a form of “digital deviance,” reporting a relationship between this activity and additional forms of online victimization. Similar to this type of victimization, revenge porn can also be categorized as a form of sexualized cyber violence (Henry & Powell, 2016).

Cases of revenge porn are unique: although the individual might have consented to the original photograph or video, they did not consent to the distribution of the material. Revenge porn is often acquired by hacking into the individual’s device, a common form of cybercrime. Henry and Powell (2016) note a specific case in which a man threatened to distribute a topless photo of a woman after she decided to break off the courtship. Although cases of revenge porn has not been explicitly related to LBRTD applications in research. Engagement in risky behaviors, such as the exchanging of phone numbers or additional social media, as facilitated by the application, allow for such opportunity. Henry and Powell (2018) note that these technology-facilitated unwanted sexual experiences may “come in the form of blackmail, coercion, bribery, or threats” (p. 202). The literature primarily focuses on children, due to their high risk of coercion and likelihood of experiencing predatory behavior (Craven, Brown, & Gilchrist, 2006). Among college students, one in five men report in engaging in this type of coercion (Thompson and Morrison, 2013).

Although a less severe form of cyber victimization, attention should be directed to online-identity deception. As previously noted, Toma, Hancock, and Ellison (2008) discuss the importance of the process of self-presentation, or the method in which one “packages” themselves online. Self-presentation addresses not only what information to provide and withhold, but also when to engage in deception. Concerns with self-presentation are reported to

be the number one motivator in engaging in deceptive behavior (DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003). Deception concerning one's physical characteristics is one of the most common forms of deceit in LBRTD applications. Boillot-Fansher (2017) reports that women are more likely to partake in this behavior, more likely to lie about their appearance, while men lie about situational factors, such as employment.

Although some data show that the implied expectation of meeting makes users less wary of deception via LBRTD applications (Corriero & Tong, 2016), it can make many even more skeptical of the presented information (Toma et al., 2008). Often, users report coming across profiles known as "catfish." Catfish are defined as individuals who take on false identities, using other individuals' pictures to create a fictional reality. The concept has taken a strong presence in modern culture; *Catfish: the TV Show* is a reality-based documentary television series following the realities of online dating. Many of the cases discussed on *Catfish* take place on LBRTD applications (Boillot-Fansher, 2017). The motivations for this deception vary immensely, ranging from revenge to boredom (Corriero & Tong, 2016). Powell and Henry (2017) suggest that LBRTD applications take a more "rigorous approach" in confirming identities, possibly requiring background checks. Although this concern may not fit the traditional definition of victimization, it does pose for potential emotional distress and other psychological harm (Beauchamp, Cotton, LeClere, Reynolds, Riordan, & Sullivan, 2017). Additionally, understanding the role deception plays on potential in-person victimization is key in assessing risk of college-aged students.

## **Summary**

The current chapter has provided a review of the literature concerning the history of online dating and the role of technology in this realm, the potential consequences of using

LBRTD dating applications as well has a detailed explanation of how these applications work, and types of victimization both online and offline, potentially facilitated by the use of these applications. The literature has provided empirical evidence for the support of further exploration in the use of technology to facilitate these forms of violence. The next section will look at victimization through several criminological theoretical lenses, providing the framework for theory-driven victimization research.



## CHAPTER III: THEORETICAL FRAMEWORKS

### Lifestyle-Routine Activities Theory (L-RAT)

Routine activities theory (RAT) was published originally in attempts to explain rising crime rates despite the improvement of social conditions in the mid to late 20<sup>th</sup> century (Cohen & Felson, 1979). The theory identifies three variables: (1) motivated offenders, (2) suitable targets [of criminal victimization], and (3) the absence of capable guardianship of persons or property (Cohen & Felson, 1979), and suggests that rates of victimization increase when these components converge in time and space. RAT further suggests that the absence of any of these conditions is enough to prevent a crime from occurring (Meier & Miethe, 1993).

A related victimization theory, the lifestyle-exposure approach focuses on the individual (micro) level, introduced in efforts of explaining victimization patterns (Hindelang, Gottfredson, & Garofalo, 1978). Like RAT, the lifestyle-exposure approach posits that one's daily activities increase their risk of victimization (Meier & Miethe, 1993). That is, an individual's likelihood of victimization is influenced by the "lifestyle" they engage in, having a direct effect on the time they spend in public places and who they spend their time with (Hindelang et al., 1978). These theories are often spoken of jointly due to the considerable amount of literature providing support for their integration in explaining victimization, resulting in a "lifestyle-routine activities" theory (L-RAT) (Pratt & Turanovic, 2015; Reyns et al., 2011). Introduced by Cohen, Klugel, and Land (1981), this individual approach to routine activities moves away from aggregate crime rates and victimization at the macro level, relaying individual characteristics as highly significant. Osgood, Wilson, O'Malley, Bachman, & Johnston (1996) similarly provide

the individual framework for a routine activities approach on the individual level. Although this study focused on offending rather than victimization, it supports and “extends the situational explanation of crime found in routine activities” (Osgood et al., 1996, p.651). That is, while routine activities theory explains a criminogenic structure, the incorporation of the lifestyle-exposure approach aids in explaining individuals’ criminogenic exposure and likelihood of experiencing victimization (Pratt & Turanovic, 2015).

The L-RAT framework builds on that of routine activities, incorporating the influence of (1) exposure and (2) proximity, in addition to (3) target suitability and (4) guardianship (Cohen et al, 1981). Firstly, exposure [to motivated offenders] encompasses an individual’s exposure to persons who are motivated to commit a crime and have the means of doing so. Proximity relays the physical distance between a potential target and a potential offender (Felson, 1998). Additionally, target suitability (i.e., target attractiveness) relates to an individual’s “value” to a potential perpetrator. Note that an individual’s value varies from person to person and is not solely reliant on monetary gains. Lastly, guardianship regards any potential “barriers” that may be present in order to reduce the risk of victimization. Guardianship takes multiple forms (e.g., security cameras and bystanders) and varies from setting to setting.

In sum, L-RAT suggests that individuals with a greater exposure to, and in closer proximity of, a potential perpetrator, accompanied by target suitability and absence of guardianship are more likely to be victimized. This revised framework has been supported and empirically tested for various types of victimization, including those concerning property and violent crime (e.g., Bouchard, Wang, & Beauregard, 2012; Miethe, Stafford, & Long, 1987; Tillyer, Wilcox, & Gialopsos, 2010; Wittebrood & Nieuwbeerta, 2000). More specifically, there is an extensive body of literature showing support for L-RAT in regard to the in-person

victimization of college-aged women (Bjerregaard, 2000; Fisher et al., 2002; Tjaden & Thoens, 1998). To that end, it is important to approach the concepts of lifestyle-exposure/routine activities as they were originally intended in order to assess the theory's explanatory power in the context of LBRTD applications. Pratt and Turanovic (2015) noted that current work in the realm of lifestyle-routine activities often neglects the importance of lifestyle differences and must accommodate for victimization's "growing body of literature." In this growing body lies cyber victimization, whose application is often debated in the L-RAT framework.

It is often argued that there is a need for convergence of time in space of the theory's elements. Yar (2005) argues against the use of L-RAT in the cyber-realm, stating that this intersection is essential to the application of the theory. In LBRTD applications, this is not necessarily the case. Users can still match from different cities, depending on the geographical preferences of each profile, collapsing discussed spatial-temporal barriers and allowing for a greater accessibility to potential victims. Additionally, perpetrators can engage in multiple connectivity, reaching more than one victim at a time, and can sometimes do so by staying anonymous, associated with cyber victimization. However, this does not nullify the use of L-RAT, as components of exposure and proximity to motivated offenders, target suitability, and guardianship are still integral in discussing potential victimization online. Researchers have suggested revisiting the theory to incorporate cybercrimes, as the theory was developed at a time in which cyberspace did not yet exist (Reyns et al., 2011).

To be sure, while exposure and proximity to motivated offenders, as well as target suitability are easily regulated by LBRTD applications, the concept of guardianship is often difficult assess on these applications. Although widely popular across college students, many

may feel shame and embarrassment for possessing a LBRTD application and are sometimes reluctant to share extensive information about their application experiences with other individuals, including friends (Boillot-Fansher, 2017). This makes it difficult to intervene as a bystander, as the messages exchanged can only be seen by the sender and recipient. Although one can simply block or “unmatch” a user, the task proves hard for many. Often, individuals need support when standing up to aggressors, and with bystanders possessing the power to alter the course of potential victimization (Allison & Bussey, 2016), it is important to assess just how crucial the role (or lack thereof) of online guardianship and bystanding plays in the realm of LBRTD applications.

### **Low Self-Control**

A second explanation of victimization can be found by turning attention to the work of Travis Hirschi and Michael Gottfredson. *A General Theory of Crime* (1990) provides an updated and revised version of control theory. Self-control theory states that people who have high self-control are less likely to engage in criminal acts (Gottfredson & Hirschi, 1990). Consequently, a person with low-self-control is more likely to commit crimes, if the opportunity is presented. Individuals with low self-control possess characteristics of (1) impulsivity, (2) self-centeredness, (3) laziness, (4) belligerence, and (5) an inability to delay gratification (Gottfredson & Hirschi, 1990). Individuals who possess these characteristics often act on the “spur of the moment” and do not consider the consequences of their actions. Moreover, they are often insensitive, exhibit selfish tendencies, and often put themselves first.

Low self-control is often attributed to ineffective child rearing and incomplete socialization, as self-control is understood as an acquired characteristic that is solidified in childhood and remains relatively stable throughout one’s life (Akers, Sellers, & Jennings, 2017;

Gottfredson & Hirschi, 1990). Self-control is suggested to influence individual involvement in crime and analogous behaviors including [but not limited to] smoking, drinking, and illicit sex (Akers et al., 2017; Vazsonyi, Mikuška, & Kelley, 2017). The generalizability of this theory in explaining offending has led to recent testing efforts in explaining victimization (Pratt, Turanovic, Fox, & Wright, 2014; Schreck, 1999). This is in part due to theorists' claims in similarities and overlap between offenders and victims (see Gover, Kaukien, & Fox, 2008; Jennings, Higgins, Tewksbury, Gover, & Piquero, 2010; Pratt et al., 2014). Frequently referred to as the victim-offender overlap, the concept implies that most victims do not become offenders, although the majority of offenders have been victimized. (DeLong & Reichert, 2019).

As Schreck (1999) argued, individuals with high self-control realize that risky behaviors are more likely to end in “unfortunate consequences” (p.635) This idea developed as the vulnerability thesis, also suggesting that those who do engage in risky behaviors are also more likely to neglect the long term consequences of their behaviors. To that end, it can be hypothesized that individuals with high self-control are less likely to be victimized, as they are less likely to engage in behaviors of low self-control. Likewise, individuals who possess low self-control are more attractive targets (Schreck, 1999, p. 635). It is important to note that individuals with high self-control can still be victimized, although low self-control has shown to have significant implications for criminal victimization due to engagement in risk-taking behaviors (Schreck, Stewart, & Fisher, 2006).

For example, Schreck (1999) found that individuals with low self-control are more likely to be victims of a crime. Schreck, Wright, and Miller (2002) also found low self-control as a predictor for violent victimization, even when accounting for other factors such as social bonds and exposure to motivated offenders. In addition, Baron, Forde, Kay (2007) found support for

low self-control increasing experiences of victimization. In sum, copious studies have tested the relationship between low self-control and traditional forms of in-person victimization, finding empirical support for the theory (e.g., Higgins, Jennings, Tewksbury, & Gibson, 2009; Holtfreter, Reisig, Piquero & Piquero, 2010; Kereley, Xu, & Sirisunyaluck, 2008; Stewart, 2004).

The relevance of self-control for cyber victimization has also been explored. As the first study to examine the theory's role in cyberspace, Bossler and Holt (2010) provides the framework for testing self-control and this form of non-traditional victimization. The study finds that low levels of self-control were correlated with an individual's likelihood of experiencing five different forms of cyber victimization, although reduced to three when controlling respondent and peer offending. Conversely, Ngo and Paternoster (2011) argued that low self-control is "not particularly effective in explaining a diverse set of cyber victimizations" (p.787). More recently, Reyns, Fisher, Bossler, and Holt (2018) found that low self-control is correlated with particular forms of person-based cybercrime, including harassment, hacking, and sexually explicit media. Although producing mixed results for cyber victimization (e.g., Hinduja & Patchin, 2008; Holt, Bossler, Malinski, & May (2016); Kulig, Pratt, Cullen, Chouhy, & Unnever, 2017; Pratt et al., 2014), the general consensus amongst theorists and researchers lends to further exploration of the self-control and victimization link. To that end, the current study concentrates the use of LBRTD applications, as no existing peer-reviewed literature addresses the relationship and potential predictability of self-control and said applications.

