4-21-2015 12:00 AM

Physical and Digital Disengagement Behaviours in the University Classroom

Emily M. Alexander
The University of Western Ontario

Supervisor
Dr. Wolfgang Lehmann
The University of Western Ontario

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

PHYSICAL AND DIGITAL DISENGAGEMENT BEHAVIOURS IN THE UNIVERSITY CLASSROOM

(Thesis format: Monograph)

by

Emily M. Alexander

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

This study contributes to the existing literature on student disengagement by examining the relationship between disengagement behaviours (both physical and digital) and individual-level factors in the university classroom. Theories surrounding this phenomenon suggest that students' motivation, integration, and identity predict disengagement; however, there is no empirical evidence to support this claim. In order to assess this relationship, four hundred thirty-eight undergraduate students enrolled in second year courses at an Ontario university completed a questionnaire on their experiences within the classroom. Data analysis reveals that all participants perform disengagement behaviours, regardless of their individual-level factors. Additionally, physical and digital disengagement behaviours are predicted by different psychological factors of motivation, integration, and identity, indicating that existing theories do not truly represent this phenomenon.

Keywords: Disengagement, Disengagement Behaviour, Portable Devices, Higher Education

ACKNOWLEDGEMENTS

I am overwhelmingly grateful to the many people who have supported me throughout the process of writing this thesis. Foremost, I would like to thank my supervisor, Dr. Wolfgang Lehmann, for his unending confidence in my ability to complete this project. He met with me frequently, helping me to disentangle my thoughts and to reach my milestones. This project would not have been possible without your keen eye for detail, support, and encouragement.

I would also like to acknowledge my co-supervisor, Dr. Anabel Quan-Haase, for always lending a kind and supportive ear. Your dedication to my academic success has been unwavering—thank you.

I would also like to thank Andrew Nevin, without whom this thesis would not have been possible. Your confidence in my abilities gave me the strength I required to get through the toughest chapters. Thank you for not only lending your superb editing skills, but also for all of the personal sacrifices you have made to ensure my success. Bella and I are grateful.

Another special thank you to Kate Blair for many things that I cannot put into writing. Thanks for the late night phone calls and for always being my sounding board.

To my family, thank you for always supporting me and pushing me to better myself. I will always be grateful for your commitment to my education.

I would also like to thank all of my fellow graduate students at Western and the many faculty members with whom I have worked closely for making my Master's such a rewarding experience.

Finally, I would like to thank everyone who participated in this study. This thesis would not have been possible without you.

TABLE OF CONTENTS:

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER ONE: INTRODUCTION

Student disengagement has become a salient aspect of university student culture. Although there is much debate among scholars about the definition of this phenomenon, most are in agreement that disengagement is an indication that post-secondary institutions are deteriorating (Arum & Roksa, 2011; Cote & Allahar, 2007, 2011; Kuh, 1999; Kuh, Schuh, & White, 1991; Main, 2004). This phenomenon has emerged as a growing issue of importance because university degrees are being devalued as recent graduates show significantly fewer gains in critical thinking, analytical reasoning, and writing ability, despite their high grade point averages (Arum & Roksa, 2011). Essentially, further research aimed toward understanding the source of students' expressions of disengagement is required in order to inform probable solutions for this problem.

1.1 Background of the Study:

Beginning in the 1990s, professors began to notice a shift in students' behaviour toward what Kuh, Schuh, and White (1991) refer to as 'the disengagement compact'. Effectively, students increasingly began to demand higher grades for lesser quality work (Kuh, 1999). However, this trend did not emerge over night, but rather is theorized to be a product of societal and university-institutional changes. First on the societal level, the rise of the knowledge economy and the ensuing credential inflation have lead to increasing attendance at post-secondary institutions (Brown, Lauder, & Ashton, 2011; Collins, 1979). This is argued to have contributed to the growing trend of student disengagement because students are motivated by job market gains rather than by educational learning (Cote & Allahar, 2007). Second, the increasing corporatization of universities, favouring a business model that positions students as customers and professors as commodities (Cote & Allahar, 2007; Gould, 2003; Turk, 2000), encourages the

reproduction of the disengagement compact (Kuh et al., 1991). Largely, it is argued that societal and institutional changes have fostered an environment for the propagation of student disengagement.

Most of the research surrounding the disengagement debate is theoretical or based on professors' experiences; however, some scholars have attempted to define and measure this problem. Commonly, disengagement is described through student traits suggesting that they are unmotivated, uninterested, lack commitment, behave negatively, and do not feel they belong (Cote & Allahar, 2007; Kuh, 1999; Main, 2004; Parsons & Taylor, 2009). As a means of measuring this phenomenon, studies have focused on student time-use, indicating that students spend less time studying and more time socializing than previous generations (Babcock & Marks, 2010; Gould, 2003). These findings align with Kuh, Schuh, and White's (1991) theory of the disengagement compact; however, they are not reflective of the psychological principles underlying the student traits described in definitions of disengagement. Ultimately, existing studies of student disengagement have not attempted to measure the theorized individual level explanations for disengagement.

1.2 Purpose of the Study:

In order to address this gap in the research, I suggest three psychological factors that emerge from the fragmented literature as important predictors of student disengagement: motivation, integration, and identity. Disengagement theories that emphasize the importance of each of these factors can be combined to suggest two ideal types: the good/engaged student and the bad/disengaged student. The good/engaged student is intrinsically motivated, academically and socially integrated, and has a strong academic identity, whereas the bad/disengaged student is extrinsically motivated or amotivated, has imbalanced or low levels of integration, and a low academic identity. Additionally, these psychological factors predict disengagement, which I

propose is a behavioural expression representing one's lack of involvement in a given task. In the university classroom, these behaviours can be expressed as either physical (e.g. zoning-out or talking to peers) or digital (e.g. using portable devices to go on social networking sites or email). Given the ubiquity of portable devices among the student population, it is important to examine individuals' uses of these devices within the classroom as another potential indication of behavioural disengagement.

The purpose of this study is to test the relationship between behavioural expressions of disengagement (both physical and digital) and influential individual-level factors of motivation, integration, and identity. In order to study this phenomenon, I examine the following research questions:

RQ1: What is the relationship between students' physical expressions of disengagement and their motivation, integration, and identity?

RQ2: What is the relationship between students' digital expressions of disengagement and their motivation, integration, and identity?

To answer the above research questions, I collect quantitative survey data from 430 students enrolled in undergraduate courses at a university in Ontario. These data are analyzed through logistic regression models that focus on the non-performance of disengagement behaviours. By examining the non-performance of these behaviours, this study reveals specific individual factors that may underlie expressions of disengagement.

1.3 Significance of the Study:

Overall, this study contributes empirical evidence to a body of literature that is often theoretical or anecdotal. Understanding the relationship between students' psychological factors and behaviours is important for substantiating existing theoretical representations of disengagement. Furthermore, the findings of this study can also help university administrators

understand the manifestation of student disengagement and inform more effective methods for resolving this problem. First, pedagogical improvements can be made to create learning environments that enhance the individual-level factors that are found to be important for the non-performance of disengagement behaviours, both physically and digitally. Second, student services could construct programs for students that promote the non-performance of disengagement behaviours by providing pointers for staying on task. Essentially, this study has both academic significance and practical implications.

While researchers cannot be sure of the long-term effects that student disengagement will have, the current post-secondary education experience seems to be deteriorating (Arum & Roksa, 2011; Main, 2004). The findings of this study reveal significant associations between students' behaviours and individual-level factors, explaining students' expressions of disengagement—a growing issue of importance.

CHAPTER TWO:
LITERATURE REVIEW

2.1 Introduction:

The purpose of this chapter is to outline the current literature on student disengagement. First, I briefly describe both the societal and institutional level debates concerning the origins and solutions for disengagement. Then, I will discuss the existing individual level definitions of this phenomenon, leading into a discussion of three key psychological variables: motivation, integration, and identity. From there, I will propose that a model of the engaged and disengaged student archetypes emerges from the fragmented literature. Finally, I will end the chapter by presenting a new definition of disengagement and the resulting research questions for the current study.

Over the last 25 years, academics have suggested that the post-secondary experience is deteriorating due to the emergence of student disengagement (Arum & Roksa, 2011; Cote & Allahar, 2007, 2011; Kuh et al., 1991). According to Cote and Allahar (2007, 2011), through a discussion of their long experiences as professors, students have increasingly demanded higher grades for lesser quality work and lowered course requirements. George Kuh (1999) suggests that this is a result of the 'disengagement compact' between students and instructors, meaning 'I will leave you alone if you leave me alone'. He describes the details of this compact as:

> …faculty not requiring too much from students in terms of reading and written work in exchange for a decent grade—at least a B—provided that students don't make a fuss about the class or ask for too many meetings outside of class or too many comments from faculty on students' written work or exams (Kuh, 1999, p.12).

The disengagement compact has become problematic according to Arum and Roksa (2011), who report in their book, Academically Adrift, that students in the United States have shown fewer

gains in critical thinking, analytical reasoning, and writing ability, despite their high grade point averages. In short, disengagement has become an increasing problem in North America as the quality of undergraduate credentials decrease because of lowered expectations in higher education.

Despite these authors' assertions that disengagement is a new phenomenon, academics have been describing this for decades. In Edith E. Layer, a professor of English, wrote about her experience of teaching college freshman and considered different ways to motivate her class to become more interested in academic work. She described that, "in trying to motivate freshman writing, the instructor has to face this apathy, this grim acceptance of requirements or, at any rate, a lack of interest or curiosity about the course" (Layer, 1952, p. 3). Layer's experiences mirror the accounts given by Cote and Allahar (2007, 2011), suggesting that disengagement is not a completely new phenomenon. Despite the fact that disengagement may not be new, it is possible that the conditions of the above-mentioned disengagement compact have created a new form of disengagement that requires unique attention. Commonly, theories of disengagement assess this problem on three different levels: macro, meso, and micro, which will now be discussed.

2.2 Macro-Societal Level:

On the macro level, socio-historical explanations are examined suggesting that the disengagement phenomenon has emerged from the changing value structure of society brought on by the post-industrial economic shift toward a knowledge economy. In the early twentieth century, individuals who did not excel in academics were encouraged to drop out and join the workforce, but with the disappearance of factory work and the transition into a knowledge economy, this became no longer a viable option (Powell & Snellman, 2004). In order to succeed in this 'new' economy, individuals must increase their human capital—that is knowledge, skills,

and credentials—because producing ideas has become the primary means of growing the economy (Savage, 1995). This change in the economy has led to credential inflation, which is the devaluing of educational credentials over time due to the increasing number of individuals in the job market who have attained the same or similar credentials (Brown, Lauder, and Ashton, 2011). Gaining employment has become more competitive as more individuals achieve college, undergraduate, and graduate degrees. According to Statistics Canada (2012), 53.6% of Canadians in 2012 had trade certificates, college diplomas, and university degrees, which is a 20.9% increase since 1990. In Canada, the population is highly educated leading to underemployment because not enough jobs are opening up to support the highly qualified workers (Livingstone, 2004). Therefore, in order to gain a competitive edge, individuals are staying in school longer, gaining more credentials, in an effort to increase their labour market success. Essentially, those who assess disengagement at a macro level suggest that it has emerged from the change in young peoples' reasons for attending university. As students are driven increasingly by gaining credentials that can be leveraged in the job market, they have become less motivated by the knowledge imparted through post-secondary education.

2.3 Meso-Institutional Level:

Secondly, disengagement is examined on a meso-institutional level, suggesting that the origins and solutions for this problem can be traced to the university institution. According to Cote and Allahar (2011), Canadian universities have become increasingly corporatized by mirroring private universities in the United States, where corporate interests or profit interfere with the labour process of professors and students. However, the university as a corporation is not a new concept, as earlier generations of scholars have struggled with the question whether the true purpose of the university is for financial gain or for imparting advanced knowledge (Carey, 1956). In 1956, James Carey wrote a paper in which he described corporations' noxious

influence on universities. He stated that, "relatively few academicians and non-academicians alike are concerned that our institutions of higher learning are being more and more identified constitutionally and functionally with the corporate system" (Carey, 1956, p. 440). Fundamentally, universities and educational institutions alike are microcosms of society, perpetuating the system in which they exist. Thus, perhaps it is not that universities are becoming corporatized (as suggested by Cote and Allahar), but that they are changing their business model and marketing strategies in order to accommodate new business, as a response to a changing market.

The changing corporate structure of these institutions has led to the disengagement compact, or the expectation that instructors owe students results regardless of their efforts (Gould, 2003; Kuh, 1999). For students, this attitude exists as a result of the commodification of the post-secondary experience. Turk (2000) suggests that universities are increasingly packaging their marketable features into products and services to increase enrolment. Part of their marketing strategy is to attract new students to their institutions by appealing to their consumerist desires (Turk, 2000). It seems that students are treated as customers paying for the post-secondary commodity, leaving them with certain expectations about how their time should be spent over the duration of their degree. According to The American Freshman Survey Results for 2014, it appears that 78.3 percent of new freshman spend less than 10 hours a week studying or doing homework (Eagan et al., 2014). Moreover, Gould (2002) reports that students are more interested in spending their free time on television, social engagements, and part-time employment, rather than on educationally purposeful activities. Overall, it appears that students are less engaged in academics due to their position as customers in the corporate structure of universities.

Moreover, instructors are also influenced by the corporate structure of universities by creating an atmosphere that encourages the disengagement compact attitude. Universities have not adequately adjusted their resources to accommodate expansion, resulting in the overburdening of instructors, graduate students, and professors with both teaching and research responsibilities. More than that, universities have been capitalizing on part-time and contract employees because they are a cheap source of labour and have fewer legal rights (Turk, 2000). The recent media coverage of the Teaching Assistant's Strike at the University of Toronto is an example of universities' over-reliance on graduate students as instructors. According to those students who are striking, despite the fact that graduate students are responsible for over 60% of teaching responsibilities, they are forced to live 4000 dollars under the poverty line (Schwartz, 2015; Yazdanian, 2015). Rather than investing in more full-time faculty, universities rely on part-time or graduate student instructors because they produce the same level of work for a much lower wage. Moreover, graduate students are primarily researchers and then educators second, meaning that if they are going to cut corners, it will most likely affect their teaching. As a result, regardless of their passion as educators, they may adopt an attitude reflective of the disengagement compact: "why bother ensuring that exams are challenging, rigorous and fair when it's hardly a trade secret that the quickest way to ensure "student satisfaction" is simply to inflate their grades?" (Yazdanian, 2015, para. 9). Essentially, the changing structure of universities has encouraged increasing levels of disengagement by positioning students as customers and overworking instructors.

In order to address the foundations of disengagement at the university level, the community integrated approach has been suggested. This perspective advocates that increasing the integration of students, instructors, and staff will increase overall levels of motivation, and subsequently engagement (Hawthorne & Conrad, 1997). Broadly, all aspects of post-secondary

institutions, social and academic, should encourage engagement. Hawthorne and Conrad (1997) indicate that this level of engagement can be reached through students and faculty spending a significant amount of time creating a mutually supportive, dialogical environment. Moreover, Arum and Roksa (2011) support this viewpoint by advocating that creating a community of learners that will appeal to students can be accomplished by focusing on student specific characteristics and channeling them through the institutional context. Once a community of learners has been established, ontological engagement can exist because students begin to internalize their education as important to their self-concepts, increasing their intrinsic motivation to learn (Matusov, Dyuke, & Han, 2012). Ultimately, the community-integrated perspective suggests that creating a high quality academic program that culminates into a community of learners will increase the overall engagement among members of the university community.

