

Do You Measure Up?
A mixed-methodological study of graduate student academic comparison, privacy management, and perceived program competition

by

Melissa Leigh McCormick

A thesis submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Master of Arts

Auburn, Alabama
May 1, 2021

Keywords: communication privacy management, academic self-efficacy, academic social comparison, program competitiveness

Approved by

Debra Worthington, Chair, Professor, Director of Communication
Elizabeth Larson, Assistant Professor of Communication
Michail Vafeiadis, Assistant Professor of Public Relations

Abstract

‘It’s going to feel impossible until you’re through it, but you’ll get through it.’ Obtaining a graduate degree is no small feat and often requires not only mental investment but also emotional investment. Graduate programs entrance requirements tend to be highly competitive, and that sense of competition continues for many throughout their program. Using a mixed methodology, this study examined comparison and competition within cohorts and how those experiences affect graduate student communication with peers. Students completed an online survey (N=356) and then follow-up interviews (N=22) were conducted. Results suggest that graduate students are engaging in academic comparison and competition and that program competitiveness and individual self-efficacy play a role in how much each student is affected. These findings contribute to our understanding of what graduate students experience as they pursue their degree. Notably, students that feel supported and understood by their faculty and cohort members felt happier and more capable in their programs. Prior research has not addressed this aspect of graduate school, leaving a gap in our understanding of competition and privacy within graduate school cohorts. With this new understanding of how students are competing, professors and students alike can look to these findings for ways to negate this type of unhealthy competition.

Acknowledgements

As this study clearly shows, graduate students rely on the people in their closest circle to survive the challenges of grad school. This grad student is no different, and I could not have even dreamt of coming to grad school without my support system. First and foremost, I am blessed to even be able to write about my experiences because of the people that have worked so hard to get me to where I am today and that credit I owe solely to my parents. They are my first and forever best friends and any success I have in life is credited to them.

Additionally, I could not have made it through a single class without those in my cohort. It is important to me to write about these experiences because the people in my program are some of the absolute best I have ever met and they deserve the world and more for putting up with me. I got more from them in the two years I have been here than I have from any other experience.

Lastly, I would like to thank everyone in my program who has had a hand in getting me this far. I knew from day one this program was special but I never knew how special until it was coming to a close. I have not met a professor in this program who has not touched my life in some way. They inspired me to want to be better and try harder, they inspired me to want to be exactly like them. It is not often in life that you get to interact with people that are both smarter than everyone else around them yet also make sure you never feel lost or out of place.

This study is for every student who has ever felt confused, like they somehow slipped through the cracks in their program. To everyone that has asked another student how they did on a test because they wanted to make sure they weren't alone. Everyone feels that way at some

point. The people around you care about you more than you know and do not ever be afraid to ask questions, it may be hard but it's still school, the whole point is to ask questions.

Table of Contents

Abstract	2
Acknowledgements	3
Chapter 1 (Introduction)	7
Chapter 2 (Literature Review)	10
Communication Privacy Management	10
Social Comparison	19
Academic Self-Efficacy.....	22
Chapter 3 (Research Questions)	23
Chapter 4 (Methodology)	25
Procedure	25
Participants	27
Variables and Measures.....	28
Chapter 5 (Results).....	30
Survey Results	31
Interview Results	32
Chapter 6 (Discussion)	45
Research Questions	46
Practical Applications.....	53
Limitations and Directions for Future Research	56
Chapter 7 (Conclusion).....	58
References	61

Appendix A (Survey Instrument) 72
Appendix B (Recruitment Letter and Consent Information)..... 77
Appendix C (Interview Protocol) 79

Chapter One: Introduction

About 13% of Americans hold a degree above a bachelor's (U.S. Census Bureau, 2019). There are numerous benefits associated with earning an advanced degree, one of which being the likelihood of a higher salary, with some people earning up to 45% more with a master's degree than a bachelor's (Smith, 2016). However, the extra years spent in school can also have negative outcomes such as increased stress and student loans (Oswalt & Riddock, 2007).

Graduate programs are often small, with many students enrolled in the same classes, working on the same projects and facing the same deadlines. Like other organizations, there is the possibility for competition to arise in graduate school cohorts. Although competition can be motivating, Abouserie (1994) found that grade comparison and competition often serves as more of a stressor than a motivator in the classroom. Students may feel pressure to earn the highest grade or receive the best feedback not only to be academically successful but also to measure up and fit in with those around them.

Given the small, often close-knit nature of graduate school cohorts, it is not unusual for students to discuss their academic achievements or downfalls. Prior research has found that although sharing private information with others may be risky, it can also serve to further a relationship and bring people closer together (Derlega et al., 2008). Information owners may feel relief of sharing private information or receive advice from their co-owner, resulting in more benefit than risk. (Kennedy-Lightset, et al., 2012). Individuals are also driven to self-disclose in hopes of being liked and accepted by the social circle they are disclosing to (Kennedy-Lightset, et al., 2012).

Much of the research done into how people share private information has been done in the framework of communication privacy management (CPM), which considers how individuals

create and maintain privacy boundaries for themselves (Petronio, 1991). Although CPM is a highly researched area, most research in the education context has focused on how teachers maintain their privacy, leaving student privacy relatively unexplored. Given that students interact with their classmates on an almost daily basis, how they manage what information they share with their peers becomes a large part of their lives. Knowledge of how graduate students navigate sharing private information can enhance our understanding of how the competitive nature of graduate school programs may result in negative effects such as increased stress or withdrawal from a program.

Individuals do not monitor their privacy the same way in all situations. Personal and contextual factors often affect how much information someone offers and who they choose to confide in. CPM has been rarely studied in the academic context, particularly higher education. As a result, we have little understanding of how graduate students regulate their private academic information. This gap leaves room for research into how different factors may affect CPM for graduate students.

In academic contexts, graduate students may feel compelled to conceal their grades or academic progress from others for fear of being singled out if they are not in the same position as most of their cohort. Individuals choose to either share or keep their information private based on many different criteria. Students may feel motivated to share academic information if others are discussing their own grades or join in conversation to bond over their struggles. They may choose to discuss information out of curiosity about other students' progress, or to see where they measure up to the rest of the class. These types of comparisons are often explored using social comparison theory. However, the theory has not been applied to this context before.

Instead, the majority of current research focuses primarily on comparison within the high school setting (Goudeau & Croizet, 2017).

Festinger, who originally proposed social comparison theory, found evidence that social comparison within society can lead to unintended negative consequences like constant competition, the formation of norms within a group, and pressure to adhere to those norms (Wood, 1989). Graduate school cohorts are not immune to these negative side effects. Students may feel pressured to compete with others in the cohort and to measure up to a specific ideal within the group. It is possible that graduate students who hold negative perceptions of how they compare to others in the program may conceal their grades, which can result in additional stress. For example, research by Ozbay and colleagues (2007) found that people who have a negative view of themselves and their abilities are less likely to share with others. They also reported that not confiding in others and leaning on available social support resulted in increased levels of stress. Thus, students who are less sure of their abilities may be less likely to share information with their cohort members for fear of rejection or being seen as an outsider if their capabilities do not align with others'.

Graduate students often experience an intense workload, juggling many priorities at once. However, little research has explored the graduate school experience and student wellbeing. Students, parents and professors alike are all impacted by how successful each student is and wellbeing plays an important piece in a student's day-to-day life. This study sheds light on what students are experiencing and how to make academic programs more responsive to student academic success and overall wellbeing.

Prior research touches on some of these elements separately but never together. This study acknowledges that elements of privacy, competition and comparison, and self-efficacy all

play a role in how graduate students are experiencing their time in the program. These findings give better insight into the specifics of what students are experiencing and offers practical ways to negate unhealthy competition within cohorts at all levels, from faculty to student. It also tests scales not previously used in this context and gives suggestions for how to further create scales specific to the graduate student experience.