### **Self-Efficacy**

A third explanation for victimization can be found when examining self-efficacy. Self-efficacy is defined as the self-appraisal of an individual's ability to deal with a problem,

accomplish a task, or complete a goal (Bandura, 1977). That is, self-efficacy lies with one's belief in their capability to achieve. This judgement of capability allows for persons to "manage their own functioning and to exercise control over events that affect their lives" (Benight & Bandura, p. 1130). The concepts of self-efficacy are often operationalized (with the use of self-report surveys; see Schwarzer & Jerusalem, 1995) in relation to social institutions, such as achievement in school and the workplace (e.g., Lunenburg, 2011; Parares, 1996; Pajares & Schunk, 2001; Scherbaum, Cohen-Charash, & Kern, 2006). Constructs of self-efficacy are applicable to non-conventional concepts as well, such as victimization (Walsh and Foshee, 1998).

In the context of victimization, self-efficacy can be conceptualized as one's ability of reducing the chances of being victimized, as well as how one views the risk of victimization. Low self-efficacy has been found to contribute to victimization, suggesting that individuals often come in contact with persons who can confirm this low sense of self-regard. (DeVore, 2002; Egan & Perry, 1998). This can be attributed to a person's inability to respond assertively to an instance of victimization (Bryant, 2001). Similarly, self-efficacy [in executing behaviors of resistance] has been found to be negatively correlated with future sexual assault (Walsh, 1994). That is, as self-efficacy increases, the risk of sexual victimization decreases. Ball and Martin (2012) also provided similar findings, with those who participated in self-defense training scoring higher in levels of self-efficacy; Orchowski, Gidycz, and Raffle (2008) also showed an increase of self-protective behaviors, and higher self-efficacy, when resisting against potential perpetrators. Additionally, Walsh and Foshee (1998) found that young women who are more self-efficacious are less likely to be sexually victimized. Conversely, adolescent victimization

literature, specifically cyberbullying, has revealed a negative correlation between self-efficacy and victimization (Erath, Flanagan, Bierman, & Tu, 2010; Kokkinos & Kipritsi, 2012).

The empirical support for self-efficacy, both for traditional (i.e., in-person) and cyber victimization is varied. This may be due to an individual's overconfidence in the ability to control a situation, even when the situation may increase the risk of victimization (Kokkinos & Kipritsi, 2012). Although there is an extensive body of mixed literature discussing the role of self-efficacy and cyberbullying (e.g., Bussey et al., 2015; Hinduja & Patchin, 2008; Olenik-Shemesh & Heiman, 2017; Vandebosh, Poels, & Deboutte, 2014), as well as the role of self-efficacy and traditional victimization (e.g., Corbin, Bernat, Calhoun, McNair, & Seals, 2001; Gidycz, Rich, Orchowski, King, & Miller, 2006; Walsh & Foshee, 1998), no existing research examines the role of self-efficacy in a LBRTD application realm.

### **Summary**

The current chapter explored the theoretical frameworks of lifestyle-routine activities, self-control, and self-efficacy, often used in scholarship to explain and predict victimization. Although there is general support for these classical criminology theories [in the realm of victimization], research must explore the possibility of victimization as facilitated by LBRTD applications through these frameworks; the current literature on cyber victimization neglects the emergence of LBRTD applications and the pathway to potential victimization. The next chapter will discuss the aims of the study, followed by an overview of the research questions, and goals for the contribution of literature.



## CHAPTER IV: CURRENT STUDY

Chapter 3 explored the growing scholarship for the classical theoretical frameworks of lifestyle-routine activities, self-control, and self-efficacy, acknowledging theorists' neglect of the LBRTD applications and their role concerning in-person and cyber victimization. The current thesis aims to contribute to this gap in the literature by examining the correlates of application use and victimization, using these criminological theories in efforts of understanding victimization of college students, specifically. Based on the literature reviewed in the previous chapters, the following questions guide the current study:

- R1. What is the relationship between LBRTD application usage and in-person victimization?
- R2. What is the relationship between LBRTD application usage and cyber victimization?
- R3. Can classical criminological theories (i.e., lifestyle-routine activities, self-control, and self-efficacy) be applied to understanding in-person and/or cyber victimization, as facilitated by LBRTD applications?

To the author's knowledge, no existing, peer-reviewed body of literature explores these relationships, as most victimization research concerning interpersonal relationships focuses on traditional methods of courtship or other means of electronic communication (e.g., Draucker & Martsof, 2010; Marcum, Higgins, & Nicholson, 2018; Kellerman, Margolin, Borofsky, Baucom & Iturralde, 2013; Wolford-Clevenger et al., 2016). The lack of scholarship in this area of increasing popularity (i.e., LBRTD applications) and the recurrent nature of college student victimization marks research imperative. Using self-report data, the current study uses an adapted survey instrument (see Boillot-Fansher, 2017), incorporating truncated versions of

several surveys, along with originally constructed survey items, reviewing the three theoretical frameworks discussed. The following chapters will discuss the study's methodology, analytical approach, findings, and concluding remarks.

## CHAPTER V: METHODOLOGY

### Procedures

The data for the study were obtained through a self-administered web based Qualtrics survey from undergraduate students attending a large urban university in the Southeastern United States. Data collection took place over the course of three weeks in the spring semester of 2019. University faculty of the Criminology department were identified prior to the release of the survey. Professors and instructors in the department were then contacted via e-mail and asked for permission to survey their students. Contingent on their agreement, professors and instructors were e-mailed the Qualtrics survey link for distribution to their students via Canvas messages. The web-based survey link was distributed to class rosters of both in-person and online classes. A follow-up e-mail with the survey link was delivered by participating faculty a week prior to the closing date of the survey, in efforts of increasing survey response.

Before engaging with the survey, students were informed that participation was voluntary and that their responses were to remain confidential. Respondents were also informed that they could skip questions they did not feel comfortable answering and were free to exit the survey at any time. As the survey addressed victimization experiences and other sensitive material, respondents were provided with local and campus resources at the end of the survey. Students were compensated for their participation through extra credit offered in their respective courses. Per university IRB protocol, students were allotted the opportunity to watch a short, 10-minute video with five follow up questions, as an alternative to completing the survey while still receiving extra credit (IRB exemption letter can be found in Appendix A). Less than 1% (4

students) opted for the alternative video assignment. After survey completion, students were directed to a secondary, subsequent survey, in which they provided their full name, class section, and class instructor. This two-step process was designed to protect student privacy, as their survey responses were not linked to identifiable information.

The subsequent survey ensured student confidentiality by creating a barrier between responses and identifying information. The names were then provided to the corresponding class instructor to ensure extra credit. The secondary survey also allowed for respondents who submitted their survey responses more than once (e.g., students often taking more than one Criminology course at a time and over the course of multiple semesters) to be filtered, only accounting for their initial submission.

With various skip patterns coded into the survey, completion time was dependent on the participant. The average survey completion time was 10 minutes ( $SD=8.85$  minutes). The survey read 35 questions in total. The entirety of the survey can be found in Appendix B. After reviewing the responses, four cases were omitted due to missing data. That is, the participant failed to respond to at least 60% of the applicable questions. Consequently, a total of 545 cases were included in the data, with 324 of these cases including users of LBRTD applications.

### **Sample**

The current study used a convenience sample [of students participating in courses related to a criminology/criminal justice baccalaureate degree]. Although arguments have been made against the use of college student samples due to issues of generalizability and representation in the general population (see Peterson, 2014), the current study's sample directly addressed the population in question: college-aged students. Considering that the current study pertains to victimization facilitated by LBRTD applications, the sample for the analyses is restricted to those

who reported using these dating applications at some point in their lives ( $n=324$ )<sup>2</sup>, although victimization experiences were reported regarding the last 12 months. A screening question was to identify those who has never used a LBRTD application: “Please indicate the types of application(s) you have used in the past”; users had an option to select “I have never used an application before” providing the number of nonusers ( $n=217$ )<sup>3</sup>. Figure 1 provides a graphic representation of the samples as discussed.

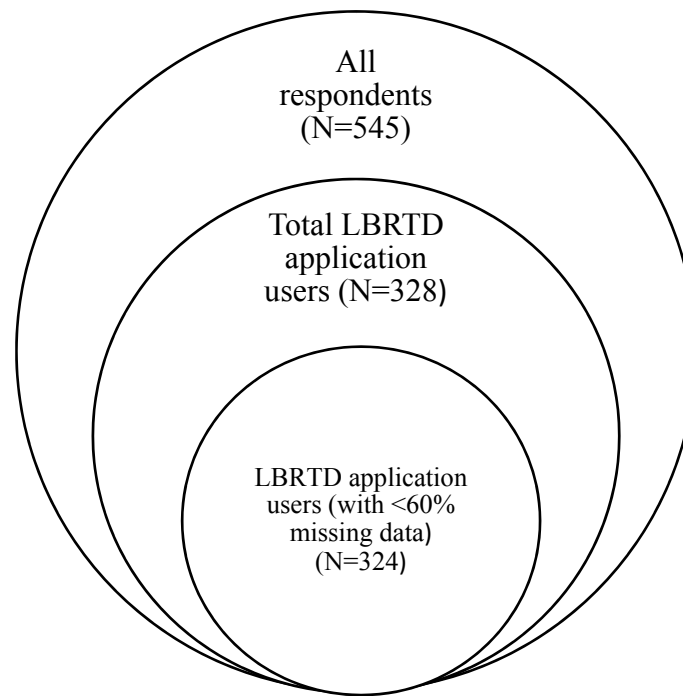


Figure 1. Stacked Venn Representation of Samples

Table 1 provides descriptive statistics of demographics variables for the overall sample ( $N=545$ ) (i.e., total respondents). As shown in Table 1, the majority of the sample were women, with men comprising approximately a quarter of the total sample. As a potential consequence of using a convenience sample, female is overrepresented in the current study; the university reports

<sup>2</sup> Note that the original sample of LBRTD users was  $N=328$ . Four cases were dropped due to missing responses/lack of data (i.e., missing over 60% of responses).

<sup>3</sup> This number denotes the total number of nonusers before accounting for the dropped cases (4).

a 54% male and a 46% female overall enrollment. Conversely, the ethnic and racial information provided is comparable, as it closely reflects the demographics of the university's enrollment. Over two-thirds of the sample identified as non-Hispanic/non-Latino, while approximately 29% identified as Hispanic/Latino. Additionally, nearly 70% identified as White-only, while about 15% identified as Black-only. Regarding race, those who were identified as "other" include those who are multi-racial or identify outside of Black and White. It is worth noting between 2-3% of the overall sample failed to report demographic information in regard to ethnicity and race. Furthermore, the average respondent age was approximately 23 years old ( $SD=6.69$ ), with respondents ranging from ages 18 to 64.

Table 1. Descriptive Statistics of Sample – Demographics (All Respondents, N=545)

	N	%	Mean	SD	Range
<i>Sex</i>					
Female	398	73.02%			
Male	147	26.97%			
<i>Ethnicity</i>					
Hispanic/Latino	156	28.62%			
Non-Hispanic/Non-Latino	378	69.36%			
Missing	11	2.02%			
<i>Race</i>					
White	377	69.17%			
Black	84	15.41%			
Other	69	12.66%			
Missing	15	2.76%			
<i>Age</i>			23.04	6.69	18-64

Table 2 reflects descriptive statistics of demographic variables for the sample of LBRTD application users ( $N=324$ ). As seen in table 1, women also compose about three-quarters of the sample, with men comprising approximately 27%. Over two-thirds of the sample identified as non-Hispanic/non-Latino, while approximately 26% identified as Hispanic/Latino. In addition, nearly 73% identified as White-only, while about 14% identified as Black-only. Regarding race, those who were identified as "other" include those who are multi-racial or identify outside of

Black and White. As seen in table 1, approximately 2-3% of the overall sample failed to report demographic information in regard to ethnicity and race. Furthermore, the average respondent age was approximately 23 years old ( $SD=5.84$ ), with respondents ranging from ages 18 to 64.