Moreover, there are many strategies suggested by this perspective to increase overall engagement, most of which encourage the integration of technologies inside and outside of the classroom as a means to enhance the student experience (Shuell & Farber, 2001). Today's student population is part of a changing category of learners that is often referred to as digital natives (Bennett, Maton, & Kervin, 2008; Prenksy, 2001), or those who grew up with information technology that allowed them to quickly acquire any knowledge they desired. As such, young people have become increasingly drawn to technological stimulation, which has made them less responsive to traditional lecture styles (Day, 2010). Thus, by attempting to reach out to students through technological mediums, the argument has been that engagement may increase because it will accommodate the students' need for increased stimulation. Moreover, different technologies allow instructors to go outside of traditional pedagogy by generating new and different learning experiences (Shuell and Farber, 2001). For example, video presentations

offer students who are visual learners an experience that they may not gain from traditional lecturing (i.e. oral presentations). Using multiple strategies for teaching is beneficial for engaging a larger student population because different individuals are often responsive to different learning styles. For this reason, many post-secondary institutions provide teaching devices in classrooms that range from a simple overhead projector to a sophisticated presentation workstation (Brill & Galloway, 2007). Furthermore, incorporating technology into pedagogical practices can strengthen the integration of students and teachers into the university community by creating open lines of communication through email or forums. Arum and Roksa (2011) also advocate that using technology in teaching can be a strategy to channel students' existing desire to learn using technology, which could lead to greater engagement. Essentially, the integration of technologies into post-secondary education can be an instrument for fostering a community of learners, which is the primary goal of the community-integration perspective.

Although some see teaching technologies as a means for creating engagement, others suggest that this technology diminishes students' learning experiences resulting in disengagement. Using technology in the university classroom may result in students being unable to focus on the relevant course material because they are over-stimulated. According to Trotter (1992), using instructional videos is less effective than teaching through printed text because students focus on the images in videos rather than on the rational thought outlined through the text. Moreover, students may rely too heavily on the technological resources provided to them, missing the larger concept that is being taught (Keengwe & Onchwari, 2011). For example, PowerPoint slides are often an oversimplification of the knowledge that is being presented. If students focus too much of their time on the information provided on the 'slides', rather than on the concept taught in lecture, they will not have a complete knowledge of the

subject being taught. Ultimately, the literature on teaching technologies and engagement falls into two distinctive camps viewing technology either as a solution or cause of disengagement.

2.4 Micro-Individual Level:

Lastly, disengagement can be analyzed on a micro-individual level, focusing on student characteristics. This is not a common approach as most scholars are focused on theoretical debates concerning the origins and solutions of disengagement, as discussed above. The literature that touches on individual level factors primarily focuses on defining disengagement; however, there is no consensus on the best way to understand and measure this phenomenon. Also, there are three themes that emerge from existing definitions that influence students' disengagement: motivation, integration, and identity. In essence, these factors are used as proxies for assessing disengagement and demographic characteristics of race, gender, age, or social class are often not considered, suggesting that disengagement is a uniformly pervasive experience.

2.4.1 Current Definitions of (Dis)Engagement

Definitions of disengagement are inconsistent and offer no agreement on a single definition of this phenomenon. Commonly, engagement and disengagement are assessed as opposites, meaning that a high level of engagement indicates a low level of disengagement, and vice versa. As such, when examining definitions of either engagement or disengagement we can make inferences about the other. Some of the most common definitions of disengagement will now be discussed. First of all, Main (2004) defines disengagement as lack of motivation and interest in learning. Second, Kuh (1998) adds to this definition by suggesting that disengaged students lack commitment. Third, Cote and Allahar (2007) agree with the position that student disengagement is reflected in the lack of time and interest students have for educationally purposeful activities. Fourth, Parsons and Taylor (2011) suggest that achievement,

positive/negative behaviours, and a sense of belonging affect student disengagement. Despite these differences in defining the concept, there is agreement that disengagement results in poor student outcomes.

Additionally, the limited empirical research that focuses on student disengagement relies on measures that are inconsistent with the definitions of this phenomenon. Often, rather than examining the variables discussed in the above definitions, time-use studies are used to verify the theoretical concept of the disengagement compact. As such, scholars have examined students' time-use and other corresponding variables to demonstrate that students are expecting high grades for minimal effort (Babcock & Marks, 2010; Cote & Allahar, 2007; Eagan et al., 2014). An examination of student time-use conducted by Babcock and Marks (2010) indicates that students in 2012 report on average dedicating 14 hours a week to studying, which is 10 hours less than their 1961 counter parts who devoted 24 hours a week to studying. This finding supports the theory of the disengagement compact, suggesting that students are getting higher grades for less work. Moreover, Kuh et al. (2008) draw on three separate measures from the National Survey of Student Engagement (NSSE) to measure students' engagement, which are "time spent studying, time spent in co-curricular activities, and a global measure of engagement in effective educational practices made up of responses to 19 other NSSE items" (p. 544). The results of this study indicate that all three measures of engagement have a positive effect on students' persistence in university. Essentially, measures of disengagement are primarily focused on students' time-use rather than on the variables suggested through definitions of disengagement.

The challenge associated with existing definitions and measures of disengagement is that they do not seem to be connected. Definitions of disengagement discuss how students are not motivated, committed, or connected, suggesting that there are psychological factors affecting

disengagement. However, scholars do not often measure students' psychological reasons for disengaging, but rather infer motivation by examining students' time-use and grade point averages. It appears that current measures of disengagement are more reflective of the perspective highlighting the deterioration of post-secondary requirements rather than they are of the definitions scholars provide for disengagement. For example, not spending time on homework does not immediately correspond to a lack of motivation, connectedness, and/or commitment. Ultimately, in order to address this disjuncture, I suggest that three important psychological factors emerge from the fragmented literature describing disengagement: motivation, integration, and identity. Each of these factors is discussed below.

2.4.2 Academic Motivation

In the earlier discussion of macro-societal influences, students' motivation for attending university was identified as an important predictor of disengagement. According to Randall Collins' (1979) idea of credential inflation, more students are attending university because having a degree has become a requirement for job market success. The rise of the knowledge economy and the ensuing credential inflation has resulted in many young people attending post-secondary institutions, without any desire to learn or take part in academics. The UCLA Freshman Survey indicated that 70 percent of university students in the 1990s said that they attended university to get a job later in life (UCLA Freshman Survey in Gould, 2002, p. 46). As such, it has been argued that changes in students' motivation for pursuing academia has promoted increasing incidences of disengagement because they are less motivated by the intrinsic worth of education and are more focused on the extrinsic rewards associated with the resulting credential (Brown, Lauder, & Ashton, 2011; Cote & Allahar, 2007). Overall, motivation emerges from theoretical discussion as an important individual level factor, emphasizing the role of extrinsic motivation for disengagement.

In order to understand students' motivations for attending post-secondary institutions, the literature on academic motivation should be considered (Benabou & Triole, 2003; Fairchild, Horst, Finney, & Barron, 2005; Fortier, Vallerand, & Guay, 1995). Simply put, motivation is a psychological construct that assesses an individuals' reasoning for acting or behaving in a particular way (Benabou & Tirole, 2000). Often, self-determination theory, that is the theory that humans have an innate desire to learn, is examined to understand individuals' motivation (Deci & Ryan, 1985). This theory suggests that the environment influences one's natural inclination to be intrinsically motivated by either promoting or stifling the psychological need for competence, autonomy, and relatedness (Deci & Ryan, 1985). Essentially, individuals' reasoning develops through experiences over the life course that either support or discourage intrinsic motivation through the fulfillment of these needs (Fairchild et al., 2005).

There are three basic types of motivation: intrinsic, extrinsic, and amotivation. First, intrinsic motivation is one's drive to pursue an activity for pleasure, satisfaction, or stimulation (Fairchild et al., 2005). For example, those students who truly enjoy taking part in academic activities, such as learning new things and achieving academic goals, are considered intrinsically motivated. Fortier, Vallerand, and Guay (1995) find that academic motivation is positively associated with performance and achievement in higher education. This means that individuals who are intrinsically motivated are more likely to perform better and achieve more academically than individuals with lower levels of motivation.

Second, extrinsic motivation occurs when an individual is pursuing an activity out of a sense of obligation, or as a means to an end (Fairchild et al., 2005). This type of motivation can be divided into three distinguishable categories: external regulation, introjected regulation, and identified regulation (Cokley, 2000). These categories operate on a continuum of self-determination, meaning that as one moves from external regulation to identified regulation,

extrinsic motivation begins to appear more similar to intrinsic motivation (Fairchild et al. 2006). External regulation is described as the least self-determined behaviour because it is regulated by an external contingency, such as a reward (Cokley, 2000). It could be that individuals who are externally regulated are in university as a means of attaining a credential for later gains in the job market. Moreover, introjected regulation represents behaviour that is regulated by internal coercion, such as guilt or obligation (Cokley, 2000; Fairchild et al., 2005). For example, individuals who are described as 'having something to prove' or are in university to demonstrate they are capable of achieving a degree, are often motivated by introjected regulation. Lastly, identified regulation occurs when someone attributes great personal value to the activity because it is important for a valued outcome (Cokley, 2000; Fairchild et al., 2005). This type of extrinsic motivation is the most self-determined. In the university context, those individuals who reason through this motivation believe that university will make them a better worker or that there is value in the credential beyond its potential as leverage on the job market. Overall, each of the three levels of extrinsic motivation is driven by an external reward structures, regardless of their accumulative intrinsic characteristics.

Third, amotivation is the absence of intent or drive to pursue an activity, being the least self-determined behaviour. Often, those individuals who are amotivated understand their behaviours as being caused by forces beyond their control (Cokley, 2000). According to Melnic and Botez (2014), students may be amotivated for a number of reasons, including a disinterest in a given subject, outside distractions, and unfavorable teaching methods. From discussions with students, they suggest that unmotivated students do not learn effectively because they struggle to retain information and participate (Melnic & Botez, 2014).

Academic motivation is one of the most important psychological concepts in education for understanding student outcomes. Vallerand et al. (1992a) find that this psychological factor

has a positive relationship to students' curiosity, persistence, learning, and performing. For Armstrong (2014), there is a direct link between motivation and engagement. She argues that instructors who can create an interesting learning environment will have more engaged students, who, as a result of this engagement, will be more motivated in future learning (Armstrong, 2014). In this way, instructors who foster environments for engagement also cultivate more intrinsically motivated students (Armstrong, 2014). Moreover, just as the environment of the classroom influences students' motivation, social pressures and systemic factors also influence ones' motivation. As mentioned in the theories discussed at the societal level, there is increasing pressure for young people to attain post-secondary credentials that can be leverage on the job market, regardless of their academic interests. Individuals who are entering university with little to no interest in academic learning are either extrinsically or amotivated, contributing to the growing numbers of disengaged students (Cote & Allahar, 2007; Main, 2004). In essence, understanding students' academic motivations, or reasons for attending university, could be closely related to their disengagement.

2.4.3 Academic and Social Integration

Another important predictor of disengagement is integration, or students' feelings of connectedness to both the academic and social aspects of the university. Currently, scholars suggest that students are more socially than academically integrated into the university, contributing to the increasing levels of disengagement. As previously mentioned, Babcock and Marks (2010) report that the number of students who study more than 20 hours a week has steadily declined from 67% in 1961 to 20% in 2010. Even though current students are spending less time studying than previous generations, they are achieving higher grade point averages and are successfully attaining post-secondary credentials (Cote & Allahar, 2007, 2011). Effectively, it would seem that the 'time cost' of university or college has significantly decreased, meaning

that students are able to successfully complete university without putting in a lot of time or effort. In contrast, participating in social activities has become increasingly important to university students. Grigsby (2009) finds that 70% of students report that social learning is more important than academics. In universities today, more students are thought to be engaging in a binge-drinking, party culture, while disengaging from their education (Flacks & Thomas, 1998). What's more, the university's corporate interests encourage students to prioritize the social through campaigning and marketing strategies that intentionally highlight the student experience, rather than the academic experience. One example of this is Western University's (2015) slogan, "Canada's best student experience", which perpetuates the importance of experience over academics. All in all, it appears that there is an imbalance of integration into university where students are prioritizing their social lives, leading to academic disengagement.

Furthermore, in order to understand the relationship between students' levels of academic/social integration and disengagement, existing literature on university integration must be examined. According to Tinto's model (1975), university integration can be defined as involvement or active membership in the community, leading to an increasing feeling of connectedness to the institution and other students. Academic integration is broadly understood as students' levels of involvement in activities relating to academia, such as meeting with faculty or forming academic interest groups (Terenzini & Pascarella, 1977). Moreover, social integration can be defined as students' involvement in the social culture of universities, such as joining clubs or attending school events (Madge et al., 2015; Terenzini & Pascarella, 1977). Overall, integration refers to individuals' perceptions or feelings of attachment to university, which can be extended to both social and academic realms.

Typically, the balance or combination of both academic and social integration is important for success within institutions of higher education (Chapman & Pascarella, 1983).

Mannan (2007) suggests that academic and social integration have a compensatory relationship where high levels of both integration leads to persistence in university and low levels of integration leads to dropping out of university. In order to test this theory, Mannan (2007) used quantitative data collected from 2400 full-time undergraduate students, and found that being both socially and academically integrated leads to a higher chance of persistence in post-secondary education. Although the literature on university integration is primarily concerned with examining student persistence in university, this can be extended for understanding disengagement. The imbalance of integration could lead to an individual being overly engaged in one facet of university life and experiencing disengagement in another. For example, the imbalance of integration that is found in the current student culture, involving favouring social integration over academics, is recommended to be one of the focal reasons for the elevated levels of disengagement (Flacks & Thomas, 1998; Grigsby, 2009). In contrast, a high level of both academic and social integration is considered an important factor for increasing student engagement. For example, some who is involved in an academic club or society may be more likely to engage. Also, high levels of integration could lead to the creation of a community of learners, which is a holistic approach for fostering engagement by facilitating a dialogue between students and teachers (Hawthorne & Conrad, 1997). In order for the community of learners to be effective in creating student engagement, both the social and academic realms of university must be united through feelings of integration (Hawthorne & Conrad, 1997). Essentially, the interplay of social and academic integration may be an important predictor of an individual's overall engagement in university.

2.4.4 Academic Identity

Finally, academic identity or the importance one places on being a student is essential for understanding disengagement. For Krause and Coates (2014), an individual's development of a

student identity is directly related to his or her expression of academic engagement. Internalizing good study habits and strategies for success through an academic identity will positively influence individuals' engagement, whereas an individual with competing identities or less of an academic identity may struggle to engage (Krause & Coates, 2008). For example, if a student has competing roles as a "parent", "employee", or "friend", these identities may draw them away from their capacity as a student. Essentially, everyone has many identities that make up their sense of self, but the priority they place on each role may predict their ability to be engaged in others.

Additionally, the literature on academic identities provides a clearer understanding of students' identities and the role of student as an identity. Academic identity is a measure that assesses a person's internalization and expression of the role of 'student' (Was & Isaacson, 2008). Assessing an individual's level of academic identity allows researchers to understand the importance of being a student to their self-concept, or to their collections of beliefs about oneself (Dean & Jolly, 2012; Was & Isaacson, 2008). A high level of academic identity indicates that being a student is an important part of an individual's self-concept, whereas a low level could indicate that being a student is not central to an individual's self-concept. Moreover, this literature suggests that, "learning at its root must include a process of recognizing and adapting one's different identities" (Dean & Jolly, 2012, p.228). This means that in order for an individual to effectively prioritize their role as a student, their other identities must be accommodating, rather than competing for centrality. Dean and Jolly (2012), suggest that context regulates individuals' abilities to maintain multiple selves, meaning that students who have a strong academic identity can meaningfully engage in academics, regardless of the importance of other identities. Also, these scholars suggest that having a strong academic identity can lead to self-efficacy, or the perception that they can succeed in academics (Dean & Jolly, 2012). Essentially,

having a strong academic identity may predict higher levels of engagement, regardless of competing identities.

