7-6-2015 12:00 AM

Cyber-Psychopathy: Examining the Relationship between Dark E-Personality and Online Misconduct

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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in Sociology

CYBER-PSYCHOPATHY: EXAMINING THE RELATIONSHIP BETWEEN DARK E-PERSONALITY AND ONLINE MISCONDUCT

(Thesis format: Monograph)

by

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Graduate Program in Sociology

A thesis submitted in partial fulfillment

of the requirements for the degree of

Master of Arts

The School of Graduate and Postdoctoral Studies

The University of Western Ontario

London, Ontario, Canada

ABSTRACT

Currently, there is a lack of research investigating how the unique structural conditions of cyberspace may influence the expression of 'dark' personality and the role of such e-personality in explaining instances of online misconduct. Using a theoretical framework of context-dependent personality, this study seeks to fill a gap in the literature by using self-report survey data to explore whether the internet may decrease, increase, or intensify the expression of psychopathy. Quantitative data analyses show that when controlling for social context, internet users exhibit higher levels of psychopathy online than offline, which is especially pronounced in male subsamples. Further multivariate models examine the role of this 'cyber-psychopathy' in understanding misconduct behaviours on the internet, such as cyber-stalking, trolling, flaming, and digital piracy. Results demonstrate that primary cyber-psychopathy is positively correlated with one's level of acceptability toward online misconduct behaviours, while both primary and secondary cyber-psychopathy are positively associated with one's tendency toward engaging in such transgressions. This study serves to highlight the potential impacts of heightened psychopathic personality online, while suggesting practical implications that emphasize the need to foster empathy and close psychological distance between internet users in online communities.

Keywords: Psychopathy, Internet, Online, Personality, Misconduct, Acceptability, Tendency, Trolling, Cyberbullying

ACKNOWLEDGEMENTS

I would like to thank and acknowledge many individuals who have helped and supported me during the process of writing my master's thesis. First of all, I owe a lot of gratitude to my advisors, Dr. Paul-Philippe Paré and Dr. Anabel Quan-Haase, for their expert guidance in terms of the theoretical, methodological, and analytical aspects of this project. They provided much support and encouragement to me over the past year during times when I was stressed or when I reached roadblocks. The quality of this research is truly a reflection of your collective expertise and ability to motivate me toward my potential. Thank you for all the feedback, meetings, and confidence in my abilities—thank you for always being around to talk me through my new ideas and concerns. I also appreciate all the helpful comments and feedback from my examination committee.

Thank you to Emily Alexander for your unconditional support during the entire thesis process. You listened to every single idea I had and every problem I came across—your point of view really helped develop the theory and methods behind this project and your input has made this research much better. I would like to thank you for reading the many pages in this thesis and giving me your feedback. Furthermore, I appreciate all the emotional support during the times when it seemed like I would never finish. I would also like to acknowledge Michael Haight and Rob Nonomura who were incredibly valuable resources for this thesis, as well as other friends and graduate students who were excellent sounding boards over the last couple years. I want to give a special thank you to Denise Statham and Amy Jacob, and the faculty members in the sociology department who were also great sources of support for me.

Thank you to my family for believing in me to accomplish this goal, as well as the constant support I received throughout graduate school. Thanks for asking me about my thesis whenever you saw me and being genuinely interested in my progress and ideas.

I would also like to thank the SocioDigital lab at Western University for various feedback and pilot testing the survey. Additionally, thanks to the faculty and instructors who allowed me to advertise my study in their lectures and tutorials. Finally, thank you to all the participants in the study—you all made this possible.

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CHAPTER 1:
INTRODUCTION

Most of us use the internet everyday and, upon reflection, many of us may find that we often engage in online activities that appear to deviate from our typical behaviours in the 'real' world. Therefore, we may question whether it is possible that a different version of ourselves emerges on the internet—can we internalize and express different personalities online? These ideas have led to many debates in the literature as to whether there exists an online self that is uniquely different than the self that is expressed during physical interactions with others (Robinson, 2007; Turkle, 1984). Due to the unique structural conditions of cyberspace, such as anonymity, online personality and actions may become more disinhibited and less restrained by traditional norms (Aboujaoude, 2012; Demetriou & Silke, 2003; Suler, 2004; Taylor, 2003). Therefore, some of the behaviours that may manifest on the internet may be antisocial or lead to negative consequences. In this sense, some cyber crimes and instances of online misconduct may be perpetrated by those individuals who would not consider misbehaving in offline social contexts. Overall, the purpose of this study is to fill a gap in the previous literature by exploring how the internet can affect one's personality—namely the expression of a 'dark' personality profile known as psychopathy—and the relationship between e-personality and engaging in internet misconduct behaviours. This study aims to extend the theoretical framework of context-dependent personality (i.e., the idea that personality trait expression is influenced by aspects of different environments or situations) to the internet and validate the new concept of 'cyber-psychopathy' to better understand offending in the online realm.

1.1. Background of the Study

We are living in an increasingly online world with internet use becoming more normalized in contemporary society. Recent research has suggested that there are over 3 billion

current internet users, which makes up over 40% of the global population (Internet Live Stats, 2014). In Canada, about 83% of households have access to the internet (Statistics Canada, 2013), with the average time spent online increasing to over 36 hours per month on personal computers, which rises further when taking into account mobile technologies (CBC News, 2015). As such, many of us experience substantial chunks of time being immersed in digital environments and partaking in disembodied interactions, which have come to shape our senses of self and orient our future behaviours. Some scholars have argued that cyberspace is a unique social context that serves as a platform for experiencing self-reflection, self-maintenance, and self-expression in terms of virtual identities and personalities (Jewkes & Sharp, 2003). Jenny Sundén (2003) has described this process as a form of 'writing oneself into being', in which the textual medium of the internet encourages a new and different form of self-performativity due to the absence of face-to-face interactions. Therefore, we can actively draw attention toward our ideal qualities and behaviours in online communities as a way to edit or digitally curate the self in ways that are most desirable to both us and others (boyd, 2007; Hogan, 2010). In this sense, the internet can remove the limitations of embodied reality such that age, gender, culture, clothing, appearance, and more can all be radically altered online, to the point that "the old can feel young, the ugly can be beautiful, [and] the shy can be extrovert" (Thomas, 2007, p. 17). Ultimately, people use the internet as a communicative channel for self-expression, such that the medium is not just the message (McLuhan, 1964), but "the medium IS the self" (Suler, 2002, p. 459).

Is the online self that emerges any different than the offline self or simply an extension? Is the virtual self 'decaffeinated' and deprived of substance (Zizek, 2006) or a new reality? Sherry Turkle (1984, 1995) has argued that due to the ability to act anonymously away from the pressures of normative conformation, cyberspace has allowed individuals to explore multiple identities and experiment with potential variations of the self or what Suler (2002) calls

"otherwise hidden dimensions of self" (p. 456). Many researchers have similarly suggested that internet anonymity also facilitates the expression of latent personality traits that are concealed due to the normative or social pressures of the material world (Amichai-Hamburger, 2005; Suler, 2004). Therefore, the internet is a protected environment that is a social substitute to offline interactions, which can provide an avenue for more free expression of personality and the 'real me' (Amichai-Hamburger, 2005; Amichai-Hamburger & Ben-Artzi, 2000; Tosun & Lajunen, 2010). Other studies have demonstrated that there are actually some personality traits that are differently expressed in online environments, such as heightened extraversion and reduced shyness (Maldonado, Mora, Garcia, & Edipo, 2001; Stritzke, Nguyen, & Durkin, 2004), reflective of a theoretical framework of context-dependent personality. This perspective suggests that trait expression is, in part, based on situational cues and environmental factors, rather than being completely robust and stable in all social contexts (Allport, 1937; Kenrick, McCreath, Govern, King, & Bordin, 1990; Mischel, 1973, 1977).

While there can be positive outcomes online such as more honest and truthful self-disclosure in the form of a 'passing stranger' effect (Joinson, 2001; Rubin, 1975), there is also the possibility for expressing e-personalities that are "less restrained, a little bit on the dark side, and decidedly sexier" that manifest in antisocial online behaviours (Aboujaoude, 2012, pp. 41-42). Such a dark online personality is indicative of several conditions that make cyberspace a unique social context: anonymity, lack of non-verbal cues, asynchronous interactive environments, and less established norms, which appear to incite perceptions that the internet is 'lawless' (Taylor, 2003). These contribute to a reduced sense of behavioural accountability and less fear of punishment (Demetriou & Silke, 2003; Suler, 2004), weaker moral values/empathetic abilities (Todd, 2014; Whittier, 2013), as well as a feeling of 'psychological distancing' that

dissociates reality and portrays online victims as abstractions who do not actually experience harm (Crowell, Narvaez, & Gomberg, 2005; Trope & Liberman, 2010).

It is important to consider the role of personality in online misconduct, considering that instances of cyber crimes and cyberbullying have been recently increasing. Statistics Canada (2014) reported that there has been over annual 9000 cyber crimes since 2012, while Perreault (2011) specifically noted that 7% of the Canadian population has been victimized by cyberbullying, with teenage and young adult populations being the most susceptible. Given the emerging technological abilities of new internet users, cyberspace offers a playground for deviant innovation, such that traditional misbehaviours can be transformed online and new types of misconduct can emerge (Jewkes & Sharp, 2003; Kiesler, 1997; M. Williams, 2000). Ultimately, there are many forms of online misconduct that have ranging levels of severity and threaten victims in new and diverse capacities.

In the research of such antisocial internet behaviours, certain dark personality traits have been implicated, which reflect different personality profiles for computer deviants (Goodboy & Martin, 2015; Rogers, Smoak, & Liu, 2006). Sadism has been found to be associated with trolling (Buckels, Trapnell, & Paulhus, 2014) and violence in video games (Greitemeyer, 2015), while narcissism predicts the engagement in posting online ‘selfies’ (Fox & Rooney, 2015). That said, more serious forms of interpersonal online misconduct such as cyberbullying, cyber-aggression, and flaming have been linked to the personality profile of psychopathy (Ciucci, Baroncelli, Franchi, Golmaryami, & Frick, 2014; Fanti, Demetriou, & Hawa, 2012; Pabian, De Backer, & Vandebosch, 2015).

Psychopathy is thus an important variable to consider in the study of online misconduct behaviours, and it refers to a personality construct made up of certain traits, such as lack of remorse or empathy, superficial charm, untruthfulness, impulsiveness, and manipulativeness

(Cleckley, 1976; Hare, 1991; Levenson, Kiehl, & Fitzpatrick, 1995). More generally, these traits can be divided into a dichotomous model with two factors that reflect a) lack of empathy, and b) impulsivity and antisociality (Hare, 1991; Levenson et al., 1995; Patrick, 2005). Due to the possibility for subclinical expression of psychopathic traits, community samples can be evaluated on self-report measures of psychopathy (Hickey, 2010; Widom, 1977). The literature on psychopathy reflects that while a very small percentage of society meet the criteria for full psychopathy, it is quite common for regular individuals to possess a few psychopathic traits (Babiak & Hare, 2006; Coid & Yang, 2008). Despite the recent obsession with the psychopath in pop culture, it represents a viable concept that is relevant for the understanding the relationship between personality traits and misconduct, both offline and online.

Ultimately, this study will investigate the role of psychopathic personality in predicting misconduct behaviours on the internet. Using a theoretical framework of context-dependent personality (Allport, 1937; Kenrick et al., 1990; Mischel, 1973, 1977), I will explore the possibility that the structural characteristics of cyberspace facilitate increased expression of psychopathic traits that contribute to disinhibited online deviance in average internet users. Is there such a thing as cyber-psychopathy? Are cyber-psychopaths engaging in most of the misconduct or crimes online, despite being norm-abiding individuals in the offline world?

1.2. Purpose of the Study

It is necessary to discuss the purpose and rationale of the current study, stemming from the trajectories in the previous research. Examining the role of context-dependent personality in understanding online misconduct addresses a notable gap in the literature. All recent studies that have previously looked at personality predictors of cyberbullying and other related behaviours have relied on methodologies that inherently consider personality as a completely robust construct that is stable across all situations, by not controlling for personality expression

differences between social contexts (Buckels et al., 2014; Fox & Rooney, 2015; Goodboy & Martin, 2015; Pabian et al., 2015). Accordingly, researchers have tended to argue from their findings that instances of cyberbullying, trolling, and flaming are increasingly performed by individuals who have more sadistic, narcissistic, or psychopathic personalities and use the internet as a convenient way to act out these tendencies (Buckels et al., 2014). Therefore the present study is significant because it acknowledges the possibility that dark personality expression is partly facilitated by the structural characteristics of cyberspace (e.g., anonymity, lack of non-verbal cues, asynchronicity, and less salient norms), and systematically and empirically tests the hypothesized idea of context-dependent psychopathy on the internet (Denegri-Knott & Taylor, 2005; C.B. Smith, McLaughlin, & Osborne, 1998; Todd, 2014).

This paper acknowledges that it is important to consider that the online and offline realms are inextricably linked and should be studied together (Wellman, Quan-Haase, Witte, & Hampton, 2001; Wilson & Atkinson, 2005). Therefore, the potential outcomes are organized around a framework that the internet may decrease, increase, or even intensify personality trait expression. The difference between increasing and intensifying psychopathic expression is based on the individual's level of offline psychopathy: increase applies to all individuals, while intensification is conceptualized as a specific form of increased expression online among those who already had higher levels of offline psychopathy. Ultimately, intensification represents an enhancement or extension of pre-existing psychopathic traits when using the internet to become even higher online. This idea suggests that the internet may be the playground of the offline psychopath to express even more psychopathic traits (inspired by Buckels et al., 2014) and is reflected in the literature as online personality expression and tendencies being informed by offline traits and dispositions (Amichai-Hamburger, 2005; Back et al., 2010; Seepersad, 2004; Tosun & Lajunen, 2010). As such, an intensified increase in a participant is operationalized on a

case by case basis in terms of three criteria: 1) the offline psychopathy score is higher than the overall sample average, 2) the cyber-psychopathy score is higher than his or her offline psychopathy score, and 3) the differential between CP and OP scores is one standard deviation greater than the overall sample's mean differential. In essence, intensification represents a unique subset of those who increase in their psychopathic expression online.

Overall, in order to investigate psychopathy in the internet social context and its relationship to online misconduct behaviours, the following six research questions are presented[1]:

RQ1: Is there a statistical difference between measures of "Cyber-Psychopathy" (PCP, SCP, TCP) and "Offline Psychopathy" counterparts (POP, SOP, TOP)? Does the internet decrease, increase, or intensify psychopathic personality expression? Are there gender differences?

RQ2: What are the social predictors of cyber-psychopathy scores? What is the relationship between cyber-psychopathy scores (PCP, SCP, TCP) and gender, demographic variables, internet use variables, and substance use?

RQ3: What are the social predictors of increasing in psychopathic expression on the internet? What is the relationship between online increases in total psychopathy (TP) and gender, demographic variables, internet use variables, and substance use?

RQ4: Are there differences in acceptability between various online misconduct behaviours? Are there differences in tendency between various online misconduct behaviours? Are there gender differences?

Abbreviation Legend

Psychopathy Abbreviations

CP = Cyber-Psychopathy
PCP = Primary Cyber-Psychopathy
SCP = Secondary Cyber-Psychopathy
TCP = Total Cyber-Psychopathy

OP = Offline Psychopathy
POP = Primary Offline Psychopathy
SOP = Secondary Offline Psychopathy
TOP = Total Offline Psychopathy

PP = Primary Psychopathy
SP = Secondary Psychopathy
TP = Total Psychopathy

Misconduct Abbreviations

OMA= Online Misconduct Acceptability
OMT = Online Misconduct Tendency

[1] Please see Appendix D as a similar reference for the abbreviations used throughout this study.

RQ5: What is the relationship between CP measures (PCP, SCP, TCP) and one's **acceptability** of online misconduct both in terms of individual behaviours and in a composite score (OMA)? Do CP measures outperform OP measures in explaining online misconduct acceptability?

RQ6: What is the relationship between CP measures (PCP, SCP, TCP) and the **tendency** to engage in online misconduct both in terms of individual behaviours and in a composite score (OMT)? Do CP measures outperform OP measures in explaining online misconduct tendency?

This exploratory study relies on a quantitative methodology to answer the primary research questions. First of all, a web-based survey was employed to collect data from adult internet users, which involved non-probability sampling procedures such as word-of-mouth advertising, posters, and posts on social media websites. Utilizing a cross-sectional design, participants were asked to complete two personality inventories, as well as answer follow-up questions to vignettes that presented hypothetical scenarios about various misconduct behaviours performed on the internet. The most important variables of interest are self-report measures of psychopathic personality in two social contexts: online and offline. Each participant answers both a cyber-adapted version (Cyber-Psychopathy Scale; CPS) and an offline-adapted version (Offline Psychopathy Scale; OPS) of the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995) to allow score comparisons between the two social contexts. Furthermore, measures of cyber-psychopathy and offline psychopathy are subsequently used as independent variables to predict the moral acceptability and behavioural tendencies of online misconduct behaviours, while controlling for various extraneous variables. Finally, the data are analyzed with descriptive and multivariate statistical techniques in STATA 13, resulting in two analytic samples: psychopathy dependent variables (N=408) and online misconduct dependent variables (N=357).

Overall, the first results section in this study (Chapter 4) will examine the existence of a cyber-psychopathy concept and whether there are increases in psychopathic expression online,

while the second results section (Chapter 5) will ask the question: does having higher levels of cyber-psychopathy predict higher levels of online misconduct acceptability and tendency?

1.3. Contributions of the Study

The main significance of the present study is that I am proposing the concept of "Cyber-Psychopathy" as a context-dependent form of psychopathic personality that is reflective of shifts toward antisocial trait expression on the internet. For the first time in the academic literature, this idea will be empirically evaluated with a methodology that controls for social context. As such, I offer a scale for measuring this concept—Cyber-Psychopathy Scale (CPS)—as an adapted version of the LSRP (Levenson et al., 1995) that allows for controlled comparisons with scores of offline psychopathic expression. This methodology also involves more in-depth and detailed personality measures than brief inventories of the *Dark Triad* (i.e., Machiavellianism, narcissism, and psychopathy), as recommended by Pabian et al. (2015) for future research investigating the relationship between psychopathic personality and online misconduct.

Furthermore, this study contributes to the literature by providing a new encompassing term 'online misconduct' to represent either *minor or major* transgressions that are commonly deemed as wrong or improper, and cross either *social or legal boundaries*. This concept can serve as a catch-all term to represent all forms of bad behaviour on the internet that range in severity, in order to consolidate previous concepts for future studies that examine multiple forms of misbehaviours and cyber crimes. As such, the term online misconduct can be used flexibly to represent explicit behaviours which can be defined by investigators in future studies. For the present study, this encompassing term ensures that I explore the impacts of psychopathy on diverse online misconduct behaviours that have not typically been presented all together in the previous research. Moreover, this study approaches misconduct with a vignette method for evaluating the online misconduct behaviours, which provides a tool for uncovering underlying

beliefs through hypothetical situations. The traditional method in the literature is to directly ask respondents their previous engagement in various misbehaviours and crimes, which may be more susceptible to biases and fears of self-incrimination. Previous research has suggested that using third-person vignettes may be an effective way to reduce social desirability biases and impression management, especially when studying sensitive topics such as deviance and unethical behaviours (Burstin, Doughtie, & Raphaeli, 1980; Choong, Ho, & McDonald, 2002; Constant, Kiesler, & Sproull, 1994; Havlena & Holbrook, 1986; Lewis-Beck, Bryman, & Liao, 2003; Sanders, Cogin, & Bainbridge, 2013).

The findings of this study reveal significant associations between factors of psychopathic expression on the internet and the engagement in various types of online misconduct—reflective of a new perspective for organizing practical solutions to address the increasing instances of cyber crime and cyberbullying. Understanding the relationship between psychopathy and online misconduct is thus important for informing the practices of online communities to better promote empathy among members and close the psychological distance between them. Pragmatic outcomes from this research should centre on emphasizing the 'realness' of cyberspace to reduce dissociations that contribute to the expression of cyber-psychopathy and disinhibited antisocial behaviours online. Alternatively, the findings from this study emphasize the need for online education programs devoted to teaching 'netizens' about the potential consequences of digital immersion, as well as educating young digital natives about normative online behaviours to foster empathy between abstracted internet users when they are going through crucial stages of identity and moral development. However, any policy recommendations derived from this research should keep in mind the necessary balance between the potentially competing interests of cyber-security and internet freedom.

Overall, this study applies a sociological perspective to the study of personality by emphasizing that the conditions of an immediate situation are important predictors of personality expression. It also furthers the discussion on the origins of psychopathic personality by arguing in favour of social influences on expressions of psychopathy, as opposed to focusing strictly on biological determinants. This conforms to the ideas that sociology is an important lens to examine shifts in personality expression, echoing the hypothesis that environmental factors such as industrialization over time contribute to increased prevalence of psychopathy (Reid, Dorr, Walker, & Bonner III, 1986). Specifically, the present study empirically tests anecdotal or theoretical ideas about antisocial personality expression on the internet, by utilizing a methodology that measures psychopathy while directly controlling for social context to compare cyber and offline scores. Ultimately, this study's focus on cyber-psychopathy as a dark e-personality construct should be a valuable addition to the literature on misconduct and crime in the online realm. In conclusion, the major objectives of this study are as follows:

- To examine the impact of online environments on the expression of personality traits from a sociological perspective and determine if there are psychopathy differences between online and offline social contexts
- To create and evaluate a scale for measuring psychopathic personality in the online social context (i.e., Cyber-Psychopathy Scale)
- To investigate whether cyber and offline psychopathic personality scores are associated with higher acceptability and higher likelihood of engaging in online misconduct behaviours
- To compare individual online misconduct behaviours in terms of moral acceptability and behavioural tendencies
- To recommend practical implications for websites and online communities based on the existence of cyber-psychopathy
- To propose potential policy recommendations for cyber-security and internet use regulations by evaluating the role of dark personality in online transgressions

This thesis is organized by six total chapters, including the introduction (Chapter 1). Chapter 2 reviews the literature on psychopathy and online misconduct, and serves to justify the

empirical investigation of context-dependent psychopathic expression on the internet. The following chapter (Chapter 3) presents an overview of the methodology including describing the data, sampling, measurement of key variables, and analytic strategy. Chapters 4 and 5 report the results of the quantitative data analyses with the former focusing on psychopathy dependent variables and addressing RQ1-3, while the latter explores the role of cyber-psychopathy in explaining the acceptability and tendency toward online misconduct behaviours, including cyber-stalking, digital piracy, trolling, flaming, online deception, cyber-vandalism, internet addiction, reading others' emails, misuse of digital information, and online sexual pushiness (RQ4-6). Finally, this thesis concludes in Chapter 6 which discusses the findings in relation to the previous literature and offers practical implications and limitations of the present study.

CHAPTER 2:
LITERATURE REVIEW

This chapter outlines the available literature on relevant topics underlying this study's primary research questions. The first section outlines the definition of the psychopathy concept and highlights the important covariates. Secondly, I describe the types of misconduct that exist on the internet and the structural conditions of cyberspace that promote disinhibited behaviours. The next section deals with the relationship between 'dark' personality traits and engaging in online misconduct. Fourth, I present the theoretical framework of context-dependent personality which guides the assumptions of this study. Finally, the theorized idea of online psychopathy is explored by reviewing literature that suggests the potential for increased psychopathic personality expression on the internet. Overall, the goal of this literature review is to justify a study about comparing personality expression between online and offline social contexts, with a specific focus on how cyber-psychopathic traits may predict instances of online misconduct.

2.1. What is Psychopathy?

2.1.1. Definition of Psychopathy

Psychopathy describes a personality construct made up of certain traits, such as superficial charm, lack of remorse or empathy, untruthfulness, impulsiveness, and manipulativeness; furthermore, psychopathic individuals typically emphasize personal gain without regard for others, and are frequently involved in antisocial behaviours (Cleckley, 1976; Hare, 1991; Levenson et al., 1995). Most researchers tend to agree that the main goal of the psychopath is gaining power and control (Hickey, 2010), and this objective underlies all trait-based models of the psychopathy construct. Cleckley (1976) has similarly suggested that the clinical profile of a psychopath is a rational actor who displays little emotion and callously lies

and acts without adequate motivation and at the expense of others. He emphasized that psychopaths typically wear a ‘mask of sanity’ that allows them to conceal their antisociality with manipulative charm. Hare (1991) extended this idea by publishing a systematic checklist of traits that are characteristic of psychopathic individuals on the basis of clinical observation and interviews with incarcerated males—the Psychopathy Checklist Revised (PCL-R). This instrument has been an important contribution to the measurement of psychopathy in academia since its inception and development in the early 1990s. The PCL-R highlights the following 20 items as essential to the archetype of the psychopath: glibness/superficial charm, grandiose sense of self-worth, need for stimulation, pathological lying, conning/manipulativeness, lack of remorse or guilt, shallow affect, callousness/lack of empathy, parasitic lifestyle, poor behavioural controls, promiscuous sexual behaviour, early behaviour problems, lack of realistic goals, impulsivity, irresponsibility, failure to accept responsibility, many short-term relationships, juvenile delinquency, revocation of conditional release, and criminal versatility (Hare, 1991).

Most researchers have presented similar traits in their conceptualizations of psychopathy, and most conform to a dichotomous conceptual model initially suggested by Karpman in 1941, which posits that some personality traits of psychopathy group around rationality and egocentricity, while others are characterized by reactivity and emotional turbulence (Patrick, 2005). This two-factor model is reflected in most measures of psychopathy (Hare, 1991; Levenson et al., 1995), such that, on average, psychopathic traits can be divided into either indicators of ‘primary’ psychopathy (PP) or ‘secondary’ psychopathy (SP)—the division is indicative of an affective/interpersonal factor and a behavioural/social deviance factor, respectively. According to Levenson et al. (1995), primary psychopathy represents a “selfish, uncaring, and manipulative posture toward others” (p. 152), while on the other hand, secondary psychopathy can be understood as “impulsivity and a self-defeating lifestyle” (p. 152). Overall,

Table 1 (below) breaks down the common psychopathic traits into a dichotomous model representing a lack of empathy/intentional callousness (primary factor) versus impulsivity and reactivity (secondary factor), for the purposes of summarizing the available literature for the present study.

Table 1. The Two Factor Model of Psychopathy

Primary Psychopathy	Secondary Psychopathy
Lack of empathy	Impulsivity
Lack of remorse or guilt	Lack of long-term goals
Manipulative	Need for stimulation
Callousness	Poor behavioural controls
Shallow affect	Reactivity
Untruthful	Promiscuity
Superficial Charm	
Grandiose sense of self	

Psychopathic traits, especially those that fall into the primary factor, can be linked to amorality, that is, the absence of a moral compass. In general, the literature suggests that psychopathic attitudes reflect more indifference toward moral dilemmas rather than a genuine inability to determine what is right and wrong (Cima, Tonnaer, & Hauser, 2010; Djeriouat & Trémolière, 2014; A.L. Glenn, Koleva, Iyer, Graham, & Ditto, 2010). Jonason, Strosser, Kroll, Duineveld, and Baruffi (2014) examined the relationship between *Dark Triad* of personality (i.e., psychopathy, Machiavellianism, and narcissism) and moral judgements, and found that higher scores in psychopathy are associated with decreased moral concerns to situations as well as a decreased sense of collective interests. Furthermore, expressing *Dark Triad* traits facilitates "valuing oneself over others" (p. 4) and individualism, while also increasing endorsements of more socially undesirable behaviours, especially in males (Jonason et al., 2014). This finding is echoed by Decety and Yoder (2015) who found that higher scores of psychopathy (especially for the callousness trait) on the PPI-SF are associated with both less condemnation of immorality

and less motivation for justice. Moreover, A.L. Glenn et al. (2010) have reported that psychopaths have a self-concept less rooted in morality; that is, heightened psychopathic traits are linked to weaker moral identities making these individuals less motivated to act in moral ways. As such, moral traits such as honesty, kindness, and generosity are less important to the personal identities of psychopaths, regardless of the type of moral reasoning they use (A.L. Glenn et al., 2010). Ultimately, immoral behaviour outcomes should follow weak moral identities, based on alleviating 'cognitive dissonance'—stressors from the incongruence between cognitions and behaviours (Festinger, 1962)—and the notion that identity orients future action (Erikson, 1964).

Psychopathy has also been linked to a reduced capacity to make pro-social moral judgements (Blair, 1995). The moral reasoning process that is most connected with increased psychopathy is utilitarianism, which is an impartial judgement reflective of the greatest good for the greatest many (Djeriouat & Trémolière, 2014; Kahane, Everett, Earp, Farias, & Savulescu, 2015; Koenigs, Kruepke, Zeier, & Newman, 2012). On the surface, utilitarian moral reasoning appears to be at odds with the egocentric nature of psychopathy. However, according to Kahane et al. (2015), utilitarian calculations are most associated with primary psychopathy and lower empathy, as well as more condoning of immorality on a Business Ethics measure—factors that do not appear to actually underlie true collective concern. As such, the conclusions drawn from such studies are that "utilitarian judgement is at least partly driven by a general antisocial or immoral tendency, rather than by a focused willingness to harm individuals in specific moral contexts" (Kahane et al., 2015, p. 197), as well as facilitated by the "reduced aversion to carrying out harmful actions" (Patil, 2015, p. 349). Furthermore, utilitarianism is also assumed to originate from more hyper-rational and colder calculations, reflective of a less pronounced role of empathy in reasoning processes, which could explain the positive correlations with primary

psychopathy despite the underlying self-sacrifice (Djeriouat & Trémolière, 2014). Koenigs et al. (2012) have similarly found that those high in primary psychopathy make more utilitarian judgements than those with high secondary psychopathy scores, while Djeriouat and Trémolière (2014) reported that the trend toward utilitarianism even exists among subclinical levels of psychopathy.

Despite being a validated concept in psychological and criminological research, there are some criticisms of the psychopathy construct (see Hart & Hare, 1996). First of all, many of the arguments focus on the inconsistent conceptualizations and operationalizations of the concept among various researchers, such that there are many measurement tools that all claim to measure psychopathy based on different criteria or contradictory trait models (Arrigo & Shipley, 2001; Skilling, Harris, Rice, & Quinsey, 2002). Often comparing these measurement tools further demonstrates poor construct validity (Brinkley, Schmitt, Smith, & Newman, 2001). Secondly, some opponents contend that there is too much overlap with other personality deficits such as Antisocial Personality Disorder (ASPD). For example, ASPD is seen by some as more useful for clinical diagnoses and treatment due to more explicit symptoms and more defined classification procedures by trained clinical professionals, including validation within the APA's *Diagnostic and Statistical Manual of Mental Disorders* (Robins, 1978). Finally, there is a further argument against the usefulness of psychopathy suggesting that the concept is tautological, as it includes antisociality in the secondary factor despite also being used to predict future delinquency (Blackburn, 1988). Overall, despite these criticisms, this concept has been largely accepted by the academic community, reflective in 52 800 results for searching the term "psychopathy" in Google Scholar in 2015.

2.1.2. Conceptual Differences: Psychopathy, Antisocial Personality Disorder, and Sociopathy

It is important to note that there are various terminologies to describe the cluster of personality traits that includes lack of empathy, callousness, impulsivity, and antisociality. Often these terms psychopathy, antisocial personality, and sociopathy are used interchangeably and are considered to be the same construct; however, there are actually some important conceptual differences between them and they should not be treated as equivalent.

The major difference between psychopathy and Antisocial Personality Disorder (ASPD) is the utility of the concept for diagnosis; that is, ASPD is a specific psychiatric classification on Axis II in the DSM-IV-TR that represents "a pervasive pattern of disregard for and the violation of the rights of others" and focuses on quantifying individual antisocial outcomes, with prerequisites of age and previous diagnosis of conduct disorder (American Psychiatric Association, 2000). As such, there is more of a focus on the antisocial outcomes with ASPD diagnoses, while paying less attention to the affective elements and the underlying expression of emotional traits that are emphasized with psychopathy (Blair, 2006; Blair, Mitchell, & Blair, 2005). There is some overlap in terms of the psychopathic traits within clinically antisocial individuals, such as untruthfulness, recklessness, and a lack of remorse; however, while most psychopathic individuals could be diagnosed with ASPD, the reverse is not true (Hare & Neumann, 2009). According to Hare, Hart, and Harpur (1991), due to stronger matches on measures of social deviance, when comparing ASPD and PCL-R average scores on related criteria, less than one half of diagnosed ASPD subjects would meet the conditions of psychopathic personality.

On the other hand, psychopathy and sociopathy are more similar in terms of trait emphasis but vary in terms of their etiology. Sociopathy as a concept is more tied to one's environment and peer group socialization, such that moral 'rightness' is relative to the norms of a

specific social context (Babiak & Hare, 2006; Hare, 1993; Lykken, 1995). In addition, Pemment (2013) notes that sociopaths differ in that they do "have a sense of morality and a well-developed conscience, but the sense of right and wrong is not that of the parent culture" (p. 2) versus the general amorality among psychopaths. Lykken (1995) reflects this idea by more directly linking psychopathy to biological deficiencies (in the brain) that are further drawn out by the environment, while the main determinant of sociopathy is socialization, particularly by maladaptive sociopathic parents. Ultimately, the distinction between the concepts is largely theoretical, and there is no validated scale for specifically measuring sociopathy. Even still there is much variation in terms of the theoretical use of the term sociopathy even beyond the environmental focus, which does not make it a construct that is easy to measure empirically. For example, Stout's (2005) conceptualization of sociopathy involves adding together psychopathic and ASPD populations. Alternatively, Hickey (2010) has labelled sociopaths as unsuccessful psychopaths who are less skilled in hiding their antisocial deficits with their charm, and who are more likely to be arrested, reoffend, and be incarcerated.

For the purposes of present study, psychopathy will be understood within a context-dependent personality theoretical framework, which will be discussed later in the literature review. Because psychopathic personality expression is going to be evaluated in multiple social contexts (online/offline) it appears to conform more to the normative influences of the sociopathic concept; however the distinctions are more theoretical and there is no validated empirical measure of sociopathy. Therefore, the term psychopathy will be used exclusively in this study for the purpose of utilizing the established LSRP measure (Levenson et al., 1995).

2.1.3. Prevalence of Psychopathy

Full or bona fide psychopathy is very uncommon in the wider society; therefore, the term 'subclinical' psychopathy is used to describe the presence of psychopathic/antisocial traits

independent of a full diagnosis (Hickey, 2010; Widom, 1977), which allows for the seemingly ordinary person to some express psychopathic traits. Possessing few psychopathic traits is much more common (Coid & Yang, 2008), which reinforces the notion that psychopathy is best explained with a dimensional structure rather than a dichotomy of psychopath versus non-psychopath (Edens, Marcus, Lilienfeld, & Poythress Jr, 2006). In this sense, people differ in their levels of psychopathic expression, with most differences being among minor subclinical traits. Levenson et al. (1995) further reflected this idea when they found that their measure yielded very few full psychopaths, but rather common endorsement patterns to antisocial attitudes.

It is estimated that full psychopaths make up about 1% of the general population (Babiak & Hare, 2006). Hare's PCL-R indicates scores around 5 as being in the normalcy range, with scores of 30+ representing full psychopathy; furthermore, a cut-off score of 18 is usually used to indicate potential psychopathy in the screening version (PCL-R:SV) of the measure (Hickey, 2010). On the basis of PCL:SV scores, Coid and Yang (2008) found that 'possible' psychopathy in the British general population is about 3.6%. In a similar study, Neumann and Hare (2008) investigated a stratified random sample of 514 adults and determined a 'potential' psychopathy prevalence rate of 1.2% for the total community sample, with a 1.9% rate for African Americans. These estimations were evaluated in a subsequent study of psychopathic traits in the household population of England, Wales, and Scotland, with a sample of 638 individuals using the PCL-R. Results confirmed that the prevalence of psychopathy was about 0.6% in the U.K. general population, with the majority of people having no traits (Coid, Yang, Ullrich, Roberts, & Hare, 2009). On the other hand, Stout (2005) has suggested that the psychopathy prevalence in the general population is closer to 4%; however this may be an overestimate because she combined psychopathy and antisocial personality disorder (ASPD) traits into one construct that she called 'sociopathy'. Overall, full psychopathy is very rare in the general public (Babiak & Hare, 2006),

although much research has reported that it is over-represented in both incarcerated populations (Hare et al., 1991) and white-collar occupations (Babiak, Neumann, & Hare, 2010).

It is also important to consider the population of interest when looking at the prevalence of psychopathy due to cultural differences in personality expression. When examining incarcerated samples, the data show that North Americans have much higher PCL-R scores than Europeans by about 6.6 points (Cooke, 1998) and 25% more prisoners in North America reach clinical bona fide classifications than those in Scotland (Cooke & Michie, 1999). Wernke and Huss (2008) suggested that the reports of higher psychopathy in North America may be attributed to the differences in incarceration rates by getting tough on crime and bringing more subclinical psychopaths in contact with the prison system, which highlights the need to investigate cross-cultural differences in non-institutionalized populations. Accordingly, Lilienfeld, Latzman, Watts, Smith, and Dutton (2014) examined psychopathy in the context of geographical residence with a focus on community samples and found that Europeans tend to exhibit higher levels of psychopathy on the PPI-R than those living in North America.

2.1.4. Measurement of Psychopathy in Non-Institutionalized Samples

The methodologies of different psychopathy measures reflect the population of interest for analyses. Due to the desire to understand the relationship between personality profiles of institutionalized males and their criminal activity (Hare, 1991), PCL-R scores have been used to distinguish between classifications of full psychopathy and the existence of subclinical traits through observation in a controlled setting. However, some researchers have become interested in examining the differences in subclinical levels of psychopathy in community populations, which requires alternative measurement tools. Hart, Cox, and Hare (1995) accordingly developed a screening version of the checklist (PCL-R:SV) for use in non-institutionalized samples, utilizing interview techniques and a different scoring system to emphasize differences in

subclinical psychopathy levels and to focus on evaluating individuals' potentials toward full psychopathy. Levenson et al. (1995) approached measuring psychopathic expression in the wider community from a different methodology, and instead focused on self-report data and behavioural outcomes less rooted in criminality. These researchers (1995) investigated psychopathy by creating a 26-item self-report survey (*N*=487) to assess psychopathic characteristics in undergraduate students—the Levenson Self-Report Psychopathy Scale (LSRP). The differences between the measures have been examined and the PCL-R and the LSRP instruments have been reported to measure similar types of traits and the same underlying two factors of the psychopathy construct, although the correlations are only moderately strong (≃0.3; Brinkley et al., 2001). Other self-report measures have been created, such as the Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Andrews, 1996; Lilienfeld & Widows, 2005) and the Self-Report Psychopathy Scale–III (SRP-III; K.M. Williams, Paulhus, & Hare, 2007), which are also widely used by academics. However, for the purpose of investigating general internet users in the current study, the LSRP will be used due to 1) its popularity in the field for studying psychopathy in community samples, 2) its short length and ease of adaptation for survey research, and 3) its subscale conformity to the two-factor model of psychopathy.

2.1.5. Gender Differences in Psychopathy

There are substantial differences that exist in the expression of psychopathy between males and females. Such gender differences in psychopathy levels have even been demonstrated to be associated with biological factors such as a lack of increased cortisol production in male psychopaths, but not in female psychopaths (O'Leary, Loney, & Eckel, 2007). In terms of prevalence, a meta-analysis by Beryl, Chou, and Völlm (2014) demonstrated that most studies on psychopathy tend to show higher percentages of male psychopaths than female psychopaths, though the difference varies depending on institutionalized versus non-institutionalized samples.

Salekin, Rogers, and Sewell (1997) specifically investigated psychopathy within incarcerated females and found that about 15.5% of women are classified as psychopathic, which is about 10-15% less than estimates of psychopathy in incarcerated males, reported as 25-30% (Hare et al., 1991) and 20% (Hare, 1998). It is important to note that women in *forensic* psychiatric institutions exhibit similar levels of psychopathy—16% (Klein Tuente, de Vogel, & Stam, 2014).

Gender differences in non-institutionalized populations were explored using the PCL-R:SV by Forth, Brown, Hart, and Hare (1996) who found that females report lower mean scores of psychopathy than males (2.7 versus 6.4). In terms of specific psychopathic traits or symptoms, females score significantly lower than males on almost all items in the checklist (Forth et al., 1996). Similarly, based on data from Levenson et al.'s (1995) non-institutionalized sample, men tend to have much higher scores on the LSRP primary psychopathy subscale (about 19% higher than females), while they are only slightly higher in secondary psychopathy. This finding reflects the assumption that males tend to demonstrate much less empathy and more callousness than their female counterparts, but that impulsivity is fairly similar between genders. Grann (2000) similarly found that incarcerated males score higher on the item for callousness and lack of empathy than incarcerated females. More recent data by Z. Lee and Salekin (2010) has also reported using the PPI-SF that there are significantly higher total scores of psychopathy for males, including elevated egocentricity, cold-heartedness, and impulsive non-conformity. However, the claims of higher male factor two scores for impulsivity are contested by Wennberg (2012) who found that female psychopaths actually express more impulsiveness and more behavioural psychopathic traits than male psychopaths. It is important to note that some factor two traits also vary in their manifestation between the genders; for example, sexual promiscuity may be a form of manipulation more for females while for males it is more indicative of sensation-seeking (Forouzan & Cooke, 2005) and sexual aggression (Finkelstein, 2014). On the

other hand, some researchers have argued that explicitly studying psychopathy in female populations reflects more of a three-factor model of psychopathy made up of the following components: Arrogant and Deceitful Interpersonal Style, Deficient Affective Experience, and Impulsive and Irresponsible Behaviours (Cooke & Michie, 2001).

There are also different gendered behavioural outcomes among psychopaths. First of all, male psychopaths demonstrate more external aggressive behaviours while females have more internalization (Wennberg, 2012), although females with higher levels of psychopathy tend to display more outward relational reactive aggression (Lehmann & Ittel, 2012). Verona, Sprague, and Javdani (2012) similarly found that females who score higher on both factors of psychopathy have an increased risk of self-directed violence and self-harm, while this trend does not hold for men. When it comes to other behavioural outcomes, female psychopaths have been more linked to criminal outcomes such as shoplifting compared to the more violent charges for male psychopaths (Warren et al., 2005), which further links male psychopathy to more interpersonal aggression. Moreover, in terms of recidivism rates among previously incarcerated psychopaths, females reoffend at a rate that is about 13% lower than male psychopaths, with the psychopathic traits actually being poor predictors of recidivism in females (Salekin, Rogers, Ustad, & Sewell, 1998). Male psychopaths are also linked to more violent recidivism compared to their counterparts with lower levels of psychopathy (G.T. Harris, Rice, & Cormier, 1991).