This investigation begins with an examination of prior research on communication privacy management in and academic social comparison. I also review supplemental research on academic self-efficacy. Following this review, I present my research questions regarding graduate students' privacy decisions. Following a description of my methodology, data collection and data analysis, I review my findings along with a discussion of practical implications, limitations and possible future research.

Chapter 2: Literature Review

The following literature review will consider past research in privacy, comparison and academics. This review will ground the study in both communication privacy management and social comparison theory and will also include additional information about academic self-efficacy. Utilizing these theories as a framework, this study explores the possible motivations underlying student academic concealment and the possible negative outcomes of such privacy boundaries.

Communication Privacy Management

The following section introduces concepts and research of communication privacy management theory (CPM), which was introduced by Sandra Petronio (Petronio, 1991). It concludes with an exploration of CPM in the context of education.

Petronio crafted CPM from prior research done by Irwin Altman who studied similar areas such as personal space and privacy differences between cultures (Petronio & Child, 2020). CPM holds that people believe they are entitled to their own private information and dictate when and how they share that information with others (Petronio & Child, 2020). Additionally, it asserts that individuals consider who they want to share information with and weigh the positive and negative outcomes of disclosing information to someone else (Petronio & Child, 2020).

When individuals decide to share personal information with another, they are entrusting them with information that was originally private, essentially making them a co-owner of this private information (Frampton & Child, 2013). However, once shared individuals are no longer in control of what happens to that information or who else it is shared with.

Petronio initially presented CPM with eight axioms and three elements (Petronio, 2013).

The original axioms were:

1. People believe they are the sole owners of their private information.
2. People can grant others co-ownership of their information.
3. Despite granting others co-ownership to private information, the owner still controls that information.
4. People use privacy rules to regulate their private information.
5. Owners negotiate the sharing of their private information with co-owners to regulate further sharing with a third party.
6. Co-ownership of information results in privacy boundaries sharing from all parties.
7. Privacy boundaries between owners and co-owners are established to determine further sharing, amount of information shared and who is allowed to share the information.

8. Privacy regulation is uncertain and can result in issues between owners and co-owners.

The axioms were originally utilized to predict how individuals would regulate their private information (Petronio & Child, 2020). Over time, the axioms were essentially absorbed within the three elements: privacy boundaries, privacy rules and privacy turbulence (Petronio & Child, 2013). Each of these elements are used to explain the different stages of how people regulate their personal information. Below, I describe each of these elements.

Privacy Boundaries.

Petronio and Reiersen (2009) described privacy boundaries in terms of thickness or thinness (as cited in Worthington & Fitch-Hauser, 2019). People with thicker privacy boundaries are often more protective of their private information, while those with thinner boundaries are more likely to share (Worthington & Fitch-Hauser, 2019). The thickness of someone's privacy boundaries is often based on their personality differences and lived experiences. For example, privacy boundaries are closely tied to an individual's likelihood for self-disclosure. Within self-disclosure research, themes have emerged about how individuals self-disclose. Even the earliest research on self-disclosure found large differences in self-disclosure both between individuals and in different situations (Jourard & Lasakow, 1958). Some of those differences are on a larger scale (i.e., males vs females) while others are more specific (i.e., personality differences).

Jourard (1971) initially found that females were more likely to disclose than males and attributed that difference to gender roles that encouraged men to keep their emotions to themselves (as cited in Dindia & Allen, 1992). However, additional research found that the difference in self-disclosure between males and females is also situational, depending on the sex and relationship of the person they were disclosing to (Dindia & Allen, 1992).

Privacy boundaries help explain why one person may share particular information freely with others, while others may be reluctant to share that same information. However, privacy boundaries are not always straightforward and often change situationally. For example, Millham and Atkin (2018) found that women are more trusting than men online because they tend to be more selective of who they add to their social networks, while Smith and Brunner (2017) reported that individuals in the workplace may not feel the need to explicitly state their privacy rules because they assume all employees will be following privacy regulations laid out by the company.

While personal sharing and feelings of trust between coworkers in the workplace can be extremely beneficial for increasing feelings of workplace satisfaction and reducing stress (Jones, 2017), individuals are not immune to having their privacy violated (Smith & Brunner, 2017). When privacy is violated in a workplace setting, it can result in an uncomfortable work environment (Smith & Brunner, 2017). Often workplace privacy violations pertain to online monitoring done by company management (Snyder & Cistulli, 2011). Companies frequently include privacy and internet guidelines in employee contracts when they provide their employees with computers (Lugaresi, 2010). However, employees often feel less trust for their employers if they know their online activity is being closely monitored (Hawkins & Mannix, 2000).

Additionally, individuals often feel the need to conceal certain private information to manage a specific image they portray of themselves in the workplace. Jones (2017), for example, found that pregnant women often feel conflict in sharing about their pregnancy in their workplace. Although other research has found that women who were more open about their pregnancies felt less psychological stress at work, many still felt the need to regulate what they shared in order to uphold their workplace identity (Jones, 2017). Individuals also reported

conflict about whether or not to share about their religious affiliations in the workplace if they belonged to a religious minority (Charoensap-Kelly, Mestayer & Knight, 2020). Research found that those most likely to share their religious affiliation at work were older, at small organizations, and saw their religion as a large part of their own identity (Charoensap-Kelly et al., 2020). While many individuals report some type of apprehension to sharing about their private lives at the workplace many studies show that the benefits of sharing often outweigh the risks (Jones, 2017; Charoensap-Kelly et al., 2020; Nifadkar, Wu & Gu, 2019). Even research into personal sharing from management found that the more information those in management shared with their employees, the more their employees trusted them (Nifadkar et al., 2019).

While people mostly set their own privacy boundaries, certain careers may mandate a certain level of separation, resulting in thicker privacy boundaries (Sidelinger et al., 2015). For instance, teachers and healthcare providers are required to keep a certain separation between themselves and their students or patients, making sharing and privacy more complex (Sidelinger et al., 2015). Doctors specifically are often even put under guidelines instructing them on what they can and cannot share to their patients, including their personal beliefs or opinions outside of medical advice (MacDonald, Sohn & Ellis, 2010). These guidelines are implemented in a professional setting, but lines can be blurred with the use of social media, given that patients may look up their doctors online and find personal information that has not been kept private on sites like Facebook or Instagram (MacDonald et al., 2010).

Teachers, in contrast to doctors, are not necessarily given explicit rules about what they can and cannot share but can feel pressure to conceal personal information to maintain credibility and professionalism (McBride & Wahl, 2005). Teachers often reported sharing more information

than doctors in order to connect to their students and encourage more interaction and engagement throughout class (McBride & Wahl, 2005).

While there is almost no research pertaining to how students manage privacy among peers, there is tangential research on how students manage privacy in relationships with their professors. Ensuring some level of sharing within the classroom has proven to be very beneficial to student success with benefits ranging from a more productive classroom to more motivated students (Frisby & Sidelinger, 2013). While Frisby and Sidelinger (2013) were focused on perceptions of sharing in the classroom, they found that instructors and students generally shared about the same topics such as hobbies, music, or sports. Since classroom engagement is often an important element of a student's grade, students may feel pressured to share in the classroom to fulfill requirements (Frisby & Sidelinger, 2013).

Additionally, students are most motivated to share with their professors if they hope to gain something from sharing personal information (Henningsen, Valde, Entzminger, Dick, & Wilcher, 2019). Thus, students who are often reluctant to share private information may alter their privacy boundaries and share about their personal lives with their teacher to get an absence excused (Henningsen et al., 2019). Given that students often feel the need to share about their academic experience to someone, it is very possible graduate students turn to those in their cohort who they engage with most often, but may feel hesitation about how much to share, or when.