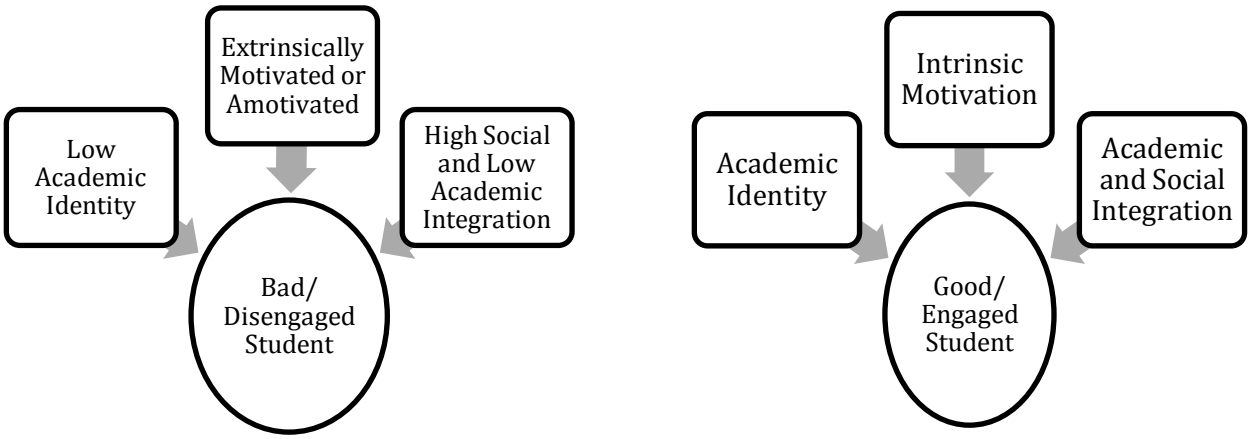
2.4.5 Summary of Micro-Individual Level

In summary, there is no universally recognized definition of student engagement; however, three important psychological factors emerge from the literature. First, students' academic motivation for attending university is discussed as a significant element because the changing value structure of society toward emphasizing credential inflation has led to individuals attending university en masse for better positions in the job market, rather than for academic learning (Collins, 1979; Fairchild et al., 2006). Second, academic and social integration are considered important factors that can contribute to disengagement when there are very low or uneven levels of each (Mannan, 2007). For example, the majority of students today seem to be more socially than academically integrated, leading to higher levels of academic disengagement (Babcock & Marks, 2010;Grigsby, 2009). Third, academic identity--that is, an individuals' internalization of the role student as important to their self-concept--is essential for understanding disengagement because students with low levels or competing identities may struggle to engage (Dean & Jolly, 2012; Was & Isaacson, 2008). Also, it is important to emphasize that the societal and institutional factors contributing to the rise of disengagement culture shape individuals' motivation, integration, and identity. As such, there is no homogenous disengagement experience, but rather students would have unique experiences of disengagement depending on their psychological development. Ultimately, understanding the interplay of students' motivation, integration, and identity may lead to a clearer understanding of the disengagement phenomenon.

2.5 Ideal Types of (Dis)Engagement:

Overall, the above theoretical frameworks infer a homogenous experience of disengagement that occur across all students as a consequence of a combination of their individual psychological factors, resulting in ideal types of engaged and disengaged students. Therefore, an engaged student is one who is intrinsically motivated, both socially and academically integrated, and has a strong academic identity. For example, the student who loves to learn, participates in all aspects of university culture (balancing the social and academic), and prioritizes their schoolwork, is representative of what we have come to consider the good/engaged student. Cote and Allahar (2007) share this sentiment suggesting that these students are the ones that make teaching worthwhile, however rare they might be. Moreover, a disengaged student is extrinsically motivated or amotivated, has imbalanced or low levels of integration, and a low academic identity. It has been argued that this student is only in university for the credential, is more interested in their social life than academics (Flacks & Thomas, 1998; Grigsby, 2009), and prioritizes other responsibilities over school (Krause & Coates, 2008). The combination of these factors amounts to what I will refer to as the ideal type bad/disengaged student. I therefore propose that the above-mentioned combinations of motivation, integration, and identity lead to two ideal type models: the good/engaged student and the bad/disengaged student.

Figure 1. Ideal Type Models of the Bad/Disengaged Student and the Good/Engaged Student



2.6 Disengagement as a Behavioural Expression:

Existing literature examines psychological factors that predict disengagement; however, there is no measure to predict the behavioural expression of disengagement. While motivation, integration, and identity are independent variables that influence individuals' behaviour, the ideal types constructed through psychological factors are not completely indicative of the concept (or dependent variable) that they predict. In order to address this gap in the literature, I propose the following definition of behavioural engagement: a behavioural expression that is characterized by an individuals' meaningful involvement in a given task. As such, engagement is not a state of mind, as suggested by the above proxies, but rather it is a distinctive behavioural expression. For example, in the university classroom, behaviours such as writing notes, participating, and listening are all reflective of meaningful involvement in lecture. In contrast, daydreaming, sleeping, or talking to peers are expressions that are suggestive of disengagement or not being involved in lecture. Ultimately, understanding disengagement as an independent phenomenon that is influenced by psychological variables (motivation, integration, and identity) allows for a meaningful comparison across measures.

Moreover, given the many aspects of university life (academic, social, and civic), it is difficult to examine this conceptual definition across all circumstances. For example, an individuals' expression of academic disengagement may be very different depending on the context in which it is experienced: sitting in lecture, reading in the library, or while studying at home. In order to understand the complexity of this phenomenon, I have chosen to focus on expressions of disengagement within the university classroom. This context has been chosen because it is often the location described in professors' anecdotal accounts of disengagement (Campbell & Pargas, 2003; Cote & Allahar, 2007; Kraushaar & Novak, 2010; Macheski, Lowney, Buhrmann, & Bush, 2007).

2.6.1 Portable Devices and Behavioural Disengagement

In order to fully appreciate disengagement at the classroom level, students' use of portable devices must be examined. The use of portable devices, such as cellphones, laptops, and tablets, has recently become a salient aspect of student culture. In the United States, 79% of college students aged 18-24 years old report owning a smart phone (Smith, 2013). The prevalence of these technologies within the student population presents a relatively new and important factor for understanding behavioural disengagement in class. For example, students can use portable devices to engage by taking notes or referencing course information. In contrast, surfing the internet, going on social networking sites, or checking email are digital behaviours that indicate disengagement from class. Ultimately, the ubiquitous influence of these devices in the everyday lives of university students create the potential for digital disengagement behaviours to emerge in the classroom.

Although portable devices within the classroom are not often referenced in the disengagement literature, students' uses of these devices, and their potential to enhance or diminish students learning, is a point of debate for scholars. First, it has been argued that

ubiquity of portable devices among the student population holds the potential to greatly improve students' learning outcomes. For example, Campbell and Pargar (2003) state that note taking is the primary reason that students bring portable devices to class. Typing notes on a laptop or tablet is reported as being much easier and efficient than writing notes (Campbell and Pargar, 2003). Therefore, having access to portable devices within the classroom may increase the quality of note taking. Similarly, some instructors have attempted to integrate student's cellphone use into another avenue for engaging in course material. Jain and Farley (2012) discuss the use of VotApedia software to create a mobile phone-based audience response system, rather than having the students buy clickers. These authors discover that VotApedia improves student engagement through ongoing knowledge assessment and reinforcement (Jain & Farley, 2012). Ultimately, there are many applications for the positive integration of portable devices within the university classroom.

On the other hand, some scholars view technology as disruptive to learning environments by distracting students from their education (Sharples, 2003). According to Young (2006), internet access through portable devices diminishes the learning process by pulling students' attention away from class content (Young, 2006). For example, rather than taking notes students may be temped to browse the internet or access social networking sites. Commonly, students struggle with restricting their personal computer use within the classroom, resulting in disengagement (Gerow, Galluch, & Thatcher, 2010). Even if students intend to use their portable technology to engage in class, they are drawn towards unproductive tasks through their internet connectivity. In order to prevent this distraction, it is becoming increasingly common for instructors to limit students' technology use by banning portable devices from their lectures. Despite this, it is easy for students to bring and smaller devices such as cellphones into the classroom and thus continue their potentially disengaging technology use.

Moreover, it would seem that that both the promises and fears of students' using portable devices within the classroom resonate with the behavioural definition of academic disengagement. As much as students can be digitally engaged by using their portable devices to take notes or look-up course related information, there are concerns that they are more likely to be digitally disengaged as they access social networking sites or surf the internet during class.

Overall, there are two distinctive forms of disengagement in the university classroom: physical and digital. Although both forms of disengagement are an expression of individuals' lack of involvement in the classroom, portable devices actively pull students' attention away from class by distracting individuals, resulting in digital disengagement (Gerow et al., 2010; Sharples, 2003; Young, 2006). While daydreaming or zoning-out passively distract students from class, the use of digital devices actively distracts students. Additionally, understanding portable devices as actively distracting students speaks to the intentionality of performing disengagement behaviours. Dean and Jolly (2012) define engagement as the energy one purposely spends on educational activities, suggesting that to engage is intentional. For example, actively listening to the instructor and taking notes are deliberate engaged behaviours. Although most expressions of engagement are intentional, disengagement may be either intentional or unintentional. First, digital disengagement is often intentional because students have to actively navigate their devices to perform a given behaviour (e.g., switching for note taking to Facebook surfing). Secondly, physical disengagement behaviours can be either intentional (e.g., not coming to class or talking to peers), or unintentional (e.g., daydreaming or zoning-out). Recognizing expressions of disengagement (both physical and digital) as either intentional or unintentional is important because it is revealing of individuals' psychological states.

2.7 Current Study:

Students come to class with a myriad of concerns, personality traits, or even learning styles that may influence their ability to engage. Expressions of disengagement, like any other behaviour, are often driven by various psychological factors. We cannot understand behaviour in isolation from the individual; therefore, demographic traits and psychological attributes (such as motivation, integration, and identity) should be examined to explain the occurrence of disengagement. The objective of this study is to understand the interaction between expressions of disengagement (both physical and digital) and psychological components of motivation, integration, and identity. In order to study this phenomenon, the following research questions are posed:

RQ1: What is the relationship between students' physical expressions of disengagement and their motivation, integration, and identity?

RQ2: What is the relationship between students' digital expressions of disengagement and their motivation, integration, and identity?

CHAPTER THREE:
RESEARCH METHODS

The purpose of this chapter is to outline the research methods that have been used in this study. First, I will restate the research questions, adding potential hypotheses. Second, I will explain the rationale behind the research design and the population of interest. Third, the specific measures used in this study will be discussed and the dependent, independent, and explanatory variables will be identified and explained. Finally, I will discuss the analytic approach I used for the data analysis.

3.1 Research Questions and Hypotheses:

The goal of this research is to understand expressions of disengagement within the university classroom and their relationship to students' levels of motivation, integration, and identity. In order to understand this relationship, two exploratory research questions are posed: (1) What is the relationship between students' physical expressions of disengagement and their motivation, integration, and identity? (2) What is the relationship between students' digital expressions of disengagement and their motivation, integration, and identity? The above research questions examine the two different types of disengagement that may emerge within the university classroom: physical and digital. As discussed in the literature review, motivation, integration, and identity emerge from the existing fragmented research as important predictors of disengagement; however, few studies have examined disengagement as a unique behaviour. This study attempts to measure physical and digital disengagement as behavioural expressions that are influenced by psychological factors.

The bad/disengaged ideal type model has spurred three hypotheses. However, this is an exploratory study and, therefore, it is challenging to estimate accurate hypotheses. The hypotheses for this study are:

H1: Expressions of disengagement are associated with amotivation and extrinsic motivation, rather than intrinsic motivation.

H2: Expressions of disengagement are associated with low levels of both social and academic integration, or high social and low academic integration.

H3: Expressions of disengagement are associated with low levels of academic identity.

3.1.2 Hypothesis One

H1: Expressions of disengagement are associated with amotivation and extrinsic motivation, rather than intrinsic motivation.

Existing research has emphasized the relationship between levels of disengagement and motivation. Specifically, motivation is often referred to as a dichotomy between intrinsic and extrinsic motivation, where the former generates high levels of engagement and the latter disengagement (Collins, 1979; Cote & Allahar, 2007; Fairchild et al., 2005). However, Fairchild et al (2005) suggest that motivation exists as a continuum that reflects individuals' level of self-determination ranging from amotivation to extrinsic motivation to intrinsic motivation. Using this model, I hypothesize that as one moves along the motivation continuum they are less likely to express disengagement behaviours.

Moreover, I hypothesize that this is not only true for physical expressions of disengagement, but also for digital expressions. Fairchild et al. (2005) indicate that levels of motivation are connected to self-determined behaviours, meaning that the closer one is to intrinsic motivation the more self-determined their behaviour. As such, those who are truly invested in accumulating the knowledge presented within the classroom are less likely to be distracted by portable devices. Gerow, Galluch, and Thatcher (2010) advise that an individual is more likely to be distracted if they are uninterested in a given task. Therefore, it is possible that

as one moves along the motivation continuum individuals are less likely to express both physical and digital disengagement behaviours.

First, amotivation is often left out of the disengagement literature, but is included in this study because it is the opposite of intrinsic motivation and, therefore, may predict disengagement behaviours. This type of motivation occurs when an individual does not value the activity, feels incompetent, or feels unable to obtain a desired outcome, and therefore loses the drive to pursue an activity (Deci & Ryan, 1985; Fairchild et al., 2005; Vallerand et al., 1992a). I hypothesize that high levels of amotivation will be associated with disengagement behaviours.

Second, extrinsic motivation is often referred to in the literature as being associated with disengagement. For example, Cote and Allahar (2007) suggest that credential inflation has changed the value structure of society, creating more disengagement because students are attending university for the credential rather than for the learning experience. As such, students are more extrinsically motivated, meaning they pursue university for the reward or as a means to an end (Benabou & Tirole, 2000; Fairchild et al., 2005). In this study, three levels of extrinsic motivation are examined: external regulation, introjected regulation, and identified regulation. I hypothesize that disengagement behaviours are less likely to occur as one moves along the extrinsic continuum from external to identified regulation.

Third, Fairchild et al. (2005) suggest that there are three forms of intrinsic motivation: to know, accomplish, and experience stimulation. Each of these three types of intrinsic motivation refers to an inherent interest in the activity itself. Being truly interested in a given activity could influence ones' behaviour, resulting in an individual being meaningfully involved or engaged in that task. As such, I hypothesize that those who are intrinsically motivated are much less likely to perform disengagement behaviours within the classroom context.

3.1.3 Hypothesis Two

H2: Expressions of disengagement are associated with low levels of both social and academic integration, or high social and low academic integration.

As suggested by the literature describing university integration, current students are portrayed as having a high social integration (Grigsby, 2009) and a low academic integration (Babcock & Marks, 2010) in university. To refresh, university integration can be defined as involvement or active membership in the university community, leading to an increasing feeling of connectedness or engagement (Tinto, 1975). Academic integration can be understood as students' level of involvement in activities relating to academia, such as meeting with faculty or forming academic interest groups (Terenzini & Pascarella, 1977). Moreover, social integration can be defined as students' involvement in the social culture of universities, such as joining clubs or attending school events (Madge et al., 2015; Terenzini & Pascarella, 1977). According to Mannan (2007), academic and social integration have a compensatory relationship, meaning that high levels of integration leads to persistence and low levels of integration leads to dropping out of university. Additionally, having a high social and low academic integration is suggested to result in disengagement. As such, I hypothesize that expressions of disengagement are associated with low levels of both social and academic integration, or high social and low academic integration.

Moreover, the relationship between integration and digital disengagement has yet to be tested and therefore no clear hypothesis can be formed. However, it is possible based on existing literature that a similar relationship would exist for both digital and physical disengagement.

3.1.4 Hypothesis Three

H3: Expressions of disengagement are associated with low levels of academic identity.

Academic identity is not commonly discussed in the disengagement literature; however, this factor is important for academic achievement, which is commonly linked to engagement. Broadly, academic identity is defined as a personality measure that assesses a person's internalization and expression of the role 'student' (Was & Isaacson, 2008). Assessing an individual's level of academic identity allows researchers to understand the importance of being a student to their self-concept (Dean & Jolly, 2012; Was & Isaacson, 2008). A high level of academic identity indicates that being a student is an important part of an individual's self-concept, whereas a low level could indicate that being a student is not central to an individual's self-concept. Perhaps, if being a student and preforming well academically are essential to an individual's self-concept than that person would be less likely to get distracted by technology and digitally disengage, or would be less likely to physically disengage. Therefore, I hypothesize that expressions of (physical and digital) disengagement are associated with low levels of academic identity.