Some researchers have suggested associations between psychopathic personality and masculine gender roles. Hare et al. (1991) took masculinity into account in their psychopathy typology by using the term “macho display” (p. 395) to explain the observed aggressiveness as a specific subtype of psychopathy. As such, macho psychopaths are characterized by their antisociality and aggressive tendencies, as well as increased scores on the affective facet (i.e., callousness, reduced empathy, lack of guilt/remorse and responsibility, and shallow affect),

although they have a reduced ability to manipulate others (Hervé, 2003). Furthermore, Hervé (2003) reported that the macho subtype scores the second highest overall scores on the PCL-R, slightly trailing the bona fide psychopaths who score highly in interpersonal manipulation. When comparing female and male psychopaths, it has been argued that males typically exhibit stereotypical masculine features in their expressions of antisociality (Hamburger, Lilienfeld, & Hogben, 1996). There are also many parallels between psychopathic traits and manliness in the form of hypermasculinity. Mosher (1991) suggested that power and control over others, especially women, is central to the hypermasculine personality/gender role, while Kimmel (2004) has added that the traditional masculine traits (introduced by Robert Brannon in the 1970s) of being a "sturdy oak" and "giving 'em hell" are characterized by suppressed emotions and aggressive/risk taking pursuits, respectively. In this sense, psychopathic personality may parallel traditional gender socialization practices, whereby aggression, dominance, risk taking, and misbehaviours are reinforced by the media and peer groups and rationalized as desired masculine traits (Jakupcak, Lisak, & Roemer, 2002; Katz, 2006). Finally, in terms of others' perceptions, Lyons, Marcinkowska, Helle, and McGrath (2015) used a face symmetry methodology to show that women perceive psychopathic faces to be the most masculine.

2.1.6. Covariates of Psychopathy

There are many studies that have examined the various correlates of bona fide and subclinical psychopaths, as well as general antisociality. This subsection will justify the extraneous variables included in the present study.

Age of the Individual

Many studies report that an increase in age is negatively associated with psychopathic trait expression (Coid, Yang, Ullrich, Roberts, Moran, et al., 2009; Hare, 1991; Seto & Barbaree,

1999), even specifically among female subsamples (Lehmann & Ittel, 2012). Particularly, it has been demonstrated that the expression of the secondary psychopathy factor tends to decrease as one gets older, with age 40 being a significant turning point (Harpur & Hare, 1994). That said, some studies have also found no significant correlations between psychopathy and age (Cadena, de la Rubia, Armenta, Valdivia, & Díaz, 2012).

Occupation, Education, and Socioeconomic Status

The literature demonstrates that there is a positive association between psychopathy and high status occupations. Dutton (2012) sampled over 5400 individuals using the LSRP to link psychopathic traits to their disclosed occupations and found that some professions are more likely to contain psychopaths or those with psychopathic traits. The results indicated that the top 10 occupations with the most psychopaths or subclinical psychopaths are: CEO, lawyer, media industry, salesperson, surgeon, journalist, police officer, clergy, chef, and civil servant (Dutton, 2012). Dutton's (2012) 'psychopathic' occupations mirror occupations that are mostly white collar and are accordingly high in status and prestige; therefore, this list supports the idea that psychopaths work in positions that satisfy their desire for power and control over others (Hickey, 2010). On the other hand, the least psychopathic occupations include: care aide, nurse, therapist, craftsperson, beautician/stylist, charity worker, teacher, creative artist, doctor, and accountant (Dutton, 2012). These occupations generally require selflessness and compassion, which are contrasting traits to the psychopath's egocentricity and lack of empathy. Interestingly, doctor is on the list of least psychopathic occupations despite typically being considered high in status and prestige; thus, it appears that the selfless and empathetic traits needed to succeed in medicine conflict with psychopathic traits, such that motivations for status, power, and control may be neutralized. Ultimately, it is most likely that the association between psychopathic traits and occupations is reciprocal, such that the traits may determine the self-selection of the occupation,

and the occupation may also amplify or reinforce these traits based on the competitiveness required for occupational success.

Lilienfeld et al. (2014) have also investigated the occupational correlates of psychopathy (PPI-R) by surveying a large non-institutionalized population and found that individuals in risky occupations (e.g., firefighting and law enforcement) and in managerial positions tend to have higher scores for psychopathy and specifically for the trait of Fearless Dominance. Similarly, Babiak (1995) used PCL:SV scores and showed that in his company of study there were heightened subclinical psychopathy levels in the higher-status management and chief executive positions than in the lower level employees, which was corroborated by Boddy, Ladyshewsky, and Galvin (2010) who also found greater percentages of psychopaths in companies at higher seniority positions (3.5%) than junior corporate positions (1%).

In general, career successes may be facilitated by certain psychopathic traits like superficial charm, and thus serve as a type of professional advantage (Lykken, 1995). Doren (1987) suggested that psychopaths are found in higher level positions due to their self-serving ability to foster relationships with those in authority positions. They then use their charming and manipulative traits to influence these people into giving them promotions and/or other occupational advantages. According to Babiak et al. (2010), it is also true that the business world tends to reward ruthless personality traits with praise and promotion. These white collar psychopaths are motivated to seek out high status occupations and then they are often rewarded with success because their traits are valued in terms of capitalist ideals and company profits (Babiak et al., 2010). Accordingly, higher income and socioeconomic status (SES) should emerge as additional predictors of increased psychopathy, although these factors are rarely directly tested beyond control variables in the literature. Interestingly, the studies that exist seem to be inconclusive and contradictory. Cadena et al. (2012) found no significant associations

between psychopathy and education levels in incarcerated individuals, but the data did show that income prior to imprisonment had a positive correlation with psychopathy. However, Seto and Barbaree (1999) examined psychopathy scores in offenders and found that psychopathy was actually negatively correlated with both education and socioeconomic status. Similarly, very slight negative correlations have been shown to exist between SES and secondary psychopathy, but there is no relationship for primary psychopathy (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; Hare, 2003).

Substance Abuse

There have been numerous studies that have linked psychopathy to substance abuse, although most of them are fairly outdated. Specifically, substance abuse is most strongly correlated with secondary psychopathy, emphasizing the importance of drug/alcohol use in mediating the relationship between impulsivity traits and subsequent antisociality (Hemphill, Hart, & Hare, 1994; Reardon, Lang, & Patrick, 2002). Additionally, substance abuse disorders are often comorbid with antisocial personality disorders (Robins, Tipp, & Przybeck, 1991).

According to Neumann and Hare (2008), higher psychopathy scores in a non-institutionalized population predict patterns of increased alcohol use, as well as increased violent behaviour. This link between psychopathic alcohol abuse and increased propensity toward aggression was corroborated by Birkley, Giancola, and Lance (2013), who found that the impulsive antisociality dimension of psychopathy is most strongly associated to aggression when alcohol has been consumed. In incarcerated populations, alcohol dependence is extremely common among psychopaths, and as high as 93% (S.S. Smith & Newman, 1990). However, Hemphill et al. (1994) reported positive associations between psychopathy scores (total score and secondary factor) and drug dependency diagnoses, but not alcohol abuse classifications. This study did find that psychopathy is also significantly correlated with the number of substances

tried as well as the number of charges and convictions for drug offenses (Hemphill et al., 1994). Along with total drug use, the type of substance is also important, such that high use of alcohol, marijuana, and cocaine are the most strongly associated with psychopathic personality which then predict subsequent violent crime (Fishbein & Reuland, 1994).

Other Correlates

Other factors emerging from the literature that are associated with increased psychopathy include: race, religious affiliation, and political views. First of all, Neumann and Hare (2008) found higher levels of bona fide psychopathy in African American subsamples than Caucasian subsamples. Secondly, higher psychopathy has been reported in individuals with more conservative political views compared to liberals (Jonason, 2014; Lilienfeld et al., 2014). Finally, Lilienfeld et al. (2014) showed evidence that individuals who are religious non-believers score higher in psychopathy in terms of both callousness and impulsivity dimensions. None of these variables are present in the current study due to 1) a more narrow focus of analysis, 2) maintaining the predicting power of the multivariate models, and 3) following the traditions in Canadian sociology, which often do not look at race, politics, or religion as compulsory covariates.

2.1.7. Relationship between Psychopathy and Misconduct

The academic literature clearly emphasizes that psychopathy is typically associated with negative social outcomes and antisocial behaviours. These behaviours are not necessarily crimes—there is not a deterministic relationship between increased psychopathy and criminality, although they are mildly positively correlated (Hart & Hare, 1997). However, criminal outcomes are much more commonly studied through the methodological dominance of assessing institutionalized populations. According to Beaver, Boutwell, Barnes, Vaughn, and DeLisi (2015), higher levels of psychopathy are associated with self-reported delinquency in both males

and females, including both property and violent crimes. Some significant crimes in the literature specifically include: blackmail, fraud, theft, firearm, and obstruction of justice (Roberts & Coid, 2007). Furthermore, increases in psychopathy lead to an increase in odds by about 2.5% that the individuals would ever be arrested or on probation, with 3.3% higher odds of actually being incarcerated (Beaver et al., 2015). Additional research has found that callousness and motor impulsiveness (key dimensions of the two-factor model) are specifically positively correlated with self-report composite measures of delinquency in females (White & Miller, 2014), which conforms to the trends in the literature for male samples (Hare, 1998).

Violent crime and aggression performed by psychopaths, such as assault or robbery, is particularly salient in the literature, especially among males (G.T. Harris et al., 1991; Hart & Hare, 1997; Jones & Paulhus, 2010; Warren et al., 2005; Williamson, Hare, & Wong, 1987). Such violence has been linked specifically to primary psychopathy items that are reflective of callousness and a lack of remorse (Roberts & Coid, 2007). When examining violent delinquency from a life course perspective, increased psychopathy in younger ages often predicts initial violent crimes into young adulthood, along with a 36% higher likelihood of violent reoffending (when compared to those with lower scores on the youth version of the PCL-R) 10 years later (Gretton, Hare, & Catchpole, 2004). Moreover, both male and female psychopath offenders tend to have strangers as victims more than their counterparts with lower levels of psychopathy (Häkkänen-Nyholm & Hare, 2009; Klein Tuente et al., 2014), which is indicative of self-serving and predatory crimes that use unknown targets as a means to an end (Hare, 2003).

Misconduct is also related to psychopathic personality expression in non-institutionalized community samples. In general, both primary and secondary psychopathy have been shown to be positively correlated with antisocial actions among subclinical psychopaths, as well as disinhibition and boredom susceptibility which directly underlie impulse control issues

(Levenson et al., 1995). Bullying is another form of misconduct with significant social consequences that is strongly associated with psychopathy. Baughman, Dearing, Giammarco, and Vernon (2012) have reported that psychopathy has the strongest correlation to bullying among adults out of all the *Dark Triad* traits, with no real differences between types of bullying (i.e., direct/indirect verbal bullying and physical bullying). In samples of children, primary psychopathic traits such as callousness and lack of empathy are extremely important in predicting the frequency of bullying behaviours (e.g., verbal and physical), with callousness playing a much larger role in older children (Ciucci & Baroncelli, 2014). Furthermore, some studies about psychopathy in the literature investigate comparatively minor forms of deviance, such as gossip for the purpose of damaging another's reputation or even for social enjoyment (Lyons & Hughes, 2015), which demonstrates that psychopaths often violate less serious norms as well. This idea is reflected by Mahmut, Homewood, and Stevenson (2008) who note that there are similar types of brain activity between criminal and non-criminal psychopaths, but that the levels of primary and secondary psychopathic trait expression are higher in criminals.

2.2. Descriptions of Online Misconduct

2.2.1. Types of Online Misconduct

The internet serves as a platform for many positive outcomes, such as connecting with friends and family, locating new information, and entertainment; however, with all the idealistic possibilities online there are also just as many opportunities for engaging in negative social actions. Accordingly, bad behaviour on the internet can differ in terms of magnitude and severity on a continuum, ranging from minor violations of 'netiquette' (Scheuermann & Taylor, 1997) to moderate virtual misbehaving (Selwyn, 2008; Sternberg, 2000), as well as serious norm infractions like Denial of Service attacks (DoS), virus dissemination, phishing, cyberbullying,

and cyber crimes, which demonstrate ‘pathological internet use’ (R.A. Davis, 2001; Suler, 1999) and visits to the “dark underworld of the Internet” (Suler, 2004, p. 321).

According to Selwyn (2008), less severe or mild online misbehaviours (i.e., misrepresentation of self, unauthorized use of another’s online account, plagiarism of an essay or assignment, unauthorized downloading of music or film, and pornography use) are very common, such that 94% of the undergraduate respondents in his sample admitted to performing at least one in the past 12 months. On the other hand, cyber crimes and other illegal online behaviours represent more serious forms of misconduct on the internet, which have greater negative implications for individual victims, as well as the wider society. Rogers et al. (2006) have suggested that illegal computer behaviours include: guessing passwords, using or writing viruses, using a device to obtain free phone calls, and (without authorization) using another person’s password, looking at others’ files, changing others’ files, and obtaining someone else’s credit information. These transgressions are also prevalent among student populations, with 51% engaging in at least one of the behaviours, while 38% committed one within the last three years (Rogers et al., 2006). Canadian police services have more recently noted that there were 9084 cyber crimes reported across the nation just in 2012, of which 54% were related to fraud (Statistics Canada, 2014). Ultimately, in North America there tend to be more property crimes, such as theft and fraud, being committed with the use of a computer, although harmful offenses against persons are also starting to become more common, representing up to 36% of all cyber crimes in Canada (M. Kowalski, 2002; Statistics Canada, 2014). Accordingly, Canadian data show that there are significant numbers of individuals who are being cyberbullied, such that 7% of adults have reported being victimized, while victimization actually increases to 17% for those between ages 18 and 24 (Perreault, 2011).

For the present study, the term '*online misconduct*' will be used as an encompassing label to describe the many different forms that deviance can take in cyberspace. As such, online misconduct is conceptualized as either *minor or major* transgressions that are commonly deemed as wrong or improper, and cross either *social or legal boundaries*. This term is specifically created for this study for the purpose of providing a flexible concept that can be applied to many types of misbehaviours or cyber crimes that vary in terms of severity and legality. Diverse behaviours are consolidated under the term 'online misconduct' as a way to explore many different combinations that are not typically presented together in the literature. These specific 10 behaviours will serve as important variables in the study and include both interpersonal and individual actions on the internet: cyber-stalking, digital piracy, trolling, flaming, online deception, cyber-vandalism, internet addiction, reading others' emails, misuse of digital information, and online sexual pushiness (see Table 4 in Chapter 3 for operational definitions). The behaviours have been selected due to their potential relevance to psychopathic traits in the sense that many of these actions are carried out in varying ways that appear to be reflective of reduced empathy and/or heightened manipulativeness and impulsivity. Furthermore, many of these forms of misconduct have been investigated in the prior literature as common transgressions on the internet that are worthy of better understanding for developing practical solutions or interventions. Ultimately, these 10 behaviours are discussed in more detail in the following paragraphs.

Cyber-stalking is a form of interpersonal electronic surveillance (IES) which is defined by Tokunaga (2011) as a collection of "surreptitious strategies individuals use over communication technologies to gain awareness of another user's offline and/or online behaviors" (p. 706). This behaviour has become extremely common on social networking sites (SNSs), where it has received the playful nickname 'creeping' and has even been the subject of "how to"

guides on effective surveillance strategies for friends and strangers (Golden, 2014). Creeping has been further minimized as a hobby or past-time, as Gershon (2010) has suggested that, for some people, Facebook profiles provide "potato chips of information—you get a tantalizing taste that somehow doesn't quite satisfy, and so you keep seeking a sensation of fulfillment, of being satiated" (p. 86). Social media surveillance has even become a socially acceptable form of monitoring former, current, and potential romantic partners (Utz & Beukeboom, 2011). According to Lukacs and Quan-Haase (2015) upwards of 88% of individuals use Facebook to 'creep' their ex-partners, with about 74% also monitoring the profiles of their exes' new partners. It is important to note that the cyber-stalking operational definition in the current study will emphasize the monitoring of potential romantic partners, representing just one of the many misconduct operationalizations of this concept.

Digital piracy is a behaviour that can be conceptualized as the downloading or copying of copyrighted materials such as media (e.g., games, music, videos) or software (Al-Rafee & Cronan, 2006). There are many platforms for online piracy behaviours including: email, online discussion boards or forums (e.g., Usenet), chatrooms, Internet Relay Chat (IRC), online streaming services, direct download (DDL) websites for online file-hosting (e.g., Megashares), and even trading hard drives or burned CDs/USB sticks (Svensson, Larsson, & de Kaminski, 2014). However, the most popular avenue for digital piracy involves peer-to-peer file sharing networks, such as BitTorrent clients. The Canadian Intellectual Property Rights Enforcement agency has reported that there were over 370 000 BitTorrent interactions per month in 2013, and has estimated that 18% of all global internet traffic is attributed to BitTorrent networks (Canipre, 2013). According to Selwyn (2008), downloading music was performed by 76% of his undergraduate sample, which makes it a very common online misbehaviour, despite being non-normative and actually illegal in some jurisdictions around the world. McMahon and Cohen

(2009) also reported that there is a notable disparity between ethical judgements and behavioural intentions surrounding downloading music, such that their sample determined music piracy to be somewhat unethical, but they would be somewhat likely to engage in the behaviour.

Trolling is understood as "behaving in a deceptive, destructive, or disruptive manner in a social setting on the Internet with no apparent instrumental purpose" (Buckels et al., 2014, p. 97), such that trolls' "real intention(s) is/are to cause disruption and/or to trigger or exacerbate conflict for the purposes of their own amusement" (Hardaker, 2010, p. 237). These individuals often intentionally derail conversations (Bullard & Howison, 2015) and commonly post inflammatory comments to get a rise out of their victims, which has instigated the defense guide of 'not feeding the trolls' by not providing a reaction or counter-argument (Bergstrom, 2011; Phillips, 2011). Furthermore, trolling can be seen as a form of bullying, although many internet trolls self-differentiate from cyberbullies with justifications of just having fun or doing it for the 'lulz' (i.e., making a joke at another's expense) rather than acting out maliciously harmful motivations (Todd, 2014). According to a study by Buckels et al. (2014), trolling was a favoured online activity among 10% of individuals who comment online, and 6% of their total internet user sample (including non-commenters). Ultimately, trolling is a somewhat common practice online, especially in some online communities, such as 4chan, various Reddit forums, Facebook groups, and Youtube comments (Bergstrom, 2011; Todd, 2014).

Flaming on the internet is characterized by behaviours such as hostile personal attacks, ridicule, mean or abusive insults, antagonism, defamation, aggressiveness, swearing, and/or name-calling with intentions to be malicious to others (Burden & Palmer, 2003; Hardaker, 2010; H. Lee, 2005; C.B. Smith et al., 1998; Tsikerdekis, 2012). This type of online misconduct is considered to be a form of cyberbullying and harassment, which is associated with distress and negative psychosocial outcomes (Grigg, 2010; Pyżalski, 2012). Some studies suggest that

flaming is frequently performed online; for example, Pabian et al. (2015) found that 36% of their sample engaged in cyber-aggression in some capacity. Similarly, Tsikerdekis (2012) reported that very rude comments were made by about 15% of participants in his study, with increasing flaming associated with voicing stronger opinions. However, like trolling, flaming behaviours are often more prevalent in certain online communities where there are fewer sanctions for interpersonal hostility.

Online deception, in which individuals intentionally provide false information to others, is a prevalent misconduct behaviour on the internet. Selwyn (2008) specifically noted misrepresentation of self as a common type of online misbehaving done by 51% of his sample, while Caspi and Gorsky (2006) reported in their study that 29% of respondents admitted to frequent deceptive behaviours online with the most common misrepresentations being their sex, their age, their residence, their occupation, and their marital status. Interestingly, the most prevailing emotion accompanying deception was enjoyment (85%) rather than shame or guilt (Caspi & Gorsky, 2006). As such, online deception is often about harmless identity play as much as it is about fooling other internet users for goal-oriented purposes (Caspi & Gorsky, 2006). The most malicious forms of online deception would be like the 'catfish' phenomenon, which involves the creation of a false internet identity for the purpose of scamming, blackmailing, or conning those they meet in online communities or chat rooms (Kaskazi, 2014; Schulman & Joost, 2010). Context appears to also matter for deception; for example, social media typically involves interactions with individuals who have relationships both online and offline, which makes deception less likely because it is easy for others to know if someone is not being truthful or consistent on the internet (A.L. Young & Quan-Haase, 2013; Zhao, Grasmuck, & Martin, 2008). As such, anonymous digital environments may be more conducive to deception practices (Ellison, Heino, & Gibbs, 2006).

Cyber-vandalism involves hacking websites and changing them "in a way which may sometimes be intended to be humorous, but will just as often be malicious or even politically motivated" (Burden & Palmer, 2003, p. 222). Despite being classified as a low level cyber threat (Bodeau, Graubart, & Fabius-Greene, 2010), this misconduct behaviour requires increased technical skills, such as computer programming, and sophisticated digital literacy (Furnell & Warren, 1999). McMahon and Cohen (2009) have reported that hacking into a personal or corporate website is considered to be highly unethical and most individuals also assert that they are highly unlikely to engage in such a misconduct behaviour.

Internet addiction represents a form of impulse-control behaviour that involves excessive use of technology (specifically the internet) at the detriment of other obligations or opportunities and with severe impairments of academic, relationship, financial, and occupational dimensions of life (K.S. Young, 1998). K.S. Young (1998) found that 66% of her sample of heavy internet users who were online for an average of 38.5 hours per week could be deemed internet dependents, with the most commonly used applications being chat rooms. More recently, several studies have indicated that one of the main forms of internet addiction comes through excessive online gaming (Ng & Wiemer-Hastings, 2005; Van Rooij, Schoenmakers, Vermulst, Van Den Eijnden, & Van De Mheen, 2011), which can lead to symptoms that are similar to substance addictions (Wölfling, Thalemann, & Grüsser-Sinopoli, 2008). In terms of the general population, Kuss, Griffiths, and Binder (2013) reported that 3% of their sample could be classified as internet addicts, while Van Rooij et al. (2011) found that 3% of their sample were addicted online gamers. Furthermore, males are more likely to experience internet addiction, as another study showed the rates to be 12% and 3% for males and females, respectively (Morahan-Martin & Schumacher, 2000).

The final three online misconduct behaviours that will be discussed are more self-explanatory. *Reading others' emails* can be performed over a network or on another's personal computer and requires very little in the way of technical abilities, but is a behaviour that is susceptible to deindividuation (Loch & Conger, 1996). McMahon and Cohen (2009) found that accessing another person's email is considered to be between somewhat unethical and highly unethical, but there is a slightly higher score for the behavioural intention to engage in the behaviour. Accordingly, Selwyn (2008) reported that 26% of his sample admitted to reading others' emails. Next, *misuse of digital information* refers to breaching someone's privacy through actions such as logging into personal accounts and unauthorized viewing of confidential information (Burden & Palmer, 2003). Finally, *online sexual pushiness* can be conceptualized as any behaviours that involve repeated unwanted sexual advances toward another person in an internet space (e.g., chatroom), as well as traditional sexual harassment or sexual coercion that is translated into the online realm (Barak, 2005). Barak (2005) has also noted that online sexual harassment can involve sending sexual images or videos to another person, or sending them links to pornographic web pages. Females are most often victims of online sexual pushiness, with about of 24% of females in a study by Goodson, McCormick, and Evans (2001) reporting previous experiences of solicitation compared to only 8% of males.

2.2.2. Internet Characteristics and Online Misconduct

There are two main theoretical perspectives for explaining internet misconduct, differing in terms of technology amplifying versus transforming misconduct (Kiesler, 1997). The former perspective argues that the internet facilitates online manifestations of general offline misconduct, such that cyberspace is an extension of reality and that individuals will typically engage similar negative actions in both contexts. Williams (2000) accordingly contends that instances of interpersonal misconduct have "arguably been re-engineered from their 'physical'

manifestations into derisory and harmful textual performances that are present within online community interaction" (p. 95), which accounts for Dibbell's (1993) observations of 'cyber-rape' in digital environments. This idea is further supported by Selwyn (2008) who compared online and offline misbehaving and found that many individuals reported similar patterns and similar types of acting out in both social contexts. On the other hand, new forms of deviance may actually be created by the unique characteristics of the internet medium, such that some individuals will be more likely to engage in antisocial behaviours in the online context, but not in the material world (Rogers et al., 2006; Yar, 2005). Joinson (2005) combined these theoretical approaches through grounding the online in the offline, by saying that all technology gives rise to new forms of misconduct, but "the internet is unique however in its capacity to enable new, and enact older, forms of deviant behaviour and in its panoptical properties" (p. 5). In this sense, the online context provides more accessible, fast, and inexpensive means to engage in theft, to lie, or to cheat others; however, it also creates new technologically-driven aspects of misconduct such as computer hacking or virus dissemination. Ultimately, cyberspace may simply "open up infinitely new possibilities to the deviant imagination" (Jewkes & Sharp, 2003, p. 2) and facilitate increased participation in online misconduct.

According to Suler (2004), the internet is a social context with unique structural conditions that facilitate behaviours that would not ordinarily be done in face-to-face environments, which he terms the 'online disinhibition effect', or 'toxic disinhibition' for specifically increasing in negative behaviours online. These conditions may underlie shifts in identity and personality trait expression toward more susceptibility for antisociality online (see subsections 2.4.2 and 2.5.), and they may also be behind the diversification of internet misconduct, as well as the frequency of engaging in such behaviours. The literature tends to emphasize the following four characteristics of cyberspace: anonymity, a lack of non-verbal and

physical cues, asynchronicity, and less salient/defined norms, which interact to contribute to engaging in online misconduct. Previous research has demonstrated that such characteristics together facilitate dimensions of psychopathy, such as reduced empathy, remorse, and regard for ethics (Flores & James, 2013; Preece & Ghozati, 2001), as well as lower impulse control (R.A. Davis, Flett, & Besser, 2002). Ultimately, these cyberspace characteristics may culminate in 'psychological distancing' effects, that is, viewing other internet users as abstractions or non-real entities (Crowell et al., 2005; Trope & Liberman, 2010). Such effects appear to be reflective of psychopathic traits such as diminished abilities to take the point of view of others, as well as a similar psychopathic mindset to control others and use them only as a means to an end. Ultimately, the discussion linking these four internet characteristics to psychopathy and antisociality will be explored following the descriptions of each.

First of all, anonymity refers to the idea that the internet that permits one to hide or alter their identity away from enforcers of social norms, such that there is reduced behavioural accountability (Suler, 2004). In this sense, there is invisibility from the reactions of others, which could inform cost/benefit analyses by demonstrating that there is a low potential for sanctions (Demetriou & Silke, 2003; Lapidot-Lefler & Barak, 2012; McKenna & Bargh, 2000; Suler, 2004). It is also possible that individuals are not fully anonymous online, but they feel they are hidden due to fewer identity cues, which is a phenomenon referred to as social anonymity that falsely contributes to feelings of invincibility on the internet (Hayne & Rice, 1997). According to Armstrong and Forde (2003), engaging in online misconduct is facilitated by anonymity online, but at varying levels—lower level misbehaving requires only perceptions of weak anonymity, while cyber crimes are performed when higher anonymity exists through techniques like encryption and using proxy servers. That said, anonymity is often perceived by the wider society to be a major cause of all online misconduct behaviours. In a study by J.P. Davis (2002), about

60% of respondents believed that anonymity online directly causes bad behaviours on the internet, with 52% further suggesting that this contributes to no fears of punishment or consequences. Moreover, in face-to-face social contexts anonymity also contributes to a feeling of deindividuation, in which people in a group are no longer defined as individuals and experience lower constraint (Festinger, Pepitone, & Newcomb, 1952). On the internet, disinhibited behaviours like online misconduct can also arise from similar deindividuation processes. Chen and Wu (2013) accordingly found that cheating in online video games is associated with anonymity, especially when mediated by group identification, which suggests that people tend to defer to a group's perceived norms rather than emphasize their own personal beliefs. In the case of online gaming, cheating appears to be ingrained as normative, despite it also being deemed as wrong (Chen & Wu, 2013). In many cases, deindividuation further creates more cyber-bystanders who are less inclined to reprimand online misconduct, such as cyberbullying, and even encourage continued participation with their presence (Barlińska, Szuster, & Winiewski, 2013; Mesch & Talmud, 2013).

Secondly, non-verbal cues refer to the any aspects of a personal interaction that are not captured in text-based digital environments, such as physical appearance, emotions, eye contact, vocal inflections, facial expressions, and body movements (Walther, Loh, & Granka, 2005). In cyberspace there is a lack of such cues so that individuals have to rely on the written word when interacting in many online communities, which can lead to misunderstandings and contribute to animosity toward other internet users. As such, Todd (2014) has suggested that "without the cues humans need to fully interpret conversation and feel empathy – such as facial expressions and eye contact – they can become detached, uninhibited, anti-social, and mentally ill" (p. 7). Furthermore, Lapidot-Lefler and Barak (2012) have reported that the lack of eye contact online supplements other anonymity characteristics in virtual environments, which further leads to a

disinhibited sense of unidentifiability on the internet when engaging in online misconduct (especially flaming behaviours which involve hostile or aggressive comments toward others). It is also interesting to note that individuals with increased psychopathic personality traits tend to make less eye contact with others in general (Dadds, El Masry, Wimalaweera, & Guastella, 2008), which should translate similarly into cyberspace when there are no non-verbal cues. Todd (2014) addresses this idea from the perspective of psychopaths hiding online when she says, "the eyes of a sociopath are described by psychologists and victims alike as emptily fixated or something like a fuzzy kaleidoscope, something that's easy to disguise online" (p. 223).

Next, asynchronicity refers to delayed communication processes in digital environments like social networking sites that use status updates, wall posts, and photo albums, rather than having real-time audiences such as in chatrooms and Skype (Hogan, 2010; Quan-Haase, 2013). According to Suler (2004), without real-time responses, asynchronous online spaces desensitize individuals against social norms, as well as minimize authority based on an absence of such cues in text-based environments. In this sense, there are fewer present digital 'guardians' to deter online misconduct due to the inability for real-time policing (Cohen & Felson, 1979; Cullen & Agnew, 2011). Hogan (2010) has also noted that when an audience is not always monitoring, there is less pressure for internet users to maintain self-consistency, which would appear to better facilitate online deception behaviours. Furthermore, trolling in asynchronous platforms is more easily performed, as audiences have to judge whether the troll's actions are legitimate and determine motives over the course of more individual posts, which plays into their game for longer periods of time (Hardaker, 2010). H. Lee (2005) has also suggested that flaming behaviours can be aided in this type of asynchronous environment by not forcing the victim to be available at the same time, as well as leading to innovation in the types of aggressive posts to include things like hurtful poems that would require more deliberation.

Furthermore, while some behaviours are discouraged by most online communities, norms in general cyberspace are actually largely undefined with limited sanction potential, leading to the perception of that being online is similar to the Wild West—the internet is lawless, open, and ready to be explored and conquered (Taylor, 2003). Therefore, pro-social norms are less salient in general cyberspace and it appears there is not a single or universal internet culture (Denegri-Knott & Taylor, 2005). On the other hand, some behaviours are reprimanded only by certain online groups or virtual communities who have explicit rules and members to enforce rule violation. For example, actively asking for upvotes on Reddit.com violates accepted 'reddiquette' (Reddit, 2014), but does not have any significance in general cyberspace. As such, some online communities may have normative structures that do not reprimand certain misconduct behaviours or even encourage them (Durkin, Forsyth, & Quinn, 2006). Accordingly, the website 4chan has a random message board called /b/ that prides itself on its normlessness structure that allows *all* types of content posted by anonymous users, often leading to racist language, calls to persecute specific groups, and sharing of others' personal information (Bernstein et al., 2011). That said, while the in-group is not bound by any restrictions in posting, obvious visitors are ridiculed and any requests from these outsiders are met with the response that "/b/ is not your personal army" (Bernstein et al., 2011, p. 53).

All of these internet conditions (i.e., anonymity, lack of non-verbal cues, asynchronicity, and undefined norms) work in conjunction to potentially induce psychological mentalities that appear to be similar to psychopathic traits, such as psychological distancing between internet users, reduced empathy online, and more unethical judgements or hyper-rational/callous moral calculations.

First of all, 'psychological distancing' refers to altering the levels of reality that one experiences based on time and space barriers such as those that exist in cyberspace (Crowell et

al., 2005; Trope & Liberman, 2010). In this case, internet interactions are entirely based in virtual reality, which may serve to reduce the realness of online behaviours; thus, victims of interpersonal misconduct behaviours may become abstractions. As Stanley Milgram (1963) demonstrated, it is much more difficult to intentionally inflict harm on someone with whom you are in direct contact than it is when you are only indirectly interacting and cannot see the result. This idea parallels to experiencing a dissociative imagination on the internet, in which perpetrators see online life as a game in a make-believe dimension, and thus come to define themselves and their behaviours in cyberspace as non-real and that the people they affect are non-real (J.P. Davis, 2002; Suler, 2004). R. Kowalski and Limber (2007) have similarly suggested that cyberbullying perpetrators often report believing that no actual harm comes to their victims, as they cannot directly see the aftermath without face-to-face contact. Selwyn (2008) also showed that similar rationalizations exist for other online misbehaviours because it is easier to dismiss victims when one "can't see the 'damage' in the cyber world" (p. 458). Accordingly, psychological distancing on the internet often leads to self-orientation behaviours, which reflect callousness, unemotionality, and a lack of empathy (Giuseppe & Galimberti, 2001). This was elaborated by Mesch and Talmud (2013) who argue that:

> …[online] communication that lacks non-verbal cues, status symbols, and proximity to the victim may produce a behaviour that is self-oriented and not concerned with the feelings and opinions of others. Self-orientation may lead to a lack of inhibition and negative perceptions of others, resulting in an increase in online bullying" (p. 136).

Secondly, there have also been several studies that examine empathy on the internet, which suggest that the structural conditions of cyberspace lead to a reduced ability to put oneself in another's shoes—indicative of further psychopathic traits and psychological distancing. Specifically, a lack of non-verbal cues has been attributed to this reduced empathetic response, as there are no direct observations with others, and one cannot see or hear their reactions (Whittier,

2013). Furthermore, psychiatrist Adam Cox attributes this phenomenon to both low tolerance of online boredom and a lack of humanization in cyberspace that does not facilitate a sense of accountability (Todd, 2014). He asks: "[w]here is the prompt to be empathetic in online communication? There's no prompt. There's no stress. Where is the trigger for your conscience? Where is the accountability? The human experience? You are just kind of alone with a screen, presumably" (Todd, 2014, p. 203). Konrath, O'Brien, and Hsing (2011) have even noted that the ability to feel empathetic concern for others has decreased by about 48% since 1990, which has occurred simultaneously with the proliferation of information communication technologies. In order to test the empathetic nature of cyberspace, Preece and Ghozati (2001) performed a content analysis of 100 online communities and found that only 18% had more than half of the messages be empathetic in nature, while 19% had no empathetic messages at all. The consequences are significant, as having low scores on affective and cognitive empathy measures have been associated with increased scores on a cyberbullying inventory (Ang & Goh, 2010).

Thirdly, a few researchers have even suggested that one's sense of morality is different in anonymous digital environments by creating moral definitions favourable toward engaging in online misconduct—those similar to psychopathic moral judgements. Crowell et al. (2005) argue that psychological distance limits the moral constraints that occur in face-to-face environments, and thus contribute to the performance of unethical behaviours. In this sense, the following moral components are affected: 1) decreased ethical sensitivity due to fewer social cues online that lead to less consideration of consequences, 2) misconduct behaviours being more susceptible to unethical judgements, 3) a lower sense of priority or motivation to consider the most moral option, and 4) reduced capacity and willpower to follow through on the moral options (Crowell et al., 2005). These definitions were examined by Flores and James (2013) who found that 98% of their subjects responded to online situations without considering the moral dimensions, with

the issues almost equally being that the ethics of the situation were not perceived or that they were internalized but rejected as not important. Moreover, due to the internet's anonymity, when moral judgements are made online they often characterized by utilitarian reasoning (Li, Zhang, Shi, & Luo, 2010), which as previously mentioned typically embodies hyper-rational calculations and reduced empathy. Social learning is also crucial for reinforcing a positive moral code online and reducing subsequent deviant behaviours on the internet (Xiao-Hui & Li, 2010), but education for setting up the standards of online morality is largely missing, contributing to the persistence of misconduct behaviours such as trolling (Shin, 2008). While understanding morality online is important, McMahon and Cohen (2009) did find that, on average, intentions to engage in internet misbehaviours are higher than one's sense of ethical permissibility; that is, individuals may still act out online even if they have more ethical concerns about the behaviour.

2.2.3. Covariates of Online Misconduct

There are many studies that have examined the various covariates of engaging in online misconduct behaviours. This subsection will justify the extraneous variables included in the present study.

Gender

Based on an analysis of cyber crime court cases, R. Smith, Grabosky, and Urbas (2004) have suggested that the archetype of a cyber criminal is one who is "well-educated, middle-class, young, and male" (p. 22). On the other hand, recent studies have reported that there are no significant gender differences in the engagement of online misconduct. For example, Rogers et al. (2006) found in their study that females make up almost 53% of 'computer deviants', while Fletcher et al. (2014) reported that lifetime cyberbullying engagement is 15% for males versus 13% for females. That said, different types of online misconduct are more likely to be performed

by males, such as internet addiction (Morahan-Martin & Schumacher, 2000), flaming/cyber-aggression (Pabian et al., 2015), pornography use (Selwyn, 2008), hacking behaviours (Jordan & Taylor, 1998), cyber-stalking (Ménard & Pincus, 2012), and digital piracy (Higgins, 2006). Conversely, females have been more likely to access others' accounts (Selwyn, 2008), while Caspi and Gorsky (2006) have found no gender differences in the prevalence of online deception.

Age and Digital Experience

The literature tends to suggest that age and frequency of engaging in cyber crimes/misconduct are negatively correlated. According to Todd (2014), younger individuals may be more likely to dissociate online and have disinhibited behaviours, as well as kids may already have low impulse control that is heightened on the internet. Other studies have found that younger ages have been associated with increased flaming/cyber-aggression (Pabian et al., 2015), online deception (Caspi & Gorsky, 2006), and cyberbullying (Yen et al., 2014). Selwyn (2008) actually reported that online misbehaving peaks at age 20, and then decreases at 21 years of age and older. Furthermore, considering that the internet is a fairly recent technology, it has impacted older and younger generations in different ways, which may also extend to differences technical skills and in online misconduct behaviours between digital natives and digital immigrants (Hargittai, 2010; Palfrey & Gasser, 2013; Prensky, 2001; Putnam, 2001). To Prensky (2001) digital natives refer to those individuals who have grown up with computers and the internet, such that these technologies have become normalized and integrated into their daily lives at a subconscious level. This is compared to digital immigrants who have had much later technological adoption (Prensky, 2001). As such, the amount of years using computers and the internet (as well as relative to the life course) should be valuable variables for understanding cyber crimes. Accordingly, Deibert and Rohozinski (2010) have suggested that new forms of

online misconduct are facilitated by digital natives who have become immersed in technology and innovate and adapt, especially as a form of liberation away from oppression in their social environments.

Digital Literacy

Self-perceived level of internet competence is a significant factor contributing to engaging in online misconduct, with experts reporting more instances compared to non-experts, and expertise specifically predicting increased downloading of media, pornography use, and misrepresentation of self (Selwyn, 2008). Digital literacy is important, as online misconduct cannot be performed without both the knowledge of how to act and the ability/technical skills to act out (Loch & Conger, 1996). Furthermore, Todd (2014) has suggested that increased technical skills can also give kids the ability to hide on the internet, such that parents can no longer monitor their online behaviours and ensure proper internet conduct. Gender differences in digital literacy have also been studied; for example, when examining the hacker subculture, Jordan and Taylor (1998) noted that males tend to have increased levels of computer skills compared to females. Overall, in the general public, the mean score for web-use skills is 3.24 out of a possible 5 that represents full understanding of a list of internet-related terms (Hargittai & Hsieh, 2012). Therefore, the wider society tends to already have a high level of digital literacy, which presumably increases among computer deviants and various subcultures.

Individuals with high levels of digital literacy often self-select into technologically competent peer groups which contributes to social learning processes—depending on the norms of these groups, online misconduct can be encouraged or exacerbated (Holt, 2007; Holt, Burruss, & Bossler, 2010). Higgins, Fell, and Wilson (2006) have also implicated social learning as a mediator between low self control and online misconduct (e.g., digital piracy) because peers can teach offending skills and reinforce moral definitions favourable to offending. As such, it is

possible that antisocial peers and learned skills may contribute to increased expectations of successfully engaging in online misconduct behaviours without consequences, as well as subsequent continued misbehaving (LaRose & Kim, 2006). Accordingly, Loch and Conger (1996) proposed that digital literacy is a significant factor in self-efficacy as well as framing the underlying ethical attitude of an online misconduct behaviour as more acceptable. Gupta, Gould, and Pola (2004) have also reported that their item "It is easy to pirate software without getting caught" loaded onto their factor that expressed the social tolerance of a community; therefore, pro-piracy peer groups may do three things: endorse piracy behaviours, improve self-efficacy to successfully pirate, and lower the fear of receiving sanctions.

Digital literacy is generally associated with increased time spent online, as Livingstone and Helsper (2010) reported a correlation of 0.43. That said, more daily internet use also predicts engagement in online misconduct. Hinduja and Patchin (2008) found that more time online predicted both significantly higher odds of being a cyberbully and being victimized. Furthermore, individuals who spend three or more hours per day online are significantly more likely to engage in deception, even though digital skills do not directly lead to increased deception (Caspi & Gorsky, 2006). Ultimately, the amount of time an individual uses the internet clearly increases the opportunities to engage in online misconduct (Wade & Beran, 2011). According to Todd (2014), "…the more time people spend online, being bombarded with negative stimuli, the harder it is to stay positive. And with the Internet, the "digitally drained" can send their angst around the world" (p. 255). Furthermore, she adds:

> …rates of online abuse can be correlated to Internet usage, and to the ever increasing number of ways to access the Internet and social media, such as mobile phones and apps, interactive 2.0 computer games, Internet-capable game consoles, and interactive video chatrooms...As Internet access and mobile phone technology spreads, experts predict that the capacity for Internet abuse will increase, too (Todd, 2014, p. 133).

Online Activities

The literature demonstrates that certain internet activities are also associated with engaging in online misconduct behaviours. Higher use of social media has been linked to increased likelihood of participating in cyberbullying behaviours. For example, Pabian et al. (2015) found that Facebook intensity predicts cyber-aggression, while Lukacs and Quan-Haase (2015) reported a positive correlation between time spent on Facebook and the frequency of surveillance on one's ex-partner. Tokunaga (2011) similarly reported that the more time spent on an ex's SNS profile, the more one engages in cyber-stalking. Furthermore, excessive online gaming is an activity that has gained a lot of attention in terms of internet addiction (Ng & Wiemer-Hastings, 2005; Van Rooij et al., 2011), cheating behaviours (Chen & Wu, 2013), and trolling (Dibbell, 2008). Furthermore, as mentioned in the previous section, use of certain websites contributes to online misconduct. For example, the normative structure of 4chan encourages behaviours such as trolling and flaming (Bernstein et al., 2011), while Pinterest has been shown to be female-dominated and cultivates the sharing of positive posts and comments (Ottoni et al., 2013).

Other Correlates

Other correlates of online misconduct include: substance abuse, parental employment, and previous victimization. First of all, Hinduja and Patchin (2008) found that substance use was associated with more than double the likelihood of being a cyberbully when controlling for demographic variables. Next, the likelihood of engaging in cyberbullying increases 1.6 times for those whose parents are unemployed (Fletcher et al., 2014). Finally, Brewer and Kerslake (2015) reported an extremely strong correlation of 0.8 for cyberbullying offending and victimization, suggesting that cyberbullies often lash out after previously being bullied to regain power and

control over themselves. The latter two variables are not addressed in the present study; however, previous victimization could be an important addition to future research on cyber-psychopathy.

2.3. Dark Personality and Online Misconduct

Recent studies have started to look into the role of personality traits in explaining instances of engaging in online misconduct and deviance. Rogers et al. (2006) suggested that there is a qualitatively different personality profile for general computer deviants compared to non-deviants when looking at the involvement in a wide array of illegal computer behaviours. They reported that computer deviants (versus computer non-deviants) demonstrate higher levels of exploitation, manipulativeness, and amoral dishonesty traits, while scoring significantly lower on both internal and social moral decision making (Rogers et al., 2006).