Table 2. Descriptive Statistics of Sample – Demographics (LBRTD Application Users, n=324)

	N	%	Mean	SD	Range
<i>Sex</i>					
Female	237	73.14%			
Male	87	26.85%			
<i>Ethnicity</i>					
Hispanic/Latino	84	25.93%			
Non-Hispanic/Non-Latino	233	71.91%			
Missing	7	2.16%			
<i>Race</i>					
White	236	72.84%			
Black	45	13.89%			
Other	36	11.11%			
Missing	7	2.16%			
<i>Age</i>			22.5	5.84	18-53

## Measures

### Dependent Variables

#### *In-person victimization*

A 13-item instrument was used to examine the frequency of in-person victimization. This instrument consisted of items from various literature and surveys, including the Sexual Experiences Survey (SES) (2006), Katz and Rich (2015), and Zweig, Lachman, Yahner, and Dank (2014). Broadly conceptualized, in-person victimization comprises of stalking, emotional/verbal, sexual, and physical abuse experienced in the prior 12 months. For each of these items, responses were coded 0/1, with “0” indicating “no” and “1” indicating “yes”. Participants who indicated any experience of victimization were prompted to indicate whether or not this occurred on a dating application (“Did this happen on a dating application?”; 0 = no, 1 =

yes). Victimization experiences were coded as 1 if the respondent indicated that they experienced victimization *and* it stemmed from the use of dating applications. Analyses will first consider overall measures of in-person victimization, whether students indicate any form of victimization, then analyses will disaggregate victimization by the forms suggested above.

Table 3 displays the overall frequency of any type of in-person victimization, as facilitated by a LBRTD application, as well as the frequencies of each type of measure. Of 324 LBRTD application users, 129 (39.81%) indicated experiencing some form of abuse. Among these forms of abuse, emotional/verbal abuse was the most common, with 31.48% of users experiencing this form of victimization, followed by stalking (14.81%), sexual abuse (10.49%), and physical abuse (4.94%). Table 3 also reports individual measures for stalking, with the most frequently reported behavior being finding out information about the user by other means than asking them directly (9.57%); emotional/verbal abuse, with being spoken to in an insulting or degrading manner being most common (31.48%), as it was the only item measured for this form of abuse; sexual abuse, with the most frequently reported behavior concerning being fondled, kissed, or rubbed up against one's private parts without their consent (8.02%); and physical, with both being threatened physically and being slapped, pushed, grabbed, kicked, or shoved (3.09%) being the most common.

Table 3. Descriptive Statistics of LBRTD Application Users – In-person Victimization in the Last 12 Months (n=324)

	N	%
<i>Overall victimization experiences</i>		
Any form of abuse (i.e., stalking, emotional/verbal, sexual, or physical)	129	39.81%
Stalking	48	14.81%
Emotional/verbal	102	31.48%
Sexual	34	10.49%
Physical	16	4.94%



Table 3 (Continued)

	N	%
<i>Stalking</i>		
Been repeatedly contacted in-person (e.g., had someone show up to my home or work) after ignoring them and asking them to stop.	24	7.41%
Has an individual find out information about me by means other than asking me directly (e.g., asking my friends and family about me).	31	9.57%
Been followed or physically spied on.	15	4.63%
<i>Emotional/verbal</i>		
Been spoken to in an insulting or degrading manner.	102	31.48%
<i>Sexual</i>		
Had someone force or attempt to force me into having oral sex with them without my consent.	13	4.01%
Had someone penetrate or attempt to penetrate me without my consent.	16	4.94%
Been forced to do other sexual things that I did not want to do.	19	5.86%
Had someone fondle, kiss, or rub against my private parts without my consent.	26	8.02%
<i>Physical</i>		
Been threatened physically.	10	3.09%
Been slapped, pushed, grabbed, kicked, or shoved.	10	3.09%
Been hit with a fist.	6	1.85%
Been hit with something hard besides a fist.	6	1.85%
Been assaulted with a knife or gun.	1	.03%

### *Cyber victimization*

Items used to capture cyber victimization in the last 12 months encompass the following forms of technology-facilitated violence: cyberstalking, emotional/verbal, sexual, and physical abuse, and online identity deception (i.e., “catfishing”). These subsets and their designated survey items were developed to parallel the in-person victimization items used. These forms of victimization were measured using a 10-item instrument, comprised of modified items from Reynolds, Henson, and Fisher (2012), as adapted by Boillot-Fansher’s (2017) cyberstalking victimization scale, and Pew Research Center’s “Internet & American Life” Project Survey (2013). These items were also restricted reports of victimization in the last 12 months. Responses were coded 0/1, with “0” indicating “no” and “1” indicating “yes”. Participants who indicated

any experience of victimization were prompted to indicate whether or not this occurred on a dating application (“Did this happen on a dating application?”; 0 = no, 1 = yes). Victimization experiences were coded as 1 if the respondent indicated that they experienced victimization *and* it stemmed from the use of dating applications. Analyses will first consider overall measures of cyber victimization, whether students indicate any form of victimization, then analyses will disaggregate victimization by the forms suggested above.

Table 4 displays the overall frequency of any type of cyber victimization, as facilitated by a LBRTD application, as well as the frequencies of each type of measure. Of 324 LBRTD application users, 241 (74.38%) indicated experiencing some form of victimization on an application. Among these forms of abuse, cyberstalking was the most common, with 64.81% of users experiencing this form of victimization, followed by sexual abuse (50.31%), emotional abuse (33.33%), online identity deception (28.09%), and physical abuse (3.09%). Table 4 also reports individual measures for cyberstalking, with the most frequently reported behavior as being repeatedly messaged by an individual after not responding (64.51%); emotional/verbal abuse, with being spoken to in an insulting or degrading manner being most common (31.48%); sexual abuse, with the most frequently reported behavior concerning being offered unwanted sexual advances (41.98%); physical, with being threatened physically the most common (3.09%), as it was the only item measured for this form of abuse; and identity deception, where encountering a profile using one’s pictures, pretending to be them (26.23%), was most common.

Table 4. Descriptive Statistics of LBRTD Application Users – Cyber Victimization in the Last 12 Months (n=324)

	N	%
<i>Overall victimization experiences</i>		
Any form (i.e., cyberstalking, emotional/verbal, sexual, physical, or online deception)	241	74.38%
Cyberstalking	210	64.81%
Emotional	108	33.33%
Sexual	163	50.31%
Physical	10	3.09%
Online deception	91	28.09%
<i>Cyberstalking</i>		
Been repeatedly messaged by an individual after not responding.	209	64.51%
Been repeatedly messaged after asking someone to stop.	80	24.69%
Been contacted by someone on other social media (e.g., Snapchat, Twitter, Instagram) without giving them my username.	155	47.84%
<i>Emotional/verbal</i>		
Been spoken to in an insulting or degrading manner.	102	31.48%
Been harassed or made to feel uncomfortable by someone who I have previously met offline.	35	10.80%
<i>Sexual</i>		
Been offered unwanted sexual advances.	136	41.98%
Been sent unsolicited, sexually explicit photos through other social media and forms of messaging.	112	34.57%
<i>Physical</i>		
Been threatened physically.	10	3.09%
<i>Identity deception</i>		
Encountered a profile using my pictures, pretending to be me.	85	26.23%
Felt like someone had misrepresented themselves in their profile by using another person's pictures.	15	4.63%

## Independent Variables

### *Lifestyle-Routine Activities Theory*

Survey respondents were also presented with questions concerning the use of LBRTD applications to assess application usage, personal features of the LBRTD application, and user behaviors, which can be attributed to the different components of L-RAT (i.e., exposure, proximity, target suitability, and guardianship). In regard to application usage, respondents were first asked the number of people they would “like/swipe right on” on “any given day” with

responses including a range of [number of] matches: (1) five or less (34.26%); (2) 6-10 (21.60%); (3) 11-15 (16.67%); (4) 16-20 (11.42%); (5) 21 or more (16.05%). Next, match “success” rate was measured by asking the percentage of said “likes/right swipes” respondents matched with, including the following four response categories: (1) less than 25% (25.62%); (2) 26-50% (25.93%); (3) 51-75% (20.99%); (4) 76-100% (27.47%).

Respondents were also asked how often they checked their accounts, with the following six response categories: (1) less than once a week (23.46%); (2) once a week (13.89%); (3) several times a week, but not once a day (20.99%); (4) once a day (15.74%); (5) 2-3 times a day (17.59%); (6) 4 or more times a day (8.33%). Additionally, respondent profile features were measured through the additional variables of GPS functionality and number of photos. Adapted from Boillot-Fansher (2017), GPS functionality was measured by asking “Is the GPS function active on your profile?” prompting respondents to answer “no” (0) (19.75%), “yes” (1) (80.25%), or “I don’t know”. “I don’t know” responses were recoded as yes (1) (see Table 5), as users have their GPS function on by default. That is, a user has to manually turn it off in order to hide their distance. The number of pictures on one’s profile (“How many pictures do you typically have of yourself on your profile?”) was measured with a three-category range of responses: (1) 0-2 (16.36%); (2) 3-4 (59.57%); (3) 5 or more (24.07%). As for distance, number of pictures on one’s profile was recoded (i.e., originally four categories). That is, although due to lack of variability (0) 0 and (1) 1-2 were combined and recoded as “1”. Table 5 displays these descriptive statistics for these categories in greater detail.

Table 5. Descriptive Statistics of LBRTD Application Users – Usage (n=324)

	N	%
<i>Average number of right swipes (daily)</i>		
5 or less	111	34.26%
6-10	70	21.60%
11-15	54	16.67%

Table 5 (Continued)	N	%
16-20	37	11.42%
21 or more	52	16.05%
<i>Right swipe match success rate</i>		
Less than 25%	83	25.62%
26-50%	84	25.93%
51-75%	68	20.99%
76-100%	89	27.47%
<i>Frequency of checking account</i>		
Less than once a week	76	23.46%
Once a week	45	13.89%
Several times a week, but not once a day	68	20.99%
Once a day	51	15.74%
2-3 times a day	58	17.59%
4 or more times a day	27	8.33%
<i>GPS/distance visibility</i>		
No	64	19.75%
Yes	260	80.25%
<i>Number of pictures on profile</i>		
0-2	53	16.36%
3-4	193	59.57%
5 or more	78	24.07%

Next, to measure application user behaviors, respondents were asked “How likely, if at all, would you be to meet a match at the following locations for the first time?” Response categories were also adapted from Boillot-Fansher (2017). The items were categorized in three different domains and for each of these an averaged scale was constructed: (1) low risk (for lunch or dinner; for ice cream; at a coffee shop; at a park during the day; at a mall or shopping plaza) ( $M=4.44$ ,  $SD=1.06$ ) ( $\alpha=.84$ ), (2) moderate risk (at a house party; at a nightclub; at a bar or brewery) ( $M=2.96$ ,  $SD=1.36$ ) ( $\alpha=.79$ ), and (3) high risk (at their home (e.g., dorm/apartment); at my home (e.g., dorm/apartment) ( $M=2.20$ ,  $SD=1.46$ ) ( $\alpha=.86$ ). All of these scales have appropriate internal reliability. Descriptive statistics for each category are reported in Table 6.

Respondents were also asked intentions of application usage with the following categories: (a) hooking up; (b) to bring another person into an already existing relationship; (c)

casual dating; (d) in search of friendship; I a serious relationship; and/or (f) other, in which respondents were required to write in a response, if selected. For model analyses, respondent intentions were measured dichotomously, with “hooking up” coded as 1 (36.73%), and all additional responses coded as 0, or “other” (63.27%). Respondents were also asked to provide their mile proximity (“What is your average distance set to?”). As this was an open-ended question, responses were sorted into four categories: (1) 1-10 (23.15%); (2) 11-20 (35.80%); (3) 21-30 (21.91%); and (4) 31 or more (19.14%). Descriptive statistics for each category are reported in Table 7.

Additionally, adapted from Boillot-Fansher (2017), a set of additional variables, contributing to target attractiveness [based on their assessment of target vulnerability and facilitation of victim pursuit], were dichotomously measured (0 = no; 1= yes). The variables include (a) employment (“I have shared my place of employment on my profile” (20.68%)); (b) indication of engagement in deviant behaviors including the following: (“I have described an interest in drug use (e.g., writing “420 friendly” on my profile (10.19%)); “I have uploaded a photo of myself drinking” (12.35%); “I have uploaded a of myself using drugs” (1.86%)); (c) sexual interest (“I have intentionally uploaded a photo that I believed to be sexually suggestive” (8.95%)); and (d) other methods of contact (“I have shared other social media information on my account (e.g., linking Instagram; writing my Snapchat username somewhere)” (48.77%); “I have messaged my phone number to someone”) (63.58%). Table 8 provides the descriptive statistics for these variables.