3.2 Research Design

Once again, there are two central research questions addressed in this study: (1) What is the relationship between students' physical expressions of disengagement and their motivation, integration, and identity? (2) What is the relationship between students' digital expressions of disengagement and their motivation, integration, and identity? These research questions are examined through the analysis of collected survey data with permission of the Ethics Board at the University of Western Ontario. The decision to collect these data was made because existing datasets did not provide the information required to adequately address the research questions. The most common dataset used to examine disengagement is the National Survey of Student Engagement (2015); however, this data set does not contain the variables required to assess the

behavioural disengagement measured through this study. This organization collects data that falls into five categories,

> …(1) participation in dozens of educationally purposeful activities, (2) institutional requirements and the challenging nature of coursework, (3) perceptions of the college environment, (4) estimates of educational and personal growth since starting college, and (5) background and demographic information (National Survey of Student Engagement, 2015).

These categories focus only on patterns of engagement and do not examine specific expressions of disengagement, which may be an important predictor of individuals' overall engagement.

Moreover, evaluating these questions through a survey (See Appendix A) is ideal for understanding the intricacies of disengagement across a population of students. Section one of the survey contained general demographic questions, as well as specific questions that were meant to indicate social class (parent's education, income, loans, and working through school). Section two asked respondents about their academic performance in the current year and in past years. Section three contained physical disengagement questions and social/academic integration questions. Sections four and five focused on assessing individuals' academic identity and level of motivation. Section six assessed individuals' technology use and emphasized perceived performance of digital disengagement behaviours. Each of these sections contained a series of questions that represented complex social or psychological constructs. Ultimately, this exploratory study was designed to examine a multifaceted social phenomenon occurring among university students using a quantitative survey approach.

Additionally, the population of interest for this study was undergraduate university students. Specifically, I chose to sample from multiple large courses that students in all years of their undergraduate degree had the option of taking in order to assess disengagement behaviours across a diverse group of students that were easily accessible for sampling. A convenience

sample was drawn from 438 students enrolled in second year social science classes at a university in Ontario. In order to recruit participants, instructors were contacted and asked if they would allow a survey to be distributed to their students at the beginning of their lecture. If instructors granted permission, I went to their lectures and asked students for their voluntary participation in the study. All students were verbally informed that the survey was voluntary, confidential, and anonymous, and were provided with a letter of information. Those students who consented then completed a 15-minute survey. Once completed, the surveys were collected and then entered into the statistical program STATA.

Given that a convenience sample was used, the results of this study are not representative of the population of interest, and therefore are not generalizable. However, the sample was drawn from large classes that were open to students at different levels of their undergraduate degree, creating a diverse sample that is more representative of the desired population. As a result, the sample includes a relatively even distribution of students in their second, third, and fourth-plus year of their undergraduate degree from all faculties. Overall, despite this limitation, the data that were collected indicate that further research should be done to better understand the existence of physical and digital disengagement behaviours in university classrooms. The variables used in this study are outlined in the following sections.

3.3 Dependent Variables:

In the survey, each participant answered questions about both their physical and digital disengagement behaviours. First, physical disengagement behaviours were measured by four questions that ranged on a Likert scale from 1 “Never” to 5 “Very Often”. These questions asked participants to consider all of their classes when answering the following: (1) How often did you come to class without doing readings or assignments? (2) How often did you talk to peers during class? (3) How often did you fall asleep during class? (4) How often did you zone out during

class? Preliminary data analysis revealed that students' involvement in one type of disengagement behaviour did not predict involvement in another. Thus, each of the above questions represents a dependent variable for physical disengagement.

From there, each of the questions was made into dummy variables where "Never" is coded 1 and "Other" is coded 0. Rather than examining the effect of each item on the likert scale, only the "Never" category is observed because of sample size limitations and theoretical implications. The small sample size of this study makes a multinomial or ordinal comparison unreliable because less than five percent of the sample was represented by some of the categories. Also, by theoretically examining those people who never perform disengagement behaviours one can observe factors that have the potential to reduce this phenomenon. For example, if individuals who never zone out during class are more intrinsically motivated then, perhaps, fostering intrinsic motivation could help reduce the occurrence of this behaviour. Ultimately, the four physical disengagement behaviours are dummy variables that predict the outcome 'never'.

Second, digital disengagement behaviours were examined through four separate questions. The questions are binomial asking individuals to report whether they do the following on the internet during class by indicating yes or no: (1) access social networking cites, (2) access personal email, (3) access school email or personal online course information, and (4) access Wikipedia to understand the material. In order to maintain consistency between disengagement measures, the digital variables are coded 1 for "No" and 0 for "Yes" (making yes the reference category). All four of the questions used represent potential digital disengagement behaviours; however, questions one and two represent potential distractive behaviours (non course-related), whereas questions three and four represent potential productive (class-related) behaviours.

3.4 Independent Variables:

Three psychological constructs are examined as independent variables: motivation, integration, and identity. First, motivation is measured through the adaptation of an existing questionnaire developed by Vallerand et al. (1992b) that assesses academic motivation. For this project, 15 items are divided into five sub-scales to represent motivation: amotivation (α=0.72), external regulation (α=0.74), introjected regulation (α=0.77), identified regulation (α=0.67), and intrinsic motivation (α=0.74). Each of these sub-scales is generated by combining three items (found in Appendix A) that ask individuals to indicate from 1 "not at all like me" to 5 "always like me" how well do the statements describe their decision to go to university. Each of these scales is continuous with a minimum of 3 and a maximum of 15.

Second, I created two scales to measure academic and social integration. The academic integration scale combines five items (found in Appendix A) that range from 1 "not at all like me" to 5 "very much like me". This scale has an alpha level of 0.69 and is continuous with a minimum of 5 and a maximum of 25. The eigenvalue of the factor model is greater than one and all of the factor-loadings are greater than 0.5. An example question that is used to measure this variable is, "Read each sentence and check off the box that best describes you: I approach my instructor outside of class for help with course material or for academic advising". Moreover, the social integration scale combines four items (found in Appendix) that range from 1 "not at all like me" to 5 "very much like me". This scale has an alpha level of 0.77 and is continuous with a minimum of 4 and a maximum of 20. The eigenvalue of the factor model is greater than one and all of the factor-loadings are greater than 0.57. An example question used to create this measure is, "Read each sentence and check off the box that best describes you: I am involved in clubs, team, and/or student societies within the university". A complete list of the questions that were used to measure integration can be found in Appendix A.

Lastly, the academic identity scale has been adapted from an existing scale created by Was and Isaacson (2008) that measures respondents commitment to being a university student. The academic identity scale was developed by combining nine items (found in Appendix A) that range from 1 “not at all like me” to 5 “very much like me”. Overall, this scale has an alpha level of 0.81 and is continuous with a minimum of 9 and a maximum of 45.

3.5 Explanatory Variables:

Demographic characteristics that may influence the relationship between disengagement behaviours and psychological constructs (motivation, integration, and identity) such as gender, undergraduate year, relative-income, obtaining a loan, parent’s education level, and post-graduate degree plans are included. See Appendix A for more information about coding.

3.6 Analytical Approach

The analytic sample is 430. I use case-wise deletion to remove all those respondents who do not bring portable devices to class with them, deleting 8 cases from the original sample. In chapter four, I estimate a series of logistic regressions to model the odds of never performing one of the given physical disengagement behaviours across different psychological factors and demographic measures. In chapter five, I estimate four binomial logistic regressions to model the odds of indicating the non-performance of digital disengagement behaviours during class, across different psychological factors and demographic measures. These models will be elaborated within the following chapters.

3.7 Summary

Data for this study was quantitative and collected through a questionnaire that was distributed to undergraduate students enrolled in a second year social science class at a university in western Ontario. The quantitative data described perceptions of individual behaviour in the

classroom, and was analyzed for the relationship between physical/digital disengagement behaviours and motivation, integration, and identity. The measures used in this study were discussed in this chapter, as well as the data analysis procedures that were undertaken. The following chapters discuss the results of the study.

CHAPTER FOUR:
RESULTS I - *Physical Disengagement*

The purpose of this chapter is to outline the results of research question one and discuss the findings: What is the relationship between students' physical expressions of disengagement and their motivation, integration, and identity? First, I will explain the analytic approach taken to examine the relationship of interest. Second, I will examine the descriptive statistics that are presented in Table 1 and Table 2. Third, I will examine the results of the logistic regression models estimated in Table 3, Table 4, Table 5, and Table 6. Lastly, I will discuss the findings of this analysis, referencing connections to the literature.

4.1 Analytical Approach

I estimate a series of logistic regression models to predict the relationship between physical disengagement behaviours and psychological measures (motivation, integration, and identity). The first dependent variable, which is the variable "coming to class without doing readings and/or assignments", is regressed in three logistic regression models (see Table 3). The first model is bivariate, predicting the relationship between never coming to class without doing readings and/or assignments and each one of the psychological measures. The second model is multivariate, examining the effect of each independent variable on the dependent variable, holding the other independent variables constant. The third model is multivariate, adding the explanatory variables to this relationship. The other three dependent variables—(1) talking to peers during class, (2) falling asleep during class, and (3) zoning-out during class—are also regressed using these three logistic regression models (see Tables 2 through 5). The equations for models one, two, and three in each of the tables are:

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AM_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 ER_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 INT_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 ID_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 IM_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AI_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 SI_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 I_i + e$$

EQUATION LEGEND:
AM……...Amotivation
ER…….External Regulation
INT……....Introjected Regulation
ID……Identified Regulation
IM…….Intrinsic Motivation
AI……...Academic Integration
SI……...Social Integration
I……...Academic Identity
A……Age
Y……...Undergraduate Year
PG……..…Post-Graduate Studies
IN……..Income
L…...…….Loan
PU……Parents Attend University

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AM_i + \beta_2 ER_i + \beta_3 INT_i + \beta_4 ID_i + \beta_5 IM_i + \beta_6 AI_i + \beta_7 SI_i + \beta_8 I_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AM_i + \beta_2 ER_i + \beta_3 INT_i + \beta_4 ID_i + \beta_5 IM_i + \beta_6 AI_i + \beta_7 SI_i + \beta_8 I_i$$
$$+ \beta_9 A_i + \beta_{10} Y_i + \beta_{11} PG_i + \beta_{12} IN_i + \beta_{13} L_i + \beta_{14} PU_i + e$$

Logistic regression is used because all of the dependent variables have binary outcomes. For the purpose of this analysis, the logistic coefficients are expressed in Table 3, Table 4, Table 5, and Table 6 as odds ratios.

4.2 Results:

Table 1 describes respondent characteristics at the time of sampling. First, the frequency of performing disengagement behaviours is observed. When asked about their behaviours during class, 9 percent of respondents indicated that they had never come to class without doing readings or assignments, whereas 91 percent indicated otherwise. When asked about whether

they ever talk to peers during class, 37 percent specified that they never talked to peers, whereas 63 percent said otherwise. Moreover, individuals were asked if they had ever fallen asleep in class and 80 percent said they had never fallen asleep during class with 20 percent indicating otherwise. Lastly, students were asked if they had ever zoned-out during a class with 6% indicating never. The frequency that individuals report doing the above behaviours indicates whether or not they are disengaging during class.

Table 1. Descriptive Statistics (n= 430)

	Frequency	Percentage (%)	Mean	Alpha Level
Dependent Variables				
Come to class without doing readings or assignments				
Never	38	8.84		
Other (ref)	392	91.16		
Talk to Peers				
Never	159	36.91		
Other (ref)	271	63.02		
Fall Asleep				
Never	344	80		
Other (ref)	86	20		
Zone-out				
Never	27	6.28		
Other (ref)	403	93.72		
Independent Variables				
Amotivation			1.70	0.72
External Regulation			12.97	0.74
Introjected Regulation			10.30	0.77
Identified Regulation			12.58	0.67
Intrinsic Motivation			9.80	0.74
Academic Integration			13.77	0.69
Social Integration			13.19	0.77
Academic Identity			34.21	0.81
Explanatory Variables				
Gender				
Female (ref)	297	69.07		
Male	133	30.93		

Year				
Second (ref)	163	37.91		
Third	137	31.86		
Fourth+	130	30.23		
Post-Graduate Studies				
Yes (ref)	310	72.09		
No	120	27.91		
Income				
Below average	106	24.65		
Average (ref)	243	56.51		
Above average	81	18.84		
Loan				
Yes	180	41.86		
No (ref)	250	58.14		
Parent's Education				
Both University (ref)	175	40.7		
One University	122	28.37		
Neither University	133	30.93		

Next, respondents' mean scores for each of the eight independent variables are observed. Each of these variables has a different range of possible values: motivation (max= 15), academic integration (max= 25), social integration (max= 20), and identity (max= 45). The first five variables represent the motivation continuum: amotivation ($\bar{x}$ = 1.70), external regulation ($\bar{x}$ = 12.97), introjected regulation ($\bar{x}$ = 10.30), identified regulation ($\bar{x}$ = 12.58), and intrinsic motivation ($\bar{x}$ = 9.80). These mean scores indicate that the respondents in this sample are more likely to strongly identify with the measures of extrinsic motivation, such as external, introjected, and identified regulation. Secondly, there are two university integration measures examined: academic ($\bar{x}$ = 13.77) and social ($\bar{x}$ = 13.19) integration. Lastly, the mean score for academic identity as reported by the respondents is 34.21.

The last section of Table 1 indicates responses to potential explanatory variables. First, 69 percent of the sample is female, whereas 31 percent of the sample is male. Second, there is a relatively even distribution of responses across years of undergraduate study: second (38

percent), third (32 percent), fourth-plus (30 percent). Third, 72 percent of the respondents indicate that they plan to pursue post-graduate studies after their undergraduate, whereas 28 percent indicate no post-graduate plans. Fourth, when asked to compare their family's income to that of other students, the majority (57%) responded that their families' incomes were average, whereas 25 percent indicate below average and 19 percent indicate above average. Fifth, 42 percent of the sample has received a loan to help them pay for university while 58 percent have not obtained a loan. Lastly, respondents are asked their parents' highest level of education; 41% stated that both parents were university educated, 28% had one parent with a university degree, and for 31% neither parent had graduated from university.

Table 2 is a correlation matrix for all of the independent variables, indicating that almost all of the variables are correlated. Examining the relationship between each of these independent variables is important because they do not exist in isolation, but rather the motivation, integration, and identity of each person is interrelated. Also, although they are interrelated, the correlation matrix indicates that each of these variables is measuring distinctively different features because all of the correlations are under 0.47, meaning that there is no multicollinearity. Moreover, from examining Table 2 one can see that amotivation is negatively correlated with all of the observed psychological variables. Furthermore, all of the other relationships between psychological factors are positive. Moreover, academic integration is not significantly related to external regulation and introjected regulation. Also, social integration is not significantly related to external regulation. Overall, it appears that most of the observed psychological factors are significantly related.