Privacy Rules

When deciding who to share information with, individuals tend to reference their own set of privacy rules, often formed from elements like cultural norms, gender, personal motivations, situational context, and risk-benefit ratio (Kennedy-Lightset, et al., 2012). When deciding to

share information with a friend, a host of factors are considered, such as whether the individual has kept previously shared information confidential or if they believe sharing information will be more beneficial than not sharing (Hosek & Thompson, 2009). Individuals often adhere to societal privacy rules by avoiding taboo topic discussion with particular groups, only discussing sensitive information with family or close friends (Petronio & Child, 2020). Petronio (2015) notes that privacy rules vary between situations, with people in relationships often holding to a very different set of rules than friends or families.

Privacy Turbulence

The last element of CPM, privacy turbulence, comes into play when private information is shared with another and one or more of the original privacy rules are broken (Petronio, 2002). A common privacy rule occurs when the original owner of private information specifically states that the information is secret or private and not to share with others. The expectation, then, is that the new co-owner of the information will honor this privacy rule. If the co-owner is instructed not to share private information with others and then does, it can lead to privacy turbulence.

Individuals manage boundary turbulence in different ways. One person may choose to see a leak of information as an opportunity to share more with others, while someone else may choose to lie to cover up the leaked information (Petronio & Child, 2020). Basically, once information has been leaked, the original owner of the information may choose to be more open with that information and share it more extensively themselves with third parties or they may lie due to embarrassment or fear. Additionally, when privacy rules are broken between co-owners, the owner can decide whether they want to discontinue sharing information or renegotiate privacy rules with their co-owner (Petronio, 2010).

Privacy turbulence can also occur when privacy is invaded, such as when someone seeks out information about individuals without asking them (i.e., snooping) (Petronio, 2015). This type of privacy turbulence is most common in parent/child relationships, with the turbulence occurring often as children age into being young adults and prior privacy boundaries must be re-negotiated (Ledbetter, Heiss, Sibal, Lev, Battle-Fisher, & Shubert, 2010). Examples of this type of turbulence include parents listening in on private conversations or looking through their children's rooms or belongings without permission. Petronio (2010) found that successful parent-child relationships result from limited intrusion from parents and open negotiation about privacy, rather than parents assuming their adolescents are being secretive.

Often when privacy turbulence occurs, the relationship between the co-owners becomes strained. The sharing of private information with others can result in the original owner feeling betrayed, or even questioning their view of the relationship, given the disregard for privacy from the co-owner (Aloia, 2018). Emotional responses to a breach of privacy can further damage the relationship, with owners often acting out of anger or hurt in reaction to privacy violations (McLaren & Steuber, 2013). Information owners may lash out or withdraw from co-owners following privacy violation, driving a wedge farther between the two and furthering emotional damage on both sides (McLaren & Steuber, 2013).

Petronio's (1991, 1996) initial studies focused on how families manage their private information, both between spouses and parent-child relationships. Since its introduction, CPM research has expanded in many different areas including ecommerce privacy (Metzger, 2007; Robinson, 2017), privacy boundaries set by people with disabilities (Braithwaite, 1991), and managing private information on social media (Hollenbaugh, 2019). Given the continued evolution of technology and social media, CPM has been used to research how parents manage

their children's social media and online presence and how they may draw boundaries for privacy (see, for example, De Wolf, 2020; Erickson, Wisniewski, Xu, Carroll, Rosson, & Perkins, 2016; Rudi & Dworkin, 2014).

CPM in Education

As noted previously, the majority of research done on the role of CPM in academics focuses on how teachers navigate privacy boundaries with their students. Teaching is interpersonal in nature, with teachers making close connections and becoming invested in their student's success. However, it is also important that they keep an appropriate professional distance between themselves and their students, making privacy boundaries extremely important in academia. Teachers often make personal connections to material they are teaching, using themselves and their own experiences as examples (Hosek & Thompson, 2009). They must be cautious about what parts of their lives they share, and that the information shared is relevant to the instruction, to prevent oversharing in a professional setting.

Lines for what is considered appropriate and inappropriate topics of conversation in classrooms are often fluid, with professors being able to share more personal information with their students if that information is relevant to the context. Both students and teachers enter the classroom with a certain expectation of the interactions they will have and when those expectations are violated (embarrassing or offensive sharing), they often feel less able to share in the classroom (Sidelinger, Nyeste, Madlock, Pollak, & Wilkinson, 2015).

The academic setting provides great opportunity for producing competition and comparison, often because students with the highest grades and most achievements are rewarded both by schools and in a social setting (Goudeau & Croizet, 2017). Academia is also a setting where students may be separated by social class, with lower socio-economic students often

achieving less because they are unable to access the same level of resources as other students whose families have a higher income (Smeding, Darnon, Souchal, Toczec-Capelle & Butera, 2013). This gap could create more privacy barriers between students, as lower-earning and lower-achieving students might feel reluctant to share information.

Additional research suggests that when students seek out someone to discuss their academic information with, they often trust in their teachers but also look to family and friends for guidance (Henningesen et al., 2019). However, most students turned to their teachers or faculty first to share academic information (Henningesen et al., 2019), possibly because they felt that by building a relationship with their teachers, they may receive special treatment and favoritism (Henningesen et al., 2019).

As noted previously, CPM has primarily been researched in terms of the teacher-student relationship. The student-student peer relationship remains unexplored. In addition, no studies focusing on graduate student peer relationships have been conducted. This study seeks to fill this gap in the literature with the goal of better understanding how and when graduate students regulate information with their cohort members. In the context of education, one characteristic that may affect student CPM is social comparison. In the following section, I explore the general theory of social comparison as well as the emerging area of academic social comparison.

Social Comparison Theory

Although CPM informs how graduate students may regulate their private information, it does not consider certain aspects of why they choose to share or withhold information from specific people. Although students may want to share stresses and successes with their peers or family, it is important to consider the competitive nature of graduate school programs and how that competitive atmosphere may pressure students to withhold information from others.

Comparisons happen at many levels and individuals often begin comparing themselves to others at a very young age with academic comparisons even occurring between elementary school students (Lohbeck & Möller, 2017).

Social comparison research originated in the psychological field. Leon Festinger (1954) was first to give name to the human tendency to compare themselves with others, proposing the simple notion that individuals are constantly self-evaluating and when they are unable to be objective, they turn to the achievements of others in similar positions for affirmation (John & Gerald, 1967). Festinger found evidence that social comparison within society can lead to unintended negative consequences like constant competition, the formation of norms within a group and pressure to adhere to those norms (Wood, 1989). Research on social comparison led to the emergence of three distinct categories of social comparison: self-evaluation, self-improvement, and self-enhancement (Joanne, 1989).

Self-Evaluation

Self-evaluation refers to Festinger's (1954) original conceptualization – that individuals try to accurately evaluate themselves. When doing so, people often choose to look to others for a point of reference rather than themselves (Joanne, 1991). For example, although an individual could evaluate their weight loss progress themselves by comparing their new weight to their old weight, they may also choose to compare their current weight to another's current weight. However, this can be complicated and have negative outcomes (Thogersen, Dodos, Chatzisarantis & Ntoumanis, 2017) as each individual has different capabilities and a different path to their current position.

Self-Improvement

Most individuals feel the need to work on themselves and consistently evolve and progress throughout their lives (Festinger, 1954). Need for self-improvement is evident in much of daily life and has even been built into a money-making industry with magazines, television specials and even classes offering to help people become their best selves. This urge for improvement may drive individuals to seek out unattainable goals in hopes of unreasonable or even unnecessary self-improvement (Knobloch-Westerwick & Romero, 2011). Studies have shown that social media sites like Instagram, which tend to showcase only an individual's best and highest moments, often drive the need for self-improvement in followers and can result in inspiration and positive change or turn into an unnecessary need to measure up in the guise of self-improvement (Rounsefell, et al., 2020; Peng Wu, Chen & Atkin, 2019).