Psychopathy has specifically been linked to cyberbullying in the literature. According to Goodboy and Martin (2015), tendencies to engage in cyberbullying are positively associated with higher levels of psychopathic personality expression in adults, which makes psychopathy a crucial component of the cyberbully's personality profile. They noted that both text-based cyberbullying, behaviours, which involve writing mean things about others, and visual-based cyberbullying (i.e., sending harmful videos) are similarly predicted by psychopathy, even when controlling for the other two *Dark Triad*[2] traits which actually become non-significant in multivariate analyses (Goodboy & Martin, 2015). Similarly, Pabian et al. (2015) have found that higher levels of psychopathy are correlated with increased cyber-aggression (r = 0.43), which is defined in terms of the dissemination of intentional harm over the internet and is indicative of cyberbullying or harassment (Grigg, 2010; Pyżalski, 2012). When controlling for all *Dark Triad* traits, gender, and age, psychopathy remains the only statistically significant personality trait for

[2] To refresh from subsection 2.1.1., the *Dark Triad* represents the following personality traits: Machiavellianism, narcissism, and psychopathy.

explaining the variance in cyber-aggression (Pabian et al., 2015). Furthermore, primary psychopathic traits have specifically been associated with increased cyberbullying incidences (Ciucci et al., 2014; Fanti et al., 2012). When examining cyberbullying over time with panel data, at time one, primary psychopathy (especially callousness) predicts increased likelihood of sending threatening or harassing messages over email, IM, chatroom, SNS, or text (Fanti et al., 2012). However, a year later, at time two, both primary and secondary psychopathy are positively associated with cyberbullying, but less intensely than at time one.

Other misconduct behaviours have also been examined in terms of 'dark' personality expression, including psychopathy, sadism, and narcissism. Higher psychopathy and narcissism predict the amount of self-absorbed personal pictures (also known as 'selfies') posted on social media by males, when controlling for the *Dark Triad* and age (Fox & Rooney, 2015). Similarly, Carpenter (2012) reported that elements of narcissism (i.e., grandiose exhibitionism and entitlement/exploitativeness) are significantly positively correlated with self-promotional behaviour on Facebook, as well as expressing anger at a lack of status comments and retaliating with mean comments against others. Moreover, Buckels et al. (2014) investigated personality traits of individuals who engage in trolling behaviours in terms of the *Dark Tetrad* of personality (narcissism, Machiavellianism, psychopathy, and **sadism**). They found that sadism was the most strongly associated with enjoyment of trolling practices (psychopathy was second), but not other online activities such as online debates and chatting. The authors interpreted their results as the troll being the online manifestation of general offline sadistic personality by suggesting that "sadists just want to have fun…and the Internet is their playground" (Buckels et al., 2014, p. 101).

Several studies have also reported that psychopathic traits are significant predictors of transgressions in online gaming environments. Among players who prefer online video games

that are more adversarial in nature, such as player-versus-player combat, levels of psychopathy are higher (Worth & Book, 2014). For example, higher psychopathy scores are associated with increased crimes committed against other people in the game Grand Theft Auto IV (Via, Frederick, Bradshaw-Hoppock, & Kring, 2014 in Frederick et al. 2015). Similarly, Greitemeyer (2015) found that specifically violent video games are played most by individuals who score high on both verbal and physical sadism, characterized by making fun of others and physically hurting others, respectfully. Furthermore, the act of 'griefing' in online video games, which is defined as intentionally killing your teammates or repeatedly killing a weaker player 'for the lulz', as well as other antisocial behaviours in the online games (Dibbell, 2008), has been positively associated with increased levels of psychopathy (Ladanyi, 2015). As such, Dibbell (2008) has referred to online griefers as the "sociopaths of the virtual world" (p. 1).

Some researchers have even suggested that psychopathic personality can be signaled based on the content that one posts online on social media. Garcia and Sikström (2014) found that Facebook posts with more negative words, reflective of emotional coldness and aggressiveness, are positively correlated with psychopathy scores (r = 0.29). Facebook statuses from subclinical psychopaths are also reflective of a less clear grammatical style, as well as anger and increased profanity (Boochever, 2012). A similar study that examined Twitter reported that users with increased levels of psychopathy construct tweets that have more words that are indicative of anger, swearing, and negative emotions (Sumner, Byers, Boochever, & Park, 2012).

2.4. Context-Dependent Expression of Personality

2.4.1. Theoretical Framework

Some researchers have proposed that personality expression can be impacted by social context and environmental factors, underlying the basis for the theoretical framework of context-

dependent, or contextual, personality. This framework proposes that trait *expression* can have variability across social contexts, rather than the creation of an entirely new personality.

First of all, personality has been interpreted as underlying an archive of all potential behaviours and traits that can be then brought about by the needs of a given situation (Allport, 1937) or one's perceptions of a situation (Mischel, 1973, 1977). As such, personality can be seen as "dynamically accumulative", reflective of contextual influences over the life course allowing different expressions in different situations (Veroff, 1983, p. 333). Kenrick et al. (1990) have also proposed that certain social contexts can elicit the expression of specific traits and subsequent congruent behaviours, as some traits are more visible and accessible in these settings. For example, they showed that the personality trait of 'intellectance' emerges more in academic settings than in play/entertainment contexts, while religious settings elicit less dominance than athletic settings. Moreover, Tett and Guterman (2000) used the idea of trait activation to describe how "the behavioural expression of a trait requires arousal of that trait by trait-relevant situational cues" (p. 398). As such, personality traits can be primed by certain situations or contexts in which the trait-consistent behaviour is relevant and opportune. They found that in situations that are most relevant to risk-taking, self-reported ownership of the trait is more strongly related to intentions to engage in risk-taking behaviours, such as gambling (Tett & Guterman, 2000). Situational variability in trait and behavioural expression has also been suggested to be the result of one's ability to self-monitor, with heightened internal awareness toward norm adherence being reflective of individuals who are generally "trait-free" and differ in their actions across social contexts (Snyder, 1974). On the other hand, there is evidence that personality expression is contingent on an interplay between biological and environmental factors, such that genetics create a constellation of traits that generally belong to the individual, but in a specific social context, one's previous experiences in that context tend to bring about

heightened expression of certain traits, such as shyness (J.R. Harris, 1995; Saudino, 1997). Social contexts can also be influenced by things such as time of day, where being a morning person is associated with more immoral and unethical behaviour at nighttime (Kouchaki & Smith, 2014). This conforms to the idea proposed by Stueber (2008) that despite having a general empathetic disposition, there exists a situational empathy that allows for differing abilities to take the place of the other depending on the present act.

Furthermore, personality traits can differ between social roles, such as student, employee, child, friend, and romantic partner; for example, in one study self-rated extraversion differed by a score of 10 between student and friend roles, while conscientiousness was rated 11 points higher in an employee role rather than a friend role (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). This finding demonstrates more support for socio-contextual perspectives on understanding personality. However, Sheldon et al. (1997) also found that role conflict and high self-concept differentiation predict negative outcomes for psychological well-being and self-esteem. Thus, dissociation of the self (in terms of personality traits) may appear to cause negative psychosocial outcomes.

Overall, despite personality being usually understood as robust cross-situational trait consistency in the psychological literature, it appears that there are some studies that take a sociological perspective and support the idea that personality expression may differ across situations and social contexts.

2.4.2. Personality Expression on the Internet

Based on the literature presented in section 2.2.2, the internet has unique structural conditions that make it a social context worth exploring in terms of comparing personality expression online versus offline. Some researchers argue that internet anonymity may allow for the expression of latent personality traits that are hidden due to the normative or social pressures

of the material world (Amichai-Hamburger, 2005; Suler, 2004), and cyberspace may thus serve as an outlet for expressing Goffman's (1959) 'backstage'. As such, the internet is a protected environment that is a social substitute to offline interactions, which can provide an avenue for a more conscious and free expression of personality and the 'real me' (Amichai-Hamburger, 2005; Amichai-Hamburger & Ben-Artzi, 2000; Tosun & Lajunen, 2010). Anonymity can relieve the pressure to maintain consistency in online and offline personalities, while in digital environments like social media there are 'anchored relationships' (Zhao et al., 2008) that exist beyond the internet who serve to police online self-presentation. As such, when the judging audience is known by the author outside of the internet, as is typically the case in social media, there is a sense of accountability for expressing personality traits, such that authors tend to exhibit their actual offline Big Five personality traits (i.e., extraversion, openness to experience, neuroticism, agreeableness, and conscientiousness) in SNS profiles rather than their ideal personalities (Back et al., 2010). This idea is reflected in the notion that online personality is largely "an extension of the offline masterself" (Robinson, 2007, p. 103).

On the other hand, the internet may bring about differences in personality expression that are more subconscious. Sherry Turkle (1984, 1995) has suggested that there is a unique 'second self' that has adapted to the social and structural possibilities of the internet, and that online there is a multiplicity of personalities that may not overlap with those in the material world. As a result she specifies that we should be constantly asking ourselves "who am we?" to reflect real self differences online and offline (Turkle, 1996). According to a study by Maldonado et al. (2001), individuals with introverted personality traits tend to demonstrate more extraverted tendencies when sending messages over the internet, such that their tonality is more outgoing and they add more information in their messages than their extroverted (in the offline world) counterparts. Stritzke et al. (2004) similarly examined shyness online and found that on measures of rejection

sensitivity, self-disclosure, and initiating relationships, shy and non-shy subjects score similarly when on the internet, whereas they were initially divided based on significantly different scores on offline measures of the same scales.

Furthermore, Blumer and Doering (2012) looked into whether the expression of the Big Five personality traits differ between online and offline situations. They reported that mean scores of extraversion, openness, agreeableness, and conscientiousness were significantly lower on the online version of the scale, which they interpreted as a general decrease in the expression of personality itself online. Interestingly, they also found that neuroticism (characterized by anger, anxiety, and depression) had much lower scores for the online context, especially when subjects had high scores on general offline neuroticism (Blumer & Doering, 2012). However, the methodology of this study has some limitations, mainly in that the online and offline social contexts were not controlled for equally; the offline version of the scale was inclusive of all situations (including the potential for online situations) while the online version of the scale just added the words “on the computer or on the internet”. Due to this methodological decision they were led to the conclusion that:

> ...the results are not due to the digital environment per se but to the specification of the situational context. Similar effects would occur, if the NEO-FFI items were supplemented with other more concrete aspects for instance "In the summer ..." instead of "On the computer or on the Internet ...". Most probably both aspects have led to the results of this study. Therefore, we would argue that in online behavior the influence of personality is reduced due to situational requirements and more similar interpretations of these contextual cues (Blumer & Doering, 2012)

Ultimately, the offline version of the scale in the study by Blumer and Doering (2012) should have also included a clause about only considering situations when you are not using the internet. This methodological change is addressed in the present study to compare the LSRP scales in both the online and offline context to determine if there are differences in psychopathic

personality expression on the internet. With a methodology that specifies social context equally for online and offline, there should no longer be a decrease in online personality expression strictly due to the reduced probabilities of positively answering more constrained items during the contextual comparison. Furthermore, the argument equating the online context to the clause of "in the summer" fails to take into account the unique structural characteristics of the internet that make context-dependent personality in cyberspace more plausible than seasonal changes in trait expression.

2.5. Is There a Context-Dependent Psychopathy Online?

2.5.1. Theorized Cyber-Psychopathy

No empirical studies have ever controlled for social context when examining psychopathic expression on the internet; however, the idea of a context-dependent psychopathy has been suggested many times in popular media such as blogs, as well as in the academic literature. Recent non-academic headlines such as "Is the internet bringing out your dark side?", "Is social media turning you into a psychopath?", and "Six new personality disorders caused by the internet", reflect the anecdotal idea that the internet has somehow facilitated heightened expression of dark personality traits in its users (D. Glenn, 2013; Kimak, 2009; Power, 2011).

On the other hand, academic researchers have actually theorized about this phenomenon since the mid 1990s. First of all, the term "virtual sociopathy" was briefly used by C.B. Smith et al. (1998) in order to refer to intentional violations of norms and retributive sanctions applied on the Usenet online community, particularly among females who were seen to be more assertive and aggressive in virtual spaces than in 'real' life. However, this term was only present in the chapter's title and was not directly explained or elaborated in text. More recently, it has been proposed that the weaker normative structure of cyberspace leads to "encourag[ing] the

projection of macho personalities" that facilitate engagement in online misconduct (Taylor, 2003, p. 137). Furthermore, Denegri-Knott and Taylor (2005) have reflected this idea by suggesting that "…people's online behaviors [can] suffer from self-centered, antisocial, and abusive rampages" such that they are "similar to real-life Jekylls and Hydes" (p. 94). In this sense, the internet's online disinhibition effect and self-compartmentalization can neutralize morality or responsibility within the online context, such that misconduct behaviours are viewed as "not me at all" (Suler, 2004, p. 322). Suler (2004) also explicitly argues that toxic disinhibition, especially reflective of secondary psychopathic expression, is not "the revealing of an underlying 'true self'" but rather "a shift to a constellation within self-structure, involving clusters of affect and cognition that differ from the in-person constellation" (Suler, 2004, p. 321). Thus, the online context serves as a determinant of differing expressions of personality traits, emotions, memories, and identities, which Suler (2004) directly attributes to the increasing incidence of online misconduct. Finally, Selwyn (2008) has even found some empirical support for online personality dissociation when interviewing students about their online misbehaving, as some mentioned having a "less bounded persona", a "weaker online conscience", and being "detached from reality" (pp. 457-458) when engaging in behaviours they would not normally do offline.

Based on his professional experience as a psychiatrist, Aboujaoude (2012) has similarly proposed that the internet has in fact facilitated the manifestation of a new personality that is uniquely different than that of the offline self. This e-personality is more deviant and described as "…a virtual whole that is greater than its parts…unfettered by old rules of behaving, social exchange, etiquette, or even netiquette…this virtual personality is more assertive, less restrained, a little bit on the dark side, and decidedly sexier" (Aboujaoude, 2012, pp. 41-42). Notably in this e-personality is the notion of narcissism; that is, the internet facilitates all our needs such that we

are becoming more entitled and freely expressing this on the internet (Aboujaoude, 2011). He argues that the transition from the prefix ‘e’ to ‘i’ (think: iPod, iTunes, etc.) has made the internet ‘I-centric’, which has contributed to the narcissistic pandemic and accompanying lack of empathy online, which acts as a risk factor for engaging in interpersonal cyber-deviance. Most alarmingly, Aboujaoude (2012) has suggested a sort of mutually reinforcing relationship between offline personality and e-personality, such that online traits can become integrated into the offline personality over time.

Interestingly, internet psychopathy has even been directly hypothesized by journalist Paula Todd (2014) in her book *Extreme Mean* around the same time as the present study. She asks:

> …Is it possible that the Internet, devoid of human cues, resembles the environment in which a psychopath lives – immune to the feelings of others, and lacking in empathy? Could vulnerable people negatively dissociate from others, and slide into psychopathy online? (Todd, 2014, p. 124)

To answer this question Todd consulted Dr. Brad Bowins who is the head of the Centre for Theoretical Research in Psychiatry and Clinical Psychology in Toronto. In the interview, Bowins suggested that individuals could plausibly experience mild or extreme dissociation and emotional detachment online:

> …by absorbing oneself in an online world certain vulnerable individuals, but not the majority of people, might experience enough emotional detachment to come close to the capacity of a psychopath, at least while things remain online. If a person has difficulty coping with offline face-to-face interactions and spends a lot of time online, their emotional detachment might advance, particularly given that there are no consequences to online cyber-abuse. The consequences of engaging in the same type of abuse offline, face-to-face, would block this detachment. Some of these individuals might also experience frustration and anger arising from difficulties functioning in the offline world, and this anger could be displaced towards potential victims (Todd, 2014, pp. 124-125).

2.5.2. Current Study

Based on the review of the literature, it becomes apparent that the idea of 'cyber-psychopathy' has some theoretical roots in academic studies. As such, the primary objective of the current study is to empirically evaluate the theoretical idea of context-dependent psychopathy with a quantitative methodology to provide a better understanding of factors underlying online misconduct. It is important to note that the previous studies that have explored the relationship between psychopathy and online misconduct did not control for social context in their methodologies. However, the online and offline realms are inextricably linked and should be studied together (Wellman et al., 2001; Wilson & Atkinson, 2005), which suggests that personality does not remain completely isolated within a single context. No studies have thus been able to count out the possibility of different levels of dark or psychopathic personality traits between online and offline contexts on a case by case basis. Therefore, this study will take into account potential differences in personality online that could lead to misconduct on the internet by using a methodology that controls for the same trait expression in both online and offline environments. Furthermore, investigating the existence of psychopathy in cyberspace requires a more in-depth and detailed personality measure than inventories of the *Dark Triad*, as recommended by Pabian et al. (2015). Thus, this study will attempt to validate a new Cyber-Psychopathy Scale (CPS) as an adapted version of the LSRP in order to capture the underlying factors of psychopathic expression on the internet.

Based on the previous literature, the following expected findings exist for the current study. First of all, I expect to find that gender will be a significant social predictor of cyber-psychopathy, with males reporting higher scores on all subscales. Offline psychopathy scores should also be highly correlated with scores on cyber-psychopathy counterparts. This contextual similarity is supported by Selwyn's (2008) finding that individuals report similar frequencies and

types of online and offline misbehaviours, and Seepersad's (2004) suggestion that, in general, for behaviours "offline tendencies become reflected online" (p. 39). Furthermore, I expect that higher levels of acceptance for most online misconduct behaviours will be predicted by primary psychopathy's lack of empathy and utilitarian moral judgements, while the likelihood of hypothetically engaging in such behaviours should be most related to the impulsivity dimension of secondary psychopathy. Also, it is likely that the tendency scores will be, on average, higher than the acceptability scores, representing the idea that many individuals act in negative or unethical ways online despite having clear moral concerns for those behaviours (McMahon & Cohen, 2009). Finally, increased digital literacy and time spent online should positively correlate with one's tendencies to engage in online misconduct.

CHAPTER 3:
RESEARCH METHODS

This chapter outlines the research methods used to conduct the present study. The first section is an overview of the research questions and the structure of the research design. Secondly, the sampling processes are described and information about the data is presented. The next section deals with the measurement of the primary variables of interest and emphasizes the operational definitions of the independent, dependent, and explanatory variables. Finally, the analytic approach is reported, focusing on how the data are statistically analyzed and the rationale for the multivariate models.

3.1. Research Design Overview

Due to the exploratory nature of this study, data were collected through a web-based survey instrument using a cross sectional research design. This study utilizes a quantitative methodology to address the following research questions.

> **RQ1:** Is there a statistical difference between measures of "Cyber-Psychopathy" (PCP, SCP, TCP) and "Offline Psychopathy" counterparts (POP, SOP, TOP)? Does the internet decrease, increase, or intensify psychopathic personality expression? Are there gender differences?
>
> **RQ2:** What are the social predictors of cyber-psychopathy scores? What is the relationship between cyber-psychopathy scores (PCP, SCP, TCP) and gender, demographic variables, internet use variables, and substance use?
>
> **RQ3:** What are the social predictors of increasing in psychopathic expression on the internet? What is the relationship between online increases in total psychopathy (TP) and gender, demographic variables, internet use variables, and substance use?
>
> **RQ4:** Are there differences in acceptability between various online misconduct behaviours? Are there differences in tendency between various online misconduct behaviours? Are there gender differences?

> **RQ5:** What is the relationship between CP measures (PCP, SCP, TCP) and one's **acceptability** of online misconduct both in terms of individual behaviours and in a composite score (OMA)? Do CP measures outperform OP measures in explaining online misconduct acceptability?
>
> **RQ6:** What is the relationship between CP measures (PCP, SCP, TCP) and the **tendency** to engage in online misconduct both in terms of individual behaviours and in a composite score (OMT)? Do CP measures outperform OP measures in explaining online misconduct tendency?

Chapter 4 (Results I) will focus on the psychopathy variable outcomes and address RQ1-3, while Chapter 5 (Results II) will focus on the online misconduct outcomes and address RQ4-6. The main variables of interest are scale measures of psychopathic personality and vignettes representing various forms of online misconduct. As previously mentioned, please see Appendix D for a legend of the abbreviations used throughout this study.

3.2. Data and Sample

3.2.1. Survey Instrument

There are no existing data sets that examine the variables of interest so a survey method was necessary to collect the data. The survey was web-based and was hosted through the website Survey Monkey between December 2014 and February 2015 at the URL link: www.surveymonkey.com/s/rulebreakinguwo. I used a web-based survey because it facilitated participation from a diverse range of respondents from all over the world. The population of interest for this study is all adult internet users, so the eligibility to participate in the survey was restricted to only include individuals over 18 years of age who use the internet. See Appendix A for the complete survey instrument.

The data were self-reported and questions on the survey were asked mostly in multiple choice formats, with a few that were open-ended in nature. The first section of the survey included items that measured demographic variables. The second section asked respondents to

answer two similar personality inventories (one which controlled for an offline perspective and the other that controlled for an online perspective). Following the personality measures, 10 online misconduct behaviours were presented in the form of vignettes, which had follow-up questions on the acceptability and likelihood of engaging in each behaviour. Internet use variables were then included in the fourth section of the survey. Finally, the survey concluded with items that addressed potential risk variables that would also serve as controls, such as previous criminal convictions and substance abuse.

Prior to online accessibility for the participants, the survey was pilot tested for validity and the new scales were evaluated to ensure item clarity and congruence with the previously validated measures. The average survey completion time was between 20 and 25 minutes. Furthermore, minor deception in the survey design was used to prevent response biases in the participants, which was a protocol approved by the Western University ethics review board (see Appendix B). As such, the participants were not told that the study was investigating psychopathic personality. Disclosing psychopathy as the focus of the study could potentially lead to 1) people who have higher or lower levels of psychopathy self-selecting into the study out of interest, and 2) people being more likely to portray themselves as more or less psychopathic due to intentional or unintentional biases toward the concept. Thus, the participants were debriefed following the conclusion of the survey to disclose the information on the psychopathy measures.

3.2.2. Sampling and Data Collection

The data collection procedure relied on a non-probability sample. Therefore, due to the absence of a truly representative sample, there are limitations in the sense that the study's findings cannot be generalized to the wider population of internet users. However, the data are still valuable for addressing the exploratory research questions of this study and filling a gap in

the available literature. Ultimately, convenience sampling was used through a variety of methods to recruit respondents to participate in the web-based survey.

First of all, I posted the online survey link on various social media websites: Facebook, Reddit, Twitter, and Academia.edu. Reddit was a major source of participation, as I focused on advertising in subreddits that allow the posting of surveys such as r/SampleSize and r/Canada. My standing as a member of the in-group Reddit community might have served to mitigate the potential trolling/gaming of my survey, and my time spent on the website has contributed to my understanding of the group culture and etiquette in such a way that appeared favourable for attracting respondents. Moreover, Facebook and Twitter were efficient in terms of utilizing snowball sampling, in which participants forwarded or posted the link to specific contacts or a general network who would potentially be interested in participating. The web-links to the survey were reposted each month to the social media websites in order to increase visibility to individuals who may have missed the previous announcements. Furthermore, there were also strategies to recruit in the offline world, such as posters, hand-outs, and university classroom visits to promote the study to undergraduate and graduate students. These offline methods were not as effective at attracting participants as online sources of advertising, but still marginally increased the analytic sample size. Overall, the main source of data collection was social media which was aided by snowball sampling and word-of-mouth advertising both online and offline.

3.2.3. Missing Data

Through the data collection process there were missing data that had to be dealt with through the use of statistical techniques. The missing data for categorical variables are all addressed by adding an additional category for “Missing Data” for use in the multivariate analyses. On the other hand, continuous variables, including psychopathy scales, age, digital literacy, and daily internet use, are resolved with various imputation techniques. Imputation in

general is an effective method for maintaining a larger sample size when a small amount of data is missing, although limitations exist by potentially over-fitting the data.

For the continuous psychopathy scale measures (PCP, SCP, TCP, POP, SOP, TOP), missing data is addressed on a case-by-case basis. When a participant is missing only minimal scale items, the missing values are imputed based on the case's average score on that inventory. In this process, I substitute missing data with the participant's mean score on the scale, which is a validated procedure for dealing with missing data in scales based on the work of Roth, Switzer, and Switzer (1999). Missing data on the remaining continuous variables (i.e., age, digital literacy, and daily internet use) are imputed with the means from dichotomous variables whose categories have significantly different effects on the outcome. In this sense, means are calculated for each category of a dichotomous variable, which are then substituted for the missing data based on the case's characteristic on that variable. Thus, the age variable is imputed based on the dummy variable "student" because the two different means (student and non-student) better capture the wide age gap in this measure (9% of the values are imputed). Next, digital literacy is imputed with gendered means to reflect the large difference between males and females in technical skills (4% of the values are imputed). Finally, daily internet use is also imputed with gendered means (18% of the values are imputed). This variable requires more imputation most likely due to the open-ended nature of the survey question and the inability for participants to tabulate their online hours when they use the internet for work or are constantly tethered to the internet using mobile devices.

Additionally, case wise deletion is used to create the second analytic sample due to the existence of missing data on the misconduct behaviour variables that could not theoretically be imputed with statistical techniques. As such, 51 cases are removed for the second analytic sample that is used for RQ4-6 in Chapter 5.

Ultimately, much of the missing data appear to be missing at random; however there are some variables for which the missing cases do not seem to be completely random. First of all, due to the large time commitment for completing the survey there was some attrition, such that the last few questions on the survey (e.g., substance abuse) have the fewest responses. Secondly, some participants did not answer a couple of items in the psychopathy scales and/or in the vignette follow-up questions, presumably due to a lack of "neutral" option in the Likert-type scales which did not allow for an indeterminate stance. Thirdly, the only categorical variable that has missing data above 10% is 'household income', which is a social variable that frequently yields non-response in academic research due to its sensitive nature for some participants. Otherwise, there are no other items in the scales or composite scores that especially suffer from non-response, which suggests that most data are missing at random rather than being the result of fundamental question design flaws.

3.3. Measurement

The variables of interest are measured with a combination of previously validated measures as well as newly constructed scales and items for addressing the unique research questions in the study. Table 2 shows the breakdown of the variables used in this study and how they are divided in the analyses. It is important to note that psychopathy variables are the dependent variables (DVs) in Chapter 4 to address RQ1-3, and then become the main independent variables in Chapter 5. Conversely, the online misconduct behaviours are the dependent variables in Chapter 5 and address RQ4-6. Gender, demographic characteristics, internet usage, and substance use are the main predictors in Chapter 4, but are more control variables in Chapter 5. Following Table 2 (below), I discuss the conceptualizations, operationalizations, and measurement of the key variables included in the analysis. Psychometric properties are reported (e.g., internal consistencies of the measures based on the sample data) for all the continuous variables and are also summarized in Table 5 at the end of this chapter.

Table 2. Overview of Variables of Interest

Chapter 4 - Results I		**Chapter 5 - Results II**		
Dependent Variables	*Independent Variables*	*Dependent Variables*	*Independent Variables*	*Control Variables*
Primary Cyber-Psychopathy (PCP)	**Gender**	**Online Misconduct Acceptability:** Individual Behaviours	**Primary Cyber-Psychopathy (PCP)**	**Gender**
Secondary Cyber-Psychopathy (SCP)	**Demographics:** Age, Income, Education, Occupation, Residence Location	**Online Misconduct Acceptability:** Composite Score (OMA)	**Secondary Cyber-Psychopathy (SCP)**	**Demographics:** Age, Income, Education, Occupation, Residence Location
Total Cyber-Psychopathy (TCP)	**Internet Usage:** Digital literacy, Daily internet use, Years using computers, Years using internet, Most performed online activity, Websites or apps used	**Online Misconduct Tendency:** Individual Behaviors	**Total Cyber-Psychopathy (TCP)**	**Internet Usage:** Digital literacy, Daily internet use, Years using computers, Years using internet, Most performed online activity, Websites or apps used
Total Psychopathy Differential (Between TCP and TOP)	**Risk Factors:** Excessive alcohol use, Recreational drug use	**Online Misconduct Tendency:** Composite Score (OMT)	**Primary Offline Psychopathy (POP)**	**Risk Factors:** Excessive alcohol use, Recreational drug use
			Secondary Offline Psychopathy (SOP)	
			Total Offline Psychopathy (TOP)	

3.3.1. Psychopathy Measures

Traditionally psychopathy has been commonly measured based on clinical observation through Hare's (1991) Psychopathy Checklist-Revised (PCL-R). For this study, psychopathy is instead measured based on self-report data and uses the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995). Despite being created in 1995, the LSRP has not gone through any major revisions and is high in reliability and convergent/discriminant validity, and is considered to be one of the better and most promising self-report measures of psychopathy available for use in social research (Lilienfeld & Fowler, 2005; Lynam, Whiteside, & Jones, 1999; Sellbom, 2011). Furthermore, the LSRP is also used in this study due to 1) its popularity in the field for studying psychopathy in community samples, 2) its short length and ease of adaptation for survey research, and 3) its subscale conformity to the two-factor model of psychopathy. In terms of scale properties, the LSRP adds together 26 items that employ a 4-point Likert-type scale (1="Disagree Strongly", 2="Disagree Somewhat", 3="Agree Somewhat", and 4="Agree Strongly") to arrive at a score for Total Psychopathy. There are no neutral options presented in order to ensure respondents will take a position in terms of a moderate or stronger stance in either direction of (dis)agreement. Some items are also reverse-coded in order to further protect the internal consistencies of the measures and to control for response sets.

For the analysis in the current study, the LSRP is adapted and modified for the purpose of controlling for social context; that is, there are two different scales used that apply to either being on the internet or not being on the internet. The offline version of the scale (Offline Psychopathy Scale; OPS) uses the original items in the LSRP but has explicit instructions that ensure that the participants answer the items while putting themselves in the perspective of when they are offline and not using the internet. On the other hand, the online version of the scale (Cyber-Psychopathy Scale; CPS) modifies the initial items in the LSRP to apply more specifically to the

internet, by adding the words “when online”, “when on the internet”, or other variations that clarify the original items in the context of the internet (inspired by Blumer & Doering, 2012; Stritzke et al., 2004). Ultimately, both the OPS and the CPS are adapted from the LSRP with context-specifying instructions: the OPS uses the same items as the LSRP while the CPS modifies the items to reflect online situations in order to make congruent online/offline item counterparts. It is important to note that the original LSRP is not constrained by context for any of the 26 items. Moreover, due to the lack of clinical classifications with the LSRP instrument, the scores on the CPS and OPS will be presented only in terms of subclinical psychopathic expression.

On the survey, participants complete both the offline and cyber-psychopathy scales (OPS and CPS) such that comparisons can be made between online and offline scores to ostensibly see if there are differences in psychopathic expression on the internet versus the ‘real’ world. Comparisons are made both with mean scores in the overall sample (e.g., between PCP and POP scores) and to investigate psychopathy changes in gendered subsamples. The order of the OPS and CPS scales in the survey are randomized to prevent biases in the research design in case the respondents could be impacted by always answering one scale first. Furthermore, the order of the items within each scale is also randomized to further reduce the possibility of ‘gaming’ or intentionally manipulating the survey. It is important to note that while most of the models in the analyses use the various psychopathy scales as dependent variables, the differential between online and offline versions of the total psychopathy scales is also used as a dependent variable in a logistic regression model (RQ3).

The 26 items that measure total psychopathy are further divided into two subscales that represent the conceptual factors of the psychopathy construct: primary (16 items) and secondary (10 items) psychopathy. In the original LSRP study, these subscales are derived based on a factor

analysis that demonstrates a two-factor model (Levenson et al., 1995). For the current study, the items are divided into primary and secondary subscales based on applying the same factors from the LSRP design rather than running a new factor analysis, due to only small alterations in item content ("when online", etc.). As such, the subscales for both offline psychopathy and cyber-psychopathy are the product of theory rather than statistical techniques—the new modified online version of the LSRP inherently uses the same allocation of items into the primary and secondary subscales in order to provide meaningful comparisons across contextually constrained measures. Overall, each set of measures are divided into primary, secondary, and total psychopathy subscales, which make up six main variables between the online/offline counterparts: PCP, POP, SCP, SOP, TCP, and TOP. These variables are explored in the next paragraphs.

Table 3 (below) shows the items used in both the Offline Psychopathy Scale (OPS) and the newly created Cyber-Psychopathy Scale (CPS), demonstrating clear comparisons of PP, SP, and TP items across social context.

Table 3. Items in the Primary and Secondary Psychopathy Scales

Offline Psychopathy Scale (OPS)	**Cyber-Psychopathy Scale (CPS)**
Respondents answer these items from a perspective when they are only offline and not using the internet	*Respondents answer these items from a perspective when they are only online and using the internet*
Primary Offline Psychopathy (POP)	**Primary Cyber-Psychopathy (PCP)**
Success is based on survival of the fittest; I am not concerned about the losers.	Online success (e.g., making money, finding dates, becoming more popular, winning arguments, etc.) is based on survival of the fittest; I am not concerned about the losers.
For me, what's right is whatever I can get away with.	For me, when I am online, what's right is whatever I can get away with.
In today's world, I feel justified in doing anything I can get away with to succeed.	The internet is like the Wild West, so I feel justified in doing anything I can get away with to succeed online (e.g., making money, finding dates, becoming more popular, winning arguments, etc.).
My main purpose in life is getting as many goodies as I can.	My main purpose when I go online is getting as many goodies as I can (e.g., likes, shares, comments, upvotes, movies, music, etc.).
Making a lot of money is my most important goal.	Making a lot of money is my most important goal when I use the internet
I let others worry about higher values; my main concern is with the bottom line.	When online, I don't really care about higher values; my main concern is with the bottom line, or whatever goal I am pursuing on the internet.
People who are stupid enough to get ripped off usually deserve it.	The internet is full of stupid people. Those who are stupid enough to get ripped off, conned, hacked, or trolled usually deserve it.
Looking out for myself is my top priority.	When I use the internet, looking out for myself and my best interests is my top priority.
I tell other people what they want to hear so that they will do what I want them to do.	One of my strategies when interacting with others online is to tell them what they want to hear so that they will do what I want them to do.
I would be upset if my success came at someone else's expense.	I would be upset if my online success (making money, finding dates, becoming more popular, winning arguments, etc.) came at someone else's expense.
I often admire a really clever scam.	I often admire really clever online hacks, frauds, deceptions, or trolling behaviours
I make a point of trying not to hurt others in pursuit of my goals.	I make a point of trying not to hurt others in pursuit of my goals when I use the internet.

I enjoy manipulating other people's feelings.	I enjoy manipulating other people's feelings or perceptions when I use the internet.
I feel bad if my words or actions cause someone else to feel emotional pain.	I feel bad if my words or actions online cause someone else to feel emotional pain.
Even if I were trying very hard to sell something, I wouldn't lie about it.	Even if I were trying very hard to accomplish an online goal (e.g., sell something, find a date, win an argument, etc.), I wouldn't lie to achieve it.
Cheating is not justified because it is unfair to others.	Cheating to achieve my online goals is not justified because it is unfair to others.
Secondary Offline Psychopathy (SOP)	**Secondary Cyber-Psychopathy (SCP)**
I find myself in the same kinds of trouble, time after time.	I find myself in the same kinds of trouble on the internet time after time, and make the same mistakes repeatedly when online.
I am often bored.	I get bored online, so I quickly move from one website or activity to the next.
I find that I am able to pursue one goal for a long time.	I find that I am able to pursue one goal for a long time when I am online.
I don't plan anything very far in advance.	I don't plan anything very far in advance regarding the time I spend online.
I quickly lose interest in tasks I start.	When I'm online, I quickly lose interest in tasks I start.
Most of my problems are due to the fact that other people just don't understand me.	Most of my problems with other internet users are due to the fact that they just don't understand me.
Before I do anything, I carefully consider the possible consequences.	Before I do anything risky online, I carefully consider the possible consequences.
I have been in a lot of shouting matches with other people.	I have been in a lot of aggressive, heated, or antagonistic arguments with other people online.
When I get frustrated, I often "let off steam" by blowing my top.	When I get frustrated online, I often "let off steam" by blowing my top (e.g., posting rants, getting into arguments, antagonizing others, etc.).
Love is overrated.	I have no interest in finding love online. Instead, sex and excitement are more like my goals when using the internet.

Note: Both the OPS and the CPS are adapted from the Levenson Self-Report Psychopathy Scale (LSRP) by using context-specifying instructions. The OPS uses the same items as the LSRP while the CPS modifies items to reflect online situations. The original LSRP is not constrained by context for any of the 26 items.

The TCP and TOP scales are created by adding together the primary and secondary subscale items in each social context (26 items)

Total Cyber-Psychopathy (TCP). Respondents are asked to rate 26 items that represent both dimensions of psychopathy together (primary and secondary) in the online context. These items are based on a 4-point Likert scale ranging from 1="Disagree Strongly" to 4="Agree Strongly", and the scoring on this scale is between 26 (minimum) and 104 (maximum). The internal consistency is very high with Cronbach's α=0.87.

Primary Cyber-Psychopathy (PCP). Respondents are asked to rate 16 items that represent the lack of empathy and emotional callousness dimension of psychopathy in the online context. These items are based on a 4-point Likert scale ranging from 1="Disagree Strongly" to 4="Agree Strongly", and the scoring on this scale is between 16 (minimum) and 64 (maximum). The internal consistency is very high with Cronbach's α=0.88. This value is also higher than the Cronbach's α=0.82 that was reported for the original Primary Psychopathy Scale (Levenson et al., 1995), which demonstrates an improved sense of psychometric reliability for this new measure.

Secondary Cyber-Psychopathy (SCP). Respondents are asked to rate 10 items that represent the impulsiveness dimension of psychopathy in the online context. These items are based on a 4-point Likert scale ranging from 1="Disagree Strongly" to 4="Agree Strongly", and the scoring on this scale is between 10 (minimum) and 40 (maximum). The internal consistency is Cronbach's α=0.67, which is actually deemed a fairly acceptable value for scale measures, especially for those with such few items (George & Mallery, 2003; Gliem & Gliem, 2003). It is important to note that this value is also higher than the Cronbach's α=0.63 that was reported for the original Secondary Psychopathy Scale (Levenson et al., 1995), which demonstrates an improved sense of psychometric reliability for this new measure.

Total Offline Psychopathy (TOP). Respondents are asked to rate 26 items that represent both dimensions of psychopathy together (primary and secondary) in the offline context. These

items are based on a 4-point Likert scale ranging from 1="Disagree Strongly" to 4="Agree Strongly", and the scoring on this scale is between 26 (minimum) and 104 (maximum). The internal consistency is very high with Cronbach's α=0.86.

Primary Offline Psychopathy (POP). Respondents are asked to rate 16 items that represent the lack of empathy dimension of psychopathy in the offline context. These items are based on a 4-point Likert scale ranging from 1="Disagree Strongly" to 4="Agree Strongly", and the scoring on this scale is between 16 (minimum) and 64 (maximum). The internal consistency is very high with Cronbach's α=0.87.

Secondary Offline Psychopathy (SOP). Respondents are asked to rate 10 items that represent the impulsiveness dimension of psychopathy in the offline context. These items are based on a 4-point Likert scale ranging from 1="Disagree Strongly" to 4="Agree Strongly", and the scoring on this scale is between 10 (minimum) and 40 (maximum). The internal consistency is Cronbach's α=0.71, which is an acceptable level of for scale measures. Interestingly, for the sample in the present study, there is a higher value for Secondary OP (0.71) than Secondary CP (0.67), which suggests that the new modified items for SCP could stand to be improved in future studies, despite the fact that both α values are higher than the original LSRP Secondary Psychopathy Scale (0.62; Levenson et al., 1995).

3.3.2. Online Misconduct Behaviours

The online misconduct behaviours are represented by a series of 10 vignette scenarios that were created specifically for this study. These involve a third party engaging in a hypothetical scenario which is assessed in follow-up questions. Vignettes have been validated for investigating morality variables, and are an effective measurement tool for exploring deviance and other sensitive topics due to the hypothetical nature which does not incriminate the

respondent for past behaviours (Gattiker & Kelley, 1999). As such, third person vignette techniques may reduce both conscious biases such as social desirability by avoiding direct questions and instead assessing underlying attitudes, as well as removing potential judgement of past delinquency (Alexander & Becker, 1978; Burstin et al., 1980; Choong et al., 2002; Constant et al., 1994; Havlena & Holbrook, 1986; Lewis-Beck et al., 2003; Sanders et al., 2013). In order to also prevent a gender bias in responding, the names of the individual doing the behaviours in the vignettes have been selected from common unisex names (Burstin et al., 1980).

For the present study, online misconduct is conceptualized generally as bad behaviour online or more specifically as *minor or major* transgressions that are commonly deemed as wrong or improper, and cross either *social or legal boundaries*. This flexible term is created for this study and explicitly defines online misconduct behaviours for the use in the data analyses. Diverse misbehaviours are consolidated under the term 'online misconduct' as a way to explore many different combinations that are not typically presented together in the literature, that range in terms of severity and legality. These specific 10 behaviours serve as important variables in the study and include both interpersonal and individual actions on the internet: cyber-stalking, digital piracy, trolling, flaming, online deception, cyber-vandalism, internet addiction, reading others' emails, misuse of digital information, and online sexual pushiness. The behaviours have been selected due to their potential relevance to psychopathic traits in the sense that many of these actions are carried out in varying ways that appear to be reflective of reduced empathy and/or heightened manipulativeness and impulsivity. Table 4 (below) outlines the 10 vignettes that represent each of the online misconduct behaviours included as variables in the present study.

Table 4. Vignettes Representing the Online Misconduct Behaviours

Online Misconduct Behaviour	Vignette Situation
Cyber-Stalking	Addison broke up with a long-term romantic partner and started surveilling or creeping their Facebook profile very frequently to see what they had been doing and who they had been seeing since the breakup.
Digital Piracy	Sydney discovered a website which allows sharing and downloading media files without the creator's permission. Sydney then downloaded a copy of a new movie made by a high budget production company and shared it with friends and family members.
Trolling	Jamie was participating in a discussion on an online message board and thought it would be fun to derail and disrupt the conversation. Jamie deliberately started arguments and posted off-topic or inflammatory comments that would upset others.
Flaming	Jesse was on Facebook and noticed a recent photo was uploaded by someone who they did not like very much. Jesse replied with mean and insulting comments to the person's post in order to make them feel bad.
Online Deception	Hayden gave false information on an online dating website in order to seem more appealing to potential partners. Hayden's occupation on the profile is now listed as doctor instead of bartender.
Cyber-Vandalism	Casey is a skilled computer engineer. Casey writes some code that changes the format, colour, and text of the website of a large commercial corporation as protest to the company's new policy changes.
Internet Addiction	Jordan discovered a new online computer game and started to play for many hours per day. Jordan made the game a priority and played without paying much attention to other obligations. There were concerns voiced about the gaming affecting Jordan's work and marriage.
Reading Others' Emails	Cameron goes to the library to use the computer and sees that the previous user forgot to sign out of their email account. Cameron reads several emails before logging out.
Misuse of Digital Information	Peyton found a sheet of paper with a username and password for an online dating website. For fun, Peyton logged into the account to see the private details of the person's profile as well as their browsing history on the website. Peyton then logged out and destroyed the paper.
Online Sexual Pushiness	Taylor was visiting an online chatroom and started talking with another person. Taylor started flirting and requested some pictures of the person. Taylor then sent them repeated sexual messages and asked them to "hook up". Despite being turned down multiple times, Taylor continued to pursue this person while they were online.