Table 2. Correlation Matrix for Independent Variables

	Amotivation	External Regulation	Introjected Regulation	Identified Regulation	Intrinsic Motivation	Academic Integration	Social Integration	Identity
Amotivation	1							
External Regulation	-0.2081***	1						
Introjected Regulation	-0.1155*	0.3740***	1					
Identified Regulation	-0.4130***	0.4688***	0.3499***	1				
Intrinsic Motivation	-0.2651***	0.1660***	0.4522***	0.4550***	1			
Academic Integration	-0.1171*	0.022	0.0938	0.1750***	0.2949***	1		
Social Integration	-0.1795***	0.1154	0.0987*	0.2805***	0.2621***	0.4553***	1	
Identity	-0.3873***	0.1935***	0.1988***	0.4019***	0.4396***	0.3611***	0.2536***	1
	***p<0.001	*p<0.05						

Next, I examine whether students who never come to class without doing the required readings and/or assignments are influenced by psychological factors. The results in Table 3 show that academic identity is positively associated with never doing this behaviour (that is, students who do not perform this behaviour actually do come to class having done the readings). Model 1 is a bivariate logistic regression showing that as academic identity increases students are 2.32 times more likely to never come to class without doing their readings and/or assignments. When the other psychological factors are held constant (as seen in Model 2), this relationship increases to 2.56 times more likely to never perform this behaviour. However, when all of the independent and extraneous variables are held constant (in Model 3) the relationship observed in Model 2 decreases, indicating that as academic identity increases individuals are 2.41 times more likely to never come to class without doing readings and/or assignments. Moreover, Model 3 also reveals a positive relationship between planning to undertake post-graduate studies and never coming to class without doing readings and/or assignments. It appears that individuals who intend to pursue post-graduate studies are 3.04 times more likely to never come to class without doing readings and/or assignments compared to those who indicate otherwise.

Table 3. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Never Coming to Class Without Doing Readings and/or Assignments (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	0.83	0.17	0.97	0.22	1.00	0.24
External Regulation	0.86	0.19	0.69	0.20	0.67	0.20
Introjected Regulation	1.12	0.16	1.11	0.22	1.09	0.23
Identified Regulation	0.12	0.3	1.30	0.46	1.29	0.48
Intrinsic Motivation	0.99	0.17	0.72	0.16	0.69	0.16
Academic Integration	1.35	0.28	1.29	0.31	1.33	0.33
Social Integration	0.96	0.17	0.77	0.16	0.75	0.17
Academic Identity	2.32***	0.68	2.56**	0.87	2.41**	0.84
Gender (Female)						
Male					0.46	0.22
Year (Second)						
Third					1.17	0.49
Fourth+					0.61	0.30
Post-Graduate Studies Plan (No)						
Yes					3.04*	1.70
Income (Average)						
Above Average					1.32	0.57
Below Average					0.57	0.35

Parents' Education						
(Both Parents went to University)						
One Parent					0.87	0.41
Neither Parent					1.83	0.83
Loan (No)						
Yes					0.93	0.40
Pseudo R-Squared			0.06		0.12	

*p<0.05 **p<0.01 ***p<0.001

Table 4 presents the findings of logistic regression models estimating the likelihood of respondents never talking to peers during class. Two of the psychological factors are significant across the models: academic identity and social integration. Like in Table 3, academic identity is positively associated with never performing this disengagement behaviour. In the bivariate model, the relationship between never talking to peers in class is positive with an odds ratio of 1.35, but it has a low level of significance at $p>0.05$. Although, in the multivariate models (Model 2 and Model 3) the strength and significance ($p>0.001$) of the relationship increases. Model 2 predicts that as academic identity increases students are 1.84 times more likely to never talk to peers in class (than students who indicate other), whereas, in Model 3, these odds decrease slightly to 1.82. Overall, it appears that academic identity is positively associated with never talking to peers during class. Furthermore, social integration is identified in all of the models as significant. As social integration increases, individuals are 25-29 percent more likely to report that they talk in class across models (i.e. as social integration increases respondents are less likely to *never* talk during class). Lastly, Model 3 reveals a relationship between never talking to peers in class and the respondents' undergraduate year of study. It appears that third years are 2.11 times more likely to never talk to peers in class compared to second years. Whereas, fourth-plus years (compared to second years) are 1.66 times more likely to never talk to peers in class.

Table 4. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Never Talking to Peers During Class (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	0.95	0.11	0.98	0.13	0.99	0.14
External Regulation	1.07	0.15	1.09	0.19	1.09	0.19
Introjected Regulation	0.96	0.09	1.00	0.12	1.01	0.12
Identified Regulation	0.95	0.13	0.95	0.18	0.95	0.19
Intrinsic Motivation	0.88	0.09	0.82	0.11	0.81	0.11
Academic Integration	0.83	0.1	0.89	0.13	0.85	0.13
Social Integration	0.72**	0.08	0.71**	0.09	0.75*	0.10
Academic Identity	1.35*	0.21	1.84***	0.36	1.82***	0.36
Gender (Female)						
Male					0.75	0.18
Year (Second)						
Third					2.11**	0.55
Fourth+					1.66*	0.44
Post-Graduate Studies Plan (No)						
Yes					1.12	0.27
Income (Average)						
Above Average					0.90	0.24
Below Average					1.27	0.38

Parents' Education (Both Parents went to University)						
One Parent					1.59	0.41
Neither Parent					0.88	0.24
Loan (No)						
Yes					0.90	0.22
Pseudo R-Squared			0.04		0.08	

*p<0.05 **p<0.01 ***p<0.001

Next, I use logistic regression models to predict the likelihood of respondents never sleeping during class in Table 5. In this table, three of the psychological constructs are significantly related to the dependent variable: academic identity, amotivation, and external regulation. As seen in Table 3 and Table 4, academic identity is positively related to never performing the given disengagement behaviour across the models. Additionally, Table 5 is the first to uncover a relationship between motivation and the performance of disengagement behaviours. First, as amotivation increases respondents are 27 to 37 percent more likely to indicate other (i.e. that they sleep during class either occasionally or frequently). Second, the odds of respondents never sleeping in class increases across models with the increase of external regulation (from 1.35 in Model 1 to 1.49 in Model 3). Finally, Model 3 reveals a significant relationship between respondents who receive a loan (compared to those who do not receive a loan) and sleeping in class. Respondents who receive a loan are 44 percent more likely to sleep during class.

Table 5. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Never Sleep During Class (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	0.69***	0.09	0.7**	0.1	0.73*	0.11
External Regulation	1.35*	0.21	1.47*	0.29	1.49*	0.30
Introjected Regulation	0.93	0.11	0.84	0.12	0.81	0.12
Identified Regulation	1.09	0.178	0.8	0.19	0.81	0.20
Intrinsic Motivation	0.95	0.12	0.91	0.15	0.94	0.16
Academic Integration	0.88	0.13	0.87	0.15	0.89	0.16
Social Integration	0.85	0.11	0.8	0.13	0.81	0.13
Academic Identity	1.46*	0.25	1.59*	0.36	1.57*	0.36
Gender (Female)						
Male					0.70	0.19
Year (Second)						
Third					1.15	0.35
Fourth+					1.31	0.42
Post-Graduate Studies Plan (No)						
Yes					0.74	0.22
Income (Average)						
Above Average					0.79	0.26
Below Average					1.01	0.35

Parents' Education						
(Both Parents went to University)						
One Parent					1.52	0.49
Neither Parent					1.22	0.39
Loan (No)						
Yes					0.56*	0.17
Pseudo R-Squared			0.05		0.07	

*p<0.05 **p<0.01 ***p<0.001

In the final table (Table 6), the likelihood of respondents indicating that they never zone-out during class is examined. This table reveals no significant relationship between the dependent variable and any of the psychological independent variables. It is only in Model 3 that a significant relationship is revealed between respondents' current undergraduate year of study and zoning-out during class. In third year, respondents are 4.55 times more likely (than those in second year) to never zone-out during class. In fourth-plus year, respondents are 7.35 times more likely (compared to those in second year) to never zone-out during class. This is the only significant variable in Table 6.

Table 6. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Never Zoning-Out During Class (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	0.95	0.22	1.02	0.26	1.03	0.27
External Regulation	1.33	0.43	1.27	0.49	1.36	0.54
Introjected Regulation	1.11	0.22	0.96	0.22	1.04	0.25
Identified Regulation	1.29	0.39	1.19	0.47	1.16	0.48
Intrinsic Motivation	1.19	0.25	1.22	0.33	1.19	0.34
Academic Integration	1.02	0.24	1.10	0.31	0.99	0.30
Social Integration	0.85	0.18	0.75	0.18	0.89	0.23
Academic Identity	1.09	0.32	0.92	0.35	0.94	0.36
Gender (Female)						
Male					1.44	0.66
Year (Second)						
Third					4.55*	3.12
Fourth+					7.35***	4.90
Post-Graduate Studies Plan (No)						
Yes					1.31	0.66
Income (Average)						
Above Average					0.65	0.34
Below Average					0.71	0.45

Parents' Education (Both Parents went to University)						
One Parent					0.84	0.43
Neither Parent					1.00	0.51
Loan (No)						
Yes					0.58	0.28
Pseudo R-Squared			0.02		0.09	

*p<0.05 **p<0.01 ***p<0.001

4.3 Discussion

The descriptive statistics examined for this study indicate that the majority of respondents perform disengagement behaviours. Further analysis uncovers that not a single respondent answers never to all four behaviours, meaning that all respondents disengage at some point during their classes. This finding supports the theories of the many scholars (Cote & Allahar, 2007; Kuh, 1991) that suggest that disengagement is a salient aspect of university culture. However, the sample characteristics contradict these theorists' assumption that disengagement emerges from extrinsic motivation or amotivation, low levels or uneven levels of integration, and low academic identity. Instead, my sample has, on average, high levels of intrinsic motivation, academic and social integration, and academic identity. Overall, the sample characteristics indicate that participants are unanimously involved in acts of disengagement while still exhibiting favourable psychological factors.

Given that all respondents perform one or more disengagement behaviours, understanding those who do not perform a given behaviour reveals important psychological factors for reducing the incidence of disengagement. The examination of the non-performance of each behaviour shows that different psychological and demographic factors are important predictors. Each of the distinct behaviours are discussed in detail below.

4.3.1 Behaviour One: Never Coming to Class without Doing Readings and/or Assignments

Students with a high academic identity and post-graduate plans are more likely to never come to class without doing readings or assignments (see Table 3). Was and Isaacson (2008) describe academic identity as a commitment to a set of academic values, which may overlap with normative values of engagement (ie. taking notes, participating, and/or paying attention to the professor in class). As such, individuals with high levels of academic identity may be more likely

to prioritize schoolwork over other commitments. Doing readings and assignments would be important to the respondents' sense of self, meaning that they would be more likely to never come to class without doing those tasks. Therefore, if being a good student is important to individuals' identity then they would be more likely to prioritize schoolwork and not come to class without doing assignments. Additionally, individuals with post-graduate plans are also more likely never to come to class without doing their assigned homework. According to Landau et al. (2014) identity-based motivation theory suggests that individuals who imagine themselves as being able to attain a specific identity increase their academic engagement and motivation. Post-graduate training or the career that follows that training may represent a respondents' desired identity. In order to be accepted into post-graduate training programs, applicants must have outstanding undergraduate transcripts that indicate their commitment to course work. Therefore, doing well in classes by completing the required readings and assignments is important for academic achievement. Moreover, some might argue that post-graduate studies are a form of extrinsic motivation; however, motivation is not significantly related to the non-performance of this behaviour. As such, it is more likely that identity is the key factor influencing the significance of pursuing post-graduate studies. Essentially, it may be that undergraduate students who visualize themselves as achieving an identity that requires post-graduate training may be more likely to have an academic identity, staying on top of the course requirements.

4.3.2 Behaviour Two: Never Talking During Class

Next, it is found in Table 4 that never talking to peers during class is significantly related to academic identity, social integration, and year of study. First, the effect of having a high academic identity is similar for this behaviour as the one discussed above. It is likely that if individuals prioritize being studious then they would be less likely to disengage from lecture by

talking to peers. Second, social integration and talking in class are significantly related. Terenzini and Pascarella (1977) define social integration as one's feelings of connectedness or involvement in the university student culture. Being socially integrated within the university network would increase an individual's chances of having classes with close friends or acquaintances, which may lead to social interactions during lecture. It is possible that socially integrated students would either sit with people they know or continue to broaden their social networks by getting to know people in their classes, which could lead to a higher incidence of talking. Given the social aspect of this disengagement behaviour, it is not surprising that it is more common among those who are more socially integrated. Third, the students' undergraduate year of study is significantly related to talking in class, indicating that individuals in their third and fourth-plus year are less likely to talk to peers in class compared to second year students. This relationship may emerge because of the qualitative difference between the levels of classes required. It could be that as years of study increase, so does the difficulty of classes required, meaning that students may have less time to be social in upper years than in second year. However, Table 4 indicates that third years are 2.11 times and fourth-plus years are 1.66 times more likely than second years never to talk. This difference in odds ratios may also be indicative of the difference between types of classes offered in fourth year. Although fourth year classes are more difficult than third year classes, at the university where this study is conducted, fourth year classes are more discussion-based and commonly occurring in a seminar format. These classes tend to require students to foster relationships with their classmates and actively add to class discussion. As such, group discussions may lead to side conversations between a few students, or may lead to unrelated conversations because of their emerging relationships with each other inside and outside of class. Essentially, talking or not talking in class is closely related to social relationships and individuals' academic identity.

4.3.3 Behaviour Three: Never Sleeping During Class

Furthermore, sleeping during class is a behaviour that is never done by about 80 percent of the individuals in the sample. In Table 5, there are four significant relationships observed: academic identity, external regulation, amotivation, and receiving a loan. First, individuals with a high academic identity are more likely to report never sleeping in class. Sleeping in class is one of the most deviant disengagement behaviours; therefore, it is consistent to assume that those individuals who identify as a student (Was & Isaacson, 2008) and actively prioritize adhering to the norms of the classroom are more likely to report never sleeping in class. Second, those individuals who have high levels of external regulation are more likely to report never sleeping in class. Fairchild et al. (2005) suggest that external regulation is the most extreme form of extrinsic motivation that is pursuing an activity as a means to an end. Randall Collins's (1979) idea of credential inflation suggests that students are more extrinsically motivated by the credential or the career associated with a given credential. As such, it may be that those who are more extrinsically motivated are less likely to perform this disengagement behaviour because they need to succeed in class in order to achieve a prescribed outcome. Third, amotivated individuals are more likely to sleep during class. Cokley (2000) explains that amotivation occurs when someone lacks drive or does not care to participate in an activity. Although it is likely that most amotivated students do not even attend lecture, for those who do attend it is logical that they are more likely to sleep through class. Lastly, individuals who attain a loan as a means of affording university are more likely to sleep during class. According to Quirke and Davies (2002), in 2001, 48 percent of Canadian students were taking on student debt. This trend has continued to increase with students commonly obtaining loans from banks, OSAP, and/or family members. Lenaghan and Sengupta (2007) suggest that the rising cost of tuition and the resulting escalation of student loans have lead to students having full-time or part-time employment to

meet the financial costs of higher education. Having a part-time or full-time job may require students to work nights or overtime, while also completing required schoolwork and classes. It is possible that students who receive loans are more likely to sleep in class because of their work schedule or other work responsibilities that keep them from performing at their best during class. All in all, sleeping during class is an uncommonly performed behaviour that is significantly related to academic identity, external regulation, amotivation, and receiving a loan.

4.3.4 Behaviour Four: Never Zoning-Out During Class

Lastly, unlike the other three behaviours, never zoning-out in class is not significantly related to any of the independent psychological factors; however, it is strongly related to the respondent's year of undergraduate study. It appears that third year students are 4.55 times more likely never to zone out during class than those individuals in second year. What's more, fourth-plus year students are 7.35 times more likely never to zone out during class than second year students. Thus, it seems that the longer one is an undergraduate student, the more likely one is to never zone-out during class. It is possible that this relationship is reflective of the increasing difficulty of the courses taken by individuals as they progress through their undergraduate education. It is possible that second year classes do not demand the same level of attention for success as upper year classes, resulting in increased incidence of zoning-out. For example, students in second year classes are commonly only required to take notes and listen, rather than think critically and discuss ideas (as they are in upper year classes), meaning that one does not need to engage in class in order to do well. Therefore, it is possible that the classroom environment fostered at different course levels may impact students' engagement behaviours. Although, students in upper years of their undergraduate education still take second year courses, but they are still less likely to zone-out during class. Thus, it is also possible that there are personal factors beyond the psychological measures used in this study that predict this behaviour,

such as academic growth or one's ability to consume knowledge. Overall, it appears that zoning-out is the most common disengagement behaviour and is not significantly related to ones' motivation, integration, or identity.