Self-Enhancement

While self-enhancement seems similar to self-improvement at first, it is more concerned with the human need to boost and protect their self-esteem (Joanne, 1989). Individuals tend to think of themselves more positively than they do others and will seek out others to protect that positive self-image (Kwan, John, Kenny, Bond, & Robins, 2004). To do so, individuals will surround themselves with people who they see as mostly similar to them or in comparable circumstances (Kwan, et al., 2004). Additionally, individuals tend to make either upwards or downwards comparisons to others, meaning that highly motivated people tend to compare themselves upwards towards more successful people and unmotivated people will compare themselves downward to make themselves feel more successful (Festinger, 1954; Wills, 1981).

While comparison to others may be motivating to some, it can also be counterproductive and even harmful. Some of the most prominent growing concerns are with the rise in social comparison on social media. Research has found that despite the number of accounts claiming to

be positive and uplifting, followers engaging with content experience issues with self-esteem when comparing themselves to those they see online (Abi-Jaoude, Naylor & Pignatiello, 2020). Although social comparison tendencies are higher among females, research has shown that there is a positive correlation between amount of time spent on social media and levels of jealousy and negative views of self in males and females (Chou & Edge, 2012; Krasnova, Widjaja, Buxmann, Wenninger & Benbasat, 2015; Stein, Krause & Ohler, 2019). Although much of the current research in this area centers on social media, social comparison occurs in many contexts, often with negative outcomes (Lohbeck & Möller, 2017).

Academic Social Comparison

Comparison is likely in scenarios where competition also naturally arises, like in an academic setting (Dijkstra, Kuyper, Van der Werf, Buunk & Van der Zee, 2008). For instance, Kumar (2006) found that competition raises as students get older, with students becoming extremely competitive in their shift from middle to secondary school. Interestingly, she found that students were motivated more by the need to be accepted and seen positively than the need to master a given subject. These findings suggest that individuals base their own satisfaction on their comparison to others, rather than on their own skills and successes.

While students comparing themselves to others may not be a new occurrence, the study of academic social comparison has not been widely researched. A recent study by Pulford, Woodward, and Taylor (2018), one of the few to specifically look at academic social comparison, considered how academic social comparison may tie to gender and self-efficacy differences. As part of their study, Pulford et al. developed a scale to measure academic social comparison (ASCS), using it in combination with the Individual Learning Profile scale (ILP) to

gather information about mediating factors in academic social comparison (Woodward, & Taylor, 2018).

Reflecting CPM research findings, their study also found that there were notable differences in academic social comparison between males and females (Pulford, et al., 2018). Women tended to compare themselves to those doing better, engaging in upward comparisons, while men often made downward comparisons, comparing themselves to those doing worse (Pulford, et al., 2018). Another parallel arose between this study and CPM research, both implying that gender differences may be present because of stereotyping (Dindia & Allen, 1992; Pulford, et al., 2018). Pulford et al. (2018) suggest that women may engage in more upward comparisons in stereotypically male fields like IT, resulting in less self-efficacy in that field.

Not only does social comparison possibly cause stress and inaccurate views of others, research suggests that social comparison in the classroom may also reinforce negative stereotypes (Kumar, 2006). Kumar (2006) reported that classrooms that foster high levels of social comparison may cause students to not only doubt their academic abilities but focus on any other non-academic inequalities and cause a further divide between students.

Although social comparison is common in most individuals, some people may be more likely to compare themselves to others. Often high levels of social comparison and low self-esteem go hand in hand, with individuals who compare themselves to others often having lower self-esteem and vice versa (Jiang & Ngien, 2020). People who experience low self-esteem are more likely to compare themselves to others and to view themselves negatively, believing they are not as capable as others. Low self-esteem can affect many areas of an individual's life, including possibly their academic self-efficacy. It is possible that students are more likely to compare themselves to others because they suffer from low self-esteem and have low academic

self-efficacy. To understand this possible relationship, we must first understand the elements of academic self-efficacy.

Academic Self-Efficacy.

Bandura (1993) originally introduced the concept of self-efficacy, claiming that someone's belief in their own abilities to perform a certain task is an important factor in their success. He also noted that while someone may have high self-efficacy in one situation, that does not mean they have high self-efficacy in all situations (Bandura, 1993). For instance, an individual may believe they are very capable of speaking in public but not feel confident in their ability to score well on a standardized test.

Academic self-efficacy, then, refers to how capable individuals feel at successfully completing their studies and handling their coursework (Cheng, Tsai, & Liang, 2019).

Bartimore-Aufflick, et al. (2016) found that academic self-efficacy serves as a reference point for predicting student success. They also note that academic self-efficacy can be promoted in the classroom with teacher assistance. No matter the education, training or experience, academic self-efficacy currently serves as the largest predicting factor of success in education (Dixon, Hawe & Hamilton, 2020). In other words, a student's own belief in their ability to succeed is predictive of their academic success, high self-efficacy most often results in success (Dixon et al., 2020).

Other research suggests that graduate student academic self-efficacy (GSASE) differs from other academic self-efficacy (Lambie, Hayes, Griffith, Limberg, & Mullen, 2014). Factors leading to strong graduate student academic self-efficacy included years in graduate education and engagement in research, high commitment to course work as well as a student's willingness

to challenge themselves and control their emotions during times of adversity in their studies (Cheng et al., 2019).

Chapter 3: Research Questions

The previous review suggests that CPM, social comparison and academic self-efficacy may provide insight into graduate student comparison. Low levels of self-esteem and self-efficacy may contribute to low academic self-efficacy and higher social comparison to a student's graduate school cohort. CPM research suggests that concealing much of oneself in an organizational setting often leads to negative outcomes like increased stress and less trust in the group as a whole (Jones, 2017; Charoensap-Kelly et al., 2020; Nifadkar et al., 2019).

CPM and Social Comparison

If graduate students feel they are not on a similar level as others in their cohort, they may be less likely to discuss grades and successes or frustration in their program. Both CPM and social comparison literature discuss mediating factors affecting one's likelihood to discuss private matters with others or to compare themselves to others (Millham & Atkin, 2018; Pulford, et al., 2018). As noted in the previous review, CPM research suggests that the factors that influence someone's boundary width are often situational (Charoensap-Kelly, Mestayer & Knight, 2020; Worthington & Fitch-Hauser, 2019).

Moreover, social comparison appears to differ from person to person and is often linked to individual personality attributes, like self-esteem (Abi-Jaoude et al., 2020). Understanding if and how people with lower self-esteem compare themselves to others can provide insight into which students may be more likely to engage in academic social comparison. Given that this study is concerned with both the context of graduate school and the differences between each individuals, both areas are explored.

Academic Self-Efficacy

Although CPM and social comparison combined provide greater insight into the study of graduate student academic comparison than either separately, there is still a gap concerning why someone may be more likely to engage in academic social comparison. Although links have been drawn to low levels of self-esteem and high levels of social comparison, academic self-efficacy could serve as an effective indicator of academic social comparison.

Based on the previous review, the following five research questions are explored:

RQ1: Is there a relationship between academic self-efficacy and academic social comparison?

RQ2: Is there a relationship between program competitiveness and academic social comparison?

RQ3: Is there a relationship between program competitiveness and thickness of privacy boundaries?

RQ4: How does sharing of school related private information effect people's graduate experiences?

RQ5: How do graduate students decide when and how they will share academic information with others?