Table 6. Descriptive Statistics of LBRTD Application Users – User Behavior (Meetups) (n=324)

	Very unlikely	Unlikely	Somewhat unlikely	Somewhat likely	Likely	Very likely	Mean	SD
<i>Likelihood of meeting</i>								
<i>Low risk</i>							4.44	1.06
Lunch or dinner	6 (1.85%)	6 (1.85%)	15 (4.63%)	79 (24.38%)	140 (43.21%)	78 (24.07%)	4.77	1.04
Ice cream	14 (4.32%)	15 (4.63%)	23 (7.10%)	78 (24.07%)	120 (37.04%)	74 (22.84%)	4.53	1.28
Coffee	16 (4.94%)	13 (4.01%)	14 (4.32%)	69 (21.30%)	125 (38.58%)	87 (26.85%)	4.65	1.30
Park (daytime)	34 (10.49%)	21 (6.48%)	40 (12.35%)	61 (18.83%)	113 (34.88%)	113 (34.88%)	4.12	1.53
Mall/Plaza	32 (9.88%)	23 (7.10%)	39 (12.04%)	64 (19.75%)	105 (32.41%)	61 (18.83%)	4.14	1.54
<i>Moderate risk</i>							2.96	1.36
House party	114 (35.19%)	48 (14.81%)	33 (10.19%)	67 (20.68%)	52 (16.05%)	10 (3.09%)	2.76	1.62
Nightclub	108 (33.33%)	60 (18.52%)	35 (10.80%)	52 (16.05%)	59 (18.21%)	10 (3.09%)	2.77	1.62
Bar or brewery	69 (21.30%)	46 (14.20%)	27 (8.33%)	84 (25.93%)	77 (23.77%)	21 (6.48%)	3.36	1.63
<i>High risk</i>							2.20	1.40
Their residence	155 (47.84%)	65 (20.06%)	33 (10.19%)	44 (13.58%)	16 (4.94%)	11 (3.40%)	2.18	1.44
My residence	167 (51.54%)	47 (14.51%)	31 (9.57%)	41 (12.65%)	24 (7.41%)	14 (4.32%)	2.23	1.56

Table 7. Descriptive Statistics of LBRTD Application Users – User Behavior (n=324)

	N	%
<i>Intentions</i>		
Hookup	119	36.73%
Other	205	63.27%
<i>Average distance (in miles)</i>		
1-10	75	23.15%
11-20	116	35.80%
21-30	71	21.91%
31+	62	19.14%

Table 8. Descriptive Statistics of LBRTD Application Users – Attractiveness (n=324)

	N	%
<i>Employment</i>		
I have shared my place of employment on my profile.	67	20.68%
<i>Deviant behaviors</i>		
I have described an interest in drug use (e.g., writing “420 friendly” on my profile).	33	10.19%
I have uploaded a photo of myself drinking.	40	12.35%
I have uploaded a photo of myself using drugs.	6	1.86%
<i>Sexual interest</i>		
I have intentionally uploaded a photo that I believe to be sexually suggestive.	29	8.95%
<i>Other methods of contact</i>		
I have shared my social media information on my account (e.g., linking Instagram; writing my Snapchat name somewhere).	158	48.77%
I have messaged my phone number to someone.	206	63.58%

While certain cybersecurity measures can create barriers for unwanted cyber victimization such as phishing, or have potential opportunity for cyber bystander intervention, LBRTD applications are unique as limited security measures are optional and messages exchanged can only be seen by the sender and the recipient. Because of this, guardianship, in respect to LBRTD applications, was operationalized through target hardening and self-guardianship tactics. Participants used a six-point scale, ranging from very likely to very unlikely, to indicate the probability of engaging in the following behaviors, designed to reduce risk, as adapted from Boillot-Fansher (2017), prior to meeting someone they had talked to on a



dating application: “make sure my phone is fully charged” ( $M=5.38$ ;  $SD=1.03$ ); “tell my friends where I am going/who I am meeting up with” ( $M=5.26$ ;  $SD=1.15$ ); “tell my family where I am going/who I am meeting up with” ( $M=3.64$ ;  $SD=1.75$ ); “share my location with people I trust via a GPS application (e.g., Find my Friends)” ( $M=4.78$ ;  $SD=1.58$ ); “carry a form of formal protection (e.g., pepper spray)” ( $M=4.22$ ;  $SD=1.79$ ); “drive myself to a meet up location instead of being picked up” ( $M=5.17$ ;  $SD=1.24$ ); “post my plans on social media” ( $M=2.32$ ;  $SD=1.40$ ). The seven items were averaged to create a scale measuring degree of self-guardianship ( $M=4.4$ ,  $SD=.92$ ) ( $\alpha=.75$ ). Table 9 provides the descriptive statistics for these variables

### *Self-Control*

Recent literature has focused on the relationship between low self-control and cyber victimization (Ngo & Paternoster, 2011). With an adaptation to the Grasmick scale (1993), respondents were asked to respond to eight items to operationalize self-control for the components of impulsivity (“I often act on the spur of the moment to think” ( $M=3.01$ ;  $SD=1.47$ ); “I’m more concerned with what happens to me in the short run rather than the long run” ( $M=2.57$ ;  $SD=1.31$ ); “I do not devote much thought and effort to preparing for the future” ( $M=2.02$ ;  $SD=1.27$ ); “I often do whatever brings me pleasure here and now, even at the cost of some distant goal” ( $M=2.41$ ;  $SD=1.34$ )) and risk seeking (“I like to test myself every now and then by doing something a little risky” ( $M=3.34$ ;  $SD=1.50$ ); “Sometimes I will take a risk for the fun of it” ( $M=33.2$ ;  $SD=1.55$ ); “I sometimes find it exciting to do things for which I might get in trouble” ( $M=2.69$ ;  $SD=1.51$ ); “Excitement and adventure are more important to me than security” ( $M=2.35$ ;  $SD=1.34$ )). Scores were calculated for respondents based on a 6-point scale, ranging from strongly disagree to strongly agree, with strongly agree indicating lower self-control. The eight items were averaged to create a scale measuring degree of self-control

( $M=2.58$ ,  $SD=.98$ ) ( $\alpha=.75$ ). Table 10 provides the descriptive statistics for these variables in greater detail.

### *Self-efficacy*

Self-efficacy was measured using the General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995). The 10-item scale was used in its entirety, assessing coping skills and perceived self-efficacy. Respondents were asked to indicate how much they agreed or disagreed with the following statements: “I can always manage to solve difficult problem if I try hard enough” ( $M=4.85$ ,  $SD=1.06$ ); “If someone opposes me, I can find means and ways to get what I want” ( $M=3.70$ ,  $SD=1.26$ ); “It is easy for me to stick to my aims and accomplish my goals” ( $M=4.66$ ,  $SD=.97$ ); “I am confident that I could deal efficiently with unexpected events” ( $M=4.68$ ,  $SD=1.03$ ); “Thanks to my resourcefulness, I know how to handle unforeseen situations” ( $M=4.65$ ,  $SD=.98$ ); “I can solve most problems if I invest in the necessary effort” ( $M=5.00$ ,  $SD=.87$ ); “I can remain calm when facing difficulties because I can rely on my coping abilities” ( $M=4.55$ ,  $SD=1.15$ ); “When I am confronted with a problem, I can usually find several solutions” ( $M=4.72$ ,  $SD=.95$ ); “If I am in trouble, I can usually think of something to do” ( $M=4.76$ ,  $SD=.92$ ); “No matter what comes my way, I am usually able to handle it” ( $M=4.85$ ,  $SD=.90$ ). Original response format of the scale was modified, and responses were based on a 6-point scale, ranging from strongly disagree to strongly agree, with strongly agree indicating higher self-efficacy. The 10 items were averaged to create a scale measuring self-efficacy ( $M=4.62$ ,  $SD=.78$ ) ( $\alpha=.91$ ). Table 11 provides the descriptive statistics for these variables in greater detail.

Table 9. Descriptive Statistics of LBRTD Application Users – Self Guardianship (n=324)

	<b>Very unlikely</b>	<b>Unlikely</b>	<b>Somewhat unlikely</b>	<b>Somewhat likely</b>	<b>Likely</b>	<b>Very likely</b>	<b>Mean</b>	<b>SD</b>
Make sure my phone is fully charged.	3 (.93%)	8 (2.47%)	9 (2.78%)	29 (8.95%)	68 (20.99%)	207 (63.89%)	5.38	1.03
Tell my friend where I am going/who I am going with.	6 (1.85%)	7 (2.15%)	15 (4.63%)	34 (10.49%)	67 (20.68%)	195 (60.19%)	5.26	1.15
Tell my family where I am going/who I am going with.	48 (14.81%)	50 (15.43%)	58 (17.90%)	56 (17.28%)	37 (11.42%)	75 (23.15%)	3.64	1.75
Share my location with people I trust via a GPS application (e.g., Find My Friends)	17 (5.25%)	27 (8.33%)	27 (8.33%)	32 (9.88%)	56 (17.28%)	165 (50.93%)	4.78	1.58
Carry a form of formal protection (e.g., pepper spray).	33 (10.19%)	43 (13.27%)	37 (11.42%)	44 (13.58%)	41 (12.65%)	126 (38.89%)	4.22	1.79
Drive myself to a meet up location instead of being picked up.	9 (2.78%)	9 (2.78%)	16 (4.94%)	34 (10.49%)	73 (22.53%)	183 (56.48%)	5.17	1.24
Post my plans on social media.	113 (34.88%)	95 (29.32%)	59 (18.21%)	31 (9.57%)	7 (2.16%)	19 (5.86%)	2.32	1.40

Table 10. Descriptive Statistics of LBRTD Application Users – Self Control (Grasmick Scale) (n=324)

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	Mean	SD
<i>Impulsivity</i>								
I often act on the spur of the moment to think.	62 (19.14%)	79 (24.38%)	43 (13.27%)	89 (27.47%)	36 (11.11%)	15 (4.63%)	3.01	1.47
I'm more concerned with what happens to me in the short run rather than the long run.	76 (23.46%)	100 (30.86%)	73 (22.53%)	49 (15.12%)	15 (4.63%)	11 (3.40%)	2.57	1.31
I do not devote much thought and effort to preparing for the future.	141 (43.52%)	107 (33.02%)	34 (10.49%)	24 (7.41%)	6 (1.85%)	12 (3.70%)	2.02	1.27
I often do whatever brings me pleasure here and now, even at the cost of some distant goal.	100 (38.86%)	100 (38.86%)	49 (15.12%)	51 (15.74%)	15 (4.63%)	9 (2.78%)	2.41	1.34
<i>Risk seeking</i>								
I like to test myself every now and then by doing something a little risky.	49 (15.12%)	58 (17.90%)	47 (14.51%)	100 (30.86%)	45 (13.89%)	25 (7.72%)	3.34	1.50
Sometimes I will take a risk for the fun of it.	52 (16.05%)	64 (19.75%)	43 (13.27%)	81 (25.00%)	60 (18.52%)	24 (7.41%)	3.32	1.55
I sometimes find it exciting to do things for which I might get in trouble.	93 (28.70%)	82 (25.31%)	39 (12.04%)	65 (20.06%)	32 (9.88%)	13 (4.01%)	2.69	1.51
Excitement and adventure are more important to me than security.	105 (32.41%)	101 (31.17%)	53 (16.36%)	40 (12.35%)	14 (4.32%)	11 (3.40%)	2.35	1.34

Table 11. Descriptive Statistics of LBRTD Application Users – Self-Efficacy (n=324)

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Slightly disagree</b>	<b>Somewhat agree</b>	<b>Agree</b>	<b>Strongly agree</b>	<b>Mean</b>	<b>SD</b>
I can always manage to solve a difficult problem if I try hard enough.	6 (1.85%)	7 (2.16%)	21 (6.48%)	45 (13.89%)	160 (49.38%)	85 (26.23%)	4.85	1.06
If someone opposes me, I can find means and ways to get what I want.	13 (4.01%)	48 (14.81%)	74 (22.84%)	101 (31.17%)	65 (20.06%)	23 (7.10%)	3.70	1.26
It is easy for me to stick to my aims and accomplish my goals.	1 (.31%)	6 (1.85%)	31 (9.657%)	86 (26.54%)	140 (43.21%)	60 (18.52%)	4.66	.97
I am confident that I could deal efficiently with unexpected events.	4 (1.23%)	8 (2.47%)	23 (7.10%)	85 (26.23%)	138 (42.59%)	66 (20.37%)	4.68	1.03
Thanks to my resourcefulness, I know how to handle unforeseen situations.	1 (.31%)	5 (1.54%)	36 (11.11%)	83 (25.62%)	137 (42.28%)	62 (19.14%)	4.65	.98
I can solve most problems if I invest in the necessary effort.	0	4 (1.23%)	14 (4.32%)	56 (17.28%)	153 (47.22%)	97 (29.94%)	5.00	.87
I can remain calm when facing difficulties because I can rely on my coping abilities.	5 (1.54%)	17 (5.25%)	25 (7.72%)	91 (28.09%)	119 (36.73%)	67 (20.68%)	4.55	1.15
When I am confronted with a problem, I can usually find several solutions.	2 (.62%)	5 (1.54%)	22 (6.79%)	90 (27.78%)	140 (43.21%)	65 (20.06%)	4.72	.95
If I am in trouble, I can usually think of something to do.	1 (.31%)	6 (1.85%)	20 (6.17%)	79 (24.38%)	155 (47.84%)	63 (19.44%)	4.76	.92
No matter what comes my way, I am usually able to handle it.	1 (.31%)	4 (1.23%)	17 (5.25%)	73 (22.53%)	153 (47.22%)	76 (23.46%)	4.85	.90