In conclusion, physical expressions of disengagement manifest differently depending on one's psychological or personal characteristics. Even still, all students perform some type of disengagement behaviour at some point during their classes. Scholars have suggested that this outcome emerges because individuals are unmotivated, lack integration, and do not have an academic identity; however, this study suggests that these psychological variables are not a significant cause of disengagement. Therefore, it is more likely that other social, institutional, or personal factors may be causing disengagement.

Moreover, it appears that hypothesis three, which refers to academic identity, is the greatest predictor of individuals' non-participation in physical disengagement. To refresh, academic identity is the internalization of the role student as important to ones' sense of self (Was & Isaacson, 2008), making the performance of engagement behaviours a priority. Therefore, those individuals with a high level of academic identity would be less likely to perform disengagement behaviours, quite possibly because they are an expression of student-deviance, which goes against their normative student identity.

In conclusion, this analysis suggests that more theoretical consideration should be given to the bad/disengaged student model because physical disengagement behaviours are not commonly predicted by motivation and integration measures. Moreover, students' academic identity should be examined more closely because it is significant for the prediction of the non-performance of physical disengagement, suggesting that this individual-level factor could be important for diminishing these behaviours.

CHAPTER FIVE:
RESULTS II - *Digital Disengagement*

The purpose of this chapter is to outline the results and findings of research question two: what is the relationship between students' digital expressions of disengagement and their motivation, integration, and identity? First, I will explain the analytic approach taken to examine the relationship of interest. Second, I will explain the descriptive statistics that are presented in Table 7. Third, I will examine the results of the logistic regression models estimated in Table 8, Table 9, Table 10, and Table 11. Lastly, I will discuss the findings that emerge from this research question, referencing possible explanations for these outcomes.

5.1 Analytical Approach

I estimate a series of logistic regression models to predict the relationship between digital disengagement behaviours and psychological measures (motivation, integration, and identity). The first dependent variable, which is the variable "not going on social networking sites during class", is regressed in three logistic regression models (see Table 8). The first model is bivariate, predicting the relationship between not going on social networking sites during class and each of the individual psychological measures. The second model is multivariate, examining the effect of the independent variables on the dependent variable, holding the other independent variables constant. The third model is also multivariate, adding the explanatory variables to this relationship. The other three dependent variables—(1) not going on personal email during class, (2) not going on school email or WebCT during class, and (3) not going on Wikipedia during class—are also regressed using these three logistic regression models (see Tables 8 through 11). The equations for models one, two, and three in each of the tables are:

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AM_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 ER_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 INT_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 ID_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 IM_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AI_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 SI_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 I_i + e$$

EQUATION LEGEND:
AM……...Amotivation
ER…….External Regulation
INT……....Introjected Regulation
ID……Identified Regulation
IM…….Intrinsic Motivation
AI……...Academic Integration
SI……...Social Integration
I……...Academic Identity
A……Age
Y……...Undergraduate Year
PG……..…Post-Graduate Studies
IN……..Income
L…...…….Loan
PU……Parents Attend University

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AM_i + \beta_2 ER_i + \beta_3 INT_i + \beta_4 ID_i + \beta_5 IM_i + \beta_6 AI_i + \beta_7 SI_i + \beta_8 I_i + e$$

$$log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 AM_i + \beta_2 ER_i + \beta_3 INT_i + \beta_4 ID_i + \beta_5 IM_i + \beta_6 AI_i + \beta_7 SI_i + \beta_8 I_i$$
$$+ \beta_9 A_i + \beta_{10} Y_i + \beta_{11} PG_i + \beta_{12} IN_i + \beta_{13} L_i + \beta_{14} PU_i + e$$

Logistic regression is used because all of the dependent variables have binary outcomes. For the purpose of this analysis the logistic coefficients are expressed in Table 8, Table 9, Table 10, and Table 11 as odds ratios.

5.2 Results

Table 7 describes participant responses for the dependent variables. When asked about whether they go on social networking sites during class, the majority of the respondents (74 percent) indicate yes. Moreover, respondents were asked if they accessed personal email during classes: 60 percent answered yes and 40 percent answered no. Next, when asked about whether

or not they go on their school email or WebCT during class, 84 percent said yes and 16 percent said no. Lastly, respondents were asked if they go on Wikipedia during class and 34 percent answered yes whereas 66 percent answered no.

Table 7. Dependent Variable Descriptive Statistics (n= 430)

	Frequency	Percentage (%)
Dependent Variables		
Social Networking		
Yes (ref)	317	73.72
No	133	26.28
Emailing		
Yes (ref)	258	60
No	172	40
School Email/WebCT		
Yes (ref)	362	84.19
No	68	15.81
Wikipedia		
Yes (ref)	145	33.72
No	285	66.28

The independent variables to be used in the subsequent regressions have already been introduced in chapters 3 and 4. Please refer to Table 1 in chapter four for descriptive measures of these variables.

Next, I examine whether students who do not go on social networking sites are influenced by psychological factors. Results in Table 8 show that external regulation is positively associated with going on social networking sites. Model 1 is a bivariate logistic regression indicating that as external regulation increases, students are 29 percent more likely to go on social networking sites (i.e. they are less likely not to go on social networking sites). When the other psychological factors are held constant in Model 2, individuals are 35 percent more likely

to go on social networking sites as external regulation increases. In the last model (Model 3), the percentage continues to increase to 37 percent more likely. Also, Model 3 reveals relationships between two explanatory variables and the non-performance of this digital behaviour during class. First, gender is a significant variable indicating that men are 1.95 times more likely not to go on social networking sites during class, compared with women. Second, respondents in the fourth-plus year of their undergraduate were 52 percent more likely (than those in second year) to go on social networking sites during class.

Table 8. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Indicating That They *Do Not* Go On Social Networking Sites During Class (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	0.86	0.11	0.90	0.13	0.83	0.13
External Regulation	0.71*	0.10	0.65*	0.12	0.63**	0.12
Introjected Regulation	0.88	0.09	0.85	0.11	0.88	0.12
Identified Regulation	1.07	0.16	1.21	0.26	1.22	0.27
Intrinsic Motivation	1.16	0.13	1.18	0.17	1.19	0.18
Academic Integration	1.11	0.15	1.07	0.17	1.13	0.18
Social Integration	0.94	0.11	0.84	0.12	0.80	0.12
Academic Identity	1.30	0.22	1.23	0.25	1.28	0.27
Gender (Female)						
Male					1.95**	0.49
Year (Second)						
Third					1.02	0.28
Fourth+					0.48**	0.15
Post-Graduate Studies Plan (No)						
Yes					1.18	0.31
Income (Average)						
Above Average					0.84	0.25
Below Average					0.73	0.25

Parents' Education (Both Parents went to University)						
One Parent					1.19	0.34
Neither Parent					1.29	0.38
Loan (No)						
Yes					1.20	0.32
Pseudo R-Squared			0.03		0.07	

*p<0.05 **p<0.01 ***p<0.001

In Table 9, the likelihood of respondents indicating that they do not go on personal email during class is examined. In all three of the models, the relationship between external regulation and going on personal email is statistically significant. In Model 1, individuals are 33 percent more likely to go on personal email as external regulation increases. This continues to increase until Model 3 where individuals are 43 percent more likely to go on personal email as external regulation increases. Moreover, Model 3 reveals that as social integration increases individuals are 20 percent more likely to go on personal email. Also, Model 3 uncovers that individuals in the fourth-plus year of their undergraduate degree are 52 percent more likely to go on personal email during class than those who are in their second year of study.

Table 9. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Indicating That They *Do Not* Go On Personal Email During Class (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	0.94	0.10	0.91	0.12	0.91	0.12
External Regulation	0.67**	0.09	0.61***	0.10	0.57***	0.10
Introjected Regulation	0.96	0.09	1.01	0.12	0.99	0.12
Identified Regulation	0.96	0.13	1.11	0.21	1.18	0.23
Intrinsic Motivation	1.09	0.11	1.14	0.15	1.13	0.16
Academic Integration	0.93	0.11	0.93	0.13	0.94	0.14
Social Integration	0.87	0.09	0.86	0.11	0.80*	0.10
Academic Identity	1.03	0.15	1.04	0.19	1.04	0.20
Gender (Female)						
Male					1.19	0.27
Year (Second)						
Third					0.81	0.20
Fourth+					0.48**	0.13
Post-Graduate Studies Plan (No)						
Yes					0.74	0.18
Income (Average)						
Above Average					1.50	0.39
Below Average					1.18	0.36

Parents' Education (Both Parents went to University)						
One Parent					0.90	0.23
Neither Parent					1.09	0.29
Loan (No)						
Yes					0.70	0.17
Pseudo R-Squared			0.02		0.06	

*p<0.05 **p<0.01 ***p<0.001

Table 10 predicts the likelihood of respondents indicating that they do not go onto their school email/WebCT during class. For this table, each of the models indicates varying significance for the psychological variables. In Model 1, amotivation, identified regulation, intrinsic motivation, and academic identity are significant variables; however, these relationships disappear in Model 2. In contrast, Model 3 reveals that external regulation and social integration are positively associated with respondents indicating that they go onto school email/WebCT during class. First, as external regulation increases individuals are 38 percent more likely to go on school email/WebCT during class. Second, as social integration increases individuals are 33 percent more likely to go on school email/WebCT during class. Also, Model 3 uncovers a relationship between undergraduate years of study and going onto school email/WebCT, suggesting that third years are 56 percent and fourth-plus years are 62 percent more likely than second years to do this digital behaviour.

Table 10. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Indicating That They *Do Not* Go On School Email/WebCT During Class (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	0.70*	0.12	0.83	0.16	0.82	0.16
External Regulation	0.92	0.17	0.65	0.15	0.62*	0.15
Introjected Regulation	1.13	0.15	1.06	0.16	0.97	0.16
Identified Regulation	1.58*	0.34	1.59	0.46	1.74	0.53
Intrinsic Motivation	1.39*	0.20	1.11	0.20	1.14	0.21
Academic Integration	1.29	0.20	1.21	0.23	1.31	0.25
Social Integration	0.97	0.14	0.75	0.12	0.67**	0.12
Academic Identity	1.78**	0.38	1.43	0.37	1.47	0.40
Gender (Female)						
Male					0.85	0.28
Year (Second)						
Third					0.44**	0.15
Fourth+					0.38**	0.13
Post-Graduate Studies Plan (No)						
Yes					1.40	0.44
Income (Average)						
Above Average					1.55	0.54
Below Average					1.67	0.66

Parents' Education (Both Parents went to University)						
One Parent					0.98	0.35
Neither Parent					1.33	0.48
Loan (No)						
Yes					0.75	0.26
Pseudo R-Squared			0.05		0.09	

*p<0.05 **p< 0.01 ***p<0.001

In the last table (Table 11), I predict the likelihood of respondents indicating that they never go onto Wikipedia during class. Models 1 and 2 do not predict a significant relationship between the dependent variable and any one of psychological factors; however, Model 3 reveals that as external regulation increases respondents are 30 percent more likely to use Wikipedia during class. Model 3 also reveals gender and undergraduate year are related to this disengagement behaviour. First, men are 45 percent more likely to go onto Wikipedia, compared to women. Second, fourth-plus year students are 54 percent more likely to go on Wikipedia, compared to those in second year.

Table 11. Odds Ratios from Logistic Regression Models Predicting the Likelihood of Respondents Indicating That They *Do Not* Go On Wikipedia During Class (n= 430)

	Model One: Bivariate		Model Two: Multivariate (Independent Variables Only)		Model Three: Multivariate	
	Odds Ratios	SE	Odds Ratios	SE	Odds Ratios	SE
Amotivation	1.02	0.12	1.02	0.14	1.04	0.14
External Regulation	0.82	0.12	0.73	0.13	0.70*	0.13
Introjected Regulation	1.09	0.11	1.12	0.13	1.04	0.13
Identified Regulation	1.03	0.14	1.10	0.21	1.16	0.23
Intrinsic Motivation	1.11	0.12	1.10	0.15	1.12	0.16
Academic Integration	0.93	0.11	0.89	0.13	0.96	0.15
Social Integration	0.98	0.11	1.00	0.13	0.94	0.13
Academic Identity	0.99	0.15	0.97	0.18	0.90	0.18
Gender (Female)						
Male					0.55**	0.13
Year (Second)						
Third					0.64	0.17
Fourth+					0.46**	0.12
Post-Graduate Studies Plan (No)						
Yes					1.02	0.25
Income (Average)						
Above Average					1.19	0.32
Below Average					1.20	0.37

Parents' Education (Both Parents went to University)						
One Parent					1.25	0.33
Neither Parent					1.50	0.41
Loan (No)						
Yes					0.79	0.20
Pseudo R-Squared			0.05		0.07	

*p<0.05 **p< 0.01 ***p<0.001

5.3 Discussion

The results of this analysis reveal that each of the digital disengagement behaviours is significantly related to external regulation and undergraduate year of study. First, individuals who perform digital disengagement are more likely to have high levels of external regulation across all behaviours. Although motivation was not a particularly significant predictor of physical disengagement behaviours, motivation is an important predictor of digital disengagement behaviours (See Chapter Four). To refresh, those individuals who have high scores of external regulation are driven by external influences or reward contingencies (Fairchild et al., 2005). More than the other forms of extrinsic motivation external regulation is the least self-determined, meaning that those who are externally regulated are less likely to be driven by learning (Deci & Ryan, 2000). As such, students who fall into this category most likely attend university for the credential and are less likely (than those who have high levels of introjected or identified regulation) to be interested in learning the material presented in courses. Therefore, being externally regulated may be significantly related digital disengagement behaviours because of their disinterest in the knowledge being presented in courses. While other students may be thinking about the material being presented or listening to the instructor after writing the required notes, those who are externally regulated may be surfing the Internet because they are only interested in doing enough work to pass or succeed in the course. Furthermore, it is possible that external regulation is significantly related to the digital and not physical disengagement behaviours because these students may bring portable devices to class as a way to pass the time. If these students come to class knowing that they will not be motivated to learn and will therefore need a way to pass time during sections of the lecture that are not relevant for testing, it seems that digitally disengaging could be a gratifying way to pass the time.

Moreover, the digital disengagement behaviours discussed in this chapter could be either productive (course-related) or distractive (non course-related) in the classroom (Kraushaar and Novak nd.). As such, it would seem that going on school email or Wikipedia could be used productively to enhance ones' engagement in class. Even still, the analysis does not reveal any significant relationship between the behaviours and 'good/engaged student' psychological factors; however, external regulation is significant across all measures. This may suggest that going on school email/WebCT or Wikipedia, although they could be potentially productive behaviours, are more likely to be distractive disengagement behaviours because performing these behaviours is positively associated with external regulation. This is not to suggest that it is impossible that some students use these websites productively, but rather that the analysis suggests that performing digital behaviours is most likely a consequence of distraction.

Second, upper year students are more likely to perform digital disengagement behaviours in the classroom than those students who are in second year. In contrast, one can observe the reverse relationship for the performance of physical disengagement behaviours, where students in upper years are more likely to report never doing these behaviours (compared to second year students). It is difficult to understand why digital disengagement is more common among upper year students (compared to second year students), especially since external regulation is the only psychological factor that is consistently significant. There are two potential explanations for this relationship. Perhaps, upper year students are more likely to be externally regulated (compared to second year students) because theys have decided how they will utilize their credential in the job market, shifting away from an academic identity toward an employment-oriented identity (Landau et al. 2014). Moreover, since upper year students are in more discussion-based courses, it is possible that physical expressions of disengagement are more difficult to hide than digital expressions. For example, it is harder for one to get away with sleeping in a class where there are

20 students, whereas it is easier to go on the Internet while appearing engaged. Lastly, it is possible that second year students are more focused on being normatively good students, than those individuals in upper years. Second year students may be more likely to physically disengage than digitally disengage because they are trying harder to perform engagement behaviours. Essentially, it is hard to know why upper year students are more likely to disengage than second year students; however, it is interesting to note that individuals in different years of their undergraduate education disengage differently across physical and digital behaviours.