Chapter 4: Methodology

Procedure

This study utilizes a mixed method data collection including a self-report survey and supplemental individual interviews. A mixed methods approach allows for gathering generalizable numerical data from the survey and use follow-up interviews to gain more insight into the specifics of individual experiences. As I was researching to begin my study, I noted that very few studies incorporated this mixed methods type of research. In each article I read, I felt that I was missing half the story, with quantitative studies providing clear answers, but leaving

out any personal human aspect and qualitative studies getting to the heart of each experience but providing little generalizable data. While mixed method research is not traditional in this context, it has proven successful in other contexts such as health research (Regnault et al., 2017), marketing (Dibb, et al., 2014) and sociology (Rockwell et al., 2019). Each of these studies utilized a survey and interview methodology and were able to gain valuable insight by producing concrete numeric data and supplementing that data with the stories and experiences of those involved.

Survey

The quantitative data collection portion of this study reflects surveying methods successfully utilized by a previous study of graduate students at Auburn University (Newport, 2020). The proposed survey (see Appendix A) was distributed utilizing the Qualtrics survey program. Graduate students were invited via email to take the survey by the Dean of Auburn University's graduate school. Master's, doctoral and graduate certificate students at Auburn University were invited to participate in the study and 356 students survey results were included. Participants reviewed a letter of informed consent (see Appendix B), then completed the anonymous 72 question survey. The survey included demographic questions followed by four sets of Likert-type questions to discern information about privacy management, academic social comparison, academic self-efficacy and program competitiveness (see Appendix A). Scales were tested for skewness and kurtosis, abiding by Kline's (2011) rule that skewness and kurtosis cannot be greater than $|3|$ and $|-5|$. Additionally, zscores were calculated for all scales to check for normality; violations of Tabachnick & Fidell's (2007) rule that any case with a zscore greater than $|3.29|$ must be eliminated as a univariate outlier were deleted. Three entries were removed as outliers that violated this rule.

Interviews

To enrich numeric data gathered by the survey, 28 participants were invited to participate in follow-up interviews and 22 students were able to complete the interview. Respondents indicated at the end of the survey their willingness to participate in a follow-up Zoom interview to further discuss their experience in their graduate program. Participant names were changed to protect their confidentiality. Maximum variation sampling was used to choose interview participants, in order to interview students from many different graduate programs and experiences, as well as to ensure an even number of males and females. This type of sampling ensures as many different participants as possible, so that not just one or two experiences are represented in the data (Palinkas et al., 2015). Interview questions were created in accordance with Tracy's (2020) interview guidelines and additional questions were amended from Kowtko (2020) interview protocol to fit the graduate student experience. These guidelines stress the importance of open-ended interview questions, as well as beginning the interview with general questions about the participant's experience to build rapport. Additionally, these guidelines discuss allowing the interviewee to take the conversation in whichever direction they choose, allowing them more comfort and more opportunity for authentic conversation, rather than rigidly sticking to a specific script. Interviews lasted approximately an hour and contained open-ended questions ranging from general work description to questions about how they make boundaries for themselves in their courses (see Appendix C). To maintain rapport, I allowed dialogue to change the direction of conversation if the participants seemed to want to talk about another aspect about their time in graduate school.

All interviews were transcribed and stripped of identifying information. I then read over the transcriptions and used a small sample of the transcriptions to create a codebook (Tracy,

2020) to use for data analysis. Tracy’s (2013) guidelines were used to identify which parts of conversation were most pertinent to the research questions. I used the codebook to identify different themes that emerged within the interviews. Four main themes emerged including comparison contradictions, academic environment, prioritizing academics over personal life and the sense of community that communication within a cohort creates.

Participants

Survey

Table 1 presents the demographic breakdown of the participants of this study. Respondents were primarily female (N=235, 66%) while only 33% of respondents were male (N=115) and 6 respondents declining to answer (2%). Most participants were white/Caucasian (N=267, 75%), followed by Asian/Asian-Americans (N=33; 9%), African-Americans (N=20; 6%), and Hispanic/Latino/a (N=16; 5%). As seen in Table 1, the majority of the respondents were full time students (N=257, 72%), with a majority of respondents pursuing a master’s degree (N=190, 53%). PhD students made up the second largest group of respondents with 156 responses (44%). of respondents at 1% (N=3) and 2% (N=7) respectively.

Table 1 – Participant Demographic Characteristics

Demographic Items	<i>N</i>	%
Biological Sex		
Female	235	66%
Male	115	32%
Intersex	0	0%
Prefer not to answer	6	2%
Ethnicity		
African American	20	6%
Asian-American	33	9%
White/Caucasian	267	75%
Latino/a	36	5%

Native Hawaiian	1	<1%
Other	0	0%
Prefer not to answer	5	1%
Full-time/Part-time Student		
Full-time	257	72%
Part-time	99	28%
Degree		
Ph.D.	156	44%
Master's Degree (e.g., MA/MS/MBA/etc.)	190	53%
Graduate Certificate	3	1%
Other	7	2%

Interviews

22 survey participants were contacted for follow-up interviews. 11 were male and 11 were female, to account for the uneven representation in the survey data. To maintain confidentiality, exact programs are not listed, but I was able to interview participants from almost every college within the school, gaining insight from students in both STEM and humanities fields.

Variables and Measures

Communication Privacy Management

No established scale exists to measure communication privacy management (see Petronio, 2013). To measure communication privacy management for this study, a 14 item measure was derived from previous studies (Serewicz & Canary, 2008; Özturk, Bahçecik, & Özçelik, 2014). Serewicz and Canary's original scale was created to test privacy management between families and their in-laws, while Özturk, et. al (2014) assess privacy patient-nurse relationships. Items in the survey assessed the three main aspects of communication privacy

management: privacy boundaries, privacy rules and privacy turbulence. See Appendix A for the list of the items used in the survey. (Cronbach's $\alpha = .76$).

Academic Social Comparison

Academic social comparison was measured using an adapted version of the 23-item measure created by Pulford, Woodward & Taylor (2018). The measure originally included 27 items, with a series of questions addressing SPSS software. As the SPSS items are not relevant to this study, they were dropped from the scale. Participants were asked to rate their agreement with each statement on a five-point Likert-style scale (e.g., 1 = not at all true; 5 = really true). See Appendix A for the list of the items used in the survey. (No Social Comparison, Cronbach's $\alpha = .79$; Upward Social Comparison, Cronbach's $\alpha = .90$; Downward Social Comparison, Cronbach's $\alpha = .92$).

Academic Self-Efficacy

Cheng et al.'s (2019) eight-item self-report measure of academic hardiness was used to assess academic self-efficacy (see Appendix A). Items are designed to gauge individual feelings of self-efficacy in academics and perceptions of one's ability to do effective research. In their original study, Cheng et al. (2019) reported an overall Cronbach alpha of .85. Participants rate their agreement with each statement on a five-point Likert scale (e.g., 1 = strongly disagree; 5 = strongly agree). See Appendix A for the list of the items used in the survey. (Cronbach's $\alpha = .89$).

Program Competitiveness

The final measure assesses competitiveness of a work environment. Items were derived from a scale developed by Fletcher and Nusbaum (2010), which was originally designed to measure how competitive an organization's environment is based on questions about rewards,

recognition and status. Items have been reworded to reflect the graduate school program context See Appendix A). (Cronbach's $\alpha = .92$).

Table 2 – Scale and Subscale Reliability Estimates and Descriptive Statistics

<u>Measure</u>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	α
1. Graduate Student Self-Efficacy	356	2.00	5.00	4.22	.63	.88
2. No Social Comparison	356	1.00	5.00	3.00	.89	.87
3. Upward Social Comparison	356	1.00	5.00	3.63	.94	.90
4. Downward Social Comparison	356	1.00	5.00	2.50	.98	.91
5. Program Competitiveness	356	1.00	5.00	2.65	.84	.84
6. Communication Privacy Management	356	2.14	4.93	3.68	.55	.83

Chapter 5: Results

The following section first presents the findings of research questions 1-3 addressed in the survey portion of this study, then reviews results drawn from participant interviews in the form of a thematic analysis.