Note: All vignettes were linked to questions regarding the respondents' acceptability and tendency toward the online misconduct behaviour that were answered on 4-point Likert scales

Following the scenarios, the respondents are asked two follow-up questions about moral acceptability and behavioural tendencies toward the misconduct: a) how acceptable is the individual's behaviour, and b) how likely would the respondent be to behave in a similar manner as the individual? These questions utilize a 4-point scale without a neutral option in order to encourage participants to take a stance. The Likert-type response anchors for each question are based on the wording of Vagias (2006), such that acceptability ranges from 1="Totally Unacceptable" to 4="Perfectly Acceptable", and tendency ranges from 1="Extremely Unlikely" to 4="Extremely Likely". Ultimately, the vignette questions represent the variables of acceptability and tendencies toward online misconduct behaviours, which will be elaborated now. Comparing moral/ethical dimensions and behavioural intentions of online misconduct behaviours was previously validated by McMahon and Cohen (2009).

Online Misconduct Acceptability (OMA). Respondents are given a hypothetical dilemma and asked to answer the question: "How acceptable is Addison's behaviour?" with the 4-point Likert options for acceptability. Each of the 10 misconduct behaviours is first measured individually in terms of acceptability for analyses as unique dependent variables. Secondly, all 10 of the misconduct behaviours are added together for analysis as a composite score of overall/average online misconduct acceptability (OMA). This composite score has a range between 10 (minimum), representing complete unacceptability, and 40 (maximum), which represents complete acceptability of online misconduct. The internal consistency of the composite score is Cronbach's α=0.71.

Online Misconduct Tendency (OMT). Respondents are given a hypothetical dilemma and asked to answer the question: "How likely would you be to behave in a similar manner as Addison?" with the 4-point Likert options for likelihood of engaging in the behaviour. Each of the 10 misconduct behaviours is first measured individually in terms of tendency likelihood for

analyses as unique dependent variables. Secondly, all 10 of the misconduct behaviours are added together for analysis as a composite score of overall/average online misconduct tendency (OMT). This composite score has a range between 10 (minimum), representing extreme unlikelihood, and 40 (maximum), which represents extreme likelihood of engaging in online misconduct. The internal consistency for this composite score is Cronbach's α=0.63.

3.3.3. Gender

Gender is the most important control variable in this study due to the large differences that exist between males and females in terms of psychopathy in the literature (Beryl et al., 2014; Forth et al., 1996; Salekin et al., 1997). This categorical variable is measured through the question: "What gender do you identify with?" with the options being "male", "female", and "other". All cases that answered "other" or did not provide an answer (N=7) were deleted from the sample in order to create a dichotomous gender variable.

3.3.4. Demographic Characteristics

The demographic characteristic variables include: age, household income, education level, current occupation, and residence location. Age (in years) is a continuous variable that is derived from an open-ended survey question. All the remaining variables are categorical and utilize an additional category (if needed) to specifically address missing data[3]. First of all, yearly household income is coded with three groups to emphasize the extreme income categories: less than $25 000, between $25 000 and $100 000, and above $100 000. Secondly, education level is also coded with three groups due to the nature of the sample being highly educated: less than post-secondary (college or university) graduate, current post-secondary student, and post-secondary graduate. Next, the occupation variable is coded to have the following categories

[3] Due to the fact that most categorical variables serve mainly as controls in the multivariate models, they have been coded to have fewer categories in order to maintain the statistical power in the models by using fewer degrees of freedom (while still using cut-offs that allow practical comparison between extremes).

based on theoretical characteristics and trends in the literature: student (largest group in the sample and typically younger ages), teacher (Dutton [2012] reports this job as low in psychopathy), management (Dutton [2012] reports this job as high in psychopathy), computer professions (relevant due to this study's focus on the internet), not working, and 'other'. The 'other' occupation category will serve as a reference group in the multivariate analyses in order to compare the theorized psychopathy-relevant occupations to the catch-all group of all jobs that are not emphasized in the literature. This method of using "other" as a reference group has been used previously in scientific research in order to explore comparisons between specific and general categories (Haidar, 2011; Kwak, Haley, & Chiriboga, 2008; Wang & Gordon, 2011). Finally, residence location is coded based on the geographic region that the respondent is currently living in: Canada, United States, Europe, and 'other'.

3.3.5. Internet Usage

The internet usage variables include: digital literacy, daily internet use, years using computers, years using the internet, most performed online activity, and websites or apps used.

Digital Literacy. This continuous variable is conceptualized as a proxy for one's skills and abilities while using computers and the internet. Digital literacy is operationalized using Hargittai and Hsieh's (2012) shortened Web-Use Skill Index, which is a scale of 15 items (i.e., web-related terminology) that the participant evaluates based on their understanding on a 5-point scale (where 1="No Understanding" and 5="Full Understanding"). The scores on this scale range from 15 (minimum) to 75 (maximum) and the internal consistency is very high with Cronbach's α=0.93.

Daily internet use (in hours) is a continuous variable that is derived from an open-ended survey question (Gross, 2004). When a range is reported by the participant, the median value is used. All the remaining internet usage variables are categorical and utilize an additional category

(if needed) to specifically address missing data. First of all, years using computers is coded into three groups: less than 10 years, 10-19 years, and 20 years or more. Secondly, years using the internet is also coded into three groups: less than 10 years, 10-14 years, and 15 years or more, which has a smaller range due to the internet being a newer technology than computers. These experience variables are used because they may reflect differences between digital natives and digital immigrants in terms of internalizing norms in digital environments (Prensky, 2001). Next, most performed online activity is a variable that is recoded from a ranking question on the survey, and has the following categories: social media, email, browsing, games, message boards and forums, and streaming or downloading media. Finally, the websites or apps an individual uses are represented by a series of six dummy variables (yes or no) for the following: Reddit, 4chan, Pinterest, Tinder, Ebay, and Twitter. These online communities were selected on the basis potential psychopathic and online misconduct relevance. According to the literature, 4chan is perceived as having an abundance of online misconduct by the public (Bernstein et al., 2011), while Pinterest has the opposite reputation (Ottoni et al., 2013). Twitter was previously measured with respect to the *Dark Triad* in the literature (Sumner et al., 2012). The motivations of Tinder users may be reflective of the impulsivity and promiscuity of secondary psychopathy. Furthermore, the largest group in the sample included Reddit users who have their own group due to subsample size. It is important to note that Facebook was omitted from the study due to its ubiquitous nature that would prevent reasonable comparison with non-users.

3.3.6. Substance Use

The substance use variables include: alcohol use and recreational (non-alcohol) drug use in the past 12 months (adapted from Curran, Stice, & Chassin, 1997). The alcohol item specifically asks participants how many times they have consumed alcohol and gotten drunk in that time period, which leads to the designation of this variable as ‘excessive’ alcohol use. On the

other hand, the drug item does not have additional stipulations. Both of these variables are categorical and are coded with the following five groups: not at all, once to a couple of times, once a month to a couple times per month, once a week or more, and not answered (which combines missing data and those who choose an option of "prefer not to say").

3.3.7. Overview

Overall, there are many variables included in this study that are important in both results chapters. Therefore, Table 5 (below) provides a review summary of the psychometric qualities of the scales and composite scores that represent the continuous variables used in this research.

Table 5. Psychometric Descriptions of Scale Measures and Composite Scores

Scale Measures	Items	α	Scoring Range
Primary Cyber-Psychopathy (PCP)	16	0.88	16-64
Primary Offline Psychopathy (POP)	16	0.87	16-64
Secondary Cyber-Psychopathy (SCP)	10	0.67	10-40
Secondary Offline Psychopathy (SOP)	10	0.71	10-40
Total Cyber-Psychopathy (TCP)	26	0.87	26-104
Total Offline Psychopathy (TOP)	26	0.86	26-104
Digital Literacy	15	0.93	15-75
Composite Scores	**Items**	**α**	**Scoring Range**
Online Misconduct Acceptability (OMA)	10	0.71	10-40
Online Misconduct Tendency (OMT)	10	0.63	10-40

3.4. Analytical Framework

The data are analyzed in the statistical software STATA 13. Both descriptive statistics and multivariate models that control for extraneous variables are utilized in the quantitative analyses. The results stemming from the data analyses will be elaborated in the subsequent chapters (4 and 5). In order to address the different research questions, two analytic samples have been created. The first analytic sample is made up of participants used for data analysis on the

psychopathy dependent variables. This sample (N=408) will be used in Chapter 4 (Results I; RQ1-3). The second analytic sample is made up of participants used for data analysis on the online misconduct dependent variables. This sample (N=357) will be used in Chapter 5 (Results II; RQ4-6). It is important to note that all tests of significance use the following markers: †$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$, although reported analyses in the results chapters will focus more on coefficients with greater than 95% significance ($p \leq 0.05$).

3.4.1. Descriptive Statistics

The descriptive statistics (i.e., univariate and bivariate analyses) are represented mostly by means and standard deviations for continuous variables and percentages for categorical variables. The frequencies have been divided by the overall sample and two subsamples for males and females to address the importance of the gender variable in the analyses. As such, the reported values for males and females are compared using independent samples *t*-tests (continuous variables) to assess the statistical significance of the mean differences. On the other hand, categorical variables are also compared between males and females with a Pearson Chi-Square (χ^2) test for establishing the level of statistical significance for differences among any of the categories (i.e., total *p* value given). The descriptive statistics techniques are used to address RQ1 in Chapter 4 and RQ4 in Chapter 5, by reporting univariate data on psychopathy and online misconduct variables, respectively (see Tables 6, 7, and 13).

Furthermore, the continuous variables that refer to psychopathy differentials are addressed using paired samples *t*-tests between the means of the cyber and offline versions of the scales, in order to determine whether the online/offline differences are likely to be due to chance. In this sense, the differences in CP and OP are tested with the same subjects completing both subscales, such that I can compare mean scores (e.g., between PCP and POP). There are also categorical variables that have been created to demonstrate psychopathy differentials. To

determine differential categories (i.e., increase online, no change, decrease online), the standard deviation (*SD*) of the related continuous differential variable is used as a threshold or cut-off point to reduce chance allocation errors. Moreover, increase differentials are examined in terms of 'intensification', suggesting the possibility that psychopathic expression is extended or enhanced online—the internet may serve as another platform for further acting out existing offline psychopathy for some people. Ultimately, intensification represents an extension of pre-existing psychopathic traits when using the internet to become even higher online, and reflects a specific subset of those who increase in their psychopathic expression online. It is important to note that intensification is a useful concept for understanding online personality expression because it takes into account the trait dispositions that occur in face-to-face environments in the offline world, and it reflects the notion that the online and offline realms are inextricably linked and should be studied together (Wellman et al., 2001; Wilson & Atkinson, 2005). For this purpose, an empirical rule has been created such that if a case has an above average offline psychopathy score and then has an even higher cyber-psychopathy score, then the psychopathy increase would be deemed as intensified on the internet. In other words, an intensified increase in a participant is operationalized on a case by case basis in terms of three criteria: 1) the offline psychopathy score is higher than the overall sample average, 2) the cyber-psychopathy score is higher than his or her offline psychopathy score, and 3) the differential between CP and OP scores is one standard deviation greater than the overall sample's mean differential. This term does not have a validated operational definition in the literature, which reflects the need to create one for the current study; however, future research examining intensified personality expression online can improve on this methodology to create a more precise measure.

Correlation matrices are also used to show the associations between continuous variables in the study. The Pearson correlation coefficient (*r*) is used to demonstrate the direction and

strength of the bivariate relationships. The first matrix (Table 8) relies on data from 408 participants and focuses on the variables presented in Chapter 4, while the second matrix (Table 14) relies on data from 357 participants and adds the online misconduct composite score variables for Chapter 5.

3.4.2. Multivariate Analyses

Multivariate statistical techniques are used to control for extraneous variables when analyzing the focal relationships for RQ2, 3, 5, and 6. For continuous dependent variables, I employ OLS linear regression, while both logistic (logit) regression, and ordered logistic (ologit) regression are utilized for predicting categorical dependent variables. Furthermore, categorical independent variables that serve as controls in the analyses have reference groups that are used for intra-variable comparisons and are presented in brackets in the regression tables.

To address RQ2 in Chapter 4, OLS linear regression is used to predict the impact of the psychopathy independent variables, and is reported in unstandardized regression coefficients (*B*) and standard errors. Adjusted R^2 is employed as a goodness-of-fit measure for each model in order to allow comparisons across models in terms of dependent variable variance (when taking into account the amount of variables present in each model). For cyber-psychopathy subscales that are dependent variables, five models are presented with the following independent variables: gender, demographic characteristics, internet usage, substance use, and all variables together. These models are shown in Tables 9, 10, and 11.

To address RQ3 in Chapter 4, logistic regression is used due to the dichotomous nature of the psychopathy differential dependent variable: “Increase in Total Psychopathy Online” versus “No Increase in Total Psychopathy Online” (reference group). Models are presented with odds ratios (e^B) and standard errors in order to determine the log odds of being in the “increase” group and thus to find the most likely social predictors of an increase in psychopathy when using the

internet. There are five models run to compare gender, demographic characteristics, internet usage, and substance use variables in isolation, as well as all together in the final model. Some categories in the independent variables had to be dropped due to missing cases from the smaller sample size in the "increase" group. McFadden's Pseudo R^2 is employed as a goodness-of-fit measure in order to determine which set of independent variables represents the best model. It is important to note that models with a Pseudo R^2 between 0.2 and 0.4 represent "excellent" fit, similar to linear regression R^2 values of 0.7 to 0.9 (Domencich & McFadden, 1975; Louviere, Hensher, & Swait, 2000; McFadden, 1979). These models are shown in Table 12.

To address RQ5 in Chapter 5, both ordered logistic regression and linear regression techniques are used for misconduct dependent variables. First of all, in order to predict the **acceptability** of the individual online misconduct behaviours, I employ ologit models due to the Likert/ordinal nature of each variable which signifies an ordinal level of measurement. The regressions used for acceptability are thus compared with the reference group "totally unacceptable", and the models are presented with odds ratios (e^B) and standard errors to convey the log odds of increasing acceptability levels toward a particular behaviour. For each of the 10 misconduct behaviours, five models are presented (50 total regressions): all variables (baseline), all variables plus PCP and SCP, all variables plus POP and SOP, all variables plus TCP, and all variables plus TOP. Multiple models are necessary to compare whether models with cyber-psychopathy variables outperform offline psychopathy variables (or the baseline model) in predicting acceptability toward a specific individual misconduct behaviour. These comparisons are made using McFadden's Pseudo R^2 as a goodness-of-fit test, with an empirical rule for a threshold of a difference in model predicting power being Pseudo $R^2 = \pm 0.02$. These models are shown in Table 15. Secondly, OLS linear regression is used to predict the Online Misconduct Acceptability (OMA) composite score. Five models are presented: all variables (baseline), all

variables plus cyber-psychopathy subscales (PCP and SCP), all variables plus offline psychopathy subscales (POP and SOP), all variables plus total cyber-psychopathy (TCP), and all variables plus total offline psychopathy (TOP). Models 4 and 5 are included in order to allow more precise comparisons across models; by including TCP and TOP (which have the same scale units) in separate models that include the same covariates, coefficients can be compared to determine which produces higher increases in the dependent variable. Using this strategy, coefficients can be compared without the possibility of multicollinearity effects by including TCP and TOP (which are strongly correlated) in the same model. These models are shown in Table 16.

To address RQ6 in Chapter 5, both ologit and linear regression techniques are used for misconduct dependent variables. Ordered logistic regression predicts the **tendency** toward the 10 individual online misconduct behaviours, as a result of the ordinal level Likert–type variables. The regressions used for tendency are thus compared with the reference group "totally unacceptable", and the models are similarly presented with odds ratios (e^B) and standard errors to convey the log odds of increasing tendency levels toward a particular behaviour. The same five models are presented as in Table 15 (RQ5), which are compared with McFadden's Pseudo R^2. These models are shown in Table 17. Moreover, a composite score of Online Misconduct Tendency (OMT) is predicted with OLS linear regression to examine which variables contribute to increased likelihood of engaging in online misconduct, on average. Similarly to Table 16 (RQ5), five models are presented. These models are shown in Table 18.

3.5. Methodology Summary

In conclusion, the methodology used in this study is quantitative in nature with a cross-sectional design. Several hundred individuals were recruited to participate in a web-based survey via social media advertising and snowball sampling. These respondents completed two

psychopathy scales that controlled for social context, allowing comparison in psychopathic expression between online and offline situations. Respondents also evaluated 10 vignette scenarios in terms of acceptability and likelihood of engaging in online misconduct behaviours. Data were analyzed to measure the focal relationships while holding other potential confounders constant using multivariate techniques such as OLS, logit, and ologit regression. The results of this study will be presented in the subsequent chapters (4 and 5).

CHAPTER 4:
RESULTS I – EXAMINING CYBER-PSYCHOPATHY

The purpose of this chapter is to summarize the findings from the quantitative data analyses when psychopathy measures are the dependent variables (*N*=408). I first describe the univariate statistics and address RQ1. Then I discuss the results of the correlation matrix in my bivariate analyses. Finally, I report the multivariate analyses (RQ2 and RQ3) that are estimated through a series of linear and logistic regressions. All percentages reported in-text are rounded to the nearest full percent, all univariate statistics are rounded to one decimal place, and all coefficients in multivariate models are rounded to two decimal places. Tables 6-12 are described in this chapter.

4.1. Univariate Analyses

The sample characteristics are described through a set of frequency distributions and percentages, and the tables are divided into male and female subsamples in order to emphasize the significant gender differences in the variables. The data are reported as means and standard deviations for continuous variables and percentages for categorical variables. Gender differences on these categorical variables are determined with χ^2 (i.e., Chi-Square) tests.

Table 6a (below) shows the univariate statistics for demographic variables that serve as independent and control variables in the multivariate regressions in this study. First of all, the full sample (*N*=408) is comprised of 44% males and 55% females. This gender difference is important to note because this would suggest that the psychopathy levels in the overall sample will be lower on average than those predicted in the literature that reports much higher male scores (Beryl et al., 2014; Forth et al., 1996; Levenson et al., 1995; Salekin et al., 1997). Secondly, the mean age of the sample is about 26.5 years of age (range 18-61), with a standard deviation of 8.1 which suggests that there is a moderate amount of variation in participants' ages:

68% fall between the range of 18.3 and 34.6 years of age. Next, the annual household income in the sample is fairly evenly distributed such that about 45% of the sample are placed within the $25 000 to $100 000 category, with no statistically significant gender differences. Furthermore, this table highlights the education level of the participants with a χ^2 test showing significant differences between males and females ($p \leq 0.1$), which are mostly reflected in 9% fewer females than males in the lowest education category (less than post-secondary graduate) and about 6% more females in the highest education category (post-secondary graduate). Table 6a also reports the percentages of participants who fall into specific occupation categories; the largest group in the sample is "student", which makes up 39% of the overall sample. The gender differences among the occupation categories are statistically significant ($p \leq 0.1$), with notable observations being fewer males as students (-6%) and males dominating the computer profession category (+7%). To refresh from Chapter 3, the "other" category serves as a reference group in the multivariate analyses in order to compare the theorized psychopathy-relevant occupations to the catch-all group of all jobs that are not emphasized in the literature. Finally, the residence location variable shows that 84% of the sample reports living in North America (45% in Canada), with a minority (11%) living in Europe. As such, there is not a true geographic representation of internet users in the overall sample. This variable is also reported with significant gender differences ($p \leq 0.001$), reflected in a higher proportion of females living in Canada (52% versus 36% for males), and a higher proportion of males living in Europe (19% versus 5% in females). Table 6a is presented below.

Table 6a. Descriptive Statistics for Demographic Variables Reported as Means (*SD*) or Percentages

Variables	Overall (*N*=408)	Males (*n*=180)	Females (*n*=228)	*p*
Gender				
Male (%)	44.1	-	-	
Female (%)	55.9	-	-	
Age in Years	26.46 (8.12)	26.65 (8.50)	26.31 (7.83)	
Household Income				
Less than $25 000 per year (%)	27.2	29.4	25.4	
Between $25 000 and $100 000 per year (%)	44.6	45.6	43.9	
$100 000 or more per year (%)	18.1	15.6	20.2	
Missing Data (%)	10.1	9.4	10.5	
Highest Level of Education				
Less than College/University Graduate (%)	15.7	20.6	11.8	†
Current College/University Student (%)	21.8	20.0	23.3	
College/University Graduate (%)	62.5	59.4	64.9	
Occupation				
Student (%)	39.0	35.6	41.7	†
Teacher (%)	6.4	6.7	6.1	
Management (%)	4.2	5.0	3.5	
Computer Professions (%)	5.2	8.9	2.2	
Not Working (%)	6.6	5.6	7.5	
Other (%)	33.6	32.8	34.2	
Missing Data (%)	5.2	5.6	4.8	
Residence Location				
Canada (%)	44.9	35.6	52.2	***
United States (%)	39.5	39.4	39.5	
Europe (%)	11.3	18.9	5.3	
Other (%)	3.4	5.0	2.2	
Missing Data (%)	1.0	1.1	0.9	

Note: The *p* value column refers to a test of gender difference (independent samples *t*-test, χ^2) – total *p* value from χ^2 test is given for categorical variables

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Table 6b (below) presents the descriptive statistics for the internet usage variables that serve as independent and control variables in the multivariate regressions in this study. First of all, the participants have very high levels of digital literacy in general, meaning that they have strong competence using the internet based on their understanding of internet-related terms. The overall sample scored 63.8 out of a possible 75 on the Web-Use Skill Index (Hargittai & Hsieh, 2012), which when reduced to the 5-point scale for clarity purposes represents a 4.3 out of 5 (with 5 being total understanding). The standard deviation on this variable is fairly high at 11.1, demonstrating that there is lots of variation among the sample in terms of digital literacy, such that some people tend to have much better technical skills than others. The gender differences are also statistically significant ($p \leq 0.001$) with males, on average, scoring 6.2 points higher than females, along with a smaller standard deviation (8.9 versus 11.9). Secondly, the hours of daily internet use have a mean of 5.9 for the overall sample, but there are significant gender differences ($p \leq 0.01$), such that males average almost one full hour online more than females every day (6.3 versus 5.5) along with higher variability around the mean. Next, Table 6b shows that 86% of the overall sample has been using computers for 10 years or more, as well as 79% of the overall sample has been using the internet for 10 years or more, with no significant gender differences in either variable. These findings show that most participants have high familiarity with computer and internet technology, which might actually reflect the high scores in digital literacy. Furthermore, the data demonstrate that there is an even distribution of internet activities that are performed most by participants. Social media and browsing tend to be the most performed by the overall sample (23%), but the trends change in the gendered subsamples with statistically significant differences ($p \leq 0.001$). Females report much higher usage of social media than males, with 30% and 14% reporting social media as their most performed activity, respectively. This finding reflects similar gender trends for social media usage found in Haight,

Quan-Haase, and Corbett (2014). Also, the results show that gaming is an activity that is done most by males with an 11% difference over females. Finally, this table presents the percentages of people who report using specific websites or apps online, through a series of yes/no dummy variables. The most used website is Reddit (68% overall sample), which is divided by 77% of males and 62% of females ($p \leq 0.01$). That said, the largest gender differences in website use ($p \leq 0.001$) are on 4chan with 24% male users and 6% female users, as well as on Pinterest with 11% male users and 50% female users. Such large gender differences on the use of Pinterest have been similarly reported by Duggan, Ellison, Lampe, Lenhart, and Madden (2015). Table 6b is presented below.

Table 6b. Descriptive Statistics for Internet Use Variables Reported as Means (*SD*) or Percentages

Variables	Overall (*N*=408)	Males (*n*=180)	Females (*n*=228)	*p*
Digital Literacy	63.79 (11.10)	67.25 (8.90)	61.06 (11.89)	***
Daily Internet Use in Hours	5.88 (2.95)	6.33 (3.23)	5.53 (2.67)	**
Years Using Computers				
Less than 10 years (%)	7.8	5.0	10.1	
10-19 years (%)	58.3	57.8	58.8	
20 years or more (%)	27.5	30.6	25.0	
Missing Data (%)	6.4	6.7	6.1	
Years Using Internet				
Less than 10 years (%)	14.0	11.7	15.8	
10-14 years (%)	44.1	46.7	42.1	
15 years or more (%)	35.3	34.4	36.0	
Missing Data (%)	6.6	7.2	6.1	
Most Performed Internet Activity				
Social Media (%)	23.0	14.4	29.8	***
Email (%)	16.7	15.0	18.0	
Browsing (%)	22.6	22.8	22.4	
Games (%)	7.6	13.9	2.6	
Message Boards or Forums (%)	16.9	20.0	14.5	
Streaming or Downloading Media (%)	6.9	7.2	6.6	
Missing Data (%)	6.4	6.7	6.1	
Website or Apps Used				
Reddit (%)	68.6	76.7	62.3	**
4chan (%)	14.0	24.4	5.7	***
Pinterest (%)	32.6	10.6	50.0	***
Tinder (%)	10.1	11.1	9.2	
Ebay (%)	34.1	32.8	35.1	
Twitter (%)	44.4	41.1	46.9	

Note: The *p* value column refers to a test of gender difference (independent samples *t*-test, χ^2) – total *p* value from χ^2 test is given for categorical variables

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Table 6c (below) presents the descriptive statistics for the substance use variables that serve as independent and control variables in the multivariate regressions in this study. First of all, 75% of the sample report excessive use of alcohol at some point over the past 12 months, with the largest category being “once to a couple times” (31%). On the other hand, recreational drug use (i.e., non-alcohol) is reported by a much smaller proportion of the overall sample (32%), with the largest use category being “once to a couple times” (16%). The data show that 60% of participants report not at all using drugs in the past 12 months, which shows that substance use is not a major characteristic in this sample. Also, there are no statistically significant gender differences in excessive alcohol usage or recreational drug use. Table 6c is reported below.

Table 6c. Descriptive Statistics for Substance Use Variables Reported as Means (*SD*) or Percentages

Variables	Overall (*N*=408)	Males (*n*=180)	Females (*n*=228)	*p*
Excessive Use of Alcohol in Past 12 Months				
Not at all (%)	18.6	18.9	18.4	
Once to a couple of times (%)	30.6	27.2	33.3	
Once a month to a couple times per month (%)	29.7	31.1	28.5	
Once a week or more (%)	14.7	16.1	13.6	
Not Answered (%)	6.4	6.7	6.1	
Use of Recreational Drugs in Past 12 Months				
Not at all (%)	60.3	57.2	62.7	
Once to a couple of times (%)	16.4	18.3	14.9	
Once a month to a couple times per month (%)	5.9	5.6	6.1	
Once a week or more (%)	10.1	11.7	8.8	
Not Answered (%)	7.4	7.2	7.5	

Note: The *p* value column refers to a test of gender difference (independent samples *t*-test, χ^2) – total *p* value from χ^2 test is given for categorical variables

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Tables 7a,b,c report data on the psychopathy measures through univariate statistical techniques such as *t*-tests (independent and paired samples) for continuous variables and χ^2 tests for categorical variables. Gendered subsamples are also used to reflect the predicted psychopathic differences among males and females from the literature (Beryl et al., 2014; Forth et al., 1996; Salekin et al., 1997). These tables address the first and question:

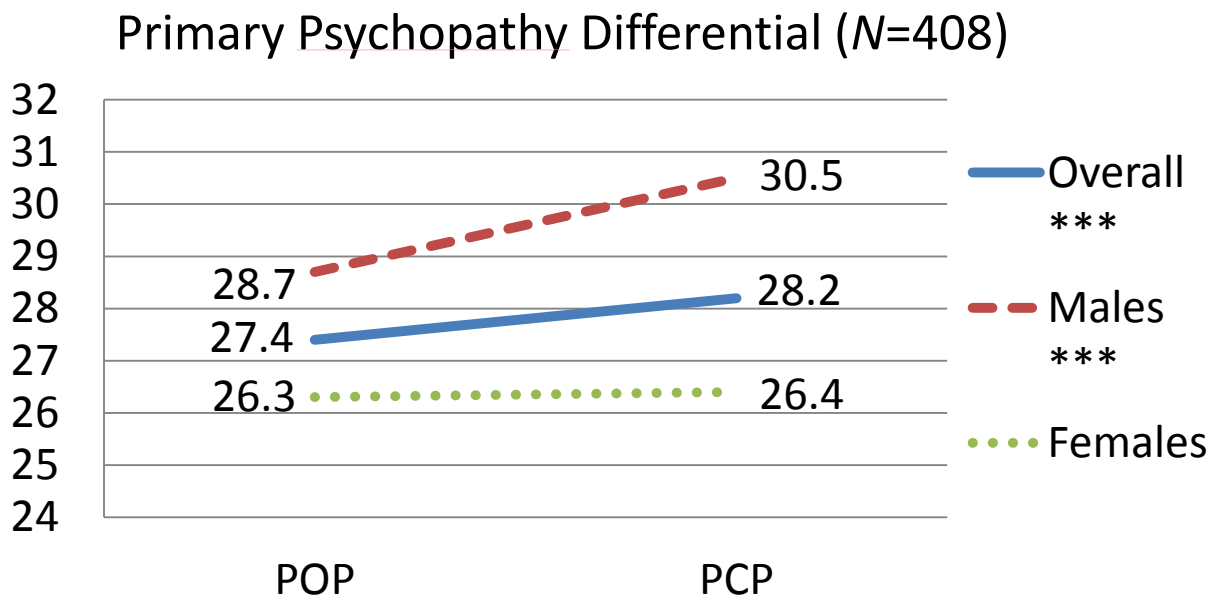
> **RQ1:** Is there a statistical difference between measures of "Cyber-Psychopathy" (PCP, SCP, TCP) and "Offline Psychopathy" counterparts (POP, SOP, TOP)? Does the internet decrease, increase, or intensify psychopathic personality expression? Are there gender differences?

Tables 7a,b,c (below) present the descriptive statistics for psychopathy variables (cyber/offline primary, secondary, total) that serve as dependent variables for the multivariate analyses in this chapter. To refresh from Chapter 2, primary psychopathy (PP) represents the factor of psychopathy that shows a lack of empathy and callousness, while secondary psychopathy (SP) involves traits of impulsiveness and emotional reactivity. It is important to examine both because they are distinct theoretical dimensions in the two factor conceptual model of psychopathy; however, they will also be looked at combined together with the total psychopathy (TP) variable. For reference, Table 7a focuses on PP, Table 7b reports on SP, and Table 7c presents TP data.

First of all, in Table 7a, both cyber and offline primary psychopathy mean scores in the overall sample (28.2 and 27.4, respectively) are fairly low (sample max of 55; scale range 16-64), which suggests that the sample is representative of mostly subclinical expressions of PP. Primary cyber-psychopathy (PCP) has significant gender differences ($p \leq 0.001$), such that males score 4.1 points higher than females. On the other hand, primary offline psychopathy (POP) follows a similar trend of gender differences ($p \leq 0.01$), but with lower mean scores and a smaller difference, with males scoring only 2.4 points higher than females. When controlling for the internet social context by comparing the means of PCP and POP, the majority of the overall

sample (75%) experience no change in expression between contexts (i.e., they fall within ±1 *SD* to account for error). That said, there is a differential in the overall sample of 0.8 points in favour of PCP, which represents a 3% increase in primary psychopathic expression online ($p \leq 0.001$). In general, 16% of the overall sample falls into the category of "increase online", meaning that these cases have higher PCP scores than POP scores beyond one standard deviation of the differential variable. Males also tend to have both higher scores on the primary psychopathy measures and higher differential scores, meaning that, on average, they increase in expression online more than females. For males, the primary psychopathy differential is 1.8 points, which is a 6% increase online ($p \leq 0.001$), whereas females do not have a statistically significant PP increase online. Thus, the gender difference between PCP and POP is statistically significant ($p \leq 0.001$), and when the differential is represented categorically, the data show that 24% of males increase online compared to only 10% of females. Interestingly, almost an equal percentage of females decrease online (10%) as those who increase. See Figure 1 for a graphical representation of the primary psychopathy differential.

Figure 1.



It is important to note that for the figures in this chapter, the statistically significant indicators (*) are derived from paired samples *t*-test between the means of cyber and offline psychopathy counterpart scores.

Among the subsample of those who increase in primary psychopathy online (*n*=65), the mean differential is 8 points in the overall sample, with no significant gender differences. Therefore, participants who are categorized as having increases in primary psychopathy online have, on average, a 29% increase. Despite similar differentials, males who increase have higher mean scores for PCP and POP relative to females who increase ($p \leq 0.05$). The female subsample also has a much lower standard deviation for this variable (*SD* = 2.2). Another increase variable has been created for a subset called "intensification", which measures whether the internet enhances the expression of primary psychopathy—that is, the individual already has an above-average psychopathic score offline that is heightened or extended online. The operational definition for intensification is as follows: an individual has an intensified increase if they have a POP score above the overall sample mean and then increase in PCP beyond one standard deviation (i.e., their POP score is above 27.4 and their PCP score is higher than 33). This 33 cutoff is calculated by taking the PCP mean (28.2) and adding one *SD* from the primary psychopathy differential (4.8). For primary psychopathy, 46% of the overall sample has an intensified increase in PP online, which does not show a statistically significant difference between gendered subsamples. Table 7a is below.

Table 7a. Descriptive Statistics for Primary Psychopathy Variables Reported as Means (*SD*) or Percentages

Variables	Overall (*N*=408)	Males (*n*=180)	Females (*n*=228)	*p*
Primary Cyber-Psychopathy	28.20 (8.11)	30.50 (8.47)	26.39 (7.33)	***
Primary Offline Psychopathy	27.37 (7.66)	28.71 (7.96)	26.31 (7.27)	**
Primary Psychopathy Differential	0.83 (4.77) *** [a]	1.79 (5.48) *** [a]	0.08 (3.98) [a]	***
Decrease Online (%)	9.6	8.9	10.1	***
No Change Online (%)	74.5	67.2	80.3	
Increase Online (%)	15.9	23.9	9.7	
Subsample of Primary Psychopathy Increase	**Overall (*n*=65)**	**Males (*n*=43)**	**Females (*n*=22)**	***p***
Primary Cyber-Psychopathy	35.43 (7.85)	37.05 (7.63)	32.25 (7.43)	*
Primary Offline Psychopathy	27.45 (6.84)	28.74 (6.90)	24.93 (6.09)	*
Primary Psychopathy Differential	7.98 (4.02)	8.31 (4.68)	7.32 (2.19)	
Intensification				
Intensified Increase (%)	46.2	51.2	36.4	
Non-Intensified Increase (%)	53.9	48.8	63.6	

Note: The *p* value column refers to a test of gender difference (independent samples *t*-test, χ^2) – total *p* value from χ^2 test is given for categorical variables

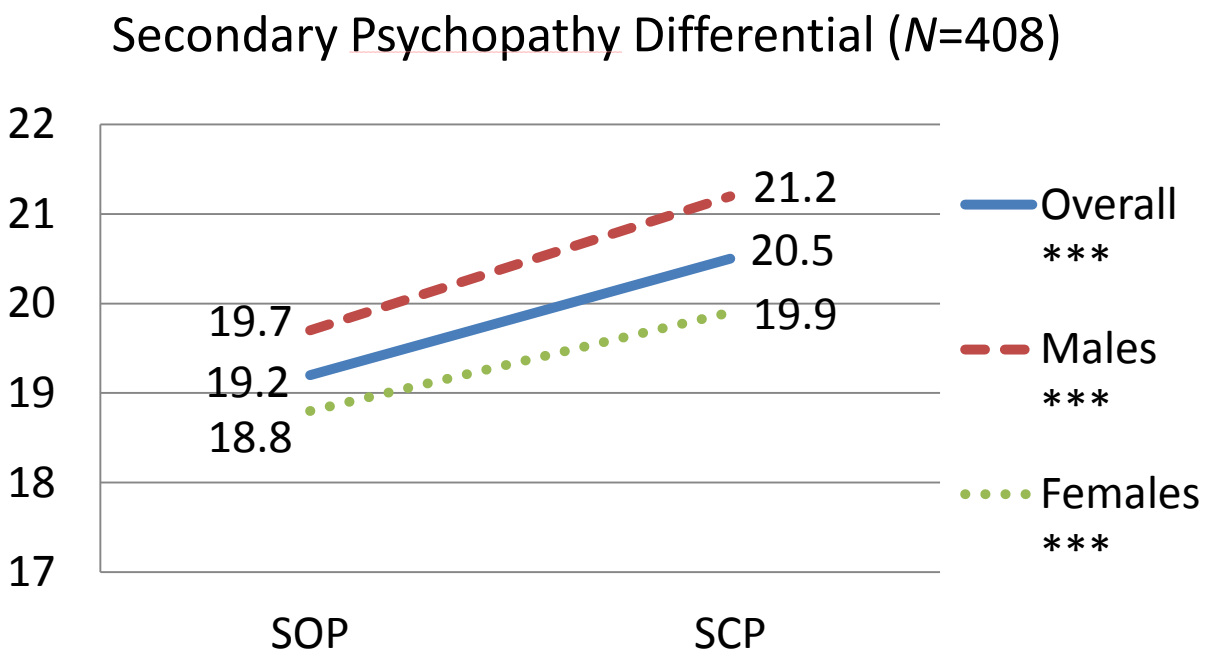
†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

[a] = paired samples *t*-test between the means of cyber and offline psychopathy scores

In Table 7b, the cyber and offline secondary psychopathy mean scores in the overall sample (20.5 and 19.2, respectively) are higher relative to standardized primary scores, but the sample is still representative of more subclinical expressions (sample max of 33; scale range 10-40). This is demonstrated by the results that the SP mean score is higher (52% of max possible score) than the PP mean score (47% of max possible score) in the overall sample.

Secondary cyber-psychopathy (SCP) has significant gender differences ($p \leq 0.001$), such that males score 1.4 points higher than females. On the other hand, secondary offline psychopathy (SOP) follows a similar trend of gender differences ($p \leq 0.05$), but with lower mean scores and a smaller difference with males scoring only 0.9 points higher than females. When controlling for internet context by comparing the means of SCP and SOP, the majority of the overall sample (73%) experience no change in expression between contexts (i.e., they fall within ±1 *SD* to account for error). That said, there is a differential of 1.3 points in the overall sample in favour of SCP, which represents a 7% increase in secondary psychopathic expression online ($p \leq 0.001$). In general, 20% of the overall sample (21% males, 18% females) falls into the category of "increase online", meaning that these cases have higher SCP score than SOP score beyond one standard deviation of the differential variable. For males, the secondary differential is 1.6 points, which is an 8% increase online ($p \leq 0.001$), whereas females have a 6% increase online ($p \leq 0.001$). Males do tend to have higher mean scores on the secondary psychopathy measures, but there is no statistically significant difference between the genders in terms of the size of the secondary psychopathy differential. Furthermore, when this differential variable is represented categorically the data do not show any categories that differ between males/females beyond chance error. See Figure 2 for a graphical representation of the secondary psychopathy differential.

Figure 2.



Among the subsample of those who increase in secondary psychopathy online (n=80), the mean differential is 7 points in the overall sample, with no significant gender differences. Therefore, participants who increase in secondary psychopathy online have, on average, a 42% increase. Despite similar differentials, males who increase in SP online have higher mean scores for SCP and SOP relative to females who increase ($p \leq 0.05$). Also, of those individuals who increase in secondary psychopathy online, 19% of the overall sample has an intensified increase with males at 26% and females at 12% ($p \leq 0.1$), which suggests that males are more likely than females to have intensified increases of SP online. Table 7b is below.

It is important to note that there are larger standard deviations for primary psychopathy measures than for the secondary psychopathy measures ($\simeq$8 versus $\simeq$4), which demonstrates that there is more variation in terms of participants' lack of empathy than their impulsiveness, both online and offline. Males also tend to have larger standard deviations than females in terms of all the psychopathy measures.

Table 7b. Descriptive Statistics for Secondary Psychopathy Variables Reported as Means (*SD*) or Percentages

Variables	Overall (*N*=408)	Males (*n*=180)	Females (*n*=228)	*p*
Secondary Cyber-Psychopathy	20.49 (4.09)	21.24 (4.24)	19.89 (3.88)	***
Secondary Offline Psychopathy	19.17 (4.39)	19.66 (4.24)	18.78 (4.47)	*
Secondary Psychopathy Differential	1.32 (4.09) *** [a]	1.57 (3.93) *** [a]	1.12 (4.20) *** [a]	
Decrease Online (%)	7.6	6.1	8.8	
No Change Online (%)	72.8	72.8	72.8	
Increase Online (%)	19.6	21.1	18.4	
Subsample of Secondary Psychopathy Increase	**Overall (*n*=80)**	**Males (*n*=38)**	**Females (*n*=42)**	***p***
Secondary Cyber-Psychopathy	23.50 (3.98)	24.50 (4.04)	22.60 (3.75)	*
Secondary Offline Psychopathy	16.53 (3.53)	17.55 (3.55)	15.60 (3.28)	*
Secondary Psychopathy Differential	6.97 (2.35)	6.95 (2.21)	7.00 (2.49)	
Intensification				
Intensified Increase (%)	18.8	26.3	11.9	†
Non-Intensified Increase (%)	81.3	73.7	88.1	

Note: The *p* value column refers to a test of gender difference (independent samples *t*-test, χ^2) – total *p* value from χ^2 test is given for categorical variables

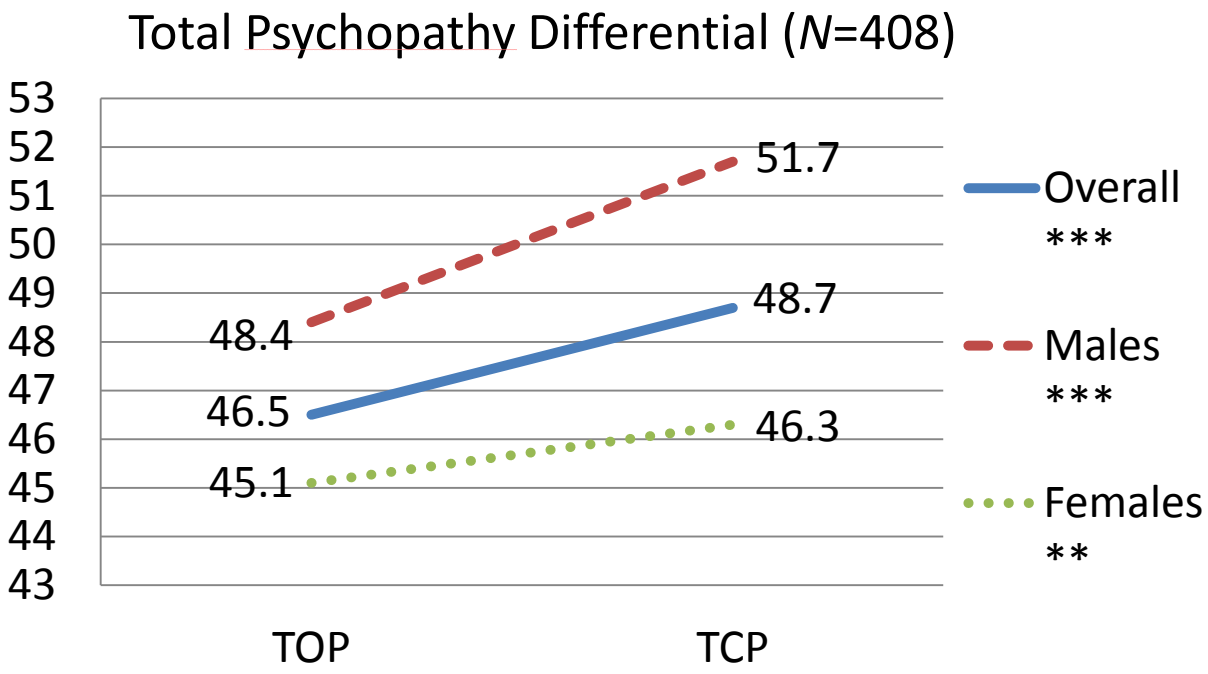
†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

[a] = paired samples *t*-test between the means of cyber and offline psychopathy scores

In Table 7c, primary and secondary psychopathy are added together to create a variable of "Total Psychopathy" for both online and offline social contexts. As such, total cyber-psychopathy (TCP) and total offline psychopathy (TOP) in the overall sample have mean scores of 48.7 and 46.5, respectively (sample max of 85; scale range 26-104).