Moreover, gender and/or social integration is a significant factor in the prediction of disengagement behaviours. Initially, gender is significant for understanding the use of social networking sites and Wikipedia, where women are more likely to perform the former and men the latter. Jackson et al. (2001) discovered that men and women use the Internet at the same frequency, but to accomplish different tasks. Often, women go online for communication and social activities (Fortson, Scotti, Chen, Malone, & Ben, 2007), whereas men go online to research, play games and look for news (Odell, Korgen, Schumacher, & Delucchi, 2000). As such, it is not surprising that women are more likely than men to go on social networking sites because these websites are designed for social activities (Fortson et al., 2007). Moreover, finding that men are more likely to use Wikipedia than women are is equally as unsurprising because this website is meant for research (Odell et al., 2000). This finding suggests that digital disengagement behaviours can be influenced by gender roles because different aspects of the Internet cater to gender scripts. Also, it is interesting to note that the performance of email-oriented behaviours is not significantly related to gender, even though email is communicative and therefore (following the above logic) should be more commonly performed by women. However, it is likely that gender does not factor into email use because it is acknowledged by both genders as a normative means of communication.

Furthermore, social integration is significantly related to going on both personal and school email. The findings of these analyses suggest that as social integration increases respondents are 20 to 33 percent more likely to go on one of their email accounts during class. According to Moc, Wellman, and Cararasco (2010), email has joined phone and face-to-face contact as one of the foremost means of communication. In fact, Gatz (1998) suggests that students use email to both initiate and maintain social integration. Moreover, as a mode of distraction, it is likely that portable devices pull individuals attention away from class content. For those individuals who are socially integrated, it is not surprising that social communication would draw them away from class. Giving into the temptation of using ones' devices to open communication between the student and other students is understandable for those individuals who are heavily involved in the social landscape of the university.

Essentially, all expressions of digital disengagement are driven by a combination of the same four psychological and demographic characteristics: external regulation, undergraduate year, gender, and social integration. Examining the effect of portable devices on students' behaviour is difficult because, unlike physical disengagement behaviours, these disengagement behaviours can be either productive or distractive. Although the use of the Internet during class is disengagement in that it is an activity that deviates from normative participation in the classroom, it can enhance ones' meaningful involvement in the class by providing answers that may have otherwise not been found. The findings of this analysis suggest that using the Internet in class, despite its potential for productivity, is most significantly related to what is considered normatively 'bad-student' psychological factors, suggesting that they are most commonly distractive digital disengagement behaviours. Future research should examine digital behaviours in more detail in order to gain further insight into productive vs. distractive digital behaviours and what this means for disengagement.

CHAPTER SIX:
CONCLUSION

Current individual-level theories of student disengagement in university suggest that there are three important factors for predicting disengagement behaviours: motivation, integration, and identity. These factors make up two ideal type models of the good/engaged student (i.e. intrinsically motivated, socially and academically integrated, and a high academic identity) and the bad/disengaged student (i.e. extrinsically motivated or amotivated, high social/low academic integration or low integration, and a low academic identity). The objective of the present study was to test the significance of these models for the prediction of physical and digital disengagement behaviours in the university classroom.

Data analysis reveals three major findings that impact these models. First, all of the respondents in the study indicated that they perform some type of disengagement behaviour during their classes. This finding aligns with the theoretical assumption underlying the disengagement compact, which is that disengagement has become a salient part of student culture (Kuh et al., 1991). However, contrary to the ideal type models, students on average have exhibited favourable psychological factors, aligning more closely with the good/engaged student model. As such, the bad/disengaged student model does not account for all expressions of disengagement.

Second, the non-performance of the four physical disengagement behaviours (i.e. not coming to class prepared, talking to peers, sleeping, and zoning-out) is not consistently predicted by the same individual-level variables; however, the first three behaviours are all positively associated with academic identity. To refresh, academic identity represents a students' commitment to a set of academic values, which may overlap with normative values of engagement (ie. taking notes, participating, and/or paying attention to the professor in class).

Therefore, those individuals with a stronger academic identity would be less likely to perform disengagement behaviours, quite possibly because they are an expression of student deviance, which goes against their normative student identity. Moreover, in addition to academic identity, other psychological factors (i.e. social integration, amotivation, and external regulation) are significantly associated with talking and sleeping: (1) individuals who talk during class are more likely to be socially integrated, (2) individuals who sleep during class are more likely to be amotivated and less likely to be externally regulated. Overall, these findings suggest that the bad/disengaged student model does not accurately account for all performances of disengagement as not all of the behaviours are predicted by the psychological factors.

Third, individuals who perform digital disengagement are more likely to have high levels of external regulation across all behaviours. Although motivation was not a particularly significant predictor of physical disengagement behaviours, motivation is an important predictor of digital disengagement behaviours. To refresh, external regulation is a type of extrinsic motivation that is the most similar to amotivation, meaning that it is the least self-determined behaviour that is regulated by an external reward contingency (Cokley, 2000). As such, these students often only attend university for the purpose of attaining a credential and have little interest in the information being taught. This finding is consistent with theories of disengagement arguing that students' motivation for pursuing academia is more focused on the extrinsic rewards associated with the resulting credential than with the intrinsic learning (Brown, Lauder, & Ashton, 2011; Cote & Allahar, 2007). Essentially, digital disengagement behaviours are consistently motivated by external regulation, aligning with the bad/disengaged student model.

6.1 Limitations:

There are three main limitations to this research. First, although the findings from this study are significant, they are not generalizable beyond the convenience sample from which they

are drawn. In future research it would be beneficial to collect data from a larger, more representative group of undergraduate students. Second, this study is limited by self-report data, which can be biased by distorted perceptions or poor recollection. Third, given that this is an exploratory study, it was difficult to anticipate appropriate measures for physical and digital disengagement behaviours. The variables used in this study could be improved to increase the accuracy of future research. Despite these limitations, the findings from this study are significant enough to warrant serious consideration in future research on individual-level predictors of disagreement behaviours.

6.2 Implications and Future Research:

Overall, this study contributes empirical evidence to a body of literature that is primarily theoretical. By examining the relationship between students' psychological factors and disengagement behaviours, this research empirically tests the existing bad/disengaged student model, which suggests that motivation, integration, and identity are important predictors of students' disengagement. However, this study did not find that any of these variables consistently measured disengagement outcomes. Moreover, it was found that all students disengage at some point during class, regardless of their psychological characteristics. At length, the findings of this study contradict the bad/disengaged student model, suggesting that it is not an accurate representation of disengagement.

Given these findings, future research should examine other factors that may contribute to disengagement. One of the secondary findings of this thesis is that the respondents' undergraduate year of study is consistently a significant predictor of disengagement behaviours, regardless of psychological predictors. This finding suggests that students' disengagement is being influenced by institutional factors, such as type of class or instructors' pedagogy. By

further considering pedagogy as a potential predictor of disengagement, a more representative model of disengagement behaviours may emerge.

Also, the findings of this study have practical implications for university administrators by helping them understand the manifestation of student disengagement. Initially, pedagogical improvements can be made to create learning environments that enhance the individual-level factors that are found to be important for the non-performance of disengagement behaviours. For example, increasing students' academic identity may reduce instances of physical disengagement, whereas addressing the problem of external regulation may decrease digital disengagement behaviours. Moreover, student services could construct programs for students that promote the non-performance of disengagement behaviours by providing pointers for staying on task. Overall, being aware of how individual-level factors influence disengagement behaviours can inform more effective methods for resolving this problem.

In conclusion, this thesis provides a guide for future research by emphasizing that university student disengagement is not entirely a generational issue, but rather is symptomatic of social, institutional, and individual factors. Moving forward, scholars should pay more attention to disengagement as a complex and multifaceted social issue, looking beyond individual psychological variables. It is not useful to move the debate forward without empirically examining institutional level factors that may be contributing to students' increased disengagement. Overall, this study is an important first step for empirically understanding the relationship between psychological factors and individual expressions of disengagement in the university classroom, providing alternative explanations for this phenomenon.

REFERENCES

Armstrong, A. J. (2014). Motivation and Engagement: They Really Want to Learn. *South Carolina Middle School Association Journal*, 20.

Arum, R., & Roksa, J. (2011). *Academically Adrift: Limited Learning on College Campuses*: University of Chicago Press.

Babcock, P., & Marks, M. (2010). *Leisure College, USA*. University of California.

Benabou, R., & Triole, J. (2003). Intrinsic and Extrinsic Motivation. *Review of Economic Studies, 70*, 489-520.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'Digital Natives' Debate: A Critical Review of the Evidence. *British Journal of Educational Technology, 39*(5), 775-786.

Brill, J. M., & Galloway, C. (2007). Perils and Promises: University Instructors' Integration of Technology in Classroom-Based Practises. *British Journal of Educational Technology, 38*(1), 95-105.

Brown, P., Lauder, H., & Ashton, D. (2011). *The Global Auction: The Broken Promises of Education, Jobs, and Incomes*. NewYork: Oxford University Press.

Campbell, A. B., & Pargas, R. P. (2003). *Laptops in the Classroom*. Clemson University.

Carey, J. C. (1956). University or Corporation? *The Journal of Higher Education, 27*(8), 440-446.

Chapman, D. W., & Pascarella, E. T. (1983). Predictors of Academic and Social Integration of College Students. *Research in Higher Education, 19*(3), 295-322.

Collins, R. (1979). *The Credential Society: An HistoricalSociology of Education and Stratification*. New York: Academic Press.

Cote, J. E., & Allahar, A. L. (2007). *Ivory Tower Blues: A University System in Crisis*. Toronto: University of Toronto Press.

Cote, J. E., & Allahar, A. L. (2011). *Lowering Higher Education: The Rise of Corporate Universities and The Fall of Liberal Education*. Toronto: University of Toronto Press.

Day, C. W. (2010). Classroom Technology. *American School and University, 82*(6).

Dean, K. L., & Jolly, J. P. (2012). Student Identity, Disengaement, and Learning. *Academy of Management Learning and Education, 11*(2), 228-243.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behaviour*. New York: Plenum.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of Goal Pursuits: Human Needs and the Self-Determination of Behaviour. *Psychological Inquiry, 11*, 227-268.

Eagan, K., Stolzenberg, E. B., Ramirez, J. J., Aragon, M. C., Suchard, M. R., & Hurtado, S. (2014). *The American Freshman: National Norms Fall 2014*.

Fairchild, A. J., Horst, S. J., Finney, S. J., & Barron, K. E. (2005). Evaluating Existing and New Validity Evidence for the Academic Motivation Scale. *Contemporary Educational Psychology, 30*, 331-358.

Flacks, R., & Thomas, S. (1998). Among Affluent Students, A Culture of Disengagement. *The Cronicle of Higher Education, 45*(14), A48.

Fortier, M. S., Vallerand, R. J., & Guay, F. (1995). Academic Motivation and School Performance: Toward a Structural Model. *Contemporary Educational Psychology, 20*, 257-274.

Fortson, B. L., Scotti, J. R., Chen, Y., Malone, J., & Ben, K. S. D. (2007). Internet Use, Abuse, and Dependence Among Students at a Southeastern Regional University. *Journal of American College Health, 56*(2), 137-144.

Gatz, L. B. (1998). *Academic and Social Integration in Cyberspace: A Qualitative Study*. (Masters of Arts in Education), Virginia Polytechnic Institute and State University.

Gerow, J. E., Galluch, P. S., & Thatcher, J. B. (2010). To Slack or Not to Slack: Internet Usage in the Classroom. *Journal of Information Technology, 11*(3), 5-24.

Gould, E. (2003). *The University in a Corporate Culture*: Yale University Press.

Grigsby, M. (2009). *College Life Through The Eyes of Students* (Vol. 54): Albany State University of New York Press.

Hawthorne, J., & Conrad, C. (1997). *Emblems of Quality in Higher Education: Developing and Sustaining High-Quality Programs*. Boston: Allyn and Bacon.

Jackson, L. A., Ervin, K. S., Gardner, P. D., & Shmitt, N. (2001). Gender and the Internet: Women Communicating and Men Searching. *Sex Roles, 44*, 363-379.

Jain, A., & Farley, A. (2012). Mobile Phone-Based Audience Response System and Student Engagement in Large-Group Teaching. *Economic Papers, 31*(4), 428-439.

Keengwe, J., & Onchwari, G. (2011). Fostering Meaningful Student Learning Through Constructive Pedagogy and Technology Integration. *International Journal of Information and Communication Technology Education, 7*(4), 1-10.

Krause, K., & Coates, H. (2008). Students' Engagement in First-Year University. *Assessment and Evaluation in Higher Education, 33*(5), 493-505.

Kraushaar, J. M., & Novak, D. C. (2010). Examining the Affects of Student Multitasking With Laptops During the Lecture. *Jorunal of Information Systems Education, 21*(2).

Kuh, G. D. (1999). How are we doing? Tracking the quality of the undergraduate experience, 1960s to present. *The Review of Higher Education, 22*(2), 99-120.

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the Effects of Student Engagement on First-Year College Grades and Persistence. *The Journal of Higher Education, 79*(5), 540-563.

Kuh, G. D., Schuh, J. H., & White, E. J. (1991). *Involving Colleges: Successful approaches to fostering student learning and personal development outside the classroom*. San Francisco: Jossey-Bass.

Landau, M. J., Oyserman, D., Keefer, L. A., & Smith, G. C. (2014). The College Journey and Academic Engagement: How Methaphor Use Enhances Identity-based Motivation. *Journal of Personality and Social Psychology, 106*(5), 679-698.

Layer, E. E. (1952). Motivation of Freshman Composition on the University Level. *College Composition and Communication, 3*(1), 3-6.

Lenaghan, J. A., & Sengupta, K. (2007). *Role Conflict, Role Balance and Affect: A Model of Well-Being of the Working Student*. Hofstra University.

Livingstone, D. W. (2004). *The Education-Jobs Gap: Underemployment or Economic Democracy*: University of Toronto Press.

Macheski, G. E., Lowney, K. S., Buhrmann, J., & Bush, M. E. L. (2007). Overcoming Student Disengagement and Anxiety in Theory, Methods, and Statistics Courses by Building a Community of Learners. *Teaching Sociology, 36*(1), 42-48.

Madge et al. (2015). Facebook, Social Integration, and Informal Learning at University: 'It is more for socializing and talking to friends about work than for actually doing work'. *Learning, Media and Technology, 34*(2), 141-155.

Main, E. (2004). Student Disengagement in Higher Education: Two Trends in Technology *Journal of Educational Media & Library Sciences, 41*(3), 337-349.

Mannan, A. (2007). Student Attrition and Academic and Social Integration: Application of Tinto's Model at the University of Papua New Guinea. *Higher Education, 53*, 147-165.

Matusov, E., Dyuke, K. v., & Han, S. (2012). Community of Learners: Ontological and non-Ontological Projects. *Outlines - Critical Practice Studies, 14*(1).

Melnic, A., & Botez, N. (2014). Academic Learning Motivation. *Economy Transdiciplinary Cognition, 17*(2), 56-62.

Moc, D., Wellman, B., & Cararasco, J. (2010). Does Distance Matter in the Age of the Internet? *Urban Studies, 47*, 2747-2783.

National Survey of Student Engagement. (2015). Survey Instrument. from http://nsse.iub.edu/html/survey_instruments.cfm

Odell, P. M., Korgen, K. O., Schumacher, P., & Delucchi, M. (2000). Internet Use Among Female and Male College Students. *Cyber Psychology and Behaviour, 3*(5), 855-862.

Parsons, J., & Taylor, L. (2011). *Student Engagement: What do we Know and What Should we do?* , University of Alberta.

Powell, W. W., & Snellman, K. (2004). The Knowledge Economy. *Annual Review of Sociology, 30*, 199-220.

Prenksy, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon, 9*(5), 1-6.

Quirke, L., & Davies, S. (2002). The New Entrepreneurship in Higher Education: The Impact of Tuition Increases at an Ontario University. *The Canadian Journal of Higher Education, 32*(3), 85-110.