Multiple bivariate correlation tests were run to test research questions 1, 2 and 3. Research Question 1 explored the relationship between academic self-efficacy and academic social comparison. As noted previously, the measure of academic social comparison assessed the three related dimensions of social comparison – upward, downward, and none (Pulford et al., 2018). Thus, separate correlations were run between academic self-efficacy, upward social comparison, downward social comparison or no social comparison. For Research Question 2, a

bivariate correlation was utilized to test the relationship between program competitiveness and the three dimensions of academic social comparison. A final bivariate correlation was conducted to test the relationship between program competitiveness and privacy boundaries. Table 3 presents the relationships among variables of interest along with their means and standard deviations.

Table 3 – Correlation matrix of variables of interest with means and standard deviations.

Variable	M	SD	1	2	3	4	5	6
1. GSASE	4.22	.63	1	.326**	-.266**	-.116*	-.151**	.098
2. No Social Comparison	3.0	.89	.326**	1	-.673**	-.452**	-.249**	.125*
3. Upward Social Comparison	3.63	.94	-.266**	-.673**	1	.385**	.264**	-.034*
4. Downward Social Comparison	2.50	.98	-.116*	-.452**	.385**	1	.292**	-.162**
5. Program Competitiveness	2.65	.84	-.151**	-.249**	.264**	.292**	1	-.013
6. CPM	3.68	.55	.098	.125*	-.034	-.162**	-.013	1

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

Research Question 1

The first research question considered the possible relationship between academic self-efficacy and social comparison. To test this relationship, a bivariate correlation test was run between academic self-efficacy and the different types of social comparison. There was a medium, positive, significant relationship between academic self-efficacy and no social comparison ($r = .33, p = <.001$). In contrast, there was a medium, negative, significant relationship between academic self-efficacy and upward social comparison ($r = -.27, p = <.001$) and downward social comparison ($r = -.17, p = <.001$).

Research Question 2

The second research question explored the possible relationship between program competitiveness and academic social comparison. To test this relationship, bivariate correlations were run between program competitiveness and the different types of academic social comparison. A medium, negative, significant relationship was found between program competitiveness and no social comparison ($r = -.25, p = <.001$). There was a medium, positive, significant relationship between program competitiveness and upward social comparison ($r = .27, p = <.001$). There was a medium, positive, significant relationship between program competitiveness and downward social comparison ($r = .29, p = <.001$).

Research Question 3

The third research question addressed the relationship between program competitiveness and privacy boundaries. Results of the bivariate correlation was not significant ($r = -.01, p = .8$).

Research Questions 4 and 5

Interview questions were utilized address RQ4 and RQ5. Interviews were transcribed and coded according to the described methodology above. While coding the interviews, four major themes emerged: comparison contradictions, perpetuation of the academic environment, student over self, and group cohort cohesion. Each theme is introduced and then discussed in further detail below.

The first theme highlights student comparison contradictions. An analysis of the interviews revealed that students often viewed comparison as something negative. At the same time, they discussed the many different ways they engaged in comparison in their programs. There is conscious acknowledgement that this behavior is not beneficial but something that students do not seem to be able to help themselves from doing.

The second theme centers on the perpetuation of the academic environment. Higher level degrees tend to be more rigorous and taxing intellectually and emotionally, with both students and faculty feeding into a constant atmosphere of pressure. Multiple students cited differing reasons for feeling immense pressure. A review of interviewee comments suggests that students perceive the larger picture of academia as, on the whole, extremely competitive and intense.

The third theme discovered in the analysis of interview transcripts is the idea of student over self. In this section I concentrate on the ways that students often feel a need to put their academic career over their own personal lives, something that for many resulted in feelings of burnout. Considering how demanding graduate work is, it is easy for students to become overwhelmed. Many students described their schoolwork as the center of their lives with little time or effort put into things outside of their degree. This mindset that someone's academic life is more important than who they are as a whole is something that many students described.

The last theme I discuss is that of cohesion within the graduate school cohort. I will break down the ways graduate students rely on the support of others in their program and find solace in the ability to communicate and commiserate with each other. This ability to bond and feel close to others in their program creates a sense of community that was instrumental in many students' success. Individual students' feelings of competition may prevent them from feeling able to share with others, leaving them unable to feel a connection to their cohort or program.

Comparison Contradictions

Here, I discuss the ways that students describe their feelings about comparison yet simultaneously engage in comparison. Many students reported that they viewed comparison negatively but further into the conversation often discussed how they compared themselves to others in their program. For example, Julie, a newly graduated student PhD student, ended our

interview by saying how bad she felt for people that compared themselves to others and how hard that can be on people. However, earlier in our interview, she discussed how people in her cohort would share about their progress and time spent on assignments. I asked her how she felt about what others shared and how it affected her:

I would say hearing about where others were on assignments did affect me. I was kind of thinking to myself, ‘maybe you should invest more time.’ I don't think I ever really spent like six hours or more doing something just because I thought that but for sure, the thoughts would happen and affect how much time I spent, for sure.

In this quote, she not only is comparing herself to other students in this moment but also changing her own actions based on others in her program. Her statement emphasizes the contradictions embodied by many other students – understanding that something may not be healthy or beneficial but doing it just the same. Another student, Katie, shared this sentiment. She noted that she is aware of how often she compares herself to others but cannot help feeling the need to continue doing it. For many students, these contradictions add to their stress. They are aware of how damaging such comparisons can be, but at the same time feel like the comparisons are also helping them in some way. Students often need to feel validated by the accomplishments of others, that they are not the only ones struggling or not understanding. Looking for this validation in others can lead students to look for an external point of reference for their success, rather than considering how they feel about their own work.

Similarly, Sydney, discussed how crucial it was that she retain class information, rather than get a good grade. She described the importance her program placed on gaining practical knowledge and that for her, the grades would come with retention. However, she also explained frustrations she experienced when comparing herself to others, even when she felt accomplished

in her own work. Even when she had retained information from her courses, she felt the need to validate that she had gotten just as much out of the class as others. It is interesting here that even students who are actively trying to keep their focus on their own work still engage in comparison, possibly also speaking to the environment they are in, as we will discuss at length later on.

Interestingly, students actively engaged in comparison without any actual conversation with other students. This also served as a type of contradiction, as students would say that they did not engage in comparison but then they described how they utilized different tools on their course management system to compare their progress to others in the class. For example, one tool frequently mentioned allows students to view the range of scores for an assignment, including highest and lowest grades, without student names. One student, who began her interview by saying that she rarely discussed academic information with others and did not feel she engaged in comparison much at all, also stated that she would compulsively use this tool on her course page. However, she did not identify the behavior as comparison because she was not actively discussing grades with other students.

It is possible that students feel torn between wanting to be sure of themselves but also needing reassurance that they are on the same level as others in the class. In high school and undergraduate studies, students are assigned letter grades for assignments that often are narrow in scope, with restricted responses. However, graduate assignments are often not as straightforward, with each student pursuing their work in a different way, meaning comparison in graduate school is much more abstract. Students may compare themselves to others the same way they did as undergraduates, but in this context, it likely provides them with a skewed perspective of success. This also speaks to the environment of academics as a whole and the way

the education system itself may foster comparison with no way of telling how true of a measure that comparison is.

Academic Environment

The contradictions students expressed are part of a larger academic culture. Whether consciously or not, students and professors can perpetuate the idea that there are always areas to improve, do more and be better. While this can serve as encouragement, it can also set a standard that students will never be able to meet. Many students referenced feelings of pressure and intensity within their programs past what they viewed as normal or expected. One student, Abby, noted that people would often compare their suffering, as if somehow the student suffering the most was working the hardest. Martha, a second-year master's student, shared this feeling:

Even on the first day of class, our professor was like, 'if you're not losing sleep, you're not doing it right. Grad school isn't like undergrad, you're going to feel like you're working two full time jobs.' I kept thinking, are they trying to scare us with this? Why would they want to do that?