### *Demographics*

Respondents were asked to respond demographic questions in regard to their age, current relationship status, gender identity, sexual orientation, and sorority and fraternity membership status, ethnicity, and race. As seen in table 1, women also compose about three-quarters of the sample, with men comprising approximately 27%. Gender was coded 0/1, with female as the reference category; transgender men (n=2) were coded as male (1) while transgender women (n=2) were coded as female (0). Ethnicity was coded 0/1, with Non-Hispanic/Non-Latino as the reference category. Over two-thirds of the sample identified as non-Hispanic/non-Latino, while approximately 26% identified as Hispanic/Latino. In addition, nearly 73% identified as White-only, while about 14% identified as Black-only. Regarding race, those who were identified as “other” include those who are multi-racial or identify outside of Black and White. As seen in table 1, approximately 2-3% of the overall sample failed to report demographic information in regard to ethnicity and race. Furthermore, the average respondent age was approximately 23 years old ( $SD=5.84$ ), with respondents ranging from ages 18 to 64.

Table 12. Descriptive Statistics of Sample – Demographics: Users (n=324)

	<b>N</b>	<b>%</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
<i>Age</i>			22.5	5.84	18-53
<i>Sex</i>					
Female	237	73.15%			
Male	87	26.85%			
<i>Sexual Orientation</i>					
Straight (Heterosexual)	254	78.4%			
Lesbian	7	2.16%			
Gay	8	2.47%			
Bisexual	39	12.04%			
Pansexual	12	3.7%			
Queer	2	.62%			
Questioning	2	.62%			

### *Relationship Status*

Table 12 (Continued)

	N	%	Mean	SD	Range
Single, actively seeking a relationship	66	20.37%			
Single, sexually active, but not seeking a relationship	38	11.73%			
Single, not sexually active, and not seeking a relationship	52	16.05%			
In a casual relationship with one person	42	12.96%			
In multiple casual relationships (at the same time)	3	.93%			
In an open relationship	6	1.85%			
In a serious, monogamous relationship	116	35.8%			
Missing	1	.31%			
<i>Ethnicity</i>					
Hispanic/Latino	84	25.93%			
Non-Hispanic/Non-Latino	233	71.91%			
Missing	7	2.16%			
<i>Race</i>					
White	236	77.84%			
Black	45	13.89%			
Other	36	11.11%			
Missing	7	2.16%			
<i>Sorority/Fraternity Affiliation</i>					
No	281	86.73%			
Yes	43	13.27%			

### Analytic Strategy and Summary

When considering the analytic strategy of the current thesis, the concern of missing data must first be discussed. As mentioned, LBRTD application user cases indicating missing responses over 60% were omitted, leaving a sample size of 324 (from a previous 328). Next, in order to retain sample size for analyses, cases were also reviewed individually for missing values in the indexes created for user behaviors (of low, moderate, and high-risk items), self-guardianship, self-control, and self-efficacy. Here, missing values were replaced with the respondent's average for each category, respectively.

Next, various models were run in order to explore the relationship between the independent variables in question and in-person and cyber victimization. Specifically, regression models were used to examine the predictability of in-person victimization, as well as cyber victimization, by the usage of LBRTD applications. First, a logistic regression analysis was run for the overall in-person victimization model, as victimization is a dichotomous variable. Secondly, a negative binomial regression analysis was run for the overall in-person victimization model, as it is an over dispersed count variable. The same two models were also run for cyber victimization. Additionally, individual models were run for in-person stalking, verbal, and sexual abuse. Due to lack of variation, no model was run for in-person physical victimization. Logistic regression analyses were also used to examine the relationship between the independent variables in question and cyberstalking, online identity deception, and verbal and sexual cyber victimization. It is worth noting that the variance inflation factor (VIF) ( $M=1.34$ ) for the regression analyses indicates no issues with multicollinearity. Bivariate and multivariate assessments are conducted in the following chapter.



## CHAPTER VI: RESULTS

Table 13 provides the logistic regression results for Models 1 and 2, exploring both forms of victimization in question (i.e., in-person and online) as facilitated by the use of LBRTD applications. It should be noted that elements of lifestyle-routine activities, self-control, and self-efficacy are incorporated in all the following models, along with the demographic (see chapter 4). Model 1 explores the results of the logistic regression analysis for the full model of in-person victimization, including stalking, emotional/verbal, sexual, and physical abuse. The effects of the number of matches ( $OR=1.54, p<.01$ ), sharing one's place of employment on one's profile ( $OR=2.13, p=.04$ ), and low self-control ( $OR=1.65, p=.02$ ) attain statistical significance and are positively related to in-person victimization, showing support for the theory of low self-control. Conversely, being male ( $OR=.30, p.<.01$ ) and membership status of a fraternity/sorority ( $OR=.40, p=.04$ ) are statistically significant, although they display inverse relationships. That is, being male, as opposed to female, and being associated with a Greek organization, reduces the odds of in-person victimization as facilitated by LBRTD applications.

Next, Model 2 explores the results of the logistic regression analysis for the full model of cyber victimization, including cyberstalking, emotional/verbal, sexual, physical abuse, and online deception. Here, the effects of messaging one's phone number to another user ( $OR=2.34, p<.01$ ) and being single, but not seeking serious relationships ( $OR=5.31, p=.02$ ) attain statistical significance and are positively related to online victimization.

Table 13. Logistic Regression Models, Full In-person and Cyber Victimization as Facilitated by LBRTD Applications (n=324)

Variable	Model 1 (In-person)				Model 2 (Online)			
	b	se	exp.(b)	p	b	se	exp.(b)	p
Likes	-.002	.11	.99	.99	.14	.12	1.15	.25
Matches	.44	.15	1.54	.004**	.07	.16	1.07	.69
Checking account	.12	.10	1.13	.20	-.02	.10	.98	.86
Age	.22	.17	1.24	.20	-.17	.18	.85	.34
Distance visibility	-.68	.36	.50	.06	-.10	.38	.91	.79
Number of profile pictures	.24	.24	1.27	.33	.44	.28	1.56	.10
Low risk behaviors	.06	.14	1.07	.64	-.18	.16	.84	.26
Medium risk behaviors	-.09	.11	.90	.37	.06	.13	1.05	.69
High risk behaviors	-.23	.12	.79	.06	-.21	.13	.81	.10
Hooking up	.39	.35	1.47	.27	.64	.39	1.89	.10
Distance (in miles)	-.03	.14	.97	.81	-.09	.15	.92	.55
Sharing employment	.76	.38	2.13	.04*	.48	.42	1.62	.26
Deviant behaviors	.27	.39	1.31	.48	.28	.44	1.32	.52
Sexually suggestive photo	.26	.52	1.29	.62	-.18	.63	.84	.78
Sharing other social media	.24	.29	1.27	.41	.33	.33	1.39	.31
Messaging phone number	.58	.32	1.78	.07	.85	.33	2.34	.009**
Target hardening	-.03	.18	.97	.86	.23	.19	1.26	.23
Low self-control	.38	.16	1.46	.02*	-.13	.16	.88	.43
Self-efficacy	-.22	.20	.80	.27	-.17	.22	.84	.45
Single, seeking relationship	.20	.42	1.22	.63	.53	.43	1.68	.23
Single, not seeking relationship	.41	.49	1.51	.41	1.67	.72	5.31	.02*
Not single, not seeking a relationship	.68	.43	1.98	.11	.56	.46	1.76	.22
In a casual relationship	.40	.41	1.49	.33	.59	.45	1.79	.19
Gender (Male)	-1.19	.44	.30	.006**	-.52	.46	.60	.26
Sexual orientation (Heterosexual)	.14	.34	1.16	.67	.06	.37	1.06	.88
Sorority/Fraternity Affiliation	-.91	.44	.40	.04*	-.06	.47	.94	.90
Hispanic	-.15	.33	.86	.65	-.39	.35	.68	.27
Race (Black)	.14	.40	1.16	.71	-.08	.43	.93	.86
Race (Other)	-.39	.44	.68	.38	.46	.53	1.60	.38
Constant	-.53	1.79	.59	.77	.47	1.86	1.59	.80

Note. Pseudo R<sup>2</sup>=.19 (Model 1), Pseudo R<sup>2</sup>=.15 (Model 2), \*\*p<.01, \*p<.05

Table 14 reports statistical findings for the negative binomial regression models for the counts of overall in-person victimization, as well as counts of online victimization (Model 3 and Model 4, respectively), as facilitated by the use of LBRTD applications. Like previous models, elements of lifestyle-routine activities, self-control, and self-efficacy are incorporated, along with the noted control variables (see chapter 4). In Model 3, number of matches ( $b=-.24$ ;  $p<.01$ ) and distance visibility ( $b=-.24$ ;  $p=.04$ ) are statistically significant, although the relationships are not positive [in regard to in-person victimization]. Conversely, sharing one's employment ( $b=.39$ ;  $p=.04$ ), messaging one's phone number ( $b=.39$ ;  $p=.04$ ), and low-self-control ( $b=.21$ ;  $p=.03$ ) establish statistical significance and a positive relationship to in-person victimization, again showing support for the theory of low self-control. Moreover, Model 3 reports a large gender effect ( $b=-.87$   $p<.01$ ), suggesting that women are at higher risk of in-person victimization than men. Model 4 reports that number of profile pictures ( $b=.16$ ;  $p=.04$ ) is statistically significant and positively related to cyber victimization. Additionally, indications of wanting to "hook up" on one's profile ( $b=.21$ ;  $p=.04$ ) is also statistically significant and positively related to cyber victimization. As in model 3, sharing one's employment ( $b=.23$ ;  $p=.03$ ) and messaging one's phone number ( $b=.26$ ;  $p=.02$ ) also establish statistical significance and a positive relationship to cyber victimization, in addition to being single, and not seeking a relationship ( $b=.30$ ;  $p=.03$ ). A large gender effect can be seen again ( $b=-.39$   $p<.01$ ) [in Model 4], reiterating that women are at higher risk of victimization, in this case, cyber victimization, than men.

Table 14. Negative Binominal Regression Models, Full In-person and Cyber Victimization as Facilitated by LBRTD Applications (n=324)

Variable	Model 3 (In-person)			Model 4 (Online)		
	<b>b</b>	<b>se</b>	<b>p</b>	<b>b</b>	<b>se</b>	<b>p</b>
Likes	-.01	.07	.84	.18	.03	.60
Matches	.24	.09	.007**	.07	.05	.16
Checking account	-.01	.06	.81	.02	.03	.61

Table 14 (Continued)

Age	.13	.10	.20	.01	.05	.89
Distance visibility	-.42	.21	.04*	-.13	.12	.29
Number of profile pictures	.04	.14	.77	.16	.08	.04*
Low risk behaviors	-.05	.08	.53	-.02	.04	.65
Medium risk behaviors	-.08	.07	.26	-.03	.03	.44
High risk behaviors	-.12	.07	.11	-.06	.03	.11
Hooking up	.28	.20	.16	.21	.11	.04*
Distance (in miles)	-.06	.08	.47	-.03	.05	.54
Sharing employment	.39	.20	.04*	.23	.11	.03*
Deviant behaviors	.13	.21	.54	.16	.12	.17
Sexually suggestive photo	.24	.28	.39	-.07	.16	.66
Sharing other social media	.07	.17	.70	.11	.09	.22
Messaging phone number	.39	.20	.04*	.26	.10	.02*
Target hardening	-.05	.10	.64	.05	.06	.36
Low self-control	.21	.10	.03*	.02	.05	.74
Self-efficacy	-.12	.12	.31	-.10	.06	.12
Single, seeking relationship	.12	.26	.63	.23	.13	.08
Single, not seeking relationship	.15	.29	.61	.18	.15	.24
Not single, not seeking a relationship	.38	.26	.14	.30	.14	.03*
In a casual relationship	.35	.23	.14	.21	.13	.12
Gender (Male)	-.87	.30	.003**	-.39	.14	.007**
Sexual orientation (Heterosexual)	-.01	.20	.98	.01	.11	.93
Sorority/Fraternity Affiliation	-.50	.27	.06	-.02	.13	.87
Hispanic	.10	.20	.62	-.05	.11	.62

Race (Black)	.02	.24	.94	.10	.13	.43
Race (Other)	-.49	.31	.11	.04	.14	.76
Constant	.48	1.11	.67	.19	.58	.75

Note. Pseudo  $R^2=.11$  (Model 3), Pseudo  $R^2=.10$  (Model 4), \*\* $p<.01$ , \* $p<.05$

Table 15 provides the logistic regression analyses for Models 5, 6, and 7, addressing in-person stalking, verbal/emotional abuse, and sexual abuse, respectively, as facilitated by the use of LBRTD applications. Unlike the overall and count models, physical victimization is not included as an individual model, due to lack of variability. It is worth noting that the variables employed for previous models are the same. For Model 5, addressing in-person stalking, having one's distance visible is inversely related to stalking ( $OR=.36, p=.02$ ), suggesting that individuals who are within a closer radius of a potential offender are less likely to experience being stalked. Additionally, being in a casual relationship while using a LBRTD application is statistically significant and indicates a positive relationship to stalking ( $OR=2.93, p=.04$ ).