First of all, TCP has significant gender differences ($p \leq 0.001$), such that males score 5.5 points higher than females. On the other hand, TOP follows a similar trend of gender differences ($p \leq 0.001$), but with lower mean scores and a smaller difference with males scoring 3.3 points higher than females. When controlling for internet context by comparing the means of TCP and TOP, the majority of the overall sample (72%) experience no change in expression between contexts (i.e., they fall within ±1 *SD* to account for error). That said, there is a differential of 2.2 points in the overall sample in favour of TCP, which represents a 5% increase in total psychopathic expression online ($p \leq 0.001$). In general, 20% of the overall sample falls into the category of "increase online", meaning that these cases have higher TCP score than TOP score beyond one standard deviation of the differential variable. For males, the total differential is 3.4 points, which is a 7% increase online ($p \leq 0.001$), whereas females have a 3% increase online ($p \leq 0.01$). Males do tend to have higher mean scores on the total psychopathy measures, and the difference between the genders in terms of total psychopathy differential (both continuous and categorical variables) is also statistically significant ($p \leq 0.001$). The data show that 31% of males increase online in terms of total psychopathy compared to only 12% of females, while females are much more likely to experience no change (+18%). See Figure 3 for a graphical representation of the total psychopathy differential.

Figure 3.



Among the subsample of those who increase in total psychopathy online (n=83), the mean differential is 11 points in the overall sample, with no significant gender differences. Therefore, participants who increase in total psychopathy online have, on average, a 24% increase. Also, despite similar differentials, males who increase in TP online have higher mean scores for TCP ($p \leq 0.05$) and TOP ($p \leq 0.01$) relative to females. Moreover, of those individuals who increase in total psychopathy on the internet, 46% of the overall sample has an intensified increase, with males at 58% and females at 21% ($p \leq 0.001$). This finding suggests that males are more likely than females to have both objectively high TOP scores and even higher TCP scores. Table 7c is below.

Table 7c. Descriptive Statistics for Total Psychopathy Variables Reported as Means (*SD*) or Percentages

Variables	Overall (*N*=408)	Males (*n*=180)	Females (*n*=228)	*p*
Total Cyber-Psychopathy	48.69 (10.60)	51.74 (10.74)	46.28 (9.86)	***
Total Offline Psychopathy	46.54 (9.96)	48.38 (9.90)	45.09 (9.78)	***
Total Psychopathy Differential	2.15 (6.68) *** [a]	3.36 (7.16) *** [a]	1.19 (6.14) ** [a]	***
Decrease Online (%)	7.6	7.2	7.9	***
No Change Online (%)	72.1	62.2	79.8	
Increase Online (%)	20.3	30.6	12.3	
Subsample of Total Psychopathy Increase	**Overall (*n*=83)**	**Males (*n*=55)**	**Females (*n*=28)**	***p***
Total Cyber-Psychopathy	56.37 (10.84)	58.34 (10.09)	52.49 (11.39)	*
Total Offline Psychopathy	45.40 (9.57)	47.44 (9.11)	41.41 (9.34)	**
Total Psychopathy Differential	10.97 (5.31)	10.90 (5.73)	11.08 (4.47)	
Intensification				
Intensified Increase (%)	45.8	58.2	21.4	***
Non-Intensified Increase (%)	54.2	41.8	78.6	

Note: The *p* value column refers to a test of gender difference (independent samples *t*-test, χ^2) – total *p* value from χ^2 test is given for categorical variables

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

[a] = paired samples *t*-test between the means of cyber and offline psychopathy scores

4.2. Bivariate Analyses

Bivariate analyses are used to examine the associations between continuous variables of interest with the Pearson correlation coefficient (*r*) rounded to two decimal places. Table 8 (below) reports a correlation matrix between the various dependent variables in this chapter (i.e., PCP, POP, SCP, SOP, TCP, and TOP), as well as continuous independent variables (i.e., age, digital literacy, and daily internet use). The sample size for this table is *N*=408.

The data in Table 8 show some interesting relationships that are statistically significant ($p \leq 0.001$). First of all, PCP and POP have a very strong positive correlation ($r = 0.82$), while the association between SCP and SOP is still moderately strong objectively ($r = 0.54$) but weaker relative to the primary correlation. When added together for the total psychopathy measures, TCP and TOP have a very strong positive correlation ($r = 0.79$). All of these suggest that having a high score on an offline psychopathy scale makes it highly likely that the online psychopathy counterpart scale will also have a high score, especially for PP and TP. It is important to note that these correlations are very strong but are not perfectly associated, suggesting that the CP and OP variables are highly related but are not actually the same construct. Next, there is a moderate correlation between PCP and SCP ($r = 0.45$), demonstrating that each factor of psychopathy is more independent, but still likely to increase as the other one does. This relationship is still positive but weaker for POP and SOP ($r = 0.31$), which reinforces the idea that, in general, the measures of online psychopathy are more highly correlated than offline measures. That said, each type of measure always associates more strongly with other measures of the same context (e.g., TCP and SCP) rather than comparing across context (e.g., TCP and SOP).

Furthermore, when examining the extraneous variables the data show that age is negatively associated with all psychopathy measures ($p \leq 0.001$). The strongest association with age is moderate at $r = -0.28$ (TCP), with the primary psychopathy variables having slightly

stronger correlations than the secondary psychopathy variables, and the online context variables being more strongly correlated than those for the offline context. Thus, the younger the respondent, the higher the psychopathy scores (i.e., all CP and OP subscales) tend to be, which conforms to much of the findings in the previous literature (Coid, Yang, Ullrich, Roberts, Moran, et al., 2009; Hare, 1991; Seto & Barbaree, 1999). Moreover, digital literacy has a weak positive correlation with PCP ($r = 0.11$) and TCP ($r = 0.12$), but not any offline psychopathy measures, which makes sense due to the nature of this variable only predicting internet competence ($p \leq 0.05$). Digital literacy is also positively correlated with age ($r = 0.10$) such that as you get older your online skills mildly improve ($p \leq 0.05$). Finally, daily internet use is weakly positively associated with all psychopathy variables except POP, with the highest being SCP at 0.16 ($p \leq 0.01$). Thus being immersed longer in digital environments is associated with increased impulsivity online. It is also interesting to note that daily internet use has the strongest correlation with digital literacy ($r = 0.29$), which would be expected because internet skills should improve the more time one spends online ($p \leq 0.001$). Overall, Table 8 is presented below.

Table 8. Correlation Coefficients of Continuous Variables (*N*=408)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Primary Cyber-Psychopathy	1.00								
(2) Primary Offline Psychopathy	0.82 ***	1.00							
(3) Secondary Cyber-Psychopathy	0.45 ***	0.34 ***	1.00						
(4) Secondary Offline Psychopathy	0.34 ***	0.31 ***	0.54 ***	1.00					
(5) Total Cyber-Psychopathy	0.94 ***	0.76 ***	0.73 ***	0.47 ***	1.00				
(6) Total Offline Psychopathy	0.78 ***	0.91 ***	0.50 ***	0.68 ***	0.79 ***	1.00			
(7) Age (Years)	-0.27 ***	-0.25 ***	-0.21 ***	-0.14 ***	-0.28 ***	-0.26 ***	1.00		
(8) Digital Literacy	0.11 *	0.00	0.07	-0.01	0.12 *	0.00	0.10 *	1.00	
(9) Daily Internet Use (Hours)	0.11 *	0.04	0.16 **	0.14 **	0.15 **	0.10 *	0.03	0.29 ***	1.00

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

4.3. Multivariate Analyses

Multivariate statistical techniques are used to predict CP scores while controlling for multiple extraneous variables[4]. Linear regressions (OLS) are estimated to address the second research question and the data is reported in Tables 9, 10, and 11 (N=408):

> **RQ2:** What are the social predictors of cyber-psychopathy scores? What is the relationship between cyber-psychopathy scores (PCP, SCP, TCP) and gender, demographic variables, internet use variables, and substance use?

In Table 9, multivariate analysis is used to predict the dependent variable Primary Cyber-Psychopathy (PCP). As a continuous variable, the effects on the PCP subscale (range 16-64) are estimated using OLS linear regression, with five models controlling for different independent variables: gender (Model 1), demographic characteristics (Model 2), internet usage (Model 3), substance use (Model 4), and all these variables together (Model 5).

Gender is a statistically significant variable in predicting PCP across all models in which it is included ($p \leq 0.001$). Males have an increase in 4.12 points when compared to females (Model 1), which is reduced slightly to a 2.94 point difference between males and females when all extraneous variables are controlled ($p \leq 0.001$, Model 5).

In terms of other demographic characteristics, increasing in age by one year in Model 2 shows a decrease in PCP scores by about 0.32 points ($p \leq 0.001$), which ends up having a very similar negative association when controlling for all variables in Model 5 (B = -0.30, $p \leq 0.001$). Furthermore, Model 2 demonstrates that living in Europe is associated with an increase in PCP by 2.84 points compared to those living in Canada ($p \leq 0.05$), but this variable becomes

[4] It is important to note that based on the theoretical framework of context-dependent personality, offline psychopathy is not something that can predict cyber-psychopathy without being tautological: they are two dimensions of a broader concept which differ in terms of their *expression* between social contexts. Having both measures of psychopathy (cyber/offline) included in the models could lead to problematic multicollinearity effects, especially considered how strongly CP and OP are correlated (see Table 8). Therefore, offline psychopathy variables (POP, SOP, and TOP) are not included as social predictors of their cyber-psychopathy counterparts in the multivariate models (Tables 9-11).

insignificant when no longer examining demographic factors in isolation. However, household income actually emerges as a relevant variable in the inclusive Model 5, with the lowest income category (less than $25 000 per year) being associated with a decrease in PCP by about 2.23 points when compared to the reference group ($p \leq 0.05$). There are not any statistically significant findings for alcohol or drug use predicting PCP across any models.

The data also show that there are several internet usage variables that are associated with PCP across the models. First of all, in Model 3, participants who have been using the internet for 15+ years actually decrease in their PCP scores by 2.92 points compared to their 10-14 year counterparts ($p \leq 0.01$), and this slightly drops when all variables are controlled for in Model 5 (B = -2.23, $p \leq 0.05$). Furthermore, for every hour increase in daily internet use, PCP scores increase by about 0.30 points ($p \leq 0.05$), but this variable is only statistically significant in Model 3 when internet use variables are examined in isolation. In terms of websites, users of 4chan and Ebay increase in PCP by 3.97 ($p \leq 0.001$) and 2.15 points ($p \leq 0.05$), respectively, when compared to non-users, while use of Pinterest actually predicts a decrease in PCP by 1.71 points ($p \leq 0.05$; Model 3). In Model 5, there is a minor reduction of the impact of 4chan use on PCP score (B = 3.0, $p \leq 0.05$) when controlling for all extraneous variables, but Ebay users actually have a minor increase (B = 2.7).

Overall, on their own, internet use variables represent a better fitting model (Adjusted R^2 = 0.11) than gender, other demographics, or substance use variables. That said, when all the controls are added together (Model 5), they explain more of the variance in the PCP dependent variable (17%). Table 9 is presented below.

Table 9. OLS Linear Regression Predicting Primary Cyber-Psychopathy (*N* =408)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***
Gender (Female)										
Male	4.115 ***	0.783							2.940 ***	0.916
Age in Years			-0.318 ***	0.056					-0.297 ***	0.064
Household Income (Between $25 000 and $100 000 per year)										
Less than $25 000 per year			-1.708 †	0.984					-2.232 *	0.970
$100 000 or more per year			1.283	1.101					1.107	1.099
Missing Data			-0.623	1.410					-0.280	1.411
Highest Level of Education (College/University Student)										
Less than College/University Graduate			2.211	1.361					1.419	1.350
College/University Graduate			1.068	1.086					1.510	1.122
Occupation (Other)										
Student			0.312	0.977					0.434	0.971
Teacher			1.123	1.727					0.790	1.715
Management			1.360	2.031					-0.136	2.044
Computer Professions			2.345	1.851					0.246	1.851
Not Working			0.392	1.679					0.469	1.635
Missing Data			-2.620	1.896					-2.188	1.866
Residence Location (Canada)										
United States			0.549	0.867					-0.237	1.048
Europe			2.836 *	1.310					0.582	1.488
Other			-0.631	2.207					-2.050	2.294
Missing Data			1.334	4.032					1.565	3.971
Digital Literacy					0.064	0.041			0.033	0.042
Daily Internet Use in Hours					0.298 *	0.138			0.225	0.138
Years Using Computers (10-19 years)										
Less than 10 years					0.932	1.945			0.391	1.955
20 years or more					-1.280	1.155			0.203	1.276
Missing Data					-8.089	6.195			-5.778	6.824

Years Using Internet (10-14 years)								
Less than 10 years				-0.973	1.537		-1.674	1.559
15 years or more				-2.915 **	1.072		-2.233 *	1.090
Missing Data				5.787	5.022		6.431	5.134
Most Performed Internet Activity (Browsing)								
Email				-1.336	1.253		-1.029	1.254
Social Media				-0.324	1.230		-0.707	1.260
Games				0.424	1.653		-0.513	1.687
Message Boards or Forums				0.403	1.250		0.311	1.242
Streaming or Downloading Media				2.115	1.665		1.625	1.647
Missing Data				2.293	6.071		7.211	6.575
Website or Apps Used								
Reddit (No)				-1.450	1.045		-1.448	1.201
4chan (No)				3.968 ***	1.215		3.000 *	1.237
Pinterest (No)				-1.711*	0.855		-0.951	0.933
Tinder (No)				1.205	1.334		-0.160	1.394
Ebay (No)				2.147 *	0.860		2.695 **	0.861
Twitter (No)				-1.293	0.833		-1.388 †	0.839
Excessive Use of Alcohol in Past 12 Months (Not at all)								
Once to a couple of times						-0.516	1.217	-0.662	1.157
Once a month to a couple times per month						-0.240	1.263	-0.873	1.220
Once a week or more						0.105	1.516	0.420	1.475
Not Answered						5.037	3.731	-6.018	6.700
Use of Recreational Drugs in Past 12 Months (Not at all)								
Once to a couple of times						1.025	1.175	0.131	1.132
Once a month to a couple times per month						2.494	1.794	2.410	1.718
Once a week or more						0.333	1.433	-0.832	1.398
Not Answered						-3.100	3.373	-3.061	3.387
Constant	26.387 ***	0.520	35.116 ***	1.760	24.569 ***	2.694	27.975 ***	0.933	32.679 ***	3.457
Adjusted R^2	0.06		0.08		0.11		0.00		0.17	

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

In Table 10 (below), multivariate analysis is used to predict the dependent variable Secondary Cyber-Psychopathy (SCP) when controlling for extraneous variables. As a continuous variable, the effects on the SCP subscale (range 10-40) are estimated using OLS linear regression, with five models controlling for different independent variables: gender (Model 1), demographic characteristics (Model 2), internet usage (Model 3), substance use (Model 4), and all these variables together (Model 5).

Gender is a statistically significant variable in predicting SCP across all models in which it is included, but at a less influential rate than for PCP (Table 9). In Model 1, males have a SCP increase of 1.35 points when compared to females ($p \leq 0.001$), which is reduced slightly to a 1.16 point difference ($p \leq 0.05$) between males and females when all extraneous variables are controlled (Model 5). Comparing gender effects for SCP and PCP (Tables 9 and 10) shows that the fit of the bivariate gender model for SCP is worse than that for PCP (Adjusted R^2 of 0.02 and 0.06, respectively). In general, Model 1 shows that gender explains very little of the variance in SCP.

In terms of other demographic characteristics, increasing in age by one year in Model 2 shows a decrease in SCP scores by about 0.09 points ($p \leq 0.01$), which ends up having a very similar negative association when controlling for all variables in Model 5 (B = -0.06, $p \leq 0.1$). Furthermore, Model 2 demonstrates that living in Europe is associated with an increase in SCP by 2.09 points compared to living in Canada ($p \leq 0.01$), while living in the United States predicts a 1 point increase ($p \leq 0.05$). European living does have a smaller impact on SCP when controlling for all variables in Model 5 (B = 1.52, $p \leq 0.05$). Interestingly, the missing data category is statistically significant in Model 5 (B = 4.23, $p \leq 0.05$), perhaps reflecting the increased impulsiveness of SCP by not answering the residence location question on the survey. Moreover, household income actually emerges as a relevant variable in the inclusive Model 5, with the lowest income category (less than $25 000 per year) being associated with a decrease in

SCP by about 1.01 points when compared to the reference group ($p \leq 0.05$). Recreational drug use is a variable that predicts an increase in SCP both in the substance use model (4) and in the inclusive model (5). Participants who use drugs once a month to a couple times per month, when compared to the reference group of non-drug users, demonstrate a 3.01 point increase in SCP, which then slightly drops to a 2.86 point increase when all extraneous variables are controlled together ($p \leq 0.001$).

The data also show that there are several internet usage variables that predict SCP scores across models. First of all, in Model 3, for every hour increase in daily internet use, SCP scores increase by about 0.24 points ($p \leq 0.001$), which only moderately drops to a 0.21 point increase ($p \leq 0.01$) in the inclusive Model 5. Next, participants who use message boards/forums most online (compared to the reference group who mostly perform "browsing" activities) demonstrate higher SCP scores in each model: 1.27 point increase in Model 3, and a 1.25 point increase in Model 5 ($p \leq 0.05$). Furthermore, in terms of websites, users of Ebay increase by 0.96 points in SCP ($p \leq 0.05$) when compared to non-users in Model 5 when controlling for all other variables. Only in Model 3, participants who have been using computers for 20+ years actually decrease in their SCP scores by 1.21 points compared to their 10-14 year counterparts ($p \leq 0.05$). It is also important to note that participants with computer-related professions (when compared to the reference group) have significant decreases in SCP by about 2 points when controlling for all other variables in the inclusive Model 5 ($p \leq 0.05$). This suggests that perhaps being associated with computers as an occupation reduces one's impulsive tendencies on the internet, due to increased time spent in cyberspace in a professional manner.

Overall, internet use variables and demographics represent better fitting models (Adjusted $R^2 = 0.07$) than just gender or substance use factors. That said, when all the controls are added together (Model 5), they explain more of the variance in the dependent variable (14%). Table 10 is presented below.

Table 10. OLS Linear Regression Predicting Secondary Cyber-Psychopathy (*N* =408)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***
Gender (Female)										
Male	1.345 ***	0.403							1.160 *	0.470
Age in Years			-0.088 **	0.028					-0.061 †	0.033
Household Income (Between $25 000 and $100 000 per year)										
Less than $25 000 per year			-0.721	0.499					-1.006 *	0.498
$100 000 or more per year			-0.469	0.558					-0.174	0.564
Missing Data			-1.021	0.715					-0.843	0.724
Highest Level of Education (College/University Student)										
Less than College/University Graduate			-0.598	0.690					-0.740	0.692
College/University Graduate			0.226	0.551					0.305	0.576
Occupation (Other)										
Student			0.681	0.495					0.583	0.498
Teacher			-1.017	0.876					-1.036	0.880
Management			0.585	1.030					0.263	1.048
Computer Professions			-1.225	0.938					-1.998 *	0.949
Not Working			-0.810	0.851					-0.745	0.839
Missing Data			-0.215	0.961					0.172	0.957
Residence Location (Canada)										
United States			0.999 *	0.439					0.446	0.538
Europe			2.085 **	0.664					1.524 *	0.763
Other			-0.046	1.119					-1.059	1.177
Missing Data			3.865 †	2.045					4.529 *	2.037
Digital Literacy					0.009	0.021			0.002	0.022
Daily Internet Use in Hours					0.235 ***	0.071			0.206 **	0.071
Years Using Computers (10-19 years)										
Less than 10 years					0.464	1.002			0.449	1.003
20 years or more					-1.206 *	0.595			-0.732	0.654
Missing Data					-5.481 †	3.192			-3.774	3.501

Years Using Internet (10-14 years)										
Less than 10 years					-0.077	0.792			-0.363	0.800
15 years or more					-0.552	0.553			-0.189	0.559
Missing Data					0.083	2.588			-0.046	2.633
Most Performed Internet Activity (Browsing)										
Email					-0.694	0.646			-0.496	0.643
Social Media					0.367	0.634			0.754	0.647
Games					-0.864	0.852			-0.412	0.865
Message Boards or Forums					1.273 *	0.644			1.251 *	0.637
Streaming or Downloading Media					0.445	0.858			0.457	0.845
Missing Data					4.560	3.128			5.304	3.373
Website or Apps Used										
Reddit (No)					0.658	0.539			0.280	0.616
4chan (No)					-0.468	0.626			-0.800	0.635
Pinterest (No)					-1.050 *	0.441			-0.646	0.479
Tinder (No)					1.114	0.688			0.133	0.715
Ebay (No)					0.743 †	0.443			0.957 *	0.442
Twitter (No)					-0.597	0.429			-0.717 †	0.430
Excessive Use of Alcohol in Past 12 Months (Not at all)										
Once to a couple of times							0.005	0.601	-0.260	0.594
Once a month to a couple times per month							0.681	0.624	0.003	0.626
Once a week or more							-0.147	0.749	-0.083	0.756
Not Answered							0.171	1.843	-2.166	3.437
Use of Recreational Drugs in Past 12 Months (Not at all)										
Once to a couple of times							1.224 *	0.580	0.844	0.581
Once a month to a couple times per month							3.009 ***	0.886	2.859 ***	0.881
Once a week or more							1.520 *	0.708	1.157	0.717
Not Answered							-0.054	1.666	-0.009	1.737
Constant	19.892 ***	0.267	22.390 ***	0.893	18.774 ***	1.388	19.766 ***	0.461	19.999 ***	1.773
Adjusted R^2	0.02		0.07		0.07		0.04		0.14	

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

In Table 11 (below), multivariate analysis is used to predict the dependent variable Total Cyber-Psychopathy (TCP), which is created by adding together PCP and SCP scores. As a continuous variable, the TCP subscale (range 26-104) is estimated using OLS linear regression, with five models controlling for different independent variables: gender (Model 1), demographic characteristics (Model 2), internet usage (Model 3), substance use (Model 4), and all these variables together (Model 5).

Gender is an important statistically significant variable in predicting TCP across all models in which it is included ($p \leq 0.001$). In Model 1, males have an increase in 5.46 points when compared to females, which is reduced moderately to a 4.10 point difference between males and females when all extraneous variables are controlled (Model 5).

In terms of other demographic characteristics, age is also a major predictor of TCP in all models. Increasing in age by one year in Model 2 shows a decrease in TCP scores by about 0.41 points ($p \leq 0.001$), which ends up having a very similar negative association when controlling for all variables in Model 5 ($B = -0.36$, $p \leq 0.001$). Furthermore, Model 2 demonstrates that living in Europe is associated with an increase in TCP by 4.92 points compared to those living in Canada ($p \leq 0.01$), but this variable is no longer significant when more factors are controlled in the inclusive model. Household income actually emerges as a relevant predictor, with the lowest income category (less than $25 000 per year) being associated with a decrease in TCP by about 2.43 points ($p \leq 0.1$) and by 3.24 points ($p \leq 0.01$) when compared to the reference group in Model 2 (demographics) and Model 5 (inclusive), respectively. Recreational drug use is a variable that predicts an increase in TCP both in Model 4 and Model 5. Participants who use drugs once a month to a couple times per month, when compared to the reference group of non-drug users, demonstrate a 5.50 point increase in TCP, which then slightly drops to a 5.27 point increase when all extraneous variables are controlled together in Model 5 ($p \leq 0.05$).

The data also show that there are several internet usage variables that predict TCP scores across models. First of all, in Model 3, for every hour increase in daily internet use, TCP scores increase by about 0.53 points ($p \leq 0.01$), which only moderately drops to a 0.43 point increase ($p \leq 0.05$) when controlling for all extraneous variables in Model 5. In Model 3, participants who have been using the internet for 15+ years actually decrease in their TCP scores by 3.47 points compared to their 10-14 year experience counterparts ($p \leq 0.05$), and this impact is further reduced to a decrease of 2.42 points ($p \leq 0.05$) in Model 5. Furthermore, in terms of websites, users of Ebay increase by 3.65 points in TCP ($p \leq 0.001$) when compared to non-users in Model 5, but have much lower (but still significant) rates in Model 3 ($B = 2.89$, $p \leq 0.01$). Twitter use instead predicts decreases in TCP across all models in which it is included, with the largest impact being in Model 5 ($B = -2.11$, $p \leq 0.1$). Interestingly, 4chan users increase in TCP by 3.5 points compared to non-users, while Pinterest users decrease by 2.76 points more than their non-users; however, these effects are limited to only Model 3. It appears that most effects of website use on TCP are reduced when all independent variables are examined together.

Overall, on their own, internet use variables represent a better fitting model (Adjusted $R^2 = 0.11$) than gender, other demographics, or substance use variables. That said, when all the controls are added together (Model 5), they explain more of the variance in the dependent variable (18%). This reflects the idea that gender, demographics, and internet use variables are all important predictors of total cyber-psychopathy. Table 11 is presented below.

Table 11. OLS Linear Regression Predicting Total Cyber-Psychopathy (*N* =408)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***
Gender (Female)										
Male	5.460 ***	1.023							4.100 ***	1.187
Age in Years			-0.406 ***	0.073					-0.358 ***	0.084
Household Income (Between $25 000 and $100 000 per year)										
Less than $25 000 per year			-2.429 †	1.280					-3.238 **	1.257
$100 000 or more per year			0.814	1.433					0.933	1.424
Missing Data			-1.644	1.835					-1.122	1.828
Highest Level of Education (College/University Student)										
Less than College/University Graduate			1.613	1.772					0.679	1.749
College/University Graduate			1.294	1.413					1.815	1.454
Occupation (Other)										
Student			0.993	1.272					1.017	1.258
Teacher			0.106	2.247					-0.246	2.223
Management			1.945	2.643					0.126	2.648
Computer Professions			1.119	2.409					-1.752	2.398
Not Working			-0.418	2.186					-0.277	2.118
Missing Data			-2.835	2.468					-2.016	2.418
Residence Location (Canada)										
United States			1.547	1.128					0.208	1.358
Europe			4.921 **	1.705					2.106	1.928
Other			-0.677	2.872					-3.109	2.973
Missing Data			5.199	5.248					6.093	5.146
Digital Literacy					0.073	0.054			0.035	0.055
Daily Internet Use in Hours					0.533 **	0.180			0.431 *	0.179
Years Using Computers (10-19 years)										
Less than 10 years					1.396	2.540			0.840	2.533
20 years or more					-2.485 †	1.509			-0.529	1.653
Missing Data					-13.570	8.091			-9.553	8.843

Years Using Internet (10-14 years)								
Less than 10 years				-1.050	2.007		-2.037	2.020
15 years or more				-3.467 *	1.401		-2.422 †	1.413
Missing Data				5.870	6.559		6.386	6.652
Most Performed Internet Activity (Browsing)								
Email				-2.031	1.637		-1.525	1.625
Social Media				0.044	1.606		0.047	1.633
Games				-0.439	2.158		-0.925	2.186
Message Boards or Forums				1.675	1.633		1.561	1.609
Streaming or Downloading Media				2.560	2.174		2.083	2.134
Missing Data				6.853	7.929		12.515	8.520
Website or Apps Used								
Reddit (No)				-0.792	1.365		-1.168	1.556
4chan (No)				3.500 *	1.587		2.200	1.603
Pinterest (No)				-2.762 *	1.117		-1.596	1.209
Tinder (No)				2.319	1.743		-0.027	1.806
Ebay (No)				2.890 **	1.123		3.652 ***	1.116
Twitter (No)				-1.890 †	1.088		-2.105 †	1.087
Excessive Use of Alcohol in Past 12 Months (Not at all)								
Once to a couple of times						-0.511	1.582	-0.922	1.499
Once a month to a couple times per month						0.442	1.642	-0.869	1.580
Once a week or more						-0.042	1.970	0.337	1.911
Not Answered						5.208	4.850	-8.184	8.682
Use of Recreational Drugs in Past 12 Months (Not at all)								
Once to a couple of times						2.249	1.527	0.975	1.467
Once a month to a couple times per month						5.504 *	2.332	5.269 *	2.226
Once a week or more						1.853	1.863	0.325	1.812
Not Answered						-3.154	4.385	-3.070	4.389
Constant	46.279 ***	0.679	57.506 ***	2.291	43.343 ***	3.518	47.741 ***	1.213	52.678 ***	4.479
Adjusted R^2	0.06		0.08		0.11		0.01		0.18	

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Logistic regressions are also employed for a multivariate analysis in order to estimate the predictor effects on a dichotomous cyber-psychopathy dependent variable, represented by two categories: cases that have *an increase in total psychopathy (TP) online* (i.e., higher TCP scores than TOP scores, beyond one standard deviation in TP differential) versus those that *do not increase in total psychopathy online* (i.e., stay the same or decrease online). As such this technique addresses the third research question:

> **RQ3:** What are the social predictors of increasing in psychopathic expression on the internet? What is the relationship between online increases in total psychopathy (TP) and gender, demographic variables, internet use variables, and substance use?

Table 12 (below) is arranged based on five models that control for different independent variables: gender (Model 1), demographic characteristics (Model 2), internet usage (Model 3), substance use (Model 4), and all the variables together (Model 5). The subsample size of participants who increase in TP online is n=83 (20% of the overall sample), while the reference group has a subsample size of n=325. The findings are represented in the form of odds ratios and standard errors. It is important to note that categories in the residence location variable are omitted from Models 2 and 5 due to predicting failure perfectly from a low sample size in the "increase" dependent variable (DV) group. The inclusive model (5) actually strongly fits the data with a McFadden's Pseudo R^2 of 0.17, which is understood as a very good fitting model (Domencich & McFadden, 1975; McFadden, 1979).

Gender is an important statistically significant variable in predicting an increase in TP online across all models in which it is included ($p \leq 0.001$). In Model 1, males are 3.14 times more likely than females to be in the increased TP group. These odds actually greatly increase in Model 5 when all extraneous variables are controlled, such that males now are 4.77 times more likely than females to increase in TP online. In terms of other demographic characteristics, age is

another significant predictor of category placement. Increasing in age shows a 5% reduction in odds ($p \leq 0.05$) for being in the TP increase group (Model 2), which has a similar likelihood when all variables are included in Model 5 ($p \leq 0.1$). Furthermore, Model 2 demonstrates that participants within the lowest household income category (less than $25 000 per year) actually have a 44% less chance than the reference group to increase in TP online ($p \leq 0.1$). When controlling for all factors (Model 5), these same individuals with the lowest income have even lower odds of being in the increase online DV group ($\beta = 0.46$, $p \leq 0.05$).

The data also show that, across models, there are several internet usage variables that predict a higher likelihood of being in the TP increase online DV group. First of all, digital literacy presents similar odds in both Model 3 and Model 5. Individuals who have better online skills (demonstrated by increasing by one point on the Web-Use Skill Index) have about 5% higher odds of increasing in TP online, regardless of the additional control variables ($p \leq 0.01$). The opposite trend emerges for those who work in computer-related professions; compared to the reference group "other", participants with tech jobs have 76% less odds of increasing in TP online ($p \leq 0.1$) when all variables are controlled together (Model 5). Finally, in Model 5, social media use as the most performed online activity (compared to the reference group "browsing") is associated with being 2.37 times more likely to have an online increase in TP ($p \leq 0.1$). Table 12 is presented below for reference. Interestingly, daily internet use does not predict increasing in total psychopathic expression on the internet, which is contrary to the expected findings in this study.

Table 12. Logistic Regression Predicting Total Psychopathy Differential Categories (*N* =408)

Increase Online (*n* =83) vs. No Increase Online (Ref)	Model 1		Model 2		Model 3		Model 4		Model 5	
	Odds Ratio	*SE*	Odds Ratio	*SE*	Odds Ratio	*SE*	Odds Ratio	*SE*	Odds Ratio	*SE*
Gender (Female)										
Male	3.143 ***	0.813							4.770 ***	1.717
Age in Years			0.948 *	0.023					0.950 †	0.029
Household Income (Between $25 000 and $100 000 per year)										
Less than $25 000 per year			0.561 †	0.182					0.455 *	0.167
$100 000 or more per year			0.975	0.341					1.014	0.427
Missing Data			0.567	0.287					0.496	0.284
Highest Level of Education (College/University Student)										
Less than College/University Graduate			0.563	0.282					0.448	0.251
College/University Graduate			1.585	0.570					1.839	0.796
Occupation (Other)										
Student			1.039	0.326					1.170	0.427
Teacher			1.060	0.606					1.068	0.687
Management			1.073	0.676					0.492	0.376
Computer Professions			0.576	0.392					0.243 †	0.183
Not Working			1.249	0.671					1.160	0.711
Missing Data			0.805	0.560					0.944	0.746
Residence Location (Canada)										
United States			1.287	0.356					0.946	0.362
Europe			1.148	0.495					0.588	0.324
Other			-	-					-	-
Missing Data			-	-					-	-
Digital Literacy					1.051 **	0.017			1.054 **	0.020
Daily Internet Use in Hours					0.972	0.045			0.943	0.048
Years Using Computers (10-19 years)										
Less than 10 years					1.781	1.219			2.069	1.631
20 years or more					0.624	0.253			0.614	0.290
Missing Data					0.958	2.312			0.805	2.035

Years Using Internet (10-14 years)								
Less than 10 years				0.735	0.399		0.844	0.560
15 years or more				0.983	0.361		1.178	0.475
Missing Data				0.405	0.954		0.368	0.863
Most Performed Internet Activity (Browsing)								
Email				0.820	0.364		0.860	0.427
Social Media				1.845	0.764		2.366 †	1.132
Games				0.460	0.273		0.489	0.325
Message Boards or Forums				1.054	0.425		1.228	0.569
Streaming or Downloading Media				0.717	0.419		0.984	0.618
Missing Data				2.504	5.965		2.353	5.714
Website or Apps Used								
Reddit (No)				1.112	0.419		1.433	0.668
4chan (No)				1.688	0.621		1.302	0.541
Pinterest (No)				0.547 *	0.168		0.889	0.337
Tinder (No)				0.945	0.427		0.618	0.326
Ebay (No)				1.401	0.398		1.645	0.522
Twitter (No)				0.891	0.250		0.935	0.297
Excessive Use of Alcohol in Past 12 Months (Not at all)								
Once to a couple of times						1.318	0.520	1.270	0.582
Once a month to a couple times per month						1.338	0.545	0.994	0.468
Once a week or more						1.401	0.663	1.750	0.969
Not Answered						3.500	4.781	6.446	16.051
Use of Recreational Drugs in Past 12 Months (Not at all)								
Once to a couple of times						1.369	0.467	0.995	0.406
Once a month to a couple times per month						0.796	0.467	1.164	0.806
Once a week or more						1.460	0.594	1.004	0.499
Not Answered						0.347	0.455	0.500	1.153
Constant	0.140 ***	0.028	0.916	0.596	0.012 ***	0.013	0.186 ***	0.058	0.011 **	0.016
Pseudo R^2	0.05		0.04		0.07		0.01		0.17	

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

4.4. Chapter Summary

Overall, investigating RQ1 demonstrated that, on average, individuals increase in psychopathy scores on the internet (PCP, SCP, and TCP) compared to their offline scores. The overall sample has mild increases in psychopathic expression online, while a small subset of the population has significantly higher CP scores than OP scores. Offline psychopathy counterparts are also strongly correlated with cyber-psychopathy for all PP, SP, and TP measures. In terms of RQ2, the important social predictors of higher TCP are being male, being younger in age, increased daily internet usage, and moderate drug use, while lower TCP scores are associated with low income compared to the reference group. Finally, males are about five times more likely to be in the group that increases in total psychopathic expression online, as well as younger individuals and those with higher levels of digital literacy (RQ3).

CHAPTER 5:
RESULTS II – CYBER-PSYCHOPATHY & ONLINE MISCONDUCT

The purpose of this chapter is to summarize the findings from the quantitative data analyses when online misconduct measures are the dependent variables (*N*=357). The goal is also to examine misconduct outcomes when cyber-psychopathy scores now serve as the main independent variables. I first describe the univariate statistics and address RQ4. Then I discuss the results of the correlation matrix in my bivariate analyses. Finally, I report the multivariate analyses (RQ5 and RQ6) that are estimated through a series of linear regressions that predict composite scores of misconduct acceptability/tendency (OMA and OMT) and ordered logistic regressions that focus on individual misconduct behaviours. To refresh from Chapter 3, acceptability and tendency are measured through follow-up questions to misconduct-based vignette situations, which ask respondents to rate how acceptable the protagonist's actions are and how likely they would be to behave in a similar manner. All percentages reported in-text are rounded to the nearest full percent, all univariate statistics are rounded to one decimal place, and all coefficients in multivariate models are rounded to two decimal places. Tables 13-18 are described in this chapter.

5.1. Univariate Analyses

The descriptive statistics for online misconduct variables are described through a set of frequency distributions and percentages. Table 13 reports the data as means and standard deviations for continuous variables, and as percentages for categorical variables. This table is also divided into gendered subsamples in order to maintain consistency with Chapter 4, and to emphasize the potential differences among males and females in terms of deviance from the literature (R. Smith et al., 2004). Gender differences are determined by independent samples *t*-

tests for continuous variables and χ^2 (i.e., Chi-Square) tests for categorical variables. Table 13 addresses the following research question:

> **RQ4:** Are there differences in acceptability between various online misconduct behaviours? Are there differences in tendency between various online misconduct behaviours? Are there gender differences?

In Table 13 (below), the sample (N=357) has a higher mean score for acceptability of online misconduct (OMA) than for tendency (OMT). Both measures are composite scores based on adding together all 10 individual behaviours, such that the scales range from 10 to 40. The overall sample has a mean score of 18 points for acceptability, while a mean of 16.5 is for tendency, which is a difference of 1.5 ($p \leq 0.001$)[5]. In this sense, participants appear to be likely to say that a misconduct behaviour is more acceptable, but not have as high a likelihood of engaging in that same behaviour. This difference is also demonstrated in the highest extremes, such that the maximum score reported on the acceptability scale is 38 compared to the maximum score of 30 reported on the tendency scale. Furthermore, gender differences among the composite scores show that males tend to have higher relative mean scores on both measures; in general, males have higher average levels of acceptability by 1.4 points ($p \leq 0.01$), as well as higher average levels of tendency by 1.4 points ($p \leq 0.001$). However, the differential between OMA and OMT is similar for males and females, represented by an almost equal acceptability-tendency ratio for each gender subsample ($\simeq$1.5 points).

The data also show interesting findings regarding the 10 individual misconduct behaviours. First of all, cyber-stalking is generally endorsed as morally acceptable by the overall sample (48%), with females being more likely to deem the behaviour both slightly (+6%) and perfectly acceptable (+8%) than males ($p \leq 0.05$). This gender difference increases more when evaluating one's hypothetical tendency toward engaging in cyber-stalking: 20% of females say

[5] This p value is determined based on a paired samples t-test between the means of OMA and OMT.

they would be extremely likely to cyber-stalk versus only 2% of males ($p \leq 0.001$). In general, cyber-stalking tendency is deemed likely by about 53% of the overall sample (65% of females).

Secondly, digital piracy generally has moderate percentages of acceptability among the overall sample (43%), but much greater percentages of behavioural likelihood (65%). In general, 35% of respondents say they would be extremely likely to engage in piracy despite only 19% thinking the behaviour is perfectly acceptable.

Next, trolling generally has few individuals who find the behaviour to be acceptable or who would be likely to perform the behaviour. Among males, 17% deem trolling acceptable versus 12% of females ($p \leq 0.05$). This gender difference increases on the tendency variable with about 11% of males saying they would engage in trolling compared to only 3% of females ($p \leq 0.001$). Similar results emerge for the flaming misconduct behaviour, such that there is slightly more acceptability than likelihood answers in the overall sample (+3%), with males saying it is acceptable about 4.3 times more often than females ($p \leq 0.001$) and with females more often reporting being extremely unlikely to engage in flaming (+9%) compared to males ($p \leq 0.05$).

Furthermore, online deception generally has low levels of both acceptability (91% unacceptable) and behavioural tendency (94% unlikely). No respondents find themselves to be extremely likely to engage in online deception, which is surprising considering the literature (Caspi & Gorsky, 2006), but there are significant gender differences in tendency ($p \leq 0.05$). Accordingly, males report being more "unlikely" (+12%) while females reported being more "extremely unlikely" (+11%) to engage in online deception. The very low levels of deception in the current study may be reflective of operational definition that emphasizes online dating; perhaps the anchored nature of dating relationships makes individuals less likely to lie to someone they hope to meet in a face-to-face context (Guadagno, Okdie, & Kruse, 2012; Zhao et

al., 2008). However this finding is contrary to some studies that have reported moderate deception to represent an ideal self in online dating situations (Ellison et al., 2006).

Moreover, cyber-vandalism is a behaviour that has much higher acceptability than tendency, with about 23% of the overall sample saying it is "acceptable" versus only 6% saying they would be likely to behave in that manner. This finding may reflect the need for higher technical skills to perform this behaviour (Loch & Conger, 1996). There are also very significant gender differences in acceptability ($p \leq 0.01$) and tendency ($p \leq 0.001$), as more females deem cyber-vandalism to be "totally unacceptable" (+18%) and say they were "extremely unlikely" to engage in it compared to males (+24%).

Internet addiction is considered to be unacceptable by 88% of the overall sample, but has a slightly smaller percentage for those unlikely to perform such behaviours (84%). In terms of gender differences, a much higher percentage of males state that they would be likely to engage in internet addiction behaviours than females (+15%, $p \leq 0.001$).

Next, the acceptability and tendency toward reading others' emails have significant gender differences, with more females finding this behaviour "totally unacceptable" (+17%, $p \leq 0.01$) and 10% more males saying they would be likely to read others' emails ($p \leq 0.001$). In general, this behaviour is more likely to be hypothetically performed than endorsed as acceptable, as 15% and 5% of the overall sample answered this way, respectively.

Misuse of digital information also shows more participants selecting a 'likely' tendency category (24%) than saying this behaviour is acceptable in some capacity (10%). Gender differences are more pronounced on the tendency variable, with 13% more males reporting being likely to engage in this behaviour compared to females ($p \leq 0.05$).

Finally, online sexual pushiness surprisingly has no significant differences between males and females, and there are also similar percentages of acceptability and tendency toward this

behaviour in the overall sample. That said, more participants say they would be “extremely unlikely” to behave in a sexually pushy way on the internet (94%) than those who say this behaviour is “totally unacceptable (81%). Table 13 is presented below for referencing the descriptive statistics.