In this way, even professors are feeding into a culture that prioritizes sacrifice, rather than trying to educate students on how to manage coursework. Given that graduate students often experience immense stress and burnout that can lead to mental health concerns (Allen et al., 2020), it is important to examine how the graduate student experience differs from other educational degrees (i.e., high school, undergraduate) or even the workplace. Often graduate students are expected to play many roles at once. It is common for them to be juggling classwork, writing papers, assisting professors in research, managing a lab, writing a thesis or completing an internship and serving as a teaching assistant/instructor of record for multiple classes. It is not to say that graduate students are not aware of what will be expected upon entering the program, rather the

idea held in many academic environments that the person taking on the most is the one to be praised. Abby detailed in this interview saying:

Someone would say, 'Oh, I spent 30 hours, I lost my hair, I haven't eaten a real meal in a week.' It was kind of like who could suffer more in grad school. And I didn't like that. Nobody should want to suffer but I think suffering seemed to be something we felt we should be in competition to do.

Abby said she also felt dismissed by professors if she tried to voice wellness concerns, many of them citing that 'it's just part of grad school.' Another student stated that the main advice they would give a new graduate student would be to give specific care to working ahead and trying to achieve some kind of balance, 'or you'll completely drown, and you might anyway.' Although many of these statements were said with a smile or a partial laugh, it was clear in the interview that they were not joking about the pressures they felt. These statements are a testament to the academic environment and an idea that there is no other way of approaching schoolwork. This tension is built into the very structure of graduate level curriculum and often part of the daily dialogue of students and professors alike. A number of students directly addressed this issue.

When asked about any downsides to her graduate experience, Emma stated:

Something that I've noticed is the power hierarchy structure of academia. How powerless graduate students feel sometimes. Especially regarding departmental culture and what we have to do day to day. I don't feel that way all the time but, usually we don't get much choice in anything.

Like Emma, others discussed feeling powerless and not listened to in their program by professors and faculty. Meredith talked about the power hierarchy in her program and feeling like the

people in power did little to mend the culture in the program and sometimes even made it worse. She said:

A lot of the people who are in these positions of power come from this old line of thinking. It's never anyone's intention for this environment to be that way, to exclude or divide anyone, but it does.

This further illuminates the possibility that upper-level faculty are not fully aware of how their actions are affecting others and perpetuating an environment that students see as divisive or overwhelming. She also went on to discuss how influential faculty were in all department matters, including diversity and inclusion initiatives, and how the attitude of each professor influenced the attitudes of others in the department. She felt that many students placed value in the things their professors also valued which, in her case specifically, caused polarization for her program.

It is noteworthy that students all discussed being very aware of their professors' opinions, even if they were not explicitly discussed. One student described how her professors never encouraged any official kind of competition, but it was always very clear which students were favored. She stated:

I think professors try to come off as neutral, make it look like it's not a competition, but you can definitely tell who the favorites are. Certain student work gets talked about more or given more attention, absolutely.

This observation speaks to another level of competition within academia, to gain favor of professors. Even with no formal recognition of anyone specific, the unofficial favoritism is something students pick up on within their courses. Now, students may not only feel pressure to

do well, but to do better than others simply to be noticed by the people many of them hold in such high regard.

This type of stress is present across departments but seems to be more formal in STEM programs. Students in programs like engineering or computer science seemed to be more aware of competition than those in programs like counseling or education. STEM students more often brought up feeling compared by their professors or encouraged to compare their work to others. One student described this experience saying:

Professors will be like, ‘Oh, but this person is working this much, for this many hours. Why aren’t you doing that, too, and why aren't you working on this project more? Why haven't you finished this yet?’

This is a much more direct type of comparison/competition than those in humanities programs ever described. These types of comparisons being more prevalent in STEM may mean that graduate STEM programs have an even more prominent and obvious pressure built into the program as a whole. Those in humanities and liberal arts programs more often discussed personal feelings of comparison, rather than any encouraged by their actual program. However, both types of competition/comparison seemed to be negatively effecting students and adding to the stress of their coursework and any assistantship responsibilities. It is important to consider the difference in how programs are cultivating this type of culture for their students and the differences that exist even between different departments.

Student Over Self

The following section will detail the ways that students prioritize their degree work and their own personal lives. While the academic atmosphere is something that puts pressure on students, it is important to consider how they are prioritizing their time and responsibilities for

themselves. Some students discussed very specific ways they maintained balance for themselves while others talked about their complete lack of work/life boundaries. Although some students stated that they felt more balanced than others, none of the interview participants felt completely comfortable with the way they balanced their time working with their home life. They all discussed tension in how to balance their time and this caused stress and frustration.

Julie, for example, talked about how difficult it was for her to make time for herself during her program. She did not consciously make an effort to have a balance for herself and felt that school often overpowered any other interests she had. When asked how she dealt with the demands of her graduate work, Julie said:

I honestly don't think I've dealt with it very well. I would say that those three years in grad school, my graduate studies were related with mental health issues. So I think there's so much pressure there, for me at least personally there was, so no I did not really handle it well.

It is important to consider how Julie ties the demands of her graduate studies to her own mental health. She feels an intense amount of pressure in her program, yet lets it continue the entire time she is working towards her degree. Without any strategy to create a balance for herself, she is allowing her work to take over her life and even affect her own mental health. Despite being aware of how her prioritization is affecting her, she does not change her actions or possibly is not aware of how to. Many students may be unaware of how to manage responsibilities in a healthy way and may not feel capable of asking for help for fear of looking incapable. This, again, speaks to the academic atmosphere that may render students unable to ask for help or voice concerns of being overwhelmed.

Julie is not the only one who felt like her own mental health was being affected by her workload, Rebecca, a second-year graduate student, also described the same feelings:

Last semester I was so overwhelmed I was constantly bursting into tears, because I was angry that my professors kept overloading me. Mentally, I know it's supposed to be hard, educationally it's supposed to be hard, but it's truly a different kind of hard. I don't get weekends; I don't get evenings off.

Rebecca's experience mirrors Julie's with both of them feeling the need to give up the rest of their lives to maintain their success in their program. Not only do both describe having no time of their own, but their schoolwork is also affecting their own health. However, both continue to prioritize their life as a student over their happiness.

Similarly, Alexis holds a full-time job while earning her degree and also has a difficult time maintaining balance for herself. She noted:

I have to be able to balance that otherwise I'm stressed, all the time. If I feel too overwhelmed, I will just take a personal day off from work. Usually that ends up with me catching up on schoolwork as opposed to actually taking time off.

Even in an attempt to balance responsibilities, Alexis is still doing schoolwork in the time that she intended to use to relax and make time for herself. Alexis is more consciously trying to maintain balance but is still prioritizing school over her own wellbeing. She is even aware of the stress she is experiencing yet feels unable to carve out time away from schoolwork. She continues on to say that students should be prepared to give up weekends to be successful in the program, which implies that despite the feelings of stress the workload is causing her, she thinks it is the only way to do well.

This idea of needing to put school over personal life is something that was more severe for some students than others. When asked what advice he would give to an incoming student, Jason said:

You don't want to be too negative right away, but, be prepared. It's not like undergrad, you're not going out or doing as much, because you have to stay focused. You have to constantly be focused.

Again, Jason is describing the feeling that he has to always be focused on schoolwork and that students should be prepared to have to give up other things they may have spent time on in the past. It is interesting here that he also prefaces his statement saying he does not want to be negative, which implies that he knows this level of importance placed on school may not be a positive thing. Students consistently reported feeling the need to put most of their lives on the backburner to their schoolwork and for those that felt they had some sort of work/life balance, they noted that they had to work extremely hard to maintain it.