Furthermore, Model 6, addressing in-person verbal/emotional abuse, indicates that checking one's account is statistically significant and positively related to in-person verbal/emotional abuse ( $OR=1.23, p=.04$ ). Sharing employment ( $OR=2.13, p=.04$ ) and messaging one's phone number ( $OR=2.05, p=.03$ ) are statistically significant and indicate a positive relationship to in-person verbal/emotional abuse. As seen in previous models, gender has a large effect ( $OR=.24, p<.01$ ), indicating women are more likely to be emotionally/verbally victimized than men. Lastly, Model 7 explores sexual victimization (in-person). Number of matches is statistically significant and positively related to sexual victimization ( $OR=1.98, p=.01$ ).

Table 15. Logistic Regression Models – Predictors of In-person Victimization as Facilitated by LBRTD Applications (n=324)

Variable	Model 5: Stalking				Model 6: Verbal/Emotional				Model 7: Sexual			
	b	se	exp.(b)	p	b	se	exp.(b)	p	b	se	exp.(b)	p
Likes	-.03	.15	.98	.87	-.01	.11	.99	.91	-.11	.19	.89	.56
Matches	.39	.20	1.48	.05*	.23	.15	1.25	.13	.68	.27	1.98	.01*
Checking account	-.13	.13	.88	.32	.20	.10	1.23	.04*	-.25	.16	.78	.12
Age	.28	.22	1.33	.20	.11	.17	1.11	.51	.31	.27	1.36	.25
Distance visibility	-1.03	.45	.36	.02*	-.20	.38	.81	.59	-.52	.61	.59	.39
Number of profile pictures	-.35	.33	.70	.27	.15	.25	1.15	.55	.32	.38	1.36	.40
Low risk behaviors	-.08	.18	.92	.64	-.03	.14	.97	.86	-.24	.20	.79	.24
Medium risk behaviors	-.09	.15	.92	.56	-.11	.11	.88	.30	-.06	.18	.94	.74
High risk behaviors	-.12	.16	.89	.47	-.20	.13	.81	.11	-.30	.19	.74	.11
Hooking up	.56	.46	1.76	.21	.17	.36	1.19	.64	1.03	.56	2.8	.06
Distance (in miles)	-.25	.19	.78	.20	.06	.14	1.07	.66	-.18	.23	.84	.43
Sharing employment	.75	.47	2.11	.11	.75	.38	2.13	.04*	.55	.53	1.72	.30
Deviant behaviors	-.26	.50	.77	.60	.60	.39	1.81	.13	.02	.53	1.01	.98
Sexually suggestive photo	.45	.65	1.57	.49	-.34	.53	.71	.52	.74	.70	2.09	.29
Sharing other social media	.59	.40	1.80	.15	.12	.30	1.12	.69	.01	.50	1.01	.98
Messaging phone number	.26	.43	1.30	.54	.71	.33	2.05	.03*	1.01	.57	2.76	.08
Target hardening	-.16	.23	.85	.49	.05	.18	1.05	.77	-.20	.28	.81	.47
Low self-control	.34	.12	1.42	.10	.26	.16	1.30	.12	.41	.26	1.51	.11
Self-efficacy	-.11	.26	.90	.67	-.24	.21	.78	.24	.08	.34	1.08	.81
Single, seeking relationship	1.0	.57	2.76	.08	-.04	.44	.95	.92	-.43	.89	.65	.52
Single, not seeking relationship	1.1	.62	2.89	.08	.05	.52	1.05	.92	-.97	.82	.37	.23
Not single, not seeking a relationship	1.0	.61	2.78	.09	.80	.44	2.23	.07	-1.00	.89	.37	.25
In a casual relationship	1.08	.53	2.93	.04*	.51	.42	1.67	.22	.09	.58	1.09	.88
Gender (Male)	-.98	.62	.38	.11	-1.40	.48	.24	.004**	-.82	.82	.44	.32
Sexual orientation (Heterosexual)	.03	.46	1.03	.94	.09	.35	1.10	.78	-.20	.51	.81	.69
Sorority/Fraternity Affiliation	-.99	.63	.37	.12	-.65	.45	.52	.15	-.79	.74	.45	.29
Hispanic	.59	.43	1.80	.17	-.51	.35	.60	.15	.62	.53	1.86	.25
Race (Black)	.12	.54	1.12	.83	.17	.40	1.19	.66	-.45	.74	.64	.53
Race (Other)	-.67	.64	.51	.29	-.24	.46	.78	.60	(0/omit)		(1/omit)	
Constant	.90	2.45	2.45	.71	-.79	1.84	.45	.66	-1.40	3.16	.25	.65

Note. Pseudo R2=.17 (Model 5), Pseudo R2=.16 (Model 6), Pseudo R2=.22 (Model 7), \*\*p<.01, \*p<.05

Table 16 provides the logistic regression analyses conducted for Models 8, 9, 10, and 11, addressing cyberstalking, cyber verbal/emotional abuse, cyber sexual abuse, and online identity deception respectively (i.e., catfishing), as facilitated by the use of LBRTD applications. For Model 8 (cyberstalking), sharing other social media on one's profile is statistically significant and positively related to cyberstalking (OR=2.17,  $p<.01$ ). Messaging one's phone number is also statistically significant and positively related to cyberstalking (OR=1.81,  $p<.05$ ). Model 9 (online verbal/emotional abuse) reports that not being single, and not seeking a relationship, is statistically significant and positively related to cyber emotional/verbal abuse (OR=2.48,  $p=.04$ ). There is also a large gender effect (OR=.22,  $p<.01$ ) for cyber emotional/verbal abuse, suggesting that women are more likely to be victimized by abusive language online than men.

Model 10 (cyber sexual abuse) reports that number of profile pictures is positively associated with cyber sexual abuse (OR=1.90,  $p<.01$ ). Indicating intentions of "hooking up" attains statistical significance and is positively related to cyber sexual victimization (OR=2.24,  $p=.02$ ). Sharing one's employment is also positively associated with cyber sexual abuse (OR=2.27,  $p<.03$ ), as well as sharing one's phone number (OR=2.01,  $p=.02$ ). There is a large gender effect (OR=.26,  $p<.01$ ) for cyber sexual abuse, suggesting that women are more likely to be victimized sexually online than men. The results for the final model, Model 11, show that there is a statistically significant although inverse relationship with distance visibility and online identity deception (OR=.46,  $p=.03$ ), suggesting that having one's distance visible makes them less likely to be "catfished." Additionally, being single is statistically significant and positively related to being a victim of online identity deception, for those seeking a relationship (OR=3.10,  $p<.01$ ). It is worth noting that being single and not seeking a relationship is marginally significant and positively related to online identity deception, as well (OR=2.56,  $p=.05$ ).

Table 16. Logistic Regression Models – Predictors of Cyber Victimization as Facilitated by LBRTD Applications (n=324)

Variable	Model 8: Cyberstalking				Model 9: Verbal/Emotional				Model 10: Sexual				Model 11: Online Identity Deception			
	b	se	exp.(b)	p	b	se	exp.(b)	p	b	se	exp.(b)	p	b	se	exp.(b)	p
Likes	.02	.11	1.02	.84	-.04	.11	.96	.74	.03	.10	1.03	.78	.09	.11	1.09	.40
Matches	.10	.15	1.10	.53	.14	.15	1.14	.36	.07	.15	1.07	.65	.27	.16	1.31	.07
Checking account	.01	.10	1.01	.91	.19	.09	1.21	.06	-.05	.09	.95	.62	.01	.10	1.01	.91
Age	-.07	.16	1.21	.67	.12	.17	1.13	.46	-.03	.15	.97	.86	.17	.16	1.18	.30
Distance visibility	.19	.36	1.21	.58	-.35	.37	.70	.34	-.20	.34	.81	.55	-.76	.37	.46	.03*
Number of profile pictures	.41	.25	1.50	.09	.17	.24	1.18	.49	.64	.23	1.90	.007*	.37	.25	1.46	.13
Low risk behaviors	-.08	.14	.92	.58	-.01	.14	.99	.92	-.14	.14	.87	.30	-.01	.14	.99	.92
Medium risk behaviors	.07	.11	1.07	.54	-.12	.11	.88	.27	-.15	.10	.86	.17	.02	.11	1.02	.84
High risk behaviors	-.20	.12	.82	.09	-.23	.13	.79	.07	-.09	.11	.91	.43	-.10	.11	.91	.41
Hooking up	.44	.35	1.55	.20	.35	.35	1.42	.33	.81	.34	2.24	.02*	.37	.34	1.45	.28
Distance (in miles)	-.25	.14	.77	.06	.10	.14	1.10	.49	-.07	.13	.93	.59	-.03	.14	.97	.84
Sharing employment	.28	.38	1.33	.45	.82	.38	2.28	.03*	.82	.37	2.27	.03*	.57	.36	1.76	.11
Deviant behaviors	.45	.40	1.58	.26	.57	.39	1.77	.15	.29	.38	1.34	.43	.36	.38	1.43	.34
Sexually suggestive photo	-.65	.54	.52	.23	-.03	.52	.97	.95	.01	.53	1.01	.99	-.69	.54	.50	.21
Sharing other social media	.77	.29	2.17	.009*	.11	.30	1.11	.72	.10	.27	1.10	.74	.12	.30	1.13	.68
Messaging phone number	.59	.31	1.81	.049*	.61	.33	1.86	.06	.70	.29	2.01	.02*	.38	.32	1.46	.24



Table 16 (Continued)																
Target hardening	.36	.17	1.44	.03*	.04	.18	1.05	.80	.26	.17	1.29	.13	-.25	.17	.78	.14
Low self-control	-.12	.15	.89	.44	.24	.16	1.27	.13	.01	.15	1.01	.93	-.01	.16	1.00	.99
Self-efficacy	-.29	.20	.74	.14	-.29	.20	.75	.15	.12	.19	1.13	.52	-.30	.20	.74	.13
Single, seeking relationship	.16	.40	1.18	.68	.15	.43	1.17	.71	.67	.39	1.94	.09	1.13	.41	3.10	.006**
Single, not seeking relationship	.54	.51	1.72	.29	-.12	.52	.88	.81	.27	.49	1.32	.57	.94	.48	2.56	.05
Not single, not seeking a relationship	.48	.43	1.62	.27	.91	.44	2.48	.04*	.32	.41	1.38	.44	.67	.46	1.96	.14
In a casual relationship	.68	.43	1.97	.12	.49	.42	1.63	.24	.38	.39	1.46	.34	.32	.44	1.38	.47
Gender (Male)	-.48	.43	.61	.25	-1.5	.47	.22	.001**	-1.35	.43	.26	.002*	-.11	.43	.90	.70
Sexual orientation (Heterosexual)	-.15	.35	.87	.68	.16	.35	1.18	.63	-.22	.33	.80	.51	.02	.36	1.02	.96
Sorority/ Fraternity Affiliation	.06	.43	1.06	.88	-.43	.43	.65	.33	.37	.40	1.45	.36	-.14	.41	.87	.73
Hispanic	-.06	.33	.94	.85	-.57	.34	.57	.10	.05	.31	1.05	.86	-.35	.35	.71	.32
Race (Black)	.03	.40	1.03	.93	.16	.39	1.17	.69	.20	.38	1.22	.59	.33	.40	1.39	.41
Race (Other)	.19	.44	1.21	.67	-.14	.45	.87	.76	.44	.42	1.56	.29	-.21	.44	.81	.63
Constant	-.38	1.74	.68	.83	-.58	1.79	.56	.74	-3.13	1.67	.04	.06	-.30	1.76	.74	.86