Table 13. Descriptive Statistics for Online Misconduct Variables Reported as Means (*SD*) or Percentages

Composite Scores	**Overall (*N* =357)**	**Males (*N* =153)**	**Females (*N* =204)**	***p***
Online Misconduct Acceptability	17.99 (4.04)	18.77 (4.36)	17.40 (3.67)	**
Online Misconduct Tendency	16.52 (3.46)	17.31 (3.61)	15.93 (3.23)	***
Online Misconduct Variables (%)				
Cyber-Stalking				
Acceptability				
Totally Unacceptable	11.2	15.0	8.3	*
Slightly Unacceptable	40.9	45.1	37.8	
Slightly Acceptable	27.5	24.2	29.9	
Perfectly Acceptable	20.5	15.7	24.0	
Tendency				
Extremely Unlikely	15.4	24.2	8.8	***
Unlikely	31.4	37.9	26.5	
Likely	41.2	36.0	45.1	
Extremely Likely	12.0	2.0	19.6	
Digital Piracy				
Acceptability				
Totally Unacceptable	15.7	14.4	16.7	
Slightly Unacceptable	40.9	41.8	40.2	
Slightly Acceptable	24.9	21.6	27.5	
Perfectly Acceptable	18.5	22.2	15.7	
Tendency				
Extremely Unlikely	16.3	12.4	19.1	
Unlikely	18.5	21.6	16.2	
Likely	30.8	28.1	32.8	
Extremely Likely	34.5	37.9	31.9	
Trolling				
Acceptability				
Totally Unacceptable	43.7	35.3	50.0	*
Slightly Unacceptable	42.0	47.7	37.8	
Slightly Acceptable	9.5	11.8	7.8	
Perfectly Acceptable	4.8	5.2	4.4	
Tendency				
Extremely Unlikely	73.1	61.4	81.9	***
Unlikely	21.0	28.1	15.7	
Likely	4.8	8.5	2.0	
Extremely Likely	1.1	2.0	0.5	

Flaming					
	Acceptability				
	Totally Unacceptable	71.4	61.4	78.9	***
	Slightly Unacceptable	24.9	32.0	19.6	
	Slightly Acceptable	2.5	3.9	1.5	
	Perfectly Acceptable	1.1	2.6	0.0	
	Tendency				
	Extremely Unlikely	89.1	83.7	93.1	*
	Unlikely	10.4	15.7	6.4	
	Likely	0.3	0.7	0.0	
	Extremely Likely	0.3	0.0	0.5	
Online Deception					
	Acceptability				
	Totally Unacceptable	35.3	33.3	36.8	
	Slightly Unacceptable	56.0	54.3	57.4	
	Slightly Acceptable	6.2	8.5	4.4	
	Perfectly Acceptable	2.5	3.9	1.5	
	Tendency				
	Extremely Unlikely	81.2	75.2	85.8	*
	Unlikely	16.3	22.9	11.3	
	Likely	2.5	2.0	2.9	
	Extremely Likely	0.0	0.0	0.0	
Cyber-Vandalism					
	Acceptability				
	Totally Unacceptable	38.1	28.1	45.6	**
	Slightly Unacceptable	39.2	41.2	37.8	
	Slightly Acceptable	16.0	21.6	11.8	
	Perfectly Acceptable	6.7	9.2	4.9	
	Tendency				
	Extremely Unlikely	68.4	54.9	78.4	***
	Unlikely	25.5	35.3	18.1	
	Likely	5.6	8.5	3.4	
	Extremely Likely	0.6	1.3	0.0	
Internet Addiction					
	Acceptability				
	Totally Unacceptable	33.9	30.1	36.8	
	Slightly Unacceptable	53.8	53.6	53.9	
	Slightly Acceptable	7.8	9.2	6.9	
	Perfectly Acceptable	4.5	7.2	2.5	
	Tendency				
	Extremely Unlikely	47.6	29.4	61.3	***
	Unlikely	36.1	45.8	28.9	
	Likely	14.3	21.6	8.8	
	Extremely Likely	2.0	3.3	1.0	

Reading Others' Emails				
Acceptability				
Totally Unacceptable	60.8	51.0	68.1	**
Slightly Unacceptable	34.5	41.8	28.9	
Slightly Acceptable	3.4	5.2	2.0	
Perfectly Acceptable	1.4	2.0	1.0	
Tendency				
Extremely Unlikely	59.1	49.7	66.2	***
Unlikely	25.8	29.4	23.0	
Likely	14.0	20.9	8.8	
Extremely Likely	1.1	0.0	2.0	
Misuse of Digital Information				
Acceptability				
Totally Unacceptable	43.1	39.2	46.1	†
Slightly Unacceptable	47.1	46.4	47.6	
Slightly Acceptable	7.0	10.5	4.4	
Perfectly Acceptable	2.8	3.9	2.0	
Tendency				
Extremely Unlikely	47.9	39.9	53.9	*
Unlikely	28.3	28.8	27.9	
Likely	21.3	28.8	15.7	
Extremely Likely	2.5	2.6	2.5	
Online Sexual Pushiness				
Acceptability				
Totally Unacceptable	81.2	77.8	83.8	
Slightly Unacceptable	16.5	20.3	13.7	
Slightly Acceptable	1.7	1.3	2.0	
Perfectly Acceptable	0.6	0.7	0.5	
Tendency				
Extremely Unlikely	93.8	91.5	95.6	
Unlikely	5.3	7.8	3.4	
Likely	0.6	0.7	0.5	
Extremely Likely	0.3	0.0	0.5	

Note: The p value column refers to a test of gender difference (independent samples t-test, χ^2) – total p value from χ^2 test is given for categorical variables

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

5.2. Bivariate Analyses

Bivariate analyses are used to examine the associations between continuous variables of interest with the Pearson correlation coefficient (*r*) rounded to two decimal places. Table 14 (below) reports a correlation matrix between the various dependent variables in this chapter—composite scores of Online Misconduct Acceptability (OMA) and Online Misconduct Tendency (OMT)—as well as continuous independent variables (i.e., PCP, POP, SCP, SOP, TCP, age in years, digital literacy, and daily internet use in hours)[6]. The sample size for Table 14 is *N*=357.

The data in Table 14 show some interesting relationships that are statistically significant. First of all, OMA and OMT scores have a moderately strong positive correlation ($r = 0.57$, $p \leq 0.001$), which suggests that participants tend to have similar judgements in terms of misconduct acceptability and tendency but they are not perfectly correlated with each other. In general, the results show that as OMA increases, OMT also tends to increase beyond chance levels.

Furthermore, the relationships between OMA/OMT and TP are stronger for cyber-measures of psychopathy than the offline measures. When examining TCP, the correlations with acceptability and tendency composite scores are 0.51 and 0.60, respectively ($p \leq 0.001$). Thus, the relationship between OMA and TCP is moderately strong, suggesting that the more psychopathic individuals are online, the more likely they are to, on average, endorse online misconduct behaviours as being more acceptable. On the other hand, the relationship between OMT and TCP is even stronger ($\Delta r = +0.09$), meaning that the more psychopathic expression online, the more likely individuals are to, on average, say they would have an increased tendency to engage in online misconduct behaviours. However, the correlations between TOP and both acceptability and tendency composite scores are lower but still statistically significant at 0.45 and 0.53, respectively ($p \leq 0.001$).

[6] Correlations among variables 3-11 in Table 14 are reported and discussed in Table 8 in Chapter 4 (*N*=408).

The acceptability composite score is also positively associated with other measures of cyber-psychopathy. Interestingly, there is a much stronger correlation between OMA and PCP (r = 0.53) than with SCP (r = 0.28) meaning that a lack of empathy is much more important for understanding OMA than impulsiveness. In this sense, SCP is only weakly correlated with OMA whereas the association to PCP is moderately strong ($p \leq 0.001$). When examining the additional control variables in bivariate relationships, OMA has other fairly weak (but statistically significant) correlations. Age and OMA have a negative correlation (r = -0.20, $p \leq 0.001$), meaning that the older a participant gets, the slightly less acceptable they tend to find online misconduct behaviours on average. Also, daily internet use and OMA have a positive correlation (r = 0.17, $p \leq 0.01$), which suggests that the more time one spends online, the more he or she will find online misconduct behaviours to be slightly more acceptable.

The tendency composite score is positively associated with other measures of cyber-psychopathy. Notably, there is a stronger correlation between OMT and PCP (r = 0.58, $p \leq 0.001$) than with SCP (r = 0.40, $p \leq 0.001$). This result shows that while a lack of empathy is most important for understanding OMT, impulsiveness also has a moderately strong relationship with behavioural tendencies. Additionally, age and OMT have a negative correlation (r = -0.24, $p \leq 0.001$), meaning that the older a participant gets, they would be somewhat less likely to engage in online misconduct behaviours. Also, daily internet use and OMT have a weak positive correlation (r = 0.12, $p \leq 0.01$), which suggests that the more one uses the internet every day, the slightly more he or she will be to hypothetically perform online misconduct. It is important to mention that the effect of age is stronger for OMT than OMA, while the influence of daily internet use is weaker for OMT than OMA. Finally, digital literacy demonstrates a significant association with OMT (r = 0.12, $p \leq 0.05$) in the sense that increases in online skills yield minor increases in behavioural tendencies toward misconduct. Overall, Table 14 is presented below.

Table 14. Correlation Coefficients with Added Misconduct Composite Scores (*N*=357)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) OMA (Acceptability)	1.00										
(2) OMT (Tendency)	0.57***	1.00									
(3) Primary CP	0.53***	0.58***	1.00								
(4) Primary OP	0.43***	0.51***	0.82***	1.00							
(5) Secondary CP	0.28***	0.40***	0.46***	0.33***	1.00						
(6) Secondary OP	0.26***	0.32***	0.35***	0.31***	0.54***	1.00					
(7) Total CP	0.51***	0.60***	0.94***	0.75***	0.74***	0.48***	1.00				
(8) Total OP	0.45***	0.53***	0.78***	0.91***	0.49***	0.68***	0.79***	1.00			
(9) Age	-0.20***	-0.24***	-0.24***	-0.23***	-0.23***	-0.16***	-0.27***	-0.25***	1.00		
(10) Digital Literacy	0.03	0.12*	0.11*	0.00	0.07	0.00	0.12*	0.00	0.10	1.00	
(11) Daily Internet Use	0.17**	0.12*	0.11*	0.02	0.15**	0.14**	0.14**	0.08	0.05	0.31***	1.00

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

5.3. Multivariate Analyses

Multivariate statistical techniques are used to predict the acceptability of online misconduct behaviours (individually/OMA) while controlling for multiple extraneous variables. Ordered logistic regressions and linear regressions are estimated to address the fifth research question and the data are reported in Tables 15 and 16 (N=357):

> **RQ5:** What is the relationship between CP measures (PCP, SCP, TCP) and one's **acceptability** of online misconduct both in terms of individual behaviours and in a composite score (OMA)? Do CP measures outperform OP measures in explaining online misconduct acceptability?

In Table 15, ordered logistic regression is used to predict separately 10 dependent variables (i.e., the *acceptability* of each of the following individual misconduct behaviours: cyber-stalking, digital piracy, trolling, flaming, online deception, cyber-vandalism, internet addiction, reading others' emails, misuse of digital information, and online sexual pushiness)[7]. The acceptability dependent variable for each misconduct behaviour is ordinal with categories being totally unacceptable (reference), slightly unacceptable, slightly acceptable, and totally acceptable. This means that each odds ratio reported in the table is with reference to those who say the online misconduct behaviour is totally unacceptable. Overall, Table 15 is a summary table reporting the independent variables of interest (i.e., psychopathy variables) and goodness-of-fit statistics (McFadden's Pseudo R^2) for all models. Model predicting power is compared with an empirical rule for a threshold of fit difference being Pseudo $R^2 = \pm 0.02$. Odds ratios (e^B) and standard errors are predicted for the psychopathy independent variables across 5 models that are also controlling for extraneous variables. Model 1 is a baseline model with the following variables: gender, age, household income, education, occupation, residence location, digital literacy, daily internet use, computer years, internet years, most performed online activity,

[7] See Table 4 in Chapter 3 for vignette descriptions of each online misconduct behaviour.

websites or apps used, alcohol use, and drug use. All other models control for the same predictor variables and then add measures of psychopathy: PCP and SCP (Model 2), POP and SOP (Model 3), TCP (Model 4), TOP (Model 5).

In general, when examining the goodness-of-fit statistics among all 10 misconduct behaviours, it is apparent that cyber-psychopathy measures are better predictors of higher acceptability for some specific behaviours. Online sexual pushiness is the most impacted by TCP (Model 4) reporting a Pseudo R^2 of 0.23, which represents excellent model fit[8]. Flaming is similarly fitted with the TCP model with a Pseudo R^2 value of 0.21. On the other hand, cyber-stalking and internet addiction appear to have the lowest goodness-of-fit statistics for psychopathy models (Models 2-5) among all misconduct behaviours, suggesting that psychopathy does not play as large a role in predicting acceptability for these behaviours—their TCP models each have Pseudo R^2 values of 0.08, which is not indicative of a very strong fit.

Ultimately, all the individual misconduct behaviours will be discussed in the following paragraphs with respect to acceptability scores. First of all, for cyber-stalking, individuals with higher scores for both TCP and TOP have 3% increased odds of reporting higher acceptability of cyber-stalking (Model 4 and 5, $p \leq 0.05$). When examining the fit of the models, it appears that no psychopathy measures are better predictors of greater acceptability of cyber-stalking than just the extraneous variables in the baseline model (Pseudo $R^2 = 0.07$). Gender is actually the best individual variable at predicting increases in acceptability, with males having 54% lower odds than females of endorsing higher cyber-stalking acceptability (Model 1, $p \leq 0.01$)[9].

Secondly, digital piracy is better explained by models containing cyber-psychopathy variables than the baseline model. In Model 2, participants who score higher in PCP are 1.09

[8]McFadden's Pseudo R^2 is a measure of model goodness-of-fit in logit and ologit models. Excellent fit is represented by scores ranging from 0.2 to 0.4 (Domencich & McFadden, 1975; Louviere et al., 2000; McFadden, 1979)

[9] This coefficient is not included in Table 15 as it is not one of the psychopathy variables of interest.

times more likely to have higher acceptability of digital piracy ($p \leq 0.001$), compared to 1.07 times for those who score high in POP in Model 3 ($p \leq 0.001$). While, secondary psychopathy is not statistically significant in either cyber or offline versions of the measure, increases in both TCP (Model 4) and TOP (Model 5) are associated with increased odds of condoning higher acceptability of digital piracy, with odds ratios of 1.06 and 1.04, respectively ($p \leq 0.001$). In general, most models containing CP and OP measures predict better fit than the baseline model (0.10), with the highest Pseudo R^2 being for PCP+SCP in Model 2 (Pseudo $R^2 = 0.13$).

Next, greater acceptability of trolling is best explained by cyber-psychopathy models, with PCP+SCP (Model 2) having a Pseudo R^2 value of 0.14 and TCP (Model 4) reporting 0.13. These goodness-of-fit statistics are significantly higher than the POP+SOP (0.11) and TOP (0.10) models, suggesting that the cyber measures are more important variables than just general offline psychopathy when considering higher acceptability of trolling. As such, increases in PCP are associated with 1.11 higher odds of greater trolling acceptability than the "totally unacceptable" category ($p \leq 0.001$), while TCP has a slightly lower likelihood ($e^B = 1.072$, $p \leq 0.001$). On the other hand, POP has increased odds by 7% ($p \leq 0.001$) and TOP has increased odds by 5% ($p \leq 0.001$). Secondary psychopathy (SCP or SOP) is not a significant predictor of greater trolling acceptability.

Furthermore, in terms of flaming behaviours, increased PCP is a statistically significant predictor of greater acceptability ($e^B = 1.12$, $p \leq 0.001$) and has higher odds of increased acceptability when compared to than the POP variable ($e^B = 1.10$, $p \leq 0.001$). It is important to note that cyber-psychopathy measures are associated with better model fit than the offline psychopathy measures and the baseline covariates. This large difference is exemplified with comparisons between TCP (Pseudo $R^2 = 0.21$) in Model 4 and TOP (Pseudo $R^2 = 0.17$) in Model

5. Scoring higher on TCP is associated with 1.10 higher odds of greater flaming acceptability ($p \leq 0.001$) versus only a 7% increase in odds for TOP ($p \leq 0.001$).

Online deception is a misconduct behaviour that does not appear to have acceptability better explained by cyber-psychopathy than by offline psychopathy measures. The goodness-of-fit statistics are similar between Models 2-5, although significantly higher than the baseline model (Pseudo $R^2 = 0.09$). For the most part, higher scores on all psychopathy measures increase the odds of greater deception acceptability between 5% and 6%. Participants who score higher on TCP have 1.06 higher odds of condoning deception as more acceptable versus the 1.05 odds ratio for those with increased scores in TOP ($p \leq 0.001$). Again, SCP and SOP are not statistically significant for this behaviour.

Cyber-vandalism follows a similar pattern as the online deception acceptability variable. Increased TCP scores show 1.06 higher odds of greater acceptability ($p \leq 0.001$) and increased TOP scores show 1.04 higher odds of greater acceptability ($p \leq 0.001$) in Models 4 and 5, respectively. That said, the difference in predicting power between the models is insignificant. Interestingly, SOP emerges as a significant predictor in Model 3 such that participants who score higher in SOP have 8% increased likelihood of selecting an acceptability category above "totally unacceptable" for cyber-vandalism ($p \leq 0.001$).

Next, primary psychopathy variables are important predictors of internet addiction. Participants who have elevated PCP scores are linked to 1.07 higher odds of saying internet addiction is more acceptable, while increases in POP are associated with increased odds by 6% ($p \leq 0.001$). Interestingly, increased TOP ($e^B = 1.06$, $p \leq 0.001$) is shown to raise the odds more than increased TCP ($e^B = 1.04$, $p \leq 0.001$), which is unique to this online misconduct behaviour. That said, neither offline nor cyber-psychopathy models appear to better fit internet addiction acceptability, and are hardly better than the baseline model (Pseudo $R^2 = 0.06$).

Greater acceptability of reading others' emails is strongly predicted by PCP with higher scores being associated with increased odds by 13% ($p \leq 0.001$) in Model 2. Even increased POP significantly predicts more acceptability of this behaviour, but to a lesser extend in Model 3 (e^B = 1.09, $p \leq 0.001$). An interesting finding is that Model 2 (PCP+SCP) has a better fit than Model 4 (TCP), which also suggests (along with SCP not being significant) that higher levels of PCP are extremely important in understanding whether someone will deem reading others' emails to be a more acceptable behaviour. Thus, having PCP in a model is linked to a strong fit for this behaviour with a Pseudo R^2 value of 0.16 (compared to 0.08 in the baseline model).

Next, the acceptability of misusing digital information is best explained by cyber-psychopathy models. Increases in TCP raise the odds of endorsing greater acceptability of this behaviour by 6% ($p \leq 0.001$) compared to only a 5% raise in odds for higher TOP scores ($p \leq$ 0.001). This predicting power of the models is reflected in the goodness-of-fit statistics, such that Model 4 has a Pseudo R^2 of 0.11 versus a value of 0.09 for Model 5. Just like most of the other behaviours, PCP and POP are most the significant independent variables for assessing the acceptability of misusing digital information, while PCP has a slightly higher odds ratio (Δe^B = +0.02, $p \leq 0.001$).

Finally, online sexual pushiness has high fit among all models, including the baseline model (Pseudo R^2 = 0.17), which suggests that there are non-psychopathy variables that are very important for predicting higher acceptability for this misconduct behaviour. Adding psychopathy variables makes the models show excellent fit without a significant difference between cyber and offline measures of psychopathy. Both increased TCP and TOP scores increase the odds of greater acceptability by 9% ($p \leq 0.001$) in Models 4 and 5. Primary psychopathy is again the most important psychopathy factor for predicting greater online sexual pushiness acceptability, considering that neither SCP nor SOP is statistically significant: PCP has an odds ratio of 1.11 while POP has an odds ratio of 1.10 ($p \leq 0.001$). Overall, Table 15 is presented below.

Table 15. Ordered Logistic Regression Models for Acceptability of Online Misconduct Behaviours *(N* =357)

Model	Online Misconduct Behaviours	Acceptability (Totally Unacceptable)		Goodness of Fit
		Odds Ratio	*SE*	Pseudo R^2
	Cyber-Stalking			
Model 1	Baseline	-	-	0.07
Model 2	Primary Cyber-Psychopathy	1.027	0.017	0.08
	Secondary Cyber-Psychopathy	1.028	0.031	
Model 3	Primary Offline Psychopathy	1.024	0.016	0.08
	Secondary Offline Psychopathy	1.029	0.027	
Model 4	Total Cyber-Psychopathy	1.027 *	0.012	0.08
Model 5	Total Offline Psychopathy	1.025 *	0.012	0.08
	Digital Piracy			
Model 1	Baseline	-	-	0.10
Model 2	Primary Cyber-Psychopathy	1.088 ***	0.019	0.13
	Secondary Cyber-Psychopathy	0.978	0.031	
Model 3	Primary Offline Psychopathy	1.065 ***	0.017	0.12
	Secondary Offline Psychopathy	0.983	0.027	
Model 4	Total Cyber-Psychopathy	1.055 ***	0.012	0.12
Model 5	Total Offline Psychopathy	1.039 ***	0.012	0.11
	Trolling			
Model 1	Baseline	-	-	0.08
Model 2	Primary Cyber-Psychopathy	1.114 ***	0.020	0.14
	Secondary Cyber-Psychopathy	0.981	0.032	
Model 3	Primary Offline Psychopathy	1.067 ***	0.018	0.11
	Secondary Offline Psychopathy	1.007	0.028	
Model 4	Total Cyber-Psychopathy	1.072 ***	0.014	0.13
Model 5	Total Offline Psychopathy	1.047 ***	0.013	0.10
	Flaming			
Model 1	Baseline	-	-	0.13

Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.124 *** 1.027	0.024 0.040	0.21
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.097 *** 1.011	0.022 0.034	0.18
Model 4	Total Cyber-Psychopathy	1.095 ***	0.017	0.21
Model 5	Total Offline Psychopathy	1.070 ***	0.015	0.17
	Online Deception			
Model 1	Baseline	-	-	0.09
Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.054 ** 1.067 †	0.019 0.037	0.12
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.060 *** 1.028	0.019 0.030	0.11
Model 4	Total Cyber-Psychopathy	1.058 ***	0.014	0.12
Model 5	Total Offline Psychopathy	1.050 ***	0.014	0.11
	Cyber-Vandalism			
Model 1	Baseline	-	-	0.12
Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.062 *** 1.039	0.017 0.033	0.14
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.031 † 1.075 **	0.016 0.030	0.13
Model 4	Total Cyber-Psychopathy	1.055 ***	0.012	0.14
Model 5	Total Offline Psychopathy	1.044 ***	0.012	0.13
	Internet Addiction			
Model 1	Baseline	-	-	0.06
Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.065 *** 0.988	0.018 0.032	0.08
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.058 *** 1.057 †	0.018 0.030	0.09
Model 4	Total Cyber-Psychopathy	1.042 ***	0.013	0.08
Model 5	Total Offline Psychopathy	1.058 ***	0.013	0.09

	Reading Others' Emails			
Model 1	Baseline	-	-	0.08
Model 2	Primary Cyber-Psychopathy	1.131 ***	0.022	0.16
	Secondary Cyber-Psychopathy	0.974	0.034	
Model 3	Primary Offline Psychopathy	1.089 ***	0.020	0.14
	Secondary Offline Psychopathy	1.059 †	0.032	
Model 4	Total Cyber-Psychopathy	1.082 ***	0.015	0.14
Model 5	Total Offline Psychopathy	1.080 ***	0.015	0.14
	Misuse of Digital Information			
Model 1	Baseline	-	-	0.07
Model 2	Primary Cyber-Psychopathy	1.084 ***	0.020	0.11
	Secondary Cyber-Psychopathy	1.018	0.034	
Model 3	Primary Offline Psychopathy	1.068 ***	0.018	0.10
	Secondary Offline Psychopathy	1.012	0.028	
Model 4	Total Cyber-Psychopathy	1.064 ***	0.013	0.11
Model 5	Total Offline Psychopathy	1.050 ***	0.013	0.09
	Online Sexual Pushiness			
Model 1	Baseline	-	-	0.17
Model 2	Primary Cyber-Psychopathy	1.111 ***	0.027	0.23
	Secondary Cyber-Psychopathy	1.028	0.048	
Model 3	Primary Offline Psychopathy	1.099 ***	0.026	0.22
	Secondary Offline Psychopathy	1.055	0.045	
Model 4	Total Cyber-Psychopathy	1.087 ***	0.020	0.23
Model 5	Total Offline Psychopathy	1.087 ***	0.020	0.22

Note : Model 1 (baseline) includes all the predictor variables: gender, age, household income, education, occupation, residence location, digital literacy, daily internet use, computer years, internet years, most performed online activity, websites or apps used, alcohol use, and drug use. All other models control for the same predictor variables and then add in only the listed psychopathy variables.

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Table 16 is used to examine social predictors of average online misconduct acceptability (OMA) through a composite score variable. When all 10 behaviours are taken into account, a continuous variable is created that is estimated with OLS linear regressions through five models: a baseline model with all predictor variables (Model 1), all the predictor variables plus PCP and SCP (Model 2), all predictor variables plus POP and SOP (Model 3), and all the predictor variables plus TCP (Model 4), and all the predictor variables plus TOP (Model 5).

Primary psychopathy variables (reflective of a lack of empathy) appear to be crucial for understanding the general acceptability of online misconduct, considering large increases in goodness-of-fit statistics above the baseline model (Adjusted $R^2 = 0.10$). It is important to note that the fit of Model 2 with the cyber-psychopathy variables (PCP+SCP) is much better than the fit of Model 3 that controls for offline psychopathy variables (POP+SOP) by a difference in Adjusted R^2 values of 0.07. Model 2's CP variables explain 31% of the variances in the acceptability of online misconduct, which is even better than Model 4's inclusion of TCP (Adjusted $R^2 = 0.28$).

In terms of coefficients, PCP has a strong positive association with OMA ($B = 0.25$, $p \leq 0.001$) in Model 2, which is actually higher than the relationship between POP and OMA in Model 3 ($B = 0.20$, $p \leq 0.001$). Considering that secondary psychopathy is not a significant predictor of OMA in either cyber or offline versions of the measure, impulsivity in either social context appears to not be a central factor in understanding online misconduct acceptability. Furthermore, when Models 4 and 5 incorporate the TP scores for predicting OMA, some interesting results emerge. Increases by one unit of TCP are positively associated with increases in OMA by 0.18 points ($p \leq 0.001$). Total OP is still statistically significant, but participants who have higher TOP scores only increase in OMA by 0.16 points ($p \leq 0.001$). Ultimately, TCP has a

higher coefficient than TOP by about 0.02 points, which suggests TCP is a slightly better predictor (due to using the same scale units and covariates for comparison).

In terms of demographic variables, age is a statistically significant predictor of OMA across all models with a negative association. Increasing in age by one year in Model 1 shows a decrease in OMA scores by about 0.13 points ($p \leq 0.001$), which ends up being reduced when controlling for cyber-psychopathy variables in Model 2 ($B = -0.06$, $p \leq 0.1$) and when controlling for offline psychopathy variables in Model 3 ($B = -0.08$, $p \leq 0.05$). Similar age coefficient differences also exist between Model 4 (TCP) and Model 5 (TOP). Next, household income also emerges as a relevant variable in all models. The baseline model (Model 1), demonstrates that those participants in the lowest income category (less than $25 000 per year) are associated with a decrease in OMA by about 1.09 points when compared to the reference group ($p \leq 0.05$). However, being in the highest income category ($100 000 or more per year) instead predicts lower OMA scores by 1.17 points ($p \leq 0.05$) when PCP and SCP are included (Model 2), and 1.09 points ($p \leq 0.1$) when POP and SOP are included (Model 3). This association is similar when TCP and TOP are controlled, such that having the highest level of income (compared to the reference group) reduces OMA by about 0.99 points (Model 4) and 0.97 points (Model 5), respectively. Moreover, the lowest education category (less than college/university graduate) versus the reference group (current post-secondary student) predicts higher acceptability of online misconduct in all the models. This low education group shows increases in OMA by 1.77 points in the baseline model ($p \leq 0.05$), which then slightly reduces when controlling for cyber-psychopathy variables in Model 2 ($B = 1.50$, $p \leq 0.05$) and even more when controlling for offline psychopathy variables in Model 3 ($B = 1.39$, $p \leq 0.1$). Model 4 further shows that participants in the lower education category increase in OMA by 1.76 points ($p \leq 0.05$), suggesting that controlling for TCP makes education levels more important for predicting higher

OMA scores than when controlling for TOP (Model 5; $B = 1.51$, $p \leq 0.05$), but to around the same amount as in the baseline model. Interestingly, gender is not a statistically significant variable in predicting OMA across any models in which it is included despite notable differences between males and females for the acceptability of individual behaviours in Table 13.

The data also show that there are several internet usage variables that predict OMA across the models. First of all, higher daily internet use is positively associated with acceptability scores regardless of the controlled predictor variables. When internet use increases by one hour, acceptability scores increase by 0.27 points ($p \leq 0.001$) in the baseline model. This relationship continues to similarly exist when controlling for PCP and SCP in Model 2 ($B = 0.20$, $p \leq 0.01$) and POP and SOP in Model 3 ($B = 0.23$, $p \leq 0.01$). The coefficient in the baseline model is also higher than in Models 4 and 5 that control for TCP and TOP, respectively. In Model 4, using the internet more hours in a day is an important predictor of increased online misconduct acceptability by 0.17 points versus 0.16 points in Model 5. Furthermore, participants who have been using computers for 20+ years increase in their OMA scores by 1.38 points compared to their 10-19 year counterparts ($p \leq 0.05$) in the baseline model, and this actually increases when PCP and SCP variables are controlled in Model 2 ($B = 1.52$, $p \leq 0.05$) and by a little less when POP and SOP are controlled in Model 3 ($B = 1.48$, $p \leq 0.05$). The coefficients for years using computers increase even more in Models 4 and 5 when controlling for total psychopathy variables. Being in the “20 years or more” category (compared to the reference group) is associated with a 1.73 point increase in OMA when controlling for TCP and a 1.55 point increase when controlling for TOP. Overall, Table 16 is presented below.

Table 16. OLS Linear Regression Predicting Composite Scores of Online Misconduct Acceptability (*N* =357)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***
Gender (Female)										
Male	0.617	0.514	-0.112	0.458	0.326	0.475	-0.103	0.466	0.354	0.477
Age in Years	-0.129 ***	0.036	-0.062 †	0.032	-0.082 *	0.034	-0.072 *	0.033	-0.090 **	0.033
Household Income (Between $25 000 and $100 000 per year)										
Less than $25 000 per year	-1.089 *	0.546	-0.307	0.487	-0.567	0.508	-0.308	0.496	-0.612	0.509
$100 000 or more per year	-0.705	0.616	-1.171 *	0.543	-1.093 †	0.572	-0.993 †	0.551	-0.967 †	0.571
Missing Data	-0.191	0.795	-0.249	0.697	-0.153	0.734	-0.185	0.710	-0.264	0.735
Highest Level of Education (College/University Student)										
Less than College/University Graduate	1.773 *	0.784	1.496 *	0.691	1.392 †	0.725	1.762 *	0.700	1.510 *	0.726
College/University Graduate	0.246	0.629	-0.302	0.554	0.021	0.581	-0.215	0.564	0.111	0.582
Occupation (Other)										
Student	0.532	0.543	0.326	0.478	0.291	0.501	0.283	0.486	0.315	0.503
Teacher	0.449	0.935	0.040	0.823	-0.080	0.864	0.304	0.835	0.003	0.866
Management	0.020	1.128	-0.375	0.990	-0.446	1.042	-0.315	1.008	-0.322	1.044
Computer Professions	-0.128	1.008	-0.145	0.889	-0.567	0.930	0.166	0.901	-0.472	0.933
Not Working	0.548	0.900	0.098	0.793	0.312	0.829	0.361	0.804	0.328	0.833
Missing Data	0.056	1.019	0.657	0.896	0.381	0.940	0.471	0.911	0.398	0.944
Residence Location (Canada)										
United States	-0.670	0.587	-0.441	0.516	-0.571	0.546	-0.563	0.524	-0.720	0.542
Europe	0.656	0.858	0.504	0.757	0.515	0.792	0.261	0.768	0.422	0.794
Other	-0.641	1.245	-0.025	1.094	-0.584	1.148	-0.018	1.114	-0.694	1.151
Missing Data	-1.324	2.392	-0.525	2.108	-0.782	2.226	-1.273	2.136	-1.402	2.212
Digital Literacy	-0.025	0.023	-0.035 †	0.020	-0.017	0.021	-0.033	0.020	-0.016	0.021

Years Using Computers (10-19 years)										
Less than 10 years	-0.865	1.060	-1.207	0.930	-0.763	0.976	-1.183	0.947	-0.770	0.980
20 years or more	1.382 *	0.690	1.521 *	0.609	1.483 *	0.637	1.727 **	0.618	1.552 *	0.639
Years Using Internet (10-14 years)										
Less than 10 years	0.059	0.854	0.578	0.751	0.231	0.788	0.421	0.764	0.144	0.790
15 years or more	-0.639	0.589	-0.131	0.520	-0.206	0.545	-0.295	0.528	-0.252	0.547
Missing Data	-0.828	2.849	-1.918	2.502	-1.126	2.623	-1.493	2.545	-1.112	2.634
Most Performed Internet Activity (Browsing)										
Email	0.179	0.680	0.628	0.599	0.610	0.629	0.632	0.610	0.622	0.632
Social Media	0.103	0.685	0.382	0.604	0.519	0.633	0.179	0.612	0.462	0.635
Games	-1.038	0.893	-0.752	0.784	-1.089	0.823	-0.764	0.798	-1.065	0.826
Message Boards or Forums	-0.181	0.666	-0.252	0.588	-0.262	0.614	-0.467	0.595	-0.328	0.616
Streaming or Downloading Media	1.567 †	0.938	1.353 †	0.823	1.396	0.866	1.394 †	0.838	1.308	0.868
Missing Data	-0.229	4.029	-1.056	3.537	-0.667	3.711	-1.391	3.601	-0.753	3.726
Website or Apps Used										
Reddit (No)	0.255	0.663	0.580	0.582	0.567	0.613	0.470	0.592	0.623	0.615
4chan (No)	0.783	0.680	0.066	0.608	0.314	0.630	0.465	0.608	0.425	0.630
Pinterest (No)	-0.773	0.504	-0.553	0.443	-0.547	0.466	-0.494	0.451	-0.508	0.468
Tinder (No)	0.971	0.770	0.883	0.677	0.946	0.715	0.713	0.688	0.772	0.712
Ebay (No)	0.254	0.467	-0.432	0.417	-0.165	0.434	-0.420	0.424	-0.113	0.435
Twitter (No)	-0.848 †	0.458	-0.376	0.405	-0.784 †	0.426	-0.340	0.413	-0.673	0.424
Excessive Use of Alcohol in Past 12 Months (Not at all)										
Once to a couple of times	-0.075	0.627	0.087	0.550	0.138	0.578	0.085	0.560	0.102	0.580
Once a month to a couple times per month	-0.326	0.653	-0.128	0.574	-0.114	0.602	-0.210	0.584	-0.145	0.605
Once a week or more	1.210	0.803	0.989	0.706	1.200	0.741	1.141	0.717	1.284	0.743
Not Answered	-2.462	4.053	-0.001	3.564	-1.874	3.749	0.015	3.630	-2.579	3.747
Use of Recreational Drugs in Past 12 Months (Not at all)										
Once to a couple of times	0.331	0.602	0.262	0.529	0.052	0.556	0.149	0.538	0.026	0.558
Once a month to a couple times per month	1.682 †	0.936	0.933	0.838	0.973	0.871	0.549	0.846	0.871	0.873
Once a week or more	0.558	0.761	0.826	0.675	0.692	0.705	0.479	0.680	0.539 †	0.704
Not Answered	-0.531	2.012	0.320	1.767	-0.680	1.854	0.288	1.799	-0.528	1.861

Primary Cyber-Psychopathy			0.254 ***	0.028						
Secondary Cyber-Psychopathy			0.002	0.055						
Primary Offline Psychopathy					0.195 ***	0.029				
Secondary Offline Psychopathy					0.072	0.050				
Total Cyber-Psychopathy							0.181 ***	0.020		
Total Offline Psychopathy									0.157 ***	0.021
Constant	20.963 ***	1.883	13.015 ***	1.969	12.558 ***	2.114	11.743 ***	1.972	12.173 ***	2.113
Adjusted R^2	0.10		0.31		0.24		0.28		0.23	

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Multivariate statistical techniques are used to predict the tendency of online misconduct behaviours (individually/OMT) while controlling for multiple extraneous variables. Ordered logistic regressions and linear regressions are estimated to address the sixth research question and the data are reported in Tables 17 and 18 (N=357):

> **RQ6:** What is the relationship between CP measures (PCP, SCP, TCP) and the **tendency** to engage in online misconduct both in terms of individual behaviours and in a composite score (OMT)? Do CP measures outperform OP measures in explaining online misconduct tendency?

In Table 17, ordered logistic regression is used to predict separately 10 dependent variables (i.e., the *tendency* of each of the individual misconduct behaviours). The tendency dependent variable for each misconduct behaviour is ordinal with categories being extremely unlikely (reference), unlikely, likely, and extremely likely. This means that each odds ratio reported in the table is with reference to those who said they would be extremely unlikely to behave in a similar manner as the protagonist and engage in the online misconduct behaviour[10]. Overall, Table 17 is a summary table reporting the independent variables of interest (i.e., psychopathy variables) and goodness-of-fit statistics (McFadden's Pseudo R^2) for all models. Model predicting power is compared with an empirical rule for a threshold of fit difference being Pseudo R^2 = ±0.02. Odds ratios (e^B) and standard errors are predicted for the psychopathy independent variables across 5 models that are also controlling for extraneous variables. Model 1 is a baseline model with the following variables: gender, age, household income, education, occupation, residence location, digital literacy, daily internet use, computer years, internet years, most performed online activity, websites or apps used, alcohol use, and drug use. All other models control for the same predictor variables and then add unique measures of psychopathy: PCP and SCP (Model 2), POP and SOP (Model 3), TCP (Model 4), TOP (Model 5).

[10] It is important to note that any reference to engaging in behaviours is based on hypothetical actions, rather than actual incidences, due to the nature of the vignette methodology.

When examining the goodness-of-fit statistics among all 10 misconduct behaviours, it is demonstrated that cyber-psychopathy measures are better predictors of increased likelihood to perform specific behaviours. Flaming is the most impacted by PCP+SCP (Model 2) with a Pseudo R^2 of 0.39, which is an excellent fit. Online sexual pushiness has the next best fit with the PCP+SCP model reporting a Pseudo R^2 value of 0.32. On the other hand, cyber-stalking appears to have the lowest goodness-of-fit statistic for predicting tendency among all misconduct behaviours (Pseudo R^2 = 0.13). Ultimately, all the individual misconduct behaviours will be discussed in the following paragraphs with respect to tendency scores.

For cyber-stalking, the psychopathy models (Models 2-5) do not have better fit than the baseline model, which suggests that psychopathy does not play much of a role in predicting the likelihood of engaging in this behaviour. This is further confirmed by there being no statistically significant odds ratios for any psychopathy variables predicting cyber-stalking tendencies. Again, just like for acceptability, gender is actually the best individual variable at predicting increases in tendency, with males having 78% lower odds than females of saying they would be more likely to engage in cyber-stalking (Model 1, $p \leq 0.001$)[11].

Digital piracy is better explained by models containing psychopathy variables than the baseline model. Increases in both TCP (Model 4) and TOP (Model 5) are associated with increased odds of saying one would be more likely to engage in digital piracy, with odds ratios of 1.07 and 1.05, respectively ($p \leq 0.001$). In general, most models that contain cyber and offline psychopathy measures predict better fit than the baseline model (Pseudo R^2 = 0.14), with the highest Pseudo R^2 being for both PCP+SCP and TCP (Pseudo R^2 = 0.17). Higher POP scores actually have better odds of digital piracy tendency than PCP by a small margin. Secondary CP emerges as a statistically significant predictor of increased tendency, such that the odds of

[11] This coefficient is not included in Table 17 as it is not one of the psychopathy variables of interest.

hypothetically performing this behaviour are 7% higher for participants with heightened SCP ($p \leq 0.05$).

Next, increased tendency of trolling is best explaining by cyber-psychopathy models, with both PCP+SCP (Model 2) and TCP (Model 4) reporting Pseudo R^2 values of 0.26. These values of goodness-of-fit are significantly higher than the POP+SOP (0.21) and TOP (0.21) models, suggesting that the cyber measures are more important variables than just general offline psychopathy when considering the tendency of trolling. As such, increases in PCP are associated with 1.13 higher odds of hypothetically engaging in trolling beyond the "extremely unlikely" category ($p \leq 0.001$). The TCP scale predicts trolling tendency with a slightly lower likelihood ($e^B = 1.12$, $p \leq 0.001$). On the other hand, higher POP has increased odds by 10% ($p \leq 0.001$) and higher TOP has increased odds by 9% ($p \leq 0.001$). Both secondary psychopathy (SCP or SOP) are significant predictors of this misconduct behaviour, such that increased SCP and SOP are associated with 1.10 and 1.09 higher odds of engaging in trolling, respectively ($p \leq 0.05$).

Furthermore, in terms of flaming, higher SCP is associated with increased odds of engaging in this behaviour by 19% ($p \leq 0.01$). Primary CP and POP have similar odds ratios, with both predicting about 1.10 higher odds of increased tendency to flame others online ($p \leq 0.01$ and $p \leq 0.001$, respectively). Scoring higher on TCP is also associated with 1.13 higher odds of increased flaming tendency ($p \leq 0.001$) versus only a 9% increase in odds for the TOP scale ($p \leq 0.001$). It is also important to note that cyber-psychopathy measures are associated with better fit than the offline psychopathy measures and the baseline model, especially showing a large difference between PCP+SCP (Pseudo $R^2 = 0.39$) in Model 2 and POP+SOP (Pseudo $R^2 = 0.34$) in Model 3.

Online deception is a misconduct behaviour that does not appear to have tendency better explained by cyber-psychopathy variables than by offline psychopathy measures. The goodness-

of-fit statistics are similar between Models 2-5, although significantly higher than the baseline model (Pseudo $R^2 = 0.20$), which is still excellent fit overall. For the most part, higher scores on psychopathy measures increase the odds of engaging in deception on the internet. Participants who score higher on TCP have 1.08 higher odds of increased tendency toward online deception versus 1.07 higher odds ratio for those with increased scores in TOP ($p \leq 0.001$). Interesting, higher POP leads to odds that are about 1% better than higher PCP scores. Secondary CP is statistically significant for this behaviour, such that increases in SCP increase the tendency of engaging in online deception by about 10% in Model 2 ($p \leq 0.1$).

Cyber-vandalism is most influenced by secondary psychopathy variables. Increased SCP scores show 1.16 higher odds of saying one would engage in this behaviour ($p \leq 0.001$) and increased SOP scores show 1.12 higher odds of greater tendency ($p \leq 0.01$) in Models 2 and 3, respectively. Higher PCP also increases the odds by 4% in Model 2 ($p \leq 0.05$). When comparing total psychopathy scores, TCP emerges as a significant predictor in Model 4 such that participants who score higher in TCP have 7% increased likelihood of selecting a tendency category above "extremely unlikely" for cyber-vandalism ($p \leq 0.001$), while higher TOP increases odds by only 5% ($p \leq 0.01$). The difference in predicting power between the models is notable, such that the cyber-psychopathy models (2, 4) have better fit than the offline psychopathy models (3, 5) and the baseline model (Pseudo $R^2 = 0.17$).