Savage, C. (1995). *Fifth Generation Management: Co-creating through Virtual Enterprising, Dynamic Teaming, and Knowledge Networking*. Boston: Butterworth-Heinemann.

Schwartz, Z. (2015). Why U of T, York Strikes are more than Labour Disputes. *The Globe and Mail*.

Sharples, M. (2003). Disruptive DEvices: Mobile Technology for Conversational Learning. *International Journal of Continuing Engineering Education and Lifelong Learning, 12*(5/6), 504-520.

Shuell, T. J., & Farber, S. L. (2001). Students' Perceptions of Technology Use in College Courses. *J. Educational Computing Research, 24*(2), 119-138.

Smith, A. (2013). Smartphone Ownership - 2013 Update. from http://pewinternet.org/~/media//Files/Reports/2013/PIP_Smartphone_adoption_2013_PDF.pdf

Statistics Canada. (2012). Learning-Educational Attainment. 2015, from http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=29

Terenzini, P. T., & Pascarella, E. T. (1977). Voluntary Freshman Attrition and Patterns of Social and Academic Integration in University: A Test of a Conceptual Model. *Research in Higher Education, 6*(1), 25-43.

Tinto, V. (1975). Dropout from Higher Education: A Theoretical Synthesis of recent Research. *Review of Educational Research, 45*(89-125).

Trotter, A. (1992). Technology in the Classrooms: "That's Edutainment!". *The Education Digest, 57*(5), 2.

Turk, J. L. (2000). *The Corporate Campus: Commercialization and the Dangers to Canada's Colleges and Universities*. Toronto: James Lormier and Company Ltd., Publishers.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N. M., Senecal, C., & Vallieres, E. F. (1992a). The Academic Motivation Scale: A Measure of Intrinsic, Extrinsic, and Amotivation in Education. *Educational and Psychological Measurement, 52*, 1003-1017.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N. M., Senecal, C. B., & Vallieres, E. F. (1992b). Academic Motivation Scale (AMS-C 28) College Version. *Educational and Psychological Measurement, 52*.

Was, C. A., & Isaacson, R. M. (2008). The Development of a Measure of Academic Identity Status. *Journal of Research in Education, 18*.

Western University. (2015). Welcome to Western. from http://welcome.uwo.ca

Yazdanian, S. (2015). Academia has to Stop Eating its Young. *The Globe and Mail*.

Young, J. R. (2006). The Fight for Classroom Attention: Professor vs. Laptop. *The Chronicle of Higher Education*.

APPENDIX A: SURVEY

The University Classroom and Technology Survey

In the following survey, you will be asked about your experiences within the university classroom and the role of technology. The study should take around 15 minutes. You will be given a variety of different multiple-choice questions that ask you about your opinion; thus, there is no right or wrong answer. Please answer the questions as honestly and accurately as possible.
If you are also interested in participating in a follow-up interview, please complete the last page of this survey. The information you provide in this section will be used only for the purpose of contacting you for a follow-up interview. It will be kept separate form this survey.

Your participation in this survey is voluntary. You can choose not to answer any questions or not to complete the survey at any time. Also, please note that not participating in the survey will have no negative consequences on your standing in this class.

Section One:

1. What is your age?
_____

2. What is your
gender?_____

3. What year of your undergraduate degree are
you currently in?
☐ First
☐ Second
☐ Thrid
☐ Fourth
☐ Fifth+

4. If you compare your family's income to that of other students at Western, would you consider it to be:
☐ Above average
☐ Average
☐ Below average

5. Did both or either of your parents graduate from university?
☐ Both of my parents graduated from university
☐ One of my parents graduated from university
☐ Neither of my parents graduated from university

6. Have you ever held a full or part-time job in the past academic year or during the current academic year?
☐ Yes
☐ No

7. If 'yes' to question 6, did/do you require this job to help pay for school expenses?
☐ Yes
☐ No
☐ Don’t know

8. Have you ever taken out a loan (ie. Student LOC, family loan, etc) or received OSAP to help pay for university?
☐ Yes
☐ No

9. Do you intend to pursue post-graduate studies after you have completed your undergraduate degree?
☐ Yes
☐ No

Section Two:

10. Thinking about the past and current academic years, how often do you attend your weekly classes (ie. Lectures, labs, tutorials, etc)?

☐ All of the time
☐ Most of the time
☐ About half of the time
☐ Some of the time
☐ Never

11.What faculty have you declared a major in?

☐ Social Science
☐ Arts and Humanities
☐ Business or Ivey
☐ Engineering
☐ Health Science
☐ Information and Media Studies (FIMS)
☐ Music
☐ Science
☐ Other

12. What is your expected cumulative average this year?

☐ 50% or lower
☐ Between 50-60%
☐ Between 60-70%
☐ Between 70-80%
☐ Between 80-85%
☐ Between 85-90%
☐ 90% or higher

13. Approximately, what was your cumulative average in your last year?

☐ 50% or lower
☐ Between 50-60%
☐ Between 60-70%
☐ Between 70-80%
☐ Between 80-85%
☐ Between 85-90%
☐ 90% or higher

Section Three:

Thinking about this year and past years, how often did/do you do the following in lectures?

	Never	Sometimes	About half of the time	Often	Very Often
14. Ask questions or contribute to course discussions in other ways	☐	☐	☐	☐	☐
15. Come to class without completing readings or assignments	☐	☐	☐	☐	☐
16. Pay close attention to the professor during lecture	☐	☐	☐	☐	☐
17. Talk to peers while the professor is teaching	☐	☐	☐	☐	☐
18. Take notes	☐	☐	☐	☐	☐
19. Fall asleep during class	☐	☐	☐	☐	☐
20. "Zone out" during class	☐	☐	☐	☐	☐

Thinking about this year and past years, how well do the following statements describe you? Some of these sentences describe you better than others. Read each sentence and check off the box that best describes you.

	Not at all like me	Not much like me	Neutral	Somew hat like me	Very much like me
21. I approach my instructor outside of class for help with course material or academic advising.	☐	☐	☐	☐	☐
22. I attend social events held by the university.	☐	☐	☐	☐	☐
23. I attend seminars or talks featuring academics or academic work that interests me.	☐	☐	☐	☐	☐
24. I am involved in clubs, teams, and/or student societies within the university.	☐	☐	☐	☐	☐
25. I enjoy discussing academic subject matter with other students outside of class.	☐	☐	☐	☐	☐
26. I have joined or formed study groups with other students.	☐	☐	☐	☐	☐
28. I use the services provided by the university to improve my academic skills (e.g. writing, editing, speaking, etc).	☐	☐	☐	☐	☐
29. I believe that being involved in the Western community is an important part of my student experience.	☐	☐	☐	☐	☐

30. I feel welcomed and accepted as a member of the Western community.	☐	☐	☐	☐	☐

Section Four:

This is a checklist to find out more about you and your university experience. Some of these sentences describe you better than others. Read each sentence and check off the box that best describes you.

	Not at all like me	Somew hat like me	About half of the time like me	Usually like me	Always like me
31. A university education is a high priority for me and I'm willing to make the sacrifices.	☐	☐	☐	☐	☐
32. I have considered a number of university majors and have decided which one is best for me.	☐	☐	☐	☐	☐
33. If a class is important I can concentrate even if the teacher or topic is boring.	☐	☐	☐	☐	☐
34. I feel comfortable being responsible for my education and learning.	☐	☐	☐	☐	☐
35. When I do poorly on a test I think of what I did wrong and try to solve the problem.	☐	☐	☐	☐	☐
36. I find most class topics at least somewhat interesting—I'm rarely bored in class.	☐	☐	☐	☐	☐
37. Although I have many priorities, learning in school is always one of my most important goals.	☐	☐	☐	☐	☐

38. I know why I am in university and I have clear goals I want to achieve.	☐	☐	☐	☐	☐
39. When school is challenging I find a way to learn even if I have to find new ways to study.	☐	☐	☐	☐	☐

Section Five:

This is a checklist to find out more about why you attend university. Some of these sentences describe you better than others. Read each sentence and check off the box that best describes you.

Why do you go to university?	Not at all like me	Somew hat like me	About half of the time like me	Usually like me	Always like me
40. Because with only a high-school degree I would not find a high-paying job later on.	☐	☐	☐	☐	☐
41. Because I think that a university education will help me better prepare for the career I have chosen.	☐	☐	☐	☐	☐
42. Honestly, I don't know; I really feel that I am wasting my time in school.	☐	☐	☐	☐	☐
43. To prove to myself that I am capable of completing my university degree.	☐	☐	☐	☐	☐
44. In order to obtain a more prestigious job later on.	☐	☐	☐	☐	☐
45. Because eventually it will enable me to enter the job market in a field that I like.	☐	☐	☐	☐	☐

46. I once had good reasons for going to university; however, now I wonder if I should continue.	☐	☐	☐	☐	☐
47. Because of the fact that when I succeed in university I feel important.	☐	☐	☐	☐	☐
48. Because I want to have "the good life" later on.	☐	☐	☐	☐	☐
49. I can't see why I go to university and frankly, I couldn't care less.	☐	☐	☐	☐	☐
50. To show myself that I am an intelligent person.	☐	☐	☐	☐	☐
51. Because my studies allow me to continue to learn about many things that interest me.	☐	☐	☐	☐	☐
52. Because I believe that a few more additional years of education will improve my competence as a worker.	☐	☐	☐	☐	☐
53. For the "high" feeling that I experience while reading about various interesting subjects.	☐	☐	☐	☐	☐
54. Because university allows me to experience a personal satisfaction in my quest for excellence in my studies.	☐	☐	☐	☐	☐

Section Six:

55. Thinking about other classes you have taken as well as this one, do you agree or disagree with the following: Classes that use slideshow or multimedia presentations are much more interesting than classes that do not.
☐ Strongly agree
☐ Agree
☐ Neither agree nor
disagree
☐ Disagree
☐ Strongly Disagree

56. Do you bring any portable technologies/devices (i.e. laptop, cellphone, tablet, MP3 player) to class with you?
☐ Yes
☐ No

If you have answered 'yes' to question 56, please continue the survey. If you answered 'no' to question 56, please flip to the final page of this survey.

57. Please check off all of the portable devices you bring to class with you: **PLEASE CHECK ALL THAT APPLY**
☐ Cellphone
☐ Laptop
☐ Tablet
☐ Music Device or MP3
Player
☐Other_____

58. Out of all the portable devices you bring to class with you, which one do use the most? **PLEASE ONLY INDICATE THE DEVICE YOU USE THE MOST**
☐ Cellphone
☐ Laptop
☐ Tablet
☐ Music Device or MP3
Player

☐Other_____

This is a checklist to find out more about your usage of portable technologies/devices in class. Some of these sentences describe you better than others. Read each sentence and check off the box that best describes you.

	Not at all like me	Somew hat like me	About half of the time like me	Usually like me	Always like me
59. Sometimes I drift in and out of lecture because one or more of my portable technologies/devices distracts me.	☐	☐	☐	☐	☐
60. I always use one or more of my portable technologies/devices to take notes in class.	☐	☐	☐	☐	☐
61. Paying attention to lecture is my priority. I never use my portable technologies/devices for anything other than note taking.	☐	☐	☐	☐	☐
62. When I get bored in class I go on the Internet.	☐	☐	☐	☐	☐
63. I always have my internet browser open during class.	☐	☐	☐	☐	☐
64. I am a very good multitasker. I can both listen to lecture and use one of my portable technologies/devices to browse the Internet or talk to friends.	☐	☐	☐	☐	☐
65. When I go to class, I always turn off my phone.	☐	☐	☐	☐	☐

66. Do you use your portable devices to access the internet in class?

☐ Yes

☐ No

67. If 'yes' to the previous question, please check off all of the activities you use the internet for in class:

☐ Accessing social networking

☐ Checking your UWO mail or OWL account

☐ Checking your personal email

☐ Watching TV, movies, or sports

☐ 'Wiki-ing' lecture material

☐ Online shopping

☐Other_____

68. How often do you use one of your portable devices to go on the internet during class?

☐ Never

☐ 1-3 times

☐ 4-6 times

☐ 7-9 times

☐ Almost all class

Section Seven:

69. Do you agree or disagree with the following: After I have completed a course, I often remember most of the information taught to me.
☐ Strongly agree
☐ Agree
☐ Neither agree nor
disagree
☐ Disagree
☐ Strongly Disagree

70. Thinking about other classes as well as this one, do you agree or disagree with the following: The social science classes I take improve my critical thinking skills.
☐ Strongly agree
☐ Agree
☐ Neither agree nor
disagree
☐ Disagree
☐ Strongly Disagree

APPENDIX B: ETHICS APPROVAL

Western Research

Research Ethics

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

Principal Investigator: Dr. Wolfgang Lehmann
Department & Institution: Social Science\Sociology,Western University

NMREB File Number: 105713
Study Title: Student (Dis)Engagement and Portable Technology in the University Classroom
Sponsor:

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

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Other	Qualitative Interview Guide	2014/07/30
Other	Survey	2014/08/15
Recruitment Items		2014/07/30
Letter of Information & Consent	Survey	2014/08/30
Letter of Information & Consent	Interview	2014/08/30
Other	Survey	2014/08/26
Other	Detachable Survey Page	2014/08/30
Western University Protocol		2014/08/30

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

[redacted]

EMILY M. ALEXANDER

EDUCATION

University of Western Ontario *2013-Present*
Master of Arts
M.A. Candidate in Sociology
Academic average of 88% in graduate classes
Thesis: Physical and Digital Disengagement Behaviours in the University Classroom

University of Western Ontario *2009-2013*
Bachelor of Arts
Honors Specialization in Sociology
Graduating on Dean's Honors List

RESEARCH EXPERIENCE

Research Assistant May 2013 - May 2014
For Dr. Kate Choi *University of Western Ontario*

TEACHING EXPERIENCE

Teaching Assistant September 2014 - April 2015
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 Andrew Nevin

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

Teaching Assistant January 2014 - April 2014
Development and Health Inequalities in Sociology *University of Western Ontario*

Teaching Assistant Sept 2013 - Dec 2013
Introduction to Criminology *Kings University College*

ACADEMIC INVOLVEMENT

Chair of the Sociology Graduate Students Association (SGSA) 2014 - Present

Editor of the Journal for Social Thought (JST) 2014 - Present

Sociology Graduate Students Association Steering Committee Member 2013 - Present

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

Public Sociology @ Western (PS@W) Member 2013 - Present

Chair of the Sociology Graduate Student Conference Committee March 2015

Grad Student Representative for the Sociology Graduate Committee 2013 - 2014

Grad Student Representative for the UWO Society of Graduate Students 2013 - 2014

Chair of the Sociology Graduate Student Conference Committee March 2014

CONFERENCE PRESENTATIONS

Alexander, E. (2015). *Physical and Digital Disengagement Behaviours in the University Classroom*. Paper to be presented at the Canadian Sociological Association@Congress, University of Ottawa, Ottawa, June 4.

Alexander, E. (2015). *Physical and Digital Disengagement Behaviours in the University Classroom*. Paper presented at the Robert Macmillan Graduate Research in Education Symposium, University of Western Ontario, London, April 1.

Alexander, E. (2015). *Physical and Digital Disengagement Behaviours in the University Classroom*. Paper presented at ENGAGE, University of Guelph, Guelph, March 14.

Alexander, E. (2015). *Physical and Digital Disengagement Behaviours in the University Classroom*. Paper presented at the Sociology Graduate Student Conference, University of Western Ontario, London, March 13.

Alexander, E. (2014). *Discussion of (Dis)Engagement Patterns in Higher Education*. Paper presented at the Sociology Graduate Student Conference, University of Western Ontario, London, March 14.

WORKING PAPERS

Alexander, E. (n.d.). *Social Class and the Benefits/Costs of Higher Education in the United States*. Manuscript in Preparation.

ADDITIONAL SKILLS

- Skilled in the software STATA, SPSS, and NVivo