Note. Pseudo R<sup>2</sup>=.15 (Model 8), Pseudo R<sup>2</sup>=.15 (Model 9), Pseudo R<sup>2</sup>=.16 (Model 10), Pseudo R<sup>2</sup>=.10 (Model 11), \*\*p<.01, \*p<.05

## Summary

The present chapter used a combination of logistic and negative binomial models to explore the relationship between LBRTD application use and victimization, as well as an understanding of behaviors college students engage in that may make them susceptible to such abuse and examine correlation of experiences of victimization. From these results, it can be assumed that certain behaviors promote different types of victimization, both in-person and online. Specifically, behaviors in where respondents choose to share more personal information (e.g., phone number; place of employment; other social media accounts) make them more likely to experience victimization; these findings show partial support for the lifestyle-routine activities theory. Additionally, low self-control is found to be related to various in-person victimization (see overall in-person models). This supports the self-control theory hypothesis that individuals with low self-control are more likely to be victimized. In regard to self-efficacy, the findings in the present chapter do not show support for the theory, as none of the relationships were found to be statistically significant. This finding is not surprising, as much of the self-efficacy literature is mixed. Being female was also found to be associated with higher risks of various forms of victimization, both in-person and online, than being male, supporting the general literature of violence against women. The results provided by these analyses will be discussed in-depth in the subsequent chapter, allowing for theoretical and policy implications, limitations, and directions for future research to be addressed.

## CHAPTER VII: DISCUSSION

In the current chapter, an overview of theoretical implications will be provided, followed by an exploratory discussion of each theoretical framework used in the present thesis. Next, potential policy implications will be discussed. Finally, limitations of the current study will be discussed, and potential research avenues and direction for future scholarship, followed by concluding remarks.

### **Theoretical Implications**

Using the theoretical frameworks of L-RAT, self-control, and self-efficacy, the current thesis examined the relationships between in-person and cyber victimization, as facilitated by the use of LBRTD applications. The theories discussed in the current thesis (i.e., L-RAT, self-control, and self-efficacy) each review the importance of individual behaviors concerning victimization. That is, the element of target suitability in L-RAT is directly related to individual behaviors; people's actions often reflect their self-control; and individual decisions chime in on a person's self-efficacy. Overall, the current thesis' findings and the implemented analyses showed mixed support for L-RAT, substantial support for self-control, and no support for self-efficacy.

Of the 324 LBRTD application users included in the final sample, many indicated participating in various behaviors that could be interpreted (through these theoretical frameworks) as risky, or leading to increased probabilities of victimization. Many LBRTD application users reported sharing personal information, such as place of employment (20.68% of users), sharing their other social media [account names] (48.77%), and messaging their personal phone number to someone (63.58%) on an application. Engaging in these behaviors are

suggested to increase the likelihood of victimization, as concluded by the various regression models employed in the current study, making them more suitable targets and increasing their exposure to potential perpetrators. Relationship status also contributed to increased risk of victimization; specifically, those who were not seeking relationships were most at risk for both in-person and cyber victimization. It can be assumed that users who are on a LBRTD application but not interested in monogamous relationships may be more inclined to participate in casual sex, increasing their target suitability, lending favorable to additional sexual risks (Kee & Yazdanifard, 2015). These sexual risks can be coupled with other deviant behaviors, such as drinking and drug use, increase the severity of victimization (Klettke, Hallford, & Mellor, 2014). Moreover, although a surprising finding, Model 1 found sorority/fraternity membership (i.e., Greek affiliation) to be associated with a reduced likelihood of victimization.

Most victimization literature has found a significant and positive relationship between membership and assault, particularly for those in sororities (i.e., women) (e.g., Copenhaver & Grauerholz, 1991; Franklin 2016; Gross, Winslett, Roberts, & Gohm, 2006; Minow & Einolf, 2009). It is important to note that the survey used in the current thesis does not exclude honor society membership from this Greek affiliation, a possible explanation for such results. Additionally, proximity (that is, close proximity) did not seem to be a predictive factor of victimization, as Model 3 and Model 5 found that having one's distance visible actually reduced the likelihood of being victimized. Additionally, the independent variable used to explore mileage did not provide any statically significant relationships. Conversely, target hardening measures were found to be significant in one model (Model 8 predicting cyberstalking), although this relationship was negative, suggesting that an increase in target hardening measures is associated with an increase of cyberstalking. The positive relationship of these measures could

be a result of previous offline victimization, as all of the target hardening variables included in the self-guardianship index used in the models address in-person victimization, not cyber victimization. That is, someone could have been victimized in person, leading them to practice target hardening behaviors for potential in-person victimization, but not cyber victimization. Future research should address these temporal order issues and include target hardening measures for cyber victimization, as well. From these observations, it can be concluded that additional research and careful operationalization of L-RAT measures in the cyber context should be addressed, particularly in regard to LBRTD application use, as the current study does provide mixed support for L-RAT.

Next, low self-control was found to be a predictor of in-person victimization in multiple models. These findings support the self-control theory hypothesis, as low self-control can increase an individual's risk of victimization. Additional research should be conducted in regard to LBRTD applications, self-control, and cyber victimization, as none of the online models provided a statistically significant relationship. As the current thesis serves as preliminary research, future literature should attempt to explore the usage of the Grasmick scale (1993) in its entirety, exploring the possibility of different results for cyber victimization as facilitated by LBRTD applications.

Additionally, the relationship between self-efficacy and victimization must be discussed. The models employed did not find any significant relationships between self-efficacy and any form of victimization. As discussed in previous chapters, the literature for self-efficacy and victimization shows mixed findings, with cyber victimization scholarship often limited to adolescent research and cyberbullying (see chapter 3). Although the current thesis does not show support for the theory of self-efficacy, providing those who are more "self-efficacious" are less

likely to be victimized, additional research must be conducted in order to establish additional empirical findings. Given the current study's substantive support for the theory behind low-self-control and lack of support for self-efficacy, an assessment of the potential curvilinear relationship between the two concepts must be explored, also accounting for potential mediating variables (in this case, risky behaviors) that may yield different results when examining the relationship between self-control and self-efficacy and victimization. These concepts both encompass an individual's involvement in protective behaviors, therefore it is important to explore how self-control and self-efficacy may be related to one another, particularly in the context of victimization in the realm of LBRTD application use.

To that end, the concept of theory integration reveals itself as a potential direction for future research. As the idea suggests, many theories express commonalities in concepts; fusing together "the best parts" of existing theories can provide opportunities for answers to research questions that individual theories alone cannot answer. Although the concept is often debated in the realm of criminology, with many arguing against the integration of theories (see Akers, 1989; Hirschi, 1989), the concept has received some support (Akers et al., 2017).

### **Policy Implications**

The current study identifies that a growing sample of LBRTD application users are college-aged; approximately 60% of the entire sample (n=328) indicated using a LBRTD application at some point in their life. This prevalence in application use suggests the need for future exploration of how certain behaviors may lead to an increase in both online and offline victimization, and what both application developers and users can do to reduce the likelihood of such abuse. The accessibility of LBRTD applications for users worldwide provides new opportunities for victimization, therefore measures of guardianship must be assessed in order to

protect users, as well the companies who are responsible for such applications. As the current study suggests, women are more at-risk of victimization these applications than men, there for these guardianship measures are particularly important for women.

As a “self-declared feminist dating application”, Bumble provides women with more control than other applications, holding women responsible for initiating conversations (Bivens & Hoque, 2018, p.441). That is, men on the application cannot message women unless she takes the initiative to do so first. The application also includes a “verification” feature, where users must provide the application with a real-time photo (as opposed to a photo saved on one’s camera roll) in order to confirm their identity. These application initiatives are important, as “catfishing” (or online identity deception) is one of the most common forms of cyber victimization; the current study indicates that over 28% of the LBRTD application user sample experienced this kind of online abuse. While Tinder and other applications have taken initiatives in reducing cyberstalking and harassment ( for example, as of 2019, Tinder has employed a type of message screening feature that can notify a user of potential offensive messaging, providing them with the immediate option of blocking or reporting them), additional steps must be taken in order to increase the safety and security of individuals who are users of such applications.

### **Limitations and Future Research**

The current study is not without limitations. Although over half of LBRTD application users are of college age, there are generalizability concerns when using a college sample, particularly with restriction to a single major/area of study. Although heterogeneity of the current sample can be deduced when compared to the university’s overall student body, there is potential for respondent bias. Students’ exposure to coursework in criminology may allow them to become more aware of the opportunities of victimization, potentially impacting their responses,

specifically in regard to the target hardening questions used in the routine-activities framework. Moreover, research concerning LBRTD applications remains limited, specifically in regard to victimization. The application of routine-activities is a subject that is still often debated (see Yar, 2005), specifically in regard to the intersection of motivated offenders, suitable targets, and capable guardianship. Although LBRTD applications proposed methods to address these spatial-temporal barriers, Boillot-Fansher (2017) is the only study (prior to the current) that addresses this routine-activities framework on the role of victimization and dating applications.

Additionally, while some of the survey questions were revised in order to address the limitations in the questionnaire used by Boillot-Fansher (2017), there were still some limitations in regard to the survey items. The adapted survey used in the current study only records age of profile/how long a participant has used a dating profile for current use. That is, it fails to address how long a participant may have had an account in the past. Moreover, the intended proposal to explore differences amongst various dating applications added unnecessary length and completion time to the survey, potentially contributing to respondent fatigue in the more applicable survey questions. It should be noted that this is the first study to implement and revise Boillot-Fansher's (2017) original questionnaire, allowing for future revisions and application of the survey. Additionally, although the majority of the scales used in the latter portion of the survey show promising scores for internal consistency and reliability (see Gramsick scale of self-control (1993); General Self-Efficacy Scale (1995)), the 3-item scale used to measure interpersonal trust yields a Cronbach's alpha of .066, with the removal of scale items failing to improve the alpha. This modification of the GSE scale employed in the current study's survey may have posed confusion for respondents, as some of the verbiage in these items could be interpreted as unclear. As a result, the scale was omitted from analyses. Future studies looking to



employ the current survey (or portions of it) should look to review all the variables in question, thoroughly examining their operationalization for the population in question.

Results of the current study also provide a framework for future research and implications. The victimizations items in the current study are coded dichotomously (no/yes), neglecting potential concern for temporal ordering. Additionally, the items used record victimization experiences in the last 12 months. Future research regarding LBRTD application usage and its facilitation of online and in-person victimization should allow for better placement of victimization incidents in time and space to better address victimization predictors. Furthermore, the current study does not look at the variation of experiences across different LBRTD application platforms. Future literature should explore victimization across different platforms, as some applications are more suggestive concerning user motivations than others. Moreover, although the current study holds data for 545 respondents, only 328 of these respondents indicated previous use of a LBRTD application. Future research can work to increase the size of said subsample, particularly at a large generalizable college population, pursuing majors outside of Criminology; a replication of the current study with a larger sample may yield different results.

## **Conclusion**

The realm of technology has changed dramatically over the last decade, large in part to the introduction of social media and mobile devices (Perrin, 2018). Consequently, online dating has continuously gained popularity over as well, connecting users all over the world to potential partners as well as potential opportunities for victimization. As Boillot-Fansher (2017) noted, “the normalization of this technology may be providing a false sense of security

among our technology-hungry population of young adults” (p.147), reinforcing the idea that policy makers, application developers, and users alike must work diligently to redefine the realm of LBRTD applications, making it a safe place with reduced opportunities for victimization, allowing for relationships to flourish and opportunities for dating to be redefined in a kinder light.

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## APPENDIX A: IRB EXEMPTION CERTIFICATION



RESEARCH INTEGRITY AND COMPLIANCE  
Institutional Review Boards, FWA No. 00001669  
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799  
(813) 974-5638 • FAX (813) 974-7091

December 13, 2018

Vanessa Centelles  
[REDACTED]

RE: **Exempt Certification**

IRB#: Pro00037336

Title: In-person and Online Dating Experiences, Attitudes, and Perceptions

Dear Ms. Centelles:

On 12/12/2018, the Institutional Review Board (IRB) determined that your research meets criteria for exemption from the federal regulations as outlined by 45CFR46.101(b):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:  
(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF HRPP policies and procedures.