Next, psychopathy variables do not appear to have a very large influence on the predicting power of internet addiction tendency. Both TCP and TOP models have the same fit statistics (Pseudo $R^2 = 0.20$), and higher scores in both show increases in tendency odds between 6% and 7% ($p \leq 0.001$). Thus, neither offline nor cyber-psychopathy models appear to report better fit for internet addiction tendency, and are hardly better than the baseline model (Pseudo $R^2 = 0.17$). Interestingly, Model 3 appears to have slightly higher odds ratios with offline

psychopathy variables than the cyber-psychopathy variables in Model 2. Participants who have elevated SOP scores are linked to 1.10 higher odds of saying they would engage in internet addiction behaviours ($p \leq 0.001$), while increases in SCP are associated with increased odds by 9% ($p \leq 0.05$). On the other hand, increased POP and PCP have the same odds for higher tendency ($e^B = 1.06$, $p \leq 0.01$) in both Models 2 and 3.

Higher likelihood of reading others' emails is strongly predicted by PCP with higher scores being associated with increased odds by 11% ($p \leq 0.001$) in Model 2. Even increased POP in Model 3 significantly predicts greater tendency of this behaviour, but to a lesser extent ($e^B = 1.10$, $p \leq 0.001$). An interesting finding from this dependent variable is that Model 3 (POP+SOP) shows SOP as statistically significant ($e^B = 1.08$, $p \leq 0.05$) whereas SCP in Model 2 is not. Furthermore, both increases in TCP and TOP have similarly higher odds of reading others' emails by about 9% ($p \leq 0.001$) in Models 4 and 5. It is important to note that Models 2 and 4 (CP measures) do not have better fit than Models 3 and 5 (OP measures), although models with psychopathic variables in general tend to have better fit statistics than the baseline model for this behaviour (Pseudo $R^2 = 0.12$).

Next, the tendency of misusing digital information is best explained by cyber-psychopathy models. Increases in TCP raise the odds of saying one would engage in this behaviour by 8% in Model 4 ($p \leq 0.001$) compared to only a 7% raise in odds for higher TOP scores in Model 5 ($p \leq 0.001$). This predicting power of the models is reflected in the goodness-of-fit statistics, such that Model 4 has a Pseudo R^2 of 0.15 versus a value of 0.13 for Model 5, but these are not as strongly fitted as for many other behaviours. Just like most of the other behaviours, PCP and POP are the significant independent variables for assessing the tendency of misusing digital information, while PCP has a slightly higher odds ratio ($\Delta e^B = +0.02$, $p \leq 0.001$).

Additionally, SCP and SOP are both significant with increases in odds of hypothetically engaging in this behaviour between 5% and 6% ($p \leq 0.1$).

Finally, online sexual pushiness has excellent fit among all models, including the baseline model (Pseudo $R^2 = 0.23$), which suggests that there are non-psychopathy variables that are very important in predicting higher tendency for engaging in this misconduct behaviour. Adding psychopathy variables makes the models excellent fit with up to a Pseudo R^2 value of 0.32 for Model 2 (PCP+SCP). Increases in PCP are associated with 1.20 higher odds of engaging in this behaviour ($p \leq 0.001$), compared to only 13% increased odds for higher POP scores ($p \leq 0.01$). Furthermore, there is not a significant difference between cyber and offline measures of total psychopathy: higher TCP and TOP scores both increase the odds of greater tendency by about 11% ($p \leq 0.001$) in Models 4 and 5. Primary psychopathy is again the most important psychopathy factor for predicting online sexual pushiness tendency, considering that neither SCP nor SOP is statistically significant. Interestingly, Model 2 (PCP+SCP) has a higher Pseudo R^2 value than Model 4 (TCP) by 0.04, which also emphasizes the importance of PCP in understanding increased likelihood of engaging in sexual pushiness on the internet. Also, including PCP improves the model fit more than adding POP scores (ΔPseudo $R^2 = +0.03$). Overall, Table 17 is presented below.

Table 17. Ordered Logistic Regression Models for Tendency of Online Misconduct Behaviours (N =357)

Model	Online Misconduct Behaviours	Tendency (Extremely Unlikely)		Goodness of Fit
		Odds Ratio	*SE*	Pseudo R^2
	Cyber-Stalking			
Model 1	Baseline	-	-	0.13
Model 2	Primary Cyber-Psychopathy	1.002	0.017	0.13
	Secondary Cyber-Psychopathy	1.052	0.033	
Model 3	Primary Offline Psychopathy	1.007	0.017	0.13
	Secondary Offline Psychopathy	1.036	0.028	
Model 4	Total Cyber-Psychopathy	1.016	0.012	0.13
Model 5	Total Offline Psychopathy	1.016	0.012	0.13
	Digital Piracy			
Model 1	Baseline	-	-	0.14
Model 2	Primary Cyber-Psychopathy	1.073 ***	0.019	0.17
	Secondary Cyber-Psychopathy	1.066 *	0.034	
Model 3	Primary Offline Psychopathy	1.078 ***	0.019	0.16
	Secondary Offline Psychopathy	0.998	0.027	
Model 4	Total Cyber-Psychopathy	1.071 ***	0.014	0.17
Model 5	Total Offline Psychopathy	1.052 ***	0.013	0.16
	Trolling			
Model 1	Baseline	-	-	0.15
Model 2	Primary Cyber-Psychopathy	1.130 ***	0.025	0.26
	Secondary Cyber-Psychopathy	1.104 *	0.046	
Model 3	Primary Offline Psychopathy	1.093 ***	0.023	0.21
	Secondary Offline Psychopathy	1.091 *	0.040	
Model 4	Total Cyber-Psychopathy	1.123 ***	0.019	0.26
Model 5	Total Offline Psychopathy	1.092 ***	0.017	0.21
	Flaming			
Model 1	Baseline	-	-	0.29

Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.101 ** 1.185 **	0.039 0.074	0.39
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.107 *** 1.044	0.035 0.059	0.34
Model 4	Total Cyber-Psychopathy	1.126 ***	0.031	0.38
Model 5	Total Offline Psychopathy	1.089 ***	0.027	0.34
	Online Deception			
Model 1	Baseline	-	-	0.20
Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.072 ** 1.097 †	0.028 0.054	0.25
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.082 *** 1.033	0.026 0.045	0.24
Model 4	Total Cyber-Psychopathy	1.079 ***	0.020	0.25
Model 5	Total Offline Psychopathy	1.068 ***	0.020	0.24
	Cyber-Vandalism			
Model 1	Baseline	-	-	0.17
Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.040 * 1.156 ***	0.020 0.046	0.22
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.020 1.119 **	0.019 0.040	0.20
Model 4	Total Cyber-Psychopathy	1.069 ***	0.015	0.21
Model 5	Total Offline Psychopathy	1.046 **	0.015	0.19
	Internet Addiction			
Model 1	Baseline	-	-	0.17
Model 2	Primary Cyber-Psychopathy Secondary Cyber-Psychopathy	1.055 ** 1.088 *	0.019 0.037	0.20
Model 3	Primary Offline Psychopathy Secondary Offline Psychopathy	1.056 ** 1.101 ***	0.018 0.033	0.21
Model 4	Total Cyber-Psychopathy	1.064 ***	0.014	0.20
Model 5	Total Offline Psychopathy	1.069 ***	0.014	0.20

	Reading Others' Emails			
Model 1	Baseline	-	-	0.12
Model 2	Primary Cyber-Psychopathy	1.111 ***	0.021	0.19
	Secondary Cyber-Psychopathy	1.030	0.036	
Model 3	Primary Offline Psychopathy	1.097 ***	0.020	0.18
	Secondary Offline Psychopathy	1.075 *	0.032	
Model 4	Total Cyber-Psychopathy	1.087 ***	0.015	0.18
Model 5	Total Offline Psychopathy	1.090 ***	0.015	0.18
	Misuse of Digital Information			
Model 1	Baseline	-	-	0.10
Model 2	Primary Cyber-Psychopathy	1.094 ***	0.020	0.15
	Secondary Cyber-Psychopathy	1.059 †	0.035	
Model 3	Primary Offline Psychopathy	1.077 ***	0.018	0.13
	Secondary Offline Psychopathy	1.053 †	0.029	
Model 4	Total Cyber-Psychopathy	1.084 ***	0.014	0.15
Model 5	Total Offline Psychopathy	1.069 ***	0.014	0.13
	Online Sexual Pushiness			
Model 1	Baseline	-	-	0.23
Model 2	Primary Cyber-Psychopathy	1.199 ***	0.062	0.32
	Secondary Cyber-Psychopathy	0.910	0.080	
Model 3	Primary Offline Psychopathy	1.129 **	0.048	0.29
	Secondary Offline Psychopathy	1.044	0.079	
Model 4	Total Cyber-Psychopathy	1.107 **	0.040	0.28
Model 5	Total Offline Psychopathy	1.108 **	0.039	0.28

Note : Model 1 includes the all the predictor variables: gender, age, household income, education, occupation, residence location, digital literacy, daily internet use, computer years, internet years, most performed online activity, websites or apps used, alcohol use, and drug use. All other models control for the same predictor variables and then add in only the listed psychopathy variables.

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Table 18 is used to examine social predictors of average online misconduct tendency (OMT) through a composite score variable. When all 10 behaviours are taken into account, a continuous variable is created that is predicted with OLS linear regressions through five models: a baseline model with all predictor variables (Model 1), all the predictor variables plus PCP and SCP (Model 2), all predictor variables plus POP and SOP (Model 3), all the predictor variables plus TCP (Model 4), and all the predictors plus TOP (Model 5).

Psychopathy variables (PP and SP) appear to be crucial for understanding the likelihood of engaging in online misconduct, considering large increases in goodness-of-fit statistics above the baseline model (Adjusted $R^2 = 0.19$). It is important to note that the fit of Model 2 with the cyber-psychopathy variables (PCP+SCP) is much better than the fit of Model 3 which instead controls for offline psychopathy variables (POP+SOP) by a difference in Adjusted R^2 values of 0.07. Model 2 represents excellent fit, as CP variables explain 43% of the variance in the tendency of online misconduct, which is the same amount as with Model 4's inclusion of TCP. Ultimately, these goodness-of-fit statistics are much better than those in Models 3 and 5 which emphasize offline psychopathy measures.

In terms of coefficients, PCP has a strong positive association with OMT ($B = 0.19$, $p \leq 0.001$) in Model 2, which is actually higher than the relationship between POP and OMT in Model 3 ($B = 0.17$, $p \leq 0.001$). When evaluating tendency, secondary psychopathy emerges as a significant predictor of OMT in both cyber and offline versions of the measure. Impulsivity in both social contexts is now a central factor in understanding the likelihood of engaging in online misconduct. In Model 2, increases in SCP are associated with higher OMT by 0.15 points ($p \leq 0.001$), while in Model 3, increases in SOP are associated with higher OMT by only 0.12 points ($p \leq 0.001$). Furthermore, when Models 4 and 5 incorporate the TP scores to for predicting OMT, some interesting results emerge. It is possible to compare the differences between TCP and TOP

in the final two models, due to using the same scale units and covariates for comparison. TCP emerges as a better predictor of OMT increases with a positive association of 0.18 points (Model 4) versus 0.15 points for TOP (Model 5), with both being statistically significant at $p \leq 0.001$. These differences are quite large considering the extensive range of the TCP and TOP scales (i.e., scores ranging from 26-104). Overall, the trends across the models suggest that cyber-psychopathy measures are much better predictors of the likelihood to engage in online misconduct behaviours (on average) than offline psychopathy measures.

In terms of demographic variables, age is a statistically significant predictor of OMT across all models with a negative association. Increasing in age by one year in Model 1 shows a decrease in OMT scores by about 0.10 points ($p \leq 0.001$), which ends up being reduced further when controlling for cyber-psychopathy variables in Model 2 (B = -0.04, $p \leq 0.1$) and when controlling for offline psychopathy variables in Model 3 (B = -0.06, $p \leq 0.05$). Similar age coefficient differences also exist between Model 4 (TCP) and Model 5 (TOP). Next, having a computer-related profession emerges as a relevant variable in all models. The baseline model (Model 1), demonstrates that those participants who have tech jobs are associated with an increase in OMT by about 1.89 points when compared to the reference group "other" ($p \leq 0.05$). However, having a computer profession predicts higher OMT scores by 2.12 points ($p \leq 0.01$) when PCP and SCP are included (Model 2), and 1.52 points ($p \leq 0.05$) when POP and SOP are included (Model 3). This association continues when both TCP and TOP are controlled separately in Models 4 and 5, such that having a tech job (compared to the reference group) increases OMT by about 2.17 points (Model 4) and 1.56 points (Model 5), respectively. It is important to note that having a computer profession is associated with decreases in SCP (Chapter 4; Table 10), but now is associated with increases in OMT in Table 18 when SCP is actually a strong predictor of OMT. Ultimately, this finding calls for future research. Interestingly, gender

is, again, not a statistically significant variable in predicting OMT across any models in which it is included despite notable differences between males and females for the tendency of individual behaviours in Table 13.

The data also show that only a few internet usage variables predict OMT across the models. First of all, streaming or downloading media as one's most performed internet activity (compared to the reference group "browsing") is associated with OMT increases regardless of the controlled extraneous variables. The impact is the highest in the baseline model, such that participants who stream or download media most online (compared to those who browse most) have higher OMT scores by 1.57 points ($p \leq 0.05$). Adding in PCP and SCP slightly reduces the effect on OMT to an increase in 1.4 points ($p \leq 0.05$), while adding in POP and SOP is even lower ($B = 1.36$, $p \leq 0.05$). In Models 4 and 5, streaming/downloading is still significant, but the 'gaming' category also becomes significant when controlling for TCP, while the message boards category instead becomes significant when controlling for TOP. Interestingly, participants who use the website 4chan increase in their OMT scores by 1.07 points compared to their non-using counterparts ($p \leq 0.1$) in the baseline model (Model 1), but this variable becomes statistically insignificant when controlling for any psychopathy variables.

Finally, substance use variables start to become statistically significant when examining the tendency to engage in online misconduct. In the baseline model (Model 1), excessively using alcohol once a week or more (compared to the reference group "not at all") is associated with increases in OMT by 1.35 points ($p \leq 0.05$). This trend holds across all models, such that it becomes an important predictor in both Model 4 and 5: participants in the "once a week or more" category have higher OMT scores than those who do not excessively use alcohol by 1.28 points when controlling for TCP ($p \leq 0.05$) and by 1.42 points when controlling for TOP ($p \leq 0.05$). When it comes to recreational drug use, similar patterns emerge as the excessive alcohol use

predictor. In general, when compared to the reference group “not at all”, any category of participants that reports using recreational drugs shows increases in OMT. Using drugs once to a couple times in the last 12 months predicts increases in OMT across all models, with the largest being for the baseline model ($B = 1.05$, $p \leq 0.05$). Moreover, in the baseline model, using drugs once a month to a couple times per month is positively associated with OMT scores by 1.56 points ($p \leq 0.05$), but this category becomes insignificant when psychopathy variables are added in the other models. The opposite trend applies to the drug use category “once a week or more”, such that it becomes statistically significant in models only when psychopathy *subscale* variables are added ($p \leq 0.1$); for example, compared to non-users of drugs, those who use drugs once a week or more show increases in OMT by 0.90 points when controlling for PCP and SCP in Model 2. Thus, Models 4 and 5 that include full psychopathy scales (TCP and TOP) do not show significant coefficients for those who use recreational drugs once a week or more. Interestingly, participants who do not answer the question about drug use have higher OMT scores by 2.80 points compared to non-users of drugs in Models 2 and 4 ($p \leq 0.05$). Overall, Table 18 is presented below.

Table 18. OLS Linear Regression Predicting Composite Scores of Online Misconduct Tendency (*N* =357)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***	**Coefficient**	***SE***
Gender (Female)										
Male	0.349	0.417	-0.356	0.356	0.085	0.374	-0.355	0.356	0.097	0.374
Age in Years	-0.101 ***	0.029	-0.044 †	0.025	-0.061 *	0.026	-0.046 †	0.025	-0.068 *	0.026
Household Income (Between $25 000 and $100 000 per year)										
Less than $25 000 per year	-0.476	0.444	0.286	0.379	-0.001	0.400	0.286	0.378	-0.020	0.399
$100 000 or more per year	0.034	0.500	-0.275	0.423	-0.269	0.450	-0.247	0.421	-0.217	0.447
Missing Data	0.133	0.645	0.129	0.542	0.109	0.578	0.139	0.542	0.064	0.576
Highest Level of Education (College/University Student)										
Less than College/University Graduate	0.834	0.636	0.780	0.538	0.534	0.571	0.823	0.534	0.582	0.569
College/University Graduate	0.393	0.510	-0.072	0.431	0.226	0.457	-0.058	0.431	0.263	0.456
Occupation (Other)										
Student	0.305	0.441	0.069	0.372	0.088	0.395	0.062	0.371	0.098	0.395
Teacher	0.575	0.759	0.391	0.641	0.114	0.680	0.433	0.638	0.148	0.679
Management	1.003	0.916	0.667	0.770	0.624	0.820	0.676	0.770	0.675	0.818
Computer Professions	1.886 *	0.818	2.124 **	0.692	1.518 *	0.732	2.173 **	0.688	1.557 *	0.731
Not Working	0.845	0.731	0.620	0.617	0.627	0.653	0.661	0.614	0.634	0.653
Missing Data	-0.389	0.827	0.045	0.698	-0.069	0.740	0.015	0.696	-0.062	0.740
Residence Location (Canada)										
United States	-0.472	0.476	-0.349	0.401	-0.459	0.430	-0.368	0.400	-0.520	0.425
Europe	0.288	0.697	-0.059	0.589	0.103	0.624	-0.097	0.586	0.064	0.623
Other	-0.804	1.010	-0.196	0.851	-0.809	0.903	-0.195	0.850	-0.854	0.902
Missing Data	-0.672	1.942	-0.503	1.641	-0.491	1.752	-0.622	1.631	-0.747	1.734
Digital Literacy	0.008	0.018	0.000	0.015	0.016	0.016	0.000	0.015	0.017	0.016
Daily Internet Use in Hours	0.083	0.064	-0.004	0.054	0.037	0.058	-0.008	0.054	0.028	0.057

Years Using Computers (10-19 years)										
Less than 10 years	-1.014	0.860	-1.328 †	0.724	-0.921	0.768	-1.325	0.723	-0.923	0.768
20 years or more	0.037	0.560	0.341	0.474	0.171	0.501	0.374	0.472	0.199	0.501
Years Using Internet (10-14 years)										
Less than 10 years	-0.002	0.693	0.376	0.585	0.115	0.620	0.352 †	0.583	0.079	0.619
15 years or more	-0.543	0.478	-0.182	0.405	-0.154	0.429	-0.208	0.403	-0.173	0.429
Missing Data	-0.429	2.312	-1.146	1.947	-0.707	2.065	-1.078	1.943	-0.701	2.065
Most Performed Internet Activity (Browsing)										
Email	-0.458	0.552	-0.016	0.466	-0.039	0.495	-0.015	0.466	-0.034	0.495
Social Media	-0.041	0.556	0.065	0.470	0.325	0.499	0.033	0.467	0.302	0.498
Games	0.873	0.725	1.142 †	0.610	0.837	0.647	1.140 †	0.610	0.847	0.647
Message Boards or Forums	0.976 †	0.540	0.731	0.457	0.863 †	0.483	0.697	0.455	0.836 †	0.483
Streaming or Downloading Media	1.573 *	0.762	1.398 *	0.640	1.362 *	0.681	1.404 *	0.640	1.326 †	0.681
Missing Data	0.248	3.271	-0.833	2.752	-0.218	2.921	-0.886	2.749	-0.253	2.921
Website or Apps Used										
Reddit (No)	-0.011	0.538	0.218	0.453	0.319	0.482	0.200	0.452	0.342	0.482
4chan (No)	1.065 †	0.552	0.691	0.473	0.677	0.496	0.755	0.464	0.723	0.494
Pinterest (No)	-0.316	0.409	-0.053	0.345	-0.079	0.367	-0.043	0.345	-0.063	0.366
Tinder (No)	0.625	0.625	0.400	0.527	0.506	0.563	0.373	0.525	0.434	0.558
Ebay (No)	0.662 †	0.379	0.002	0.324	0.290	0.342	0.004	0.324	0.311	0.341
Twitter (No)	-0.034	0.372	0.455	0.316	0.087	0.335	0.461	0.315	0.133	0.332
Excessive Use of Alcohol in Past 12 Months (Not at all)										
Once to a couple of times	-0.710	0.509	-0.553	0.428	-0.526	0.455	-0.554	0.428	-0.541	0.455
Once a month to a couple times per month	-0.200	0.530	-0.074	0.446	-0.014	0.474	-0.087	0.446	-0.027	0.474
Once a week or more	1.350 *	0.652	1.259 *	0.549	1.386 *	0.583	1.283 *	0.548	1.421 *	0.582
Not Answered	2.720	3.290	5.135 †	2.774	2.899	2.951	5.138 †	2.772	2.609	2.937
Use of Recreational Drugs in Past 12 Months (Not at all)										
Once to a couple of times	1.049 *	0.489	0.889 *	0.412	0.768 †	0.438	0.871 *	0.411	0.757 †	0.438
Once a month to a couple times per month	1.557 *	0.760	0.512	0.652	0.823	0.685	0.451	0.646	0.781	0.684
Once a week or more	0.927	0.618	0.904 †	0.525	0.971 †	0.555	0.849	0.519	0.908	0.551
Not Answered	1.999	1.633	2.804 *	1.375	1.939	1.460	2.799 *	1.374	2.002	1.458

Primary Cyber-Psychopathy			0.189 ***	0.022						
Secondary Cyber-Psychopathy			0.148 ***	0.042						
Primary Offline Psychopathy					0.166 ***	0.023				
Secondary Offline Psychopathy					0.115 **	0.039				
Total Cyber-Psychopathy							0.177 ***	0.015		
Total Offline Psychopathy									0.151 ***	0.017
Constant	17.056 ***	1.529	8.258 ***	1.533	8.803 ***	1.664	8.056 ***	1.506	8.644 ***	1.656
Adjusted R^2	0.19		0.43		0.36		0.43		0.36	

†$p \leq 0.1$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

5.4. Chapter Summary

Overall, investigating RQ4 demonstrated that some online misconduct behaviours have substantial differences between acceptability and tendency evaluations. The behaviours that have higher acceptability than tendency are: trolling, flaming, online deception, cyber-vandalism, and online sexual pushiness. Conversely, cyber-stalking, digital piracy, internet addiction, reading others' emails, and misuse of digital information are much more likely to be performed than endorsed as acceptable behaviours. In terms of gender, females are most linked to cyber-stalking behaviours while males are linked to more trolling and cyber-vandalism. Furthermore, the significant correlates for increased OMA (RQ5) are: younger ages, lower levels of education, higher daily internet use, and more years using computers, whereas decreases in OMA are associated with lower household income. On the other hand, factors that underlie the increased OMT (RQ6) are younger ages, having computer-related professions, streaming or downloading media as one's most performed internet activity, more excessive alcohol usage, and recreational drug usage. An important finding is that higher PCP most strongly predicts increased OMA (RQ5), while both PCP and SCP are important correlates of higher OMT scores (RQ6).

In general, cyber-psychopathy variables provide better model fit than their offline counterparts, although the differences are often small. It is important to note that the models investigating online misconduct tendency have better fit statistics than those that examine acceptability. This applies to both higher Pseudo R^2 values from the ologit regressions for the individual misconduct behaviours (Table 15, 17), as well as higher Adjusted R^2 values from the linear regressions for the composite scores (Table 16, 18). The linear regressions explicitly show that the models with CP variables explain more of the variance in the OMT composite score than the OMA composite score, by a difference in Adjusted R^2 of about 0.10+. In essence, these findings demonstrate that cyber-psychopathy is actually a better predictor of whether one would engage in misconduct behaviours than whether one would endorse them as socially permissible.

CHAPTER 6:
DISCUSSION AND CONCLUSION

This chapter summarizes the main results of the study and discusses the links to the literature, as well as proposes various explanations. The discussion section is followed by an analysis of the potential practical implications of the study's findings and the limitations that exist within the methodology and framework. Finally, this chapter concludes with suggestions for new directions for the literature and recommendations for future research.

6.1. Discussion

6.1.1. Increased Psychopathic Personality Expression on the Internet

Based on the quantitative data analyses, some important findings emerged that support the idea of context-dependent psychopathy. First of all, there are statistically significant differences between cyber/offline versions of PP, SP, and TP, such that cyber-psychopathy scores are generally higher than the offline psychopathy counterpart scores (RQ1; Table 7a,b,c; Figure 1-3). Based on controlling for social context in the methodology, this finding suggests that there are real differences between the online and offline worlds that facilitate changes in personality expression online toward cyber-psychopathic tendencies. Contrary to Blumer and Doering (2012), I found that specifying context in personality inventories does not automatically reduce trait scores on the internet, especially if the offline version is similarly controlled; however, the mean scores of PCP/POP are noticeably lower (1 and 2 points, respectively) than the contextually-inclusive means presented by Levenson et al. (1995), while the SCP/SOP mean scores in the current study are similar to those shown by Levenson et al. Furthermore, the structural conditions of cyberspace are influential in orienting interpersonal interactions in a way that appears to be more substantial than a seasonal context, such as summertime (Blumer & Doering, 2012). As such, the higher average scores of psychopathy online may be reflective of

the cumulative effort of anonymity, normlessness, lack of non-verbal cues, and asynchronicity on the internet to create further psychological distance between internet users and foster reduced empathy and amoral decision making. This finding is further supported when isolating specific cases (*n*=83; 20% of the overall sample) who were deemed to be increasing in their total psychopathic expression online by over one standard deviation (Table 7c, 12). These individuals have 24% higher TCP scores than TOP scores (compared to about a 5% average increase in the overall sample; *N*=408), demonstrating that a specific subpopulation of internet users are uniquely susceptible to much higher cyber-psychopathy than offline psychopathy expression, although at subclinical levels. According to the theoretical literature, these individuals may be experiencing dissociations in personality and emotional detachment such that they are motivated by different goals and outcomes on the internet and are unrestrained by traditional offline rules or capabilities (Aboujaoude, 2012; Suler, 2004). In this sense, perhaps a small group of internet users express traits on the internet as a way to act out power and control that they cannot achieve in the offline world (Bowins in Todd, 2014).

Specifically, the aggregate results in this study show that secondary psychopathy is more affected by the shift to cyberspace characteristics (Table 7b) with higher average increases than primary psychopathy (Table 7a)—relative SCP is higher (51% of max possible score) versus PCP (44% of max possible score) among the overall sample (RQ1). Therefore, while psychological distancing is still important for inducing a more callous disposition toward others online, the impulsivity to act out toward others is heightened even more, presumably based on reduced identifiability and accountability from the online anonymity (Demetriou & Silke, 2003; Lapidot-Lefler & Barak, 2012; McKenna & Bargh, 2000; Suler, 2004). The impulsivity boost online could also be attributed to deindividuation, such that disinhibited behaviours result from defaulting to the general normlessness of cyberspace so people feel less like individuals,

experience lower constraint, and have less of a stake in their own and each others' outcomes (Chen & Wu, 2013; Festinger et al., 1952).

Measures of offline and cyber-psychopathy are also highly related, reflecting that many of the trait expressions are fairly similar between these social contexts (RQ1). When examining the subscales during the bivariate analyses (Table 8), the primary factor is much more strongly correlated between offline and online social contexts (r = 0.82) than the secondary factor (r = 0.54). This finding suggests that perhaps the large increases in impulsivity are less influenced by offline disposition, whereas the unempathetic trait expression only moderately increases on the internet beyond the lack of empathy shown offline. That said, TCP and TOP are extremely strongly correlated (r = 0.79), which implies combining primary and secondary psychopathic dimensions within cases leads to a personality expression that is largely similar in both social contexts (but still higher online; $p \leq 0.001$).

Moreover, the results in Chapter 4 also directly addressed whether increases in psychopathy factors on the internet are intensified, that is, enhanced in cyberspace after already presenting above-average levels of offline psychopathy (RQ1). Based on the operational definition for this study, 46% of cases in the overall sample have TP intensification, which suggests that for almost half of the sample there is an online extension of existing psychopathy from face-to-face environments. This finding supports the idea of the internet being a playground for those with higher offline psychopathy scores to act out more psychopathic traits and enterprises online (similarly argued in Buckels et al., 2014). Such findings also conform to literature that argues that online personality expression and tendencies are largely informed by offline traits and dispositions (Amichai-Hamburger, 2005; Back et al., 2010; Seepersad, 2004; Tosun & Lajunen, 2010), although conscious motivations are undetermined by this study. Future research can develop a more precise measurement of intensification for more direct analysis.

Interestingly, a very small proportion of the sample actually decreased in their expression of psychopathy personality online. According to Table 7c, 8% of individuals had higher TOP than TCP scores (above one standard deviation of the differential). Perhaps these few individuals instead attempt to use the anonymity of the internet to express themselves meaningfully to others (e.g., the "passing stranger effect") or to try on potential identities or personalities that reflect their ideal 'hoped-for possible self' (Rubin, 1975; Yurchisin, Watchravesringkan, & Brown McCabe, 2005). Future research could explicitly examine decreases in psychopathic expression in cyberspace, as the small subsample size in the current study did not allow adequate prediction power to evaluate the social covariates.

6.1.2. Gender and Cyber-Psychopathy

The present study demonstrates that there are substantial gender differences in the expression of cyber-psychopathy (RQ1-3). When exploring the raw scores of cyber-psychopathy, males tend to have higher mean scores in PCP, SCP, and TCP, which are statistically significant gender differences. This finding may be a result of males typically having higher levels of psychopathy in general (Beryl et al., 2014; Hare, 1998; Salekin et al., 1997). This was confirmed in the current sample as well, with males having significantly higher mean scores of OP than females. Also, when investigating the impact of gender on cyber-psychopathy with multivariate analyses, being male is the strongest predictor of having higher CP scores (RQ2). According to Tables 9-11, being male is associated with increases in PCP by 2.94 points, in SCP by 1.16 point, and in TCP by 4.10 points, when controlling for all extraneous variables (Model 5). These findings conform to the literature that reports much higher scores for PP in males with a smaller gender gap for SP (Grann, 2000; Z. Lee & Salekin, 2010; Levenson et al., 1995). Ultimately, statistically significant coefficients show that gender is an important factor for understanding the expression of cyber-psychopathy, such that males do have higher CP scores across all models.

Males also experience larger increases in psychopathy when using the internet. When comparing cyber and offline measures (RQ1; Table 7a,b,c), males demonstrate significant differentials with higher PP, SP, and TP expression on the internet, whereas females do not actually show any increases in PP expression online. When taking into account OP scores, there are also large gender differences in terms of intensified psychopathic increases on the internet—almost 60% of males have intensified increases in TP online compared to only 20% of females (Table 7c). In this sense, males are more likely than females to enhance their total psychopathy expression online when they already have above-average levels of TOP. Thus, the internet may serve as a psychopathic playground more for males than females (Buckels et al., 2014). It appears that the smaller proportion of females who do increase in psychopathy online instead tend more to experience jumps from low OP to higher CP. Moreover, when explicitly examining the subpopulation that has substantial increases in TCP online (n=83) in Table 12 (RQ3), higher odds of being in the online increase group are significantly linked to gender: males are almost five times more likely than females to increase in psychopathic expression online (i.e., to have much higher TCP than TOP scores).

The findings of significant gender differences in cyber-psychopathy may be reflective of hypermasculinity expression on the internet due to a lack of non-verbal cues and, accordingly, manliness indicators in cyberspace. Without non-verbal cues individuals often overcompensate with verbal or physical clarifying reactions (Walther et al., 2005); for example, when gender cues are absent and there are threats to masculinity, hypermasculine behaviours are typical responses (Willer, Rogalin, Conlon, & Wojnowicz, 2013). Therefore, masculinity overcompensation on the internet may be indicative of posturing to demonstrate one's manhood when they assume that other internet users may not perceive them in their desired gender role. Increases in psychopathy online may thus reflect the underlying desire for males to express

masculinity through personality traits that encompass power, control, aggressiveness, and risk-taking (Kimmel, 2004; Mosher, 1991). Subtypes such as macho psychopaths are also presented in the literature with traits that express stereotypical masculinity (Hamburger et al., 1996; Hervé, 2003). In this sense, interpersonal misconduct behaviours, such as flaming and cyberbullying, may be actions that underlie attempts to convey masculinity that are exemplified by increased psychopathic trait expression online.

6.1.3. Other Social Predictors of Cyber-Psychopathy

The most important social predictors of CP scores (RQ2) differ slightly between PCP, SCP, and TCP. Only being male (compared to females) is associated with consistent high scores across all cyber-psychopathy measures, while being in the lowest household income category (less than $25 000 per year) is associated with low scores in some models across all cyber measures (Tables 9-11). Lower income as a protective factor against higher CP could be predicted by some studies that show negative correlations between income and psychopathy in general (Seto & Barbaree, 1999). It is possible that lower income is reflective of lower status occupations, which do not come with as many cut-throat and egocentric mentalities that could seep into other aspects of life. However, controlling for occupation did not support this hypothesis, which demonstrates the need for more detailed examination of the relationship between income and CP in future research.

Other demographic predictors of higher TCP scores are being younger in age and engaging in moderate drug use, which coincide with the literature by translating psychopathy correlates into the online realm (Coid, Yang, Ullrich, Roberts, Moran, et al., 2009; Hare, 1991; Hemphill et al., 1994; Reardon et al., 2002; Seto & Barbaree, 1999). Age is actually a very important variable for predicting high scores in PCP, SCP, and TCP in most models for RQ2. Furthermore, in terms of RQ3, being older in age is associated with reduced odds of increasing in

TP expression online, which may be due to a one's life experience over time as well as their digital experience. McCrae and Costa (1990) have accordingly noted that personality traits tend to be stable and remain constant as one enters adulthood, which may underlie less flexible personality expression across social contexts with increased age, while moral reasoning also becomes more consistent and responsible at higher stages of moral development (Kohlberg, 1976; Piaget, 1932). Furthermore, this finding may additionally reflect the difference between digital natives and digital immigrants (Prensky, 2001); younger individuals who have grown up with the internet may be more likely to dissociate their personalities in cyberspace, as they have been immersed in this social context during crucial stages of identity, personality, and moral development.

Higher daily internet usage also becomes a significant predictor of cyber-psychopathy in most models (RQ2). Increased time spent online is associated with higher levels of SCP and TCP (Table 10 and 11; Model 5), which may be the result of a decreased ability to control impulses the longer one is immersed in online environments due to boredom or a need for stimulation when desensitized to habitual online activities (Pabian et al., 2015; Van Rooij et al., 2011). Additionally, the normlessness of cyberspace may not provide enough structure to weigh the costs and benefits of every action, depleting mental resources (Todd, 2014). Therefore, misconduct behaviours such as internet addiction may be a continuous spiral of reduced impulse control. Furthermore, opportunities to engage in online misconduct are increased by the amount of time an individual uses the internet (also seen in Wade & Beran, 2011), which may become normalized or ingrained in one's personality over time.

It is also interesting to note that digital literacy emerges as an important variable when examining individuals who have higher TCP scores than TOP scores, such that greater technical skills significantly improve the odds of increasing in TP online (RQ3; Table 12). This finding

may be explained by the need for strong web use skills to act out more psychopathic enterprises on the internet (Loch & Conger, 1996)—having a heightened ability to exert power and control over others may facilitate increases in psychopathy expression online. As such, those who already have higher psychopathic personalities offline may rely on superior digital prowess to put themselves into positions in online interactions where they can best serve their interests at the expense of others. Similarly, online competency may underlie feelings of self-efficacy to be the 'alpha dog' on the internet (LaRose & Kim, 2006; Loch & Conger, 1996), such that technical skills give subclinical psychopaths the means and confidence to be successfully more psychopathic online and avoid repercussions.

Overall, it appears individuals with high levels of cyber-psychopathy or those who have substantial increases in psychopathic expression on the internet can be characterized by the following general profile: being male, being younger in age, having higher digital literacy, and spending more time immersed online. Future research can more explicitly examine this theoretical profile with interaction term variables.

6.1.4. Online Misconduct Acceptability and Tendency

There are also some important findings that address RQ4. First of all, analysis of the univariate statistics shows that certain online misconduct behaviours have much higher acceptability: cyber-stalking and digital piracy are deemed acceptable by almost half of the overall sample (Table 13). The least acceptable behaviours are online sexual pushiness and flaming, such that over 96% of the overall sample says that they are unacceptable. In terms of tendency (Table 13), there is a higher likelihood of hypothetically engaging in certain online misconduct behaviours: cyber-stalking and digital piracy are likely to be performed by almost two thirds of the overall sample. This finding conforms to the literature that reports these behaviours as common forms of misconduct online (Lukacs & Quan-Haase, 2015; Rogers et al.,

2006; Selwyn, 2008; Tokunaga, 2011). The behaviours with the lowest tendency scores are online sexual pushiness and flaming, such that over 99% of the sample says that they would be unlikely to engage in them. Finally, in general, participating in unethical behaviours online is more likely than condoning them as acceptable (McMahon & Cohen, 2009), so it is unsurprising that this finding is also found in the present study with higher OMT mean scores being reported than OMA mean scores (Table 13). Specifically, there are more respondents saying they would engage in cyber-stalking, digital piracy, internet addiction, reading others' emails, and misuse of digital information than those who say that these are acceptable behaviours.

Significant gender differences in tendency evaluations are reported for trolling, online deception, cyber-vandalism, internet addiction, reading others' emails, and misuse of digital information, with males being more likely to hypothetically perform these behaviours (RQ4). On the other hand, cyber-stalking is much more likely to be both accepted and performed by females: 20% of females say they would be extremely likely to engage in this behaviour compared to only 2% of males. This finding is interesting as it differs from most previous studies that have actually found similar rates of cyber-stalking between males and females (Ménard & Pincus, 2012). My results may be reflective of the operational definition of cyber-stalking used in this study, which is based more on prospective relationships and vetting suitable romantic partners. In this sense, perhaps females are more likely to form insecure attachments to potential relationships, leading to tendencies to investigate others online (Ménard & Pincus, 2012). It is also possible that the higher acceptance rates of cyber-stalking in the overall sample indicate that there are changing social norms online, and that 'creeping' social networks is not a form of misconduct, but actually a conventional and celebrated behaviour by internet users. This appears to be even reflected in Tables 15 and 17, which show that cyber-psychopathy is not a strong

predictor of cyber-stalking acceptability or tendency. As such, future research may choose to not categorize this particular cyber-stalking operationalization in terms of online misconduct status.

Based on the findings for RQ4, it is possible that acceptability and tendency to engage in online misconduct are, in part, determined by the proximity to the victim. As such, behaviours that are the most unacceptable and least likely to be performed involve direct interactions with the victim, while the most acceptable behaviours do not. For example, cyber-stalking is usually done in a covert manner with no real tangible harm coming to the victim, while digital piracy is often rationalized by either a failure to see immediate harm or minimized harm directed at abstract corporations. On the other hand, flaming behaviours are characterized by overt interpersonal aggression to a specific person. Therefore, it appears that certain behaviours that lack direct contact with others are most susceptible to psychological distancing effects to make online victims seem non-real, which serves to increase perceptions that such actions are more acceptable (Crowell et al., 2005; Trope & Liberman, 2010).

For RQ5, multivariate analyses were used to evaluate the relationship between psychopathy variables and the acceptability of online misconduct. Increases in primary psychopathy (PCP and POP) are associated with increases in the acceptability composite score (OMA), with secondary psychopathy not being statistically significant in either social context (Table 16). In this sense, a lack of empathetic expression is most related to evaluating online misconduct behaviours as more morally acceptable, which appears to conform to studies in the literature. For example, due to the internet's anonymity, moral judgements made online often reflect utilitarianism (Li et al., 2010), which are hyper-rational calculations and generally unempathetic. It may also be easier to employ this type of moral reasoning with increased psychological distancing online, as the calculation of harm to others may be diminished, and the greatest good requirement may only apply to the self as the sole tangible and non-abstract

internet user. Furthermore, cyber-psychopathy variables (especially PCP and TCP) are the best predictors of acceptability for the following misconduct behaviours (Table 15): digital piracy, trolling, flaming, cyber-vandalism, and misuse of digital information, with PCP typically being the most important. It is interesting to note that some of these behaviours, like flaming, are deemed most unacceptable by the overall sample (Table 13), but higher levels of cyber-psychopathy (PCP and TCP) predict a greater likelihood of endorsing flaming behaviours as more socially acceptable. This finding reflects that the reduced empathy and callousness of primary cyber-psychopathy directly influence the condoning of aggressive/mean interpersonal actions as conventional and permissible on the internet.

For RQ6, multivariate analyses were used to evaluate the tendency toward online misconduct and, in general, individuals with higher levels of CP are more likely to engage in antisocial behaviours on the internet (Table 18). Increases in both primary psychopathy (PCP and POP) and secondary psychopathy (SCP and SOP) are associated with increases in the tendency composite score (OMT). Secondary psychopathy is statistically significant in both online and offline contexts, with the model containing SCP having a better fit statistic. In essence, these findings demonstrate that both a lack of empathy and impulsiveness traits are important factors for understanding whether a person would be likely to engage in online misconduct behaviours. This makes sense as impulsivity is an important component of engaging in antisocial behaviours online due to ‘toxic disinhibition’ effects (Suler, 2004), making it less likely that time is taken to consider the morality or consequences of an action. Furthermore, cyber-psychopathy variables (PCP, SCP, TCP) are the best predictors of tendency for the following misconduct behaviours (Table 17): digital piracy, trolling, flaming, cyber-vandalism, misuse of digital information, and online deception with both PCP and SCP typically being the most important. Some of these findings conform to the previous literature examining dark personality and engaging in

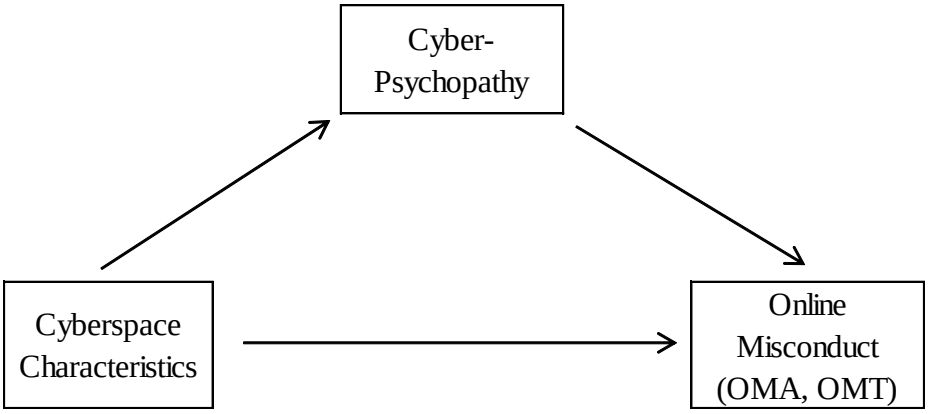
misconduct, as flaming and trolling have been explicitly linked to psychopathy and sadism traits (Buckels et al., 2014; Pabian et al., 2015). Again, in Table 13 many of these behaviours are considered the least likely to be performed by the overall sample, so it makes sense that a combination of reduced empathy and higher impulsivity (PP and SP) would lead to greater tendencies toward performing misbehaviours that cause blatant harm to victims through direct interactions.

6.1.5. General Discussion

Considering the increasing incidences of cyberbullying behaviours on the internet, it is important to investigate the personality traits underlying behaviours that have substantial psychosocial deficits for both children and adults. Accordingly, this study has shown significant support for the existence of context-dependent psychopathy, as there is now empirical evidence for psychopathic expression increases on the internet when directly comparing online and offline scores on similar scales. The theorized notion of 'dark' e-personality thus appears to be demonstrated through these findings, along with evidence that increased cyber-psychopathy predicts higher levels of acceptability and tendency toward engaging in online misconduct behaviours. Based on the findings from this study and the available literature, it appears that cyber-psychopathy could actually be a potential **mediator** variable in the relationship between the structural characteristics of cyberspace and online misconduct. On the one hand, much research suggests that the internet's anonymity or lack of non-verbal cues directly associate with engaging in behaviours such as flaming and cyberbullying (Lapidot-Lefler & Barak, 2012; H. Lee, 2005). However, a mediator link of e-personality between the qualities of the digital environment and subsequent online behaviours has also been previously hypothesized by Blumer and Doering (2012) based on their review of the assumptions in the relevant literature. Therefore,

the following theoretical model (Figure 4) based specifically on dark e-personality (CP) and online misconduct is a possibility for future consideration:

Figure 4. Cyber-Psychopathy Theoretical Model



The idea behind this model is that the internet's anonymity, normlessness, lack of non-verbal cues, and asynchronicity all contribute directly to online misconduct incidence, but may also facilitate the emergence of psychopathy in cyberspace, forming an indirect pathway to antisocial online behaviours. Ultimately, being in anonymous digital environments may increase psychological distancing and thus dissociative personality effects, which can make ordinary individuals more likely to express psychopathic personality traits, reflective of unempathetic moral judgements, and impulsive/disinhibited behaviours. Some internet users may be more susceptible to becoming subclinical cyber-psychopaths and end up condoning or engaging in online misconduct that involves callous harm to others for the sake of personal gain or exerting power and control. After all, previous research has shown that psychopaths typically have reduced eye contact in general (Dadds et al., 2008), such that the characteristics of cyberspace play right into this and may facilitate additional psychopathic expression online or even conceal existing psychopaths who can use the internet to their advantage to act out more antisociality. Moreover, based on the findings of the current study, factors such as digital literacy may be

additional mechanisms that combine with the structural conditions of cyberspace to instigate cyber-psychopathic expression.

In essence, it appears that the cyberspace characteristics may have differing effects on individuals who have varying levels of offline psychopathy. For example, some participants in the study increased in TCP while having below average TOP scores, while a smaller proportion of those had intensified psychopathic increases which instead heightened pre-existing above average psychopathy online. Future research can expand this model more in terms of the resulting misconduct in order to investigate whether individuals in the "increase online" or "intensified increase" categories engage in more overall misconduct or engage in different types of online misconduct. In general though, higher levels of CP are associated with greater acceptability and tendency toward online misconduct, suggesting that not all individuals are influenced by cyberspace characteristics to condone or perform antisocial behaviours on the internet. Furthermore, the discussion surrounding less defined universal norms in cyberspace is interesting for understanding cyber-psychopathy manifestation based on offline psychopathy levels. Because some scholars argue that psychopaths generally understand norms but choose to ignore them (Cima et al., 2010; Levy, 2007), the lack of norms on the internet could lead to similar perceptions of reduced moral responsibility online in psychopaths but without the need to actively ignore them. On the other hand, non-psychopaths in the offline world who tend to conform to norms and rules may have less moral direction online due to the normlessness of the internet. This notion may partly reflect the group of participants in the study who increased in psychopathic expression online—they might have ignored online norms by default due to their lack of understanding what they even were.

It is interesting to note that with the high correlations between offline and cyber-psychopathy measures, there may be a feedback loop that reinforces subsequent psychopathic

tendencies in the offline world following disinhibition in the online world. This idea is similar to Aboujaoude's (2012) hypothesis that there is a sort of mutually reinforcing relationship between offline personality and e-personality, such that dark online traits can become integrated into the offline personality over time. According to Schmid and Jones (1991), individuals can experience suspended identities in new social contexts, which then can become integrated into their sense of self upon returning to their original context. Perhaps it is possible that cyberspace establishes a 'suspended' or context-dependent personality for one's duration online that structures and justifies online behaviours to protect the conventional offline identity. When switching between online and offline environments over time, one's personality may become further dissociated or bifurcated, but may also converge dispositional and contextual personality traits into a cumulative sense of self. Based on the findings from the present study that show users of online communities such as 4chan and Ebay having higher levels of CP expression, it is also possible that even different contexts on the internet may similarly induce suspended psychopathy. For future research, it would be interesting to examine longitudinal data for cyber-psychopathy to test the hypothesis that increased cyber-psychopathy scores may facilitate higher offline psychopathy scores when using the internet over time. This notion of psychopathic instability may have implications for understanding both subsequent online and offline offending.

Finally, the results of this study have demonstrated promise for the Cyber-Psychopathy Scale (CPS) and support the methodological assumption that personality and behavioural outcomes should be measured in the same social context for increased validity. When analyzing both TP variables with the same covariates, TCP is a much better predictor of acceptability and tendency and outperforms TOP in explaining the variance around OMA and OMT (see Tables 16 and 18; Models 4 and 5). The model with PCP and SCP also has better fit with OMA and OMT dependent variables than the model with POP and SOP, which shows that cyber-psychopathy

measures are very important for understanding both the average acceptability and behavioural tendencies toward online misconduct. This study also addresses a gap in the literature by utilizing a more in-depth measure of psychopathy when examining the relationship to cyberbullying behaviours (Pabian et al., 2015). Future research can continue to test the CPS measure and improve its validity and other psychometric properties.

6.2. Study Implications

There are several implications based on the findings of the current study. First of all, the positive relationship between cyber-psychopathy and online misconduct acceptability/tendency demonstrates a new perspective that can be expanded in future research. This study supports the idea that problematic behaviours such as cyberbullying can be studied and addressed from the viewpoint of online disinhibition and personality dissociation. While much of the literature tends to explore correlates of cyberbullying such as gender, attachment styles, previous victimization, and other demographic variables (Brewer & Kerslake, 2015; Fletcher et al., 2014; Yen et al., 2014), there is a clear absence of including in-depth personality measures. Some researchers have recently started examining the impact of psychopathy and sadistic personality traits on cyberbullying behaviours (Buckels et al., 2014; Goodboy & Martin, 2015; Pabian et al., 2015); however, more attention needs to be given to the role of context-dependent personalities in facilitating and rationalizing harmful interpersonal conduct on the internet.

Secondly, there are various practical applications that emerge out of this research. By taking into account the relationship between the structural characteristics of cyberspace (e.g., anonymity, lack of non-verbal cues, asynchronicity, and less salient norms) and the emergence of antisocial personality types, website administrators and moderators can pragmatically address the misbehaviours among its members from a new perspective. In this sense, leaders of online communities can adjust their normative expectations and potentially change their structural

platform characteristics in order to close the psychological distance that is inherent on the internet by actively fostering empathy and emphasizing the humanity of participants. Previous research has shown moderate success of therapeutic communities in offline psychopathy intervention to reduce the callousness, and a lack of empathy, by facilitating conversations among individuals that emphasize each others' feelings and points of view (Copas, O'Brien, Roberts, & Whiteley, 1984; Hare, 1970). This means that practical solutions on the internet may be tied to making online communities more obvious that, just like in the 'real' world, participants are interacting with real people who have feelings and are impacted by others' decisions, such that everyone is within a community with common goals and a collective social identity. Similarly, Todd (2014) has suggested that one of the important ways to discourage cyber-abuse is to emphasize the realness of cyberspace and actively promote pro-social interactions between netizens to compensate for the empathy lost without eye contact. She says, "We're a civilized society exploring an online frontier that has yet to be endowed with the moral stop signs and emotional traffic lights that make the freeways manageable" (pp. 254-255). This form of collectivist recommendation appears prevalent in the literature, with some researchers advocating for internet users to encourage compassion and empathy online and join together to avoid complicity. For example, Barlińska et al. (2013) found in their experimental study that activating both emotional empathy and priming the ability to put oneself in another's shoes reduces antisocial behaviours among cyber-bystanders. These results led to the proposal that preventative measures for cyberbullying could be put in place by providing contextual cues for influencing internet users to try to think more about others' emotions and points of view in online interactions (Barlińska et al., 2013). It is important to note that based on the findings of the present study that emphasize *subclinical* expressions of cyber-psychopathy, average internet

users should have the capacity to improve their empathetic responses online since their psychopathy is heavily influenced by cyberspace characteristics.

Despite the recognized need to foster more empathy online, how to implement this idea requires additional research. Previous studies have accordingly explored or hypothesized the effectiveness of the following: preceding empathetic videos before using the internet (Barlińska et al., 2013), fewer pseudonymous platforms with antisocial monikers (Tsikerdekis, 2012), and designing chat situations that display participants' eyes (Lapidot-Lefler & Barak, 2012), which has actually recently been adopted for videoconferencing programs like Skype (Poladian, 2013). Also, due to the gender differences in predicting large increases in psychopathic expression online (Table 12), it may be important to tailor such programs specifically toward males or online communities that are over-represented by males.

It is possible that treatment intervention may be more successful with cyber-psychopaths; due to the context-dependent nature of the personality traits, individuals may possess the required empathetic abilities in their offline personalities. In this sense, intervention therapy can be applied to cyber-psychopathy for severe online offenders in a similar procedure as traditional cognitive-behavioural psychopathy treatment (Andrews & Bonta, 2010; Andrews, Bonta, & Hoge, 1990). Treatment could thus include addressing psychopathy covariates and risk factors such as substance abuse, alter antisocial attitudes, and engage in discussions that emphasize empathetic exchanges and responsiveness with the therapist (Andrews & Bonta, 2010; Andrews et al., 1990). Reducing risk opportunities by having cyber-psychopaths lower their time spent online or even remove themselves from digital environments may also be effective options.

Thirdly, educational programs may provide another effective way to address cyber-psychopathy. As social learning has shown through experimental methodologies to improve empathetic responses directly before internet use (Barlińska et al., 2013), long-term internet

education may be similarly beneficial. As such, educational programs that teach internet users about the potential consequences of digital immersion may prepare individuals for the possibility of online disinhibition or dissociation. Targeting digital natives may be especially valuable in order to get them thinking about online empathy when they are going through crucial stages of identity and moral development. That said, any education programs that focus on instilling online empathy and identifying conditions that lead to psychological distance may be helpful at reducing the likelihood of cyber-psychopathic expression. Furthermore, introducing education that encourages pro-social attitudes and compassion on the internet will serve as an important contribution to the discourse for establishing more salient and universal norms in general cyberspace, which are largely absent outside of specific online communities.

Additionally, reducing interpersonal online misconduct may also require newer cyber-security policies aimed at addressing socially induced cyber-psychopathy. For example, policy ideas could involve holding cyber-psychopaths morally accountable and forcing them to take legal responsibility for online misconduct behaviours that represent cyber crimes (Godman & Jefferson, 2014). Alternatively, restorative justice and discussions with victims might instead better foster empathy. Future research could also present new legislation; that said, there needs to be a conscious effort to avoid policies based on a technological determinist perspective (Feenberg, 1999). This means that it is important to emphasize that the internet is not directly causing psychopathy, such that legislation interventions should not automatically involve the restriction of our internet freedoms. Therefore, any policy recommendations derived from this research should keep in mind a necessary balance between the potentially competing interests of cyber-security and internet freedom.

6.3. Limitations and Future Research

There are several notable limitations that exist for this research. First of all, there are methodological weaknesses in the decision to use self-report data in the sense that they are susceptible to misrepresentations. As such, survey respondents can report incorrect answers unintentionally due to memory decay or due to inherent biases that exist by subconsciously altering how questions are perceived or evaluated. On the other hand, self-report data on criminological topics or other sensitive subjects often suffer from social desirability biases that influence respondents to answer questions in ways that do not portray themselves in a negative light or incriminate them for past behaviours. A third-person vignette methodology was used in order to hopefully reduce social desirability (Alexander & Becker, 1978; Burstin et al., 1980), but this is still an unavoidable issue when relying on self-report data. Previous literature has also suggested that individuals who have high levels of psychopathy are more likely to competently deceive self-report measures and are motivated to 'fake good' (Bate, Boduszek, Dhingra, & Bale, 2014; Book, Holden, Starzyk, Wasylkiw, & Edwards, 2006; Verschuere et al., 2014), which further distorts the empirical reality when studying this particular population. In general, it is important to state that these weaknesses are consistent with all survey methods; however, self-report methodologies have been validated in the social science literature as the most used data-gathering technique in sociology (Neuman, 2007).

Secondly, there are limitations that exist in terms of the sampling methodology. This study relied on non-probability sampling in the sense that participants were recruited based on convenience and the sample was entirely made up of volunteers who found out about the study through social media or word-of-mouth advertising. Much of the sample was procured from the website Reddit, which may have also skewed the results toward internet users who spend more time engaging in online communities. Therefore, the results of this research are not generalizable

to the wider population of internet users, and statistically significant findings are limited to the characteristics of the present sample. Furthermore, the analytic samples for the present study are made up of 408 and 357 respondents, which are relatively small sample sizes and limit the ability to interpret the results because additional divergent characteristics and perspectives may have been omitted from the study. Accordingly, it was necessary to implement more missing data techniques to preserve enough data for analysis, such that some models may have been over-fitted. That said, the number of participants appears to conform to the standards presented in the psychological and sociological literature for exploratory studies with the collection of self-report data. Future research would benefit from using random sampling procedures and drawing participants from the larger population in order to get a more representative sample of global internet users. Additionally, future studies should aim to include a larger sample size or focus on recruiting more specific subpopulations of internet users for comparison, such as youths or netizens from varying cultures. Other researchers should also examine many different online communities to investigate the structural and normative conditions that particularly underlie both higher cyber-psychopathy levels and large online increases in psychopathic expression.

Thirdly, based on the exploratory nature of this research, some of the measures could benefit from revision in future research. The Cyber-Psychopathy Scale (CPS) was a first attempt at creating an online-specific version of a psychopathy self-report measure such that there may be some items that could be edited to better reflect congruence with the modified offline LSRP. Therefore, future research should further test the CPS for psychometric properties and continue to improve the scale to increase its validity, reliability, and accuracy. Alternatively, when using the context-dependent theoretical framework, other self-report measures of psychopathy, such as the PPI-R (Lilienfeld & Widows, 2005) or the SRP-III (K.M. Williams et al., 2007), could also

be modified for online and offline versions. It would be interesting to evaluate the current study's research questions with these other measures of psychopathy.

Moreover, despite the fact that many results in the study were statistically significant, the practical significance and magnitude of the findings are up for discussion. I concluded that the increases in psychopathic expression online shown in the research are reflective of real/non-chance differences as well as meaningful differences. Therefore, increases in mean scores of PP, SP, and TP appear minor but represent enough of a difference to demonstrate real and tangible changes in personality expression on the internet toward antisocial tendencies. Other researchers may have varying thresholds for determining practical significance. That said, the finding for the substantial increases among those who were classified in the "increase online" group are compelling enough to suggest that a small group of internet users experience heightened psychopathic expression online.

Finally, the interesting findings from this study call for many other avenues for future research. For example, cyber-psychopathy could be explored with a qualitative methodology to interview internet users and understand the underlying perspectives of those who tend to engage in more misconduct online than offline. Other studies could explicitly examine the differences between similar archetypes of online and offline misconduct in terms of acceptability and tendency, as well as test whether offline psychopathy better predicts the offline behaviours than cyber-psychopathy measures, which would further validate the methodology of controlling for social context in psychopathy measurement. Overall, regardless of the methodological limitations, this research provides interesting exploratory analyses of empirical data that address common theoretical and anecdotal ideas of cyber-psychopathy. The findings are very novel such that future research should try to add to this project by further studying the relationship between cyber-psychopathy and online misconduct.

6.4. Concluding Statement

Overall, based on the quantitative data analyses, the main findings of this exploratory study are threefold. First of all, there are higher scores for cyber-psychopathy (primary, secondary, and total) than offline psychopathy counterparts, which suggests that the structural conditions of the internet facilitate increased expression of psychopathic personality traits. This finding is especially pronounced among males and individuals who are younger in age. Secondly, gender is a central social predictor of both cyber-psychopathy and online misconduct: males are most likely to have higher levels of cyber-psychopathy, be in the group that significantly increases in psychopathic expression online, and accordingly be more likely to condone and engage in misconduct behaviours on the internet. Thirdly, higher cyber-psychopathy is an important predictor of online misconduct variables, with the primary factor being most important for increasing moral acceptability evaluations of misconduct behaviours, while primary and secondary cyber-psychopathy are both significant for increasing the likelihood of engaging in them. This study has served to fill a gap in the literature by empirically supporting the theoretical framework of context-dependent personality and emphasizing an association between dark online personality expression and online misconduct (e.g., cyberbullying behaviours, cyber crimes). Furthermore, there are many possibilities for future research to build on this study and there are many practical implications and potential policy recommendations of the findings. In conclusion, this study has demonstrated that it is a worthwhile initiative to empirically test the theoretical ideas of context-dependent psychopathy and antisocial personality traits on the internet. As such, this research should be a valuable contribution to the literature on offending in the online realm.

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APPENDIX A: SURVEY

Title: Rule Perspectives and Rule Breaking Among Active Internet Users

Survey Information Letter

I have read the Information Letter, and I agree to participate in the study. (*Required)

Yes ○
No ○

Part A: Demographics

1 What is your age? _____

2 What gender do you identity with?

Male ○
Female ○
Other ○

3 What country do you live in? _____

4 What would you estimate your yearly total household income to be?

Below $25,000 per year ○
$25,000 and $40,999 per year ○
$41,000 and $65,000 per year ○
$65,000 and $100,000 per year ○
$100,000 and higher per year ○
Don't know/Prefer not to say ○

5 What is your highest level of education?

Less than high school graduate ○
High school graduate ○
Current high school student ○
Some post-secondary education ○
College or university graduate ○
Current college or university student ○
Current graduate student ○
Graduate or professional degree completed ○

6 What is your current occupation, profession, or job? _____

Part B: Personality Characteristics

7. *Think about when you are online and using the internet. How much do you agree with the following statements? Check off the box that best describes your agreement.*

	Items	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
a)	Online success (e.g., making money, finding dates, becoming more popular, winning arguments, etc.) is based on survival of the fittest; I am not concerned about the losers.	○	○	○	○
b)	I find myself in the same kinds of trouble on the internet time after time, and make the same mistakes repeatedly when online.	○	○	○	○
c)	For me, when I am online, what's right is whatever I can get away with.	○	○	○	○
d)	I get bored online, so I quickly move from one website or activity to the next.	○	○	○	○
e)	The internet is like the Wild West, so I feel justified in doing anything I can get away with to succeed online (e.g., making money, finding dates, becoming more popular, winning arguments, etc.).	○	○	○	○
f)	I find that I am able to pursue one goal for a long time when I am online.	○	○	○	○
g)	My main purpose when I go online is getting as many goodies as I can (e.g., likes, shares, comments, upvotes, movies, music, etc.)	○	○	○	○
h)	I don't plan anything very far in advance regarding the time I spend online.	○	○	○	○
i)	Making a lot of money is my most important goal when I use the internet	○	○	○	○
j)	When I'm online, I quickly lose interest in tasks I start.	○	○	○	○
k)	When online, I don’t really care about higher values; my main concern is with the bottom line, or whatever goal I am pursuing on the internet.	○	○	○	○
l)	Most of my problems with other internet users are due to the fact that they just don't understand me.	○	○	○	○
m)	The internet is full of stupid people. Those who are stupid enough to get ripped off, conned, hacked, or trolled usually deserve it.	○	○	○	○
n)	Before I do anything risky online, I carefully consider the possible consequences.	○	○	○	○
o)	When I use the internet, looking out for myself and my best interests is my top priority.	○	○	○	○
p)	I have been in a lot of aggressive, heated, or antagonistic arguments with other people online.	○	○	○	○

q)	One of my strategies when interacting with others online is to tell them what they want to hear so that they will do what I want them to do.	○	○	○	○
r)	When I get frustrated online, I often "let off steam" by blowing my top (e.g., posting rants, getting into arguments, antagonizing others, etc.).	○	○	○	○
s)	I would be upset if my online success (making money, finding dates, becoming more popular, winning arguments, etc.) came at someone else's expense.	○	○	○	○
t)	I have no interest in finding love online. Instead, sex and excitement are more like my goals when using the internet.	○	○	○	○
u)	I often admire really clever online hacks, frauds, deceptions, or trolling behaviours	○	○	○	○
v)	I make a point of trying not to hurt others in pursuit of my goals when I use the internet.	○	○	○	○
w)	I enjoy manipulating other people's feelings or perceptions when I use the internet.	○	○	○	○
x)	I feel bad if my words or actions online cause someone else to feel emotional pain.	○	○	○	○
y)	Even if I were trying very hard to accomplish an online goal (e.g., sell something, find a date, win an argument, etc.), I wouldn't lie to achieve it.	○	○	○	○
z)	Cheating to achieve my online goals is not justified because it is unfair to others.	○	○	○	○

8. *Think about when you are offline and not using the internet. How much do you agree with the following statements? Check off the box that best describes your agreement.*

	Items	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
a)	Success is based on survival of the fittest; I am not concerned about the losers.	○	○	○	○
b)	I find myself in the same kinds of trouble, time after time.	○	○	○	○
c)	For me, what's right is whatever I can get away with.	○	○	○	○
d)	I am often bored.	○	○	○	○
e)	In today's world, I feel justified in doing anything I can get away with to succeed.	○	○	○	○
f)	I find that I am able to pursue one goal for a long time.	○	○	○	○
g)	My main purpose in life is getting as many goodies as I can.	○	○	○	○
h)	I don't plan anything very far in advance.	○	○	○	○

i)	Making a lot of money is my most important goal.	○	○	○	○
j)	I quickly lose interest in tasks I start.	○	○	○	○
k)	I let others worry about higher values; my main concern is with the bottom line.	○	○	○	○
l)	Most of my problems are due to the fact that other people just don't understand me.	○	○	○	○
m)	People who are stupid enough to get ripped off usually deserve it.	○	○	○	○
n)	Before I do anything, I carefully consider the possible consequences.	○	○	○	○
o)	Looking out for myself is my top priority.	○	○	○	○
p)	I have been in a lot of shouting matches with other people.	○	○	○	○
q)	I tell other people what they want to hear so that they will do what I want them to do.	○	○	○	○
r)	When I get frustrated, I often "let off steam" by blowing my top.	○	○	○	○
s)	I would be upset if my success came at someone else's expense.	○	○	○	○
t)	Love is overrated.	○	○	○	○
u)	I often admire a really clever scam.	○	○	○	○
v)	I make a point of trying not to hurt others in pursuit of my goals.	○	○	○	○
w)	I enjoy manipulating other people's feelings.	○	○	○	○
x)	I feel bad if my words or actions cause someone else to feel emotional pain.	○	○	○	○
y)	Even if I were trying very hard to sell something, I wouldn't lie about it.	○	○	○	○
z)	Cheating is not justified because it is unfair to others.	○	○	○	○

Part C: Scenarios

Read the following 22 scenarios closely and answer the questions following each story.

9 Addison broke up with a long-term romantic partner and started surveilling or creeping their Facebook profile very frequently to see what they had been doing and who they had been seeing since the breakup.

a) How acceptable is Addison's behaviour?

Totally unacceptable ○
Slightly unacceptable ○
Slightly acceptable ○
Perfectly acceptable ○

b) How likely would you be to behave in a similar manner as Addison?

Extremely unlikely ○

Unlikely ○
Likely ○
Extremely likely ○

c) Should Addison's behaviour be punished by formal legal sanctions?

Yes ○
No ○
Undecided ○

10 Avery is a skilled artist. Avery paints over an advertisement billboard located on a major road and replaces it with a new painting. The image and text encourage viewers to engage in social activism.

a) How acceptable is Avery's behaviour?

Totally unacceptable ○
Slightly unacceptable ○
Slightly acceptable ○
Perfectly acceptable ○

b) How likely would you be to behave in a similar manner as Avery?

Extremely unlikely ○
Unlikely ○
Likely ○
Extremely likely ○

c) Should Avery's behaviour be punished by formal legal sanctions?

Yes ○
No ○
Undecided ○

11 Sydney discovered a website which allows sharing and downloading media files without the creator's permission. Sydney then downloaded a copy of a new movie made by a high budget production company and shared it with friends and family members.

a) How acceptable is Sydney's behaviour?

Totally unacceptable ○
Slightly unacceptable ○
Slightly acceptable ○
Perfectly acceptable ○

b) How likely would you be to behave in a similar manner as Sydney?

Extremely unlikely ○
Unlikely ○
Likely ○
Extremely likely ○

c) Should Sydney's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

12 Taylor was visiting an online chatroom and started talking with another person. Taylor started flirting and requested some pictures of the person. Taylor then sent them repeated sexual messages and asked them to "hook up". Despite being turned down multiple times, Taylor continued to pursue this person while they were online.

a) How acceptable is Taylor's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Taylor?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Taylor's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

13 Carey met someone at the grocery store who wanted signatures for a petition. Carey intentionally provided incorrect personal information and contact information on the petition.

a) How acceptable is Carey's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Carey?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Carey's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

14 Addison consumes several alcoholic beverages per day and persists in drinking despite increasing marital problems and job performance concerns.

a) How acceptable is Addison's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Addison?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Addison's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

15 Peyton found a sheet of paper with a username and password for an online dating website. For fun, Peyton logged into the account to see the private details of the person's profile as well as their browsing history on the website. Peyton then logged out and destroyed the paper.

a) How acceptable is Peyton's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Peyton?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Peyton's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

16 Devin went into a bookstore and took pictures of the recipes in an expensive cookbook to use at home instead of purchasing the book. Devin shared the recipe pictures with friends and family members.

a) How acceptable is Devin's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Devin?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Devin's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

17 Cameron was at a crowded restaurant and thought it would be fun to play a prank on other patrons. Cameron's efforts led to many angry, upset, and emotional individuals who were trying to have an undisturbed meal.

a) How acceptable is Cameron's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Cameron?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Cameron's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

18 Jesse found a phone bill that was still intact on the sidewalk. For fun, Jesse looked at the call history and account information before destroying the paper and disposing of it.

a) How acceptable is Jesse's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Jesse?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Jesse's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

19 Morgan followed and secretly watched a new romantic interest in order to see what they like to do, who they interact with, and where they live.

a) How acceptable is Morgan's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Morgan?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Morgan's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

20 Jamie was participating in a discussion on an online message board and thought it would be fun to derail and disrupt the conversation. Jamie deliberately started arguments and posted off-topic or inflammatory comments that would upset others.

a) How acceptable is Jamie's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Jamie?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Jamie's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

21 Cameron goes to the library to use the computer and sees that the previous user forgot to sign out of their email account. Cameron reads several emails before logging out.

a) How acceptable is Cameron's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Cameron?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Cameron's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

22 Devin was visiting an online forum and noticed that someone had accidentally posted their bank account information and passwords while trying to get help with online banking. Before reporting the mistake to the web page moderators, Devin used this information to take a minimal sum of money from this person's account.

a) How acceptable is Devin's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Devin?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Devin's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

23 Hayden was at the grocery store and someone cut in line. Hayden responded by aggressively insulting the person and intentionally humiliating them in front of the other customers as retaliation.

a) How acceptable is Hayden's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Hayden?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Hayden's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

24 Jordan discovered a new online computer game and started to play for many hours per day. Jordan made the game a priority and played without paying much attention to other obligations. There were concerns voiced about the gaming affecting Jordan's work and marriage.

a) How acceptable is Jordan's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Jordan?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Jordan's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

25 Jesse was on Facebook and noticed a recent photo was uploaded by someone who they did not like very much. Jesse replied with mean and insulting comments to the person's post in order to make them feel bad.

a) How acceptable is Jesse's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Jesse?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Jesse's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

26 Casey is a skilled computer engineer. Casey writes some code that changes the format, colour, and text of the website of a large commercial corporation as protest to the company's new policy changes.

a) How acceptable is Casey's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Casey?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Casey's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

27 Taylor found a wallet at the gym. Before attempting to return the wallet to the address on the ID, Taylor took a small amount of cash from the wallet as a reward.

a) How acceptable is Taylor's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Taylor?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Taylor's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

28 Jamie goes to the mailbox and finds letters addressed to another person. Jamie reads a couple of the letters before resealing them and sending them back to the post office.

a) How acceptable is Jamie's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Jamie?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Jamie's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

29 Hayden gave false information on an online dating website in order to seem more appealing to potential partners. Hayden's occupation on the profile is now listed as doctor instead of bartender.

a) How acceptable is Hayden's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Hayden?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Hayden's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

30 Morgan went to a bar and saw an attractive stranger. Morgan approached the stranger and gave them compliments and bought them several drinks. Many times, Morgan solicited the stranger for their phone number and made numerous sexual advances, but despite the persistence, the stranger repeatedly told Morgan they were not interested.

a) How acceptable is Morgan's behaviour?

Totally unacceptable	○
Slightly unacceptable	○
Slightly acceptable	○
Perfectly acceptable	○

b) How likely would you be to behave in a similar manner as Morgan?

Extremely unlikely	○
Unlikely	○
Likely	○
Extremely likely	○

c) Should Morgan's behaviour be punished by formal legal sanctions?

Yes	○
No	○
Undecided	○

Part D: Internet Usage

31 On a typical day how many total hours do you spend online? _____

32. *Choose three of the following online activities and rank them based on which you do the most. The order is 1 (most), 2 (second most), and 3 (3rd most). The four least performed activities will not be ranked.*

	Online Activities	1	2	3
a)	Social Media	○	○	○
b)	E-mail	○	○	○
c)	Browsing	○	○	○
d)	Games	○	○	○
e)	Message Boards or Forums	○	○	○
f)	Streaming or Downloading Media	○	○	○
g)	Shopping	○	○	○

33 How long have you been using computers?

Less than 10 years	○
10-19 years	○
20-29 years	○
20-39 years	○
40 years or more	○

34 How long have you been using the internet?

Less than 1 year	○
1-4 years	○
5-9 years	○
10-14 years	○
15 years or more	○

35. *Read the following internet-related terms and choose which level of understanding you have for each of them. Please choose a number between 1 and 5, where 1 represents no understanding and 5 represents full understanding of the item.*

	Terms	1 - No Understanding	2	3	4	5 - Full Understanding
a)	Advanced search	○	○	○	○	○
b)	Tagging	○	○	○	○	○
c)	Preference setting	○	○	○	○	○
d)	PDF	○	○	○	○	○
e)	Spyware	○	○	○	○	○
f)	Tabbed browsing	○	○	○	○	○
g)	Firewall	○	○	○	○	○
h)	Wiki	○	○	○	○	○
i)	JPG	○	○	○	○	○
j)	Weblog	○	○	○	○	○
k)	Podcasting	○	○	○	○	○
l)	Cache	○	○	○	○	○
m)	Malware	○	○	○	○	○
n)	Phishing	○	○	○	○	○
o)	RSS	○	○	○	○	○

36 Which of the following websites or apps do you use or visit? *Check all that apply:*

Reddit	○
Tumblr	○
Flickr	○
4chan	○
9gag	○
Hubski	○
Pinterest	○
Youtube	○
Digg	○
Tinder	○
SnapChat	○
Foursquare	○
Ebay	○
Craigslist	○
Twitter	○

37 Which website or app that you checked off in the previous question do you use or visit the most? *Only choose one of the*

following:

Reddit	○
Tumblr	○
Flickr	○
4chan	○
9gag	○
Hubski	○
Pinterest	○
Youtube	○
Digg	○
Tinder	○
SnapChat	○
Foursquare	○
Ebay	○
Craigslist	○
Twitter	○
None of the above	○

Part E: Past Behaviours

38 Have you been convicted of a crime within the last 5 years?

Yes	○
No	○
Prefer not to say	○

39 In the past 12 months, how often did you drink alcohol and get drunk?

Not at all	○
Once	○
A couple times	○
Once a month	○
A couple times per month	○
Once a week	○
A couple times per week	○
Every day	○
Prefer not to say	○

40 In the past 12 months, how often did you use recreational drug substances (not including alcohol)?

Not at all	○
Once	○
A couple times	○
Once a month	○
A couple times per month	○
Once a week	○
A couple times per week	○
Every day	○
Prefer not to say	○

Part F: Conclusion

41 How did you learn about this study?

Posters	○
Reddit	○
Facebook	○
Email	○
Classroom visit	○
Word-of-mouth	○
Other (please specify)	○ _____

42 Are you a student at Western University in London, ON, Canada?

Yes	○
No	○

Debriefing: You have completed a survey that has asked you to evaluate different online and offline misbehaviours as well as answer a personality inventories related to psychopathy in both the online and offline context. The objective of this survey was to examine psychopathic personality expression on the internet and to evaluate moral perspectives for certain online and offline behaviours. The researchers have specifically measured the expression of psychopathic personality traits in order to understand if the internet elicits different amounts of psychopathic expression. We did not tell participants about the measurement of psychopathy in order to make sure that individuals answer truthfully in the personality inventories without changing their answers to appear more or less psychopathic. Therefore, in order to ensure non-biased responses from future participants, we would ask you to please refrain from telling others about the psychopathy aspect of the study, as everyone will be debriefed following their completion of the survey. Following this debriefing message, if you wish, you can withdraw your consent by answering "Remove my responses from the study" to the following question.

Thanks for your time!

43 After reading the debriefing form, would you still like to keep your responses in the study, or would you like to remove your consent and data from the study? (*Required)

Keep my responses in the study	○
Remove my responses from the study	○

APPENDIX B: ETHICS APPROVAL

Western Research

Research Ethics

Western University Health Science Research Ethics Board
NMREB Full Board Initial Approval Notice

Principal Investigator: Dr. Anabel Quan-Haase
Department & Institution: Information and Media Studies\Faculty of Information & Media Studies,Western University

NMREB File Number: 105780
Study Title: Psychopathic personality expression on the internet and misconduct behaviours
Sponsor:

NMREB Initial Approval Date: November 18, 2014
NMREB Expiry Date: August 31, 2015

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	Interview Guide – Semi Structured	2014/08/29
Other	Debriefing Script-Ver1	2014/10/17
Recruitment Items	Recruitment script-Ver1	2014/10/14
Instruments	Survey-Ver2-Final Edited Version	2014/10/20
Recruitment Items	Recruitment Poster-Ver2- Final Edited Version	2014/10/20
Letter of Information & Consent	Letter of Information-Ver2- Final Edited Version.	2014/10/17
Revised Western University Protocol	Western Protocol Revisions- Final Edited Version	2014/10/21

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

[redacted]

Ethics Officer to Contact for Further Information

[redacted]

This is an official document. Please retain the original in your files.

APPENDIX C: LETTER OF INFORMATION

Sociology

Project Title: Rule Perspectives and Rule Breaking among Active Internet Users

Principal Investigators:

Dr. Paul-Philippe Paré, PhD, Department of Sociology, Western University
Dr. Anabel Quan-Haase, PhD, Department of Sociology, Western University

Co-Investigator:

Andrew Nevin, BA, Department of Sociology, Western University

Letter of Information

1. Purpose of this Study

You are being invited to participate in a research study looking at how common behaviours on the internet and in the 'real world' may relate to moral perspectives and behavioural tendencies. This study includes various hypothetical scenarios and asks participants to respond to questions regarding rule breaking in online and offline environments. You are eligible to participate if you use the internet and you are 18 years of age or older.

2. Research Procedures for this Study

You will be asked to complete a web-based survey which includes a series of personality items and some scenarios representing common online and offline behaviours. You will be given a variety of different multiple-choice questions that ask you about your opinion—there is no right or wrong answer. Please answer the questions as honestly and accurately as possible. If you do not want to answer a specific question or do not understand it, please leave it blank and continue with the survey. It should take about 20-25 minutes to complete. Approximately 300-1000 people will complete the survey.

3. Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no negative consequences. You can skip

any questions on the survey. Participation in this study does not disqualify or prevent participation in other studies.

4. Inquiries and Risks

You are free to ask questions about the study or survey at any time. There are no known or anticipated risks associated with your participation in this study. The subject matter of some questions may create minor discomfort for some participants.

5. Benefits from the Study

This study has no known benefits to the participants. However, your participation will help gain insight into how perspectives of behaviours and rules may be related to contexts such as the internet. Participants will be helping to contribute to knowledge on the topic and may help inform relevant policies.

6. Confidentiality of Information

Information that is collected during the study will be stored in a secure database on a secure server accessible only by the researchers and used solely for research and teaching purposes. Any collected identifying information will remain confidential. All results will be stored safely for 10 years. Results and outcomes of the study will be available when the study is completed by contacting the researchers via email.

Please note that the online survey is hosted by "Survey Monkey" which is a web survey company located in the USA. All responses to the survey will be stored and accessed in the USA. This company is subject to U.S. laws, in particular, to the U.S. Patriot Act that allows authorities access to the records of internet service providers. If you choose to participate in the survey you understand that your responses to the questions will be stored and accessed in the USA.

The security and privacy policy for Survey Monkey can be viewed at
http://www.surveymonkey.com/mp/policy/privacy-policy/

7. Compensation

You will not be compensated for your participation in this research.

8. Consent to Participate

You consent to participate in the present study by completing the survey.

APPENDIX D: ABBREVIATION LEGEND

Psychopathy Abbreviations

CP = Cyber-Psychopathy

PCP = Primary Cyber-Psychopathy

SCP = Secondary Cyber-Psychopathy

TCP = Total Cyber-Psychopathy

OP = Offline Psychopathy

POP = Primary Offline Psychopathy

SOP = Secondary Offline Psychopathy

TOP = Total Offline Psychopathy

PP = Primary Psychopathy

SP = Secondary Psychopathy

TP = Total Psychopathy

Misconduct Abbreviations

OMA = Online Misconduct Acceptability

OMT = Online Misconduct Tendency

Scale Name Abbreviations

CPS = Cyber-Psychopathy Scale

OPS = Offline Psychopathy Scale

LSRP = Levenson Self-Report Psychopathy Scale

PCL-R = Hare's Psychopathy Checklist-Revised

ANDREW D. NEVIN

EDUCATION

University of Western Ontario *2013-Present*
Master of Arts
M.A. Candidate in Sociology
Academic average of 90% in graduate classes
Thesis Supervisors: Anabel Quan-Haase, Paul-Philippe Paré

University of Western Ontario *2009-2013*
Honors Bachelor of Arts
Honors Specialization in Criminology - With Distinction
Minor in Psychology
Graduating on Dean's Honors List and with Western Scholar's Distinction
Cumulative academic average of 91% in undergraduate classes

SCHOLARSHIPS AND ACADEMIC AWARDS

Ontario Graduate Scholarship (OGS) - Declined	*2015-2016*
SSHRC-Canada Graduate Scholarship (Masters)	*2014-2015*
Ontario Graduate Scholarship (OGS) - Declined	*2014-2015*
Ontario Graduate Scholarship (OGS)	*2013-2014*
Western Graduate Research Scholarship (WGRS)	*2013-2014*
CSA Outstanding Graduating Student Award	*2014*
Western University Gold Medal (in Criminology)	*2013*
UWO Continuing Entrance Scholarship	*2009-2013*
G. Edward Ebanks UWOFA Award	*2012*
Marlene Lee Award	*2011*

RESEARCH EXPERIENCE

Research Assistant May 2013 - September 2014
For Dr. Anabel Quan-Haase *University of Western Ontario*

TEACHING EXPERIENCE

Teaching Assistant September 2014 - Present
Introduction to Sociology *University of Western Ontario*

Guest Lecturer January 19, 2015
The Geography of the Internet: Distance and Community *University of Western Ontario*

- Presented with Emily Alexander

Teaching Assistant January 2014 - April 2014
Sociology Research Methods *Kings University College*

Guest Lecturer January 29, 2014
Ethics in Social Research *Kings University College*

ACADEMIC INVOLVEMENT

Creator and Editor-In-Chief of the *Journal for Social Thought (JST)* 2014 - Present

- A new peer-reviewed academic journal run and maintained by the graduate students in sociology at UWO

Collaborator for the SocioDigital lab run by Dr. Anabel Quan-Haase 2013 - Present

Organizer and Chair of Session at CSA 2015 Conference June 4, 2015

- Session entitled "*Cyber-Criminology: Understanding the Impact of Technologies on Deviant Behaviours Online and Offline*"
- Co-organized with Anabel Quan-Haase

Grad Student Representative for the Sociology Graduate Committee 2014 - 2015

Public Sociology @ Western (PS@W) Member 2014 - 2015

Sociology Graduate Students Association Steering Committee Member 2013 - 2015

Grad Student Representative for the Sociology Departmental Assembly 2013 - 2014

Sociology Graduate Student Conference (Committee Member) March 2014

CONFERENCE PRESENTATIONS

Haight, M., Quan-Haase, A., & Nevin, A.D. (2015). *Digital Inequality: Barriers to internet access among residents of low-income housing.* Roundtable session to be presented at the American Sociological Association, Chicago, August 22-25.

Nevin, A.D. (2015). *Cyber-psychopathy: Examining the relationship between e-personality and online misconduct.* Paper presented at the Canadian Sociological Association@Congress, University of Ottawa, Ottawa, June 4.

Nevin, A.D. (2015). *Cyber-psychopathy: Examining the relationship between e-personality and online misconduct.* Paper presented at ENGAGE, University of Guelph, Guelph, March 14.

Nevin, A.D. (2015). *Cyber-psychopathy: Examining the relationship between e-personality and online misconduct.* Paper presented at the Sociology Graduate Student Conference, University of Western Ontario, London, March 13.

Quan-Haase, A., Nevin, A.D., & Lukacs, V. (2014). *Romantic breakups on Facebook.* Paper presented at the American Sociological Association, San Francisco, August 16-19.

Quan-Haase, A., Nevin, A.D., & Lukacs, V. (2014). *Facebook relations: An exploratory study of breakup practices and coping mechanisms.* Paper presented at the Canadian Sociological Association@Congress, Brock University, St. Catherines, May 27.

Nevin, A.D., Quan-Haase, A., & Lukacs, V. (2014). *Facebook relations: An exploratory study of breakup practices and coping mechanisms.* Paper presented at the Sociology Graduate Student Conference, University of Western Ontario, London, March 14.

PUBLICATIONS

Nevin, A.D. (2013). Pimpology 101: An examination of the pimp as an acceptable social role in a capitalist society. *Sociological Imagination: Western's Undergraduate Sociology Student Journal, 2*(2), 1-20.

WORKING PAPERS

Nevin, A.D. (n.d.). *Expert knowledge in a hyper-reflexive society: A discussion on the need for academic discourse on the internet.* Submitted to the McGill Sociological Review.

Quan-Haase, A., Nevin, A.D., & Lukacs, V. (n.d.). *Facebook relations: An exploratory study of breakup practices and coping mechanisms.* Manuscript in preparation.

ADDITIONAL SKILLS

- Trained and experienced in both quantitative and qualitative research methods and data analysis
- Proficient in Microsoft Word, Excel, Powerpoint
- Skilled in statistical software STATA and SPSS
- Basic knowledge of Social Network Analysis (SNA) methodology and related software (e.g. Gephi)
- Competence in LaTeX document formatting
- Basic understanding of Java programming language, HTML, and simple coding processes