Please note, as per USF HRPP Policy, once the Exempt determination is made, the application is closed in ARC. Any proposed or anticipated changes to the study design that was previously declared exempt from IRB review must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant an amendment or new application.

Given the determination of exemption, this application is being closed in ARC. This does not limit your ability to conduct your research project.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

A handwritten signature in blue ink that reads "Melissa Sloan". The signature is written in a cursive style with a large, sweeping loop at the end.

Melissa Sloan, PhD, Vice Chairperson

USF Institutional Review Board

## APPENDIX B: SURVEY INSTRUMENT

The following questions describe dating application use, experiences, attitudes, and perceptions. Please read each question carefully and provide the best fitting response in the following sections.

1. Have you ever used the dating application Tinder before?

- No  
 Yes

*Skip To: If Have you ever used the dating application Tinder before? = Yes*  
*Skip To: If Have you ever used the dating application Tinder before? = No*  
*Skip To: If Have you ever used the dating application Tinder before? (No) Is Displayed*

2. The following section will ask you about your opinions on Tinder.

Please indicate how much you agree with the following statements.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
I feel safe using Tinder.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Tinder is a good way to meet new people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Tinder to meet people is more convenient than meeting people in person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend Tinder to a friend.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable sharing personal information about myself on Tinder.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Have you ever used the dating application Bumble before?

- No  
 Yes

*Skip To: If Have you ever used the dating application Bumble before? = No*  
*Skip To: If Have you ever used the dating application Bumble before? = Yes*  
*Skip To: If Have you ever used the dating application Bumble before? (No) Is Displayed*

4. The following section will ask you about your opinions on Bumble.  
Please indicate how much you agree with the following statements.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
I find Bumble safer to use than Tinder.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find Bumble to be more useful in finding serious relationships than Tinder.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Bumble safety features are important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The personal information I share on Bumble is different than the one I share on Tinder.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend using Bumble over Tinder to my friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more comfortable meeting people I matched with on Bumble in person than people I match with on Tinder.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Please indicate the types of application(s) you are **currently using** (select all that apply):

- Tinder
- Bumble
- OkCupid
- Grindr
- Other (please write in your answer):

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I am not currently using a dating application

*Skip To: If Please indicate the types of application(s) you are currently using (select all that apply):!= I am not currently using a dating application*

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*Skip To: If Please indicate the types of application(s) you are currently using (select all that apply) :(I am not currently using a dating application) Is Displayed*

6. How long have you had your account/profile(s)? (If more than one profile, think of the average time)

- Less than a week
- 1-2 weeks
- Over 2 weeks, but less than a month
- 1-4 months
- 5-8 months
- 9-12 months
- Over 12 months

7. Please indicate the types of application(s) you **have used in the past** (*select all that apply*):

- Tinder
- Bumble
- OkCupid
- Grindr
- Other (please write in your answer):

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I have never used a dating application

*Skip To: If Please indicate the types of application(s) you have used in the past (select all that apply):!= I have never used a dating application*

*Skip To: End of Block If Please indicate the types of application(s) you have used in the past (select all that apply) :(I have never used a dating application) Is Displayed*

*Skip To: End of Block If Please indicate the types of application(s) you have used in the past (select all that apply): = I have never used a dating application*

For the next set of questions, think about your current average dating application experiences. **(Or most recent, if you no longer have an account/profile).**

8. On any given day, how many people do you “like”/swipe right on?

- Five or less
- 6-10
- 11-15
- 16-20
- Over 21

9. What percentage of these “likes”/right swipes do you match with?

- Less than 25%
- 26-50%
- 51-75%
- 76-100%

10. How often do you find yourself checking your account(s)?

- Less than once a week
- Once a week
- Several times a week, but not once a day
- Once a day
- 2-3 times a day
- 4 or more times a day

11. Is your distance visible to others on the application? (i.e., is your GPS function active?)

- No
- Yes
- I don't know

12. How many pictures do you typically have of yourself on your profile?

- 0
- 1-2
- 3-4
- 5 or more

13. Please indicate how likely you would be to meet an online dating application match at the following locations for the first time.



	Very unlikely (1)	Unlikely (2)	Somewhat unlikely (3)	Somewhat likely (4)	Likely (5)	Very likely (6)
At a house party (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At a nightclub (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At a bar or a brewery (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At their home (e.g., dorm/apartment) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At my home (e.g., dorm/apartment) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For lunch or dinner (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For ice cream (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At a coffee shop (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At a park during the day (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At a mall or shopping plaza (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. I have used a dating application (such as Tinder) for *(select all that apply)*:

- Hooking up
  - To bring another person into my already existing relationship
  - Casual dating
  - In search of friendship
  - A serious relationship
  - Other (please write in your answer):
-

14. What is your average distance set to (in miles)? Please write in your answer.

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15. While using a dating application, I have done the following:

	No	Yes
Shared my place of employment on my account/profile.	<input type="radio"/>	<input type="radio"/>
Described an interest in drug use (e.g., writing 420 friendly on my account/profile).	<input type="radio"/>	<input type="radio"/>
Shared other social media information on my account/profile (e.g., linking Instagram, writing Snapchat username on my profile).	<input type="radio"/>	<input type="radio"/>
Messaged my phone number to someone.	<input type="radio"/>	<input type="radio"/>
Uploaded a photo of myself drinking.	<input type="radio"/>	<input type="radio"/>
Uploaded a photo of myself using drugs.	<input type="radio"/>	<input type="radio"/>
Intentionally uploaded a sexually suggestive photo.	<input type="radio"/>	<input type="radio"/>

16. Please indicate how likely you are to do the following things before meeting someone you have talked to on a dating application.

	Very unlikely (1)	Unlikely (2)	Somewhat unlikely (3)	Somewhat likely (4)	Likely (5)	Very likely (6)
Make sure my phone is fully charged. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tell my friends where I am going/who I am meeting up with. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tell my family where I am going/who I am meeting up with. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share my location with people I trust via a GPS application (such as Find My Friends). (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carry a form of formal protection (e.g., pepper spray). (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drive myself to a meet up location instead of being picked up. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Post my plans on social media. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions concern online and in-person experiences that you may have had that were unwanted and may have made you feel uncomfortable.

17. In the last 12 months, I have experienced the following **online**:

	Never	One time	Two or more times
Been repeatedly messaged by an individual after not responding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been repeatedly messaged after asking someone to stop.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been contacted by someone on other social media (e.g., Snapchat, Twitter, Instagram) without giving them my username.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been offered unwanted sexual advances.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been sent unsolicited, sexually explicit photos through other social media and forms of messaging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been spoken to in an insulting or degrading manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been threatened physically.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encountered a profile using my pictures, pretending to be me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt like someone had misrepresented themselves in their profile by using another person's pictures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been harassed or made to feel uncomfortable by someone who I have previously met offline.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. If you responded "one time" or "two or more times" for any of the instances above, please indicate which (if any) of these instances **occurred while on a dating application**:

- Been repeatedly messaged by an individual after not responding.
- Been repeatedly messaged after asking someone to stop.
- Been contacted by someone on other social media (e.g., Snapchat, Twitter, Instagram) without giving them my username.
- Been offered unwanted sexual advances.
- Been sent unsolicited, sexually explicit photos through other social media and forms of messaging.
- Been spoken to in an insulting or degrading manner.
- Been threatened physically.
- Encountered a profile using my pictures, pretending to be me.
- Felt like someone had misrepresented themselves in their profile by using another person's pictures.
- Been harassed or made to feel uncomfortable by someone who I have previously met offline.
- None of these instances occurred while on a dating application.

19. In the last 12 months after meeting someone **in-person**, I have experienced the following:

	Never	One time	Two or more times
Been repeatedly contacted in-person (e.g., had someone show up to my home or work) after ignoring them and asking them to stop.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had an individual find out information about me by means other than asking me directly (e.g., asking my friends and family about me).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been spoken to in an insulting or degrading manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been followed or physically spied on.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had someone force or attempt to force me into having oral sex with them without my consent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had someone penetrate or attempt to penetrate me without my consent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been forced to do other sexual things that I did not want to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had someone fondle, kiss, or rub against my private parts without my consent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been threatened physically.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been slapped, pushed, grabbed, kicked, or shoved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been hit with a fist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been hit with something hard besides a fist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been assaulted with a knife or gun.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. If you responded "one time" or "two or more times" for any of the instances above, please indicate which (if any) of these instances **occurred with someone you met on a dating application**:

- Been repeatedly contacted in-person (e.g., had someone show up to my home or work) after ignoring them and asking them to stop.
- Had an individual find out information about me by means other than asking me directly (e.g., asking my friends and family about me).
- Been spoken to in an insulting or degrading manner.
- Been followed or physically spied on.
- Had someone force or attempt to force me into having oral sex with them without my consent.
- Had someone penetrate or attempt to penetrate me without my consent.
- Been forced to do other sexual things that I did not want to do.
- Had someone fondle, kiss, or rub against my private parts without my consent.
- Been threatened physically.
- Been slapped, pushed, grabbed, kicked, or shoved.
- Been hit with a fist.
- Been hit with something hard besides a fist.
- Been assaulted with a knife or gun.
- None of these instances occurred with someone I met on a dating application.

21. How many hours a week do you spend on the internet (for personal use)?

- 1-5 hours
- 6-10 hours
- 11-15 hours
- 16-20 hours
- 21-25 hours
- Over 25 hours

22. How many hours a week do you spend on social media applications? (Note: this does **not** include use of dating applications)

- 0 hours
- 1-5 hours
- 6-10 hours
- 11-15 hours
- 16-20 hours
- 21-25 hours
- Over 25 hours

23. How many hours a week do you spend hanging out in public spaces, such as malls or bars?

- 0 hours
- 1-5 hours
- 6-10 hours
- 11-15 hours
- 16-20 hours
- 21-25 hours
- Over 25 hours



24. Please indicate how much you agree with the following statements.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
I often act on the spur of the moment without stopping to think.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm more concerned with what happens to me in the short run rather than the long run.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not devote much thought and effort to preparing for the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often do whatever brings me pleasure here and now, even at the cost of some distant goal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to test myself every now and then by doing something a little risky.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes I will take a risk for the fun of it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes find it exciting to do things for which I might get in trouble. (	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excitement and adventure are more important to me than security.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. Please indicate how much you agree with the following statements.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
I think most people can be trusted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You cannot be too careful in dealing with people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People try to be helpful most of the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People are mostly just looking out for themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People would try to take advantage of me if they got the chance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People are mostly fair.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Please indicate how much you agree with the following statements.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
I can always manage to solve difficult problems if I try hard enough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone opposes me, I can find means and ways to get what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy for me to stick to my aims and accomplish my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I could deal efficiently with unexpected events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thanks to my resourcefulness, I know how to handle unforeseen situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can solve most problems if I invest the necessary effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can remain calm when facing difficulties because I can rely on my coping abilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am confronted with a problem, I can usually find several solutions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I am in trouble, I can usually think of something to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No matter what comes my way, I am usually able to handle it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. For the remaining questions, please tell us about yourself.

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28. What is your age? Please write your answer in.  
\_\_\_\_\_  
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29. What is your current relationship status?

- Single, actively seeking a relationship
- Single, sexually active, but not seeking a relationship
- Single, not sexually active, and not seeking a relationship
- In a casual relationship with one person
- In multiple relationships (at the same time)
- In an open relationship
- In a serious, monogamous relationship

30. Which gender do you identify most with?

- Female
- Male
- Transgender female
- Transgender male
- Gender variant/non-conforming

31. What is your sexual orientation?

- Straight (heterosexual)
  - Lesbian
  - Gay
  - Bisexual
  - Pansexual
  - Queer
  - Questioning
  - Other (please write-in your answer):
-

32. Ethnicity:

- Hispanic/Latino
- Non-Hispanic/Non-Latino

33. Race (*select all that apply*):

- White
- Black or African American
- Asian
- Native Hawaiian or Pacific Islander
- Other (please write in your answer):
- 

34. Please write your current college major (if you are a double-major/dual-degree seeking student, please list your primary major/degree first):

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35. Have you ever been, or are currently a part of, a fraternity/sorority?

- No
- Yes

*Skip To: End of Block If Have you ever been, or are currently a part of, a fraternity/sorority? = No*

*Skip To: End of Block If Have you ever been, or are currently a part of, a fraternity/sorority? = Yes*

**End of Block: Block 5**

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