Multiple students discussed having to schedule their day in a way they never had to before just to make sure they were taking any time at all for themselves. More than one student explained how they had to schedule time to eat and go outside or they would spend all of their time solely focused on their work, forgetting about their own physical and mental wellbeing. Again, this is possibly reflective of the academic culture that many said made them feel like suffering was somehow an ideal. While students and professors may just make these comments in passing, it is obvious that students internalize these ideas and are actively living them out in their day to day lives.

Cohesion in Communication

The last theme that emerged during data analysis was the importance of communication within the graduate school cohort. Many students stated that they set certain privacy boundaries for themselves with others in their cohort but also described how helpful communication was with their peers. Many students brought up the concept of commiseration, saying that they often grew closer to those in their cohort through mutual feelings of misery. Below I detail the experiences of students that chose to communicate with others in their cohort in contrast to those who did not. Many of these experiences created a type of community within cohorts that helped students to feel more connected and even more successful.

To begin, it is important to note that not all students freely discussed information with those in their cohort. Students who felt very competitive with others in their cohort also tended to be less likely to share or form bonds. One student, Rebecca, talked about how her program was highly competitive both because there was job competition but also competition between students. She discussed feelings of isolation in her cohort and how she rarely felt comfortable discussing academic information with members of her cohort. She had made a few close friends but did not interact much with the rest of those in her program.

In contrast, many students talked about the importance of their relationships with others in their program. The idea of commiseration came up in almost every interview. Students would often use complaints as a way to start conversation or break the ice with cohort members that they were not as close to. It is interesting to note that multiple students stated that they feel much more comfortable sharing if another student starts the conversation and if they are both struggling with something. When I asked Daniel, another second-year master's student, how he felt about sharing with others in his cohort, he stated:

I think it's typically beneficial for everyone, mainly because I think that most of us are all on the same level. So if one of us isn't doing very well and we talk it through with other people, like to complain or to relieve stress, it ends up benefiting us because most of us because we feel that sense of camaraderie in, I don't know, our misery?

In general, students were more willing to talk about their difficulties rather than their accomplishments, which may also speak to the graduate school and academia culture. Kevin mirrored this feeling of commiseration, saying he also felt that it was only acceptable to talk about struggles or downfalls. He said,

Usually it's kind of uncomfortable to say 'yeah I did a great job' because what if other people aren't feeling as good about their work, you don't want to be insensitive. So, yeah, that side of things never really come up.

Kevin is more concerned with being insensitive to other students than of judgement, something many students also discussed. Again, this points to a culture that in some way insinuates that students cannot celebrate success because another student could be struggling. To get a better idea of this interaction, I ask participants how conversations about grades even came up in their cohort. Were they the ones to ask others, or did they only discuss their own information if someone else broached the subject? Every student said they would be more inclined to discuss academic information if someone else brought it up. However, that raises the question of who is actually bringing up these topics. In many interviews, it seemed that discussion of academic information was brought up in a subtle way, no one ever explicitly asking for another student to share their grades. This concept also ties to ideas of privacy, as students are obviously choosing to keep their information private until others prompt them to discuss it. Understanding how students are choosing to keep their information private in order to be sensitive to others can give

more insight into how the academic atmosphere also influences student feelings of privacy/willingness to share. Programs that reinforce the feeling of not being able to share about success may be influencing students to keep more of their academic information private than they otherwise would have, possibly affecting how they are able to celebrate their progress or connect with others. Despite many participants noting that they thought discussing specific grades often was not helpful, they found value in connecting with those in their cohort as a whole. For some students, their courses were the only thing they had in common with anyone else in their cohort, so grades/academic information was one of the only ways to initiate conversation and connect.

When asked about their favorite part of their graduate school program, many students brought up their relationships with other students. Darren noted,

I couldn't have made it this far without my cohort. Even if it's just hanging out before class, knowing other people understand what you're going through, it makes it more manageable. I'm not the only one confused all the time.

As seen above, students not only confide in one another about their worries, but lift each other up and encourage one another. Not only are cohort members in classes together, many discuss lifelong friendships they have made in their program. Through hours of studying and working together, a graduate school cohort forms its' own community, a subculture of the program and university as a whole. Students look to each other as more than just a resource for academic help but also in their personal lives. Interview responses suggest that students do not feel comfortable voicing concerns to their professors. Cohort members are often the next available group that would understand their struggles within the program. If students do not feel capable of talking to

their professors or those in their cohort, it may be hard to find someone that truly understands what they are experiencing.

Chapter 6: Discussion

The purpose of this study was to gain a greater understanding of the experiences of graduate students. Specifically, I wanted to understand how graduate students were comparing and competing within their cohorts and how such comparisons might affect their communication with their peers. Previous research does not address these experiences in graduate cohorts, despite the growing concern for graduate student wellbeing and mental health (Woolston, 2021).

Below I review the findings of each research question combining results from both the survey and interview analysis.

Overall, the literature points to a relationship between these different variables and two of these research questions gave more clarity to know this is happening for students across all programs. Students are comparing themselves to others and this sense of comparison is heightened when programs are highly competitive. In regard to my last research question, I did not get any indication that there was a relationship between the competitiveness of a program and how private students are with their academic information. However, students did indicate in follow-up interviews that they were more likely to be private if they felt there was a strong sense of competition. This could mean that survey items need to be adjusted to more adequately fit the graduate student experience. It could also mean that privacy is truly very different person to person, with little ability to predict how private a person will be in a given situation. It is also interesting to note that there was no difference in any of the variables when it came to demographic factors like sex or ethnicity.

Research Questions

The first research question considered the possible relationship between academic self-efficacy and academic social comparison. Results of the bivariate test showed that there was a positive, significant relationship between academic self-efficacy and no academic social comparison. This means that students who indicated levels of high self-efficacy also indicated that they did not engage in academic social comparison. This relationship is supported by the literature (Dixon et al., 2018), strengthening the idea that if students feel capable of doing the work asked of them they are not as likely to compare themselves academically to others in their cohort. As stated in Dixon et al. (2018), self-efficacy is the number one predictor of success in education and social comparison research shows that high self-efficacy often results in lower social comparison (Pulford et al., 2018). These results suggest that this relationship also applies to the graduate school context. However, while prior research reported statistically significant differences between males and females regarding self-efficacy (Huang, 2013), this study did not. Neither the survey data nor the responses in the follow-up interviews support claims of differences based on biological sex.

Another important aspect in this research question is its' tie to the academic environment. The academic environment as a whole was not analyzed through the survey but did play a large part in the interview segment of this study. Prior research (Bartimore-Aufflick, et al., 2016) shows that teachers often play a large part in student self-efficacy and the interviews of this study pointed towards the same results. Students often cited their professors and advisors having a large role in their experiences in their program, meaning that faculty are not only teaching students, but they are at least partially responsible for the type of environment and attitude they are fostering within their classroom. Professors who were once students themselves are now the ones setting the tone for their own programs and hold the power to perpetuate an atmosphere of

pressure and competition or make change to show students that competition can be inspiring and does not have to be polarizing. Prior research also reinforces how important instructor involvement is, most of this research is focused on the high school environment but many of the findings are applicable in a graduate program as well (MacNeil, Prater & Busch, 2009). Students often see their professors as leaders in their program and may naturally follow their example as well as take their opinions and feedback to heart (Rokach, 2016). In order to promote self-efficacy in students, professors should focus on student growth, understanding that resonating on negatives in their work or progress may not be motivating. Professors dialoguing with students about their strengths and how to capitalize on them in combination with how to overcome their weaknesses can reassure them that they do not view them only in regard to what they are doing wrong. Prior research in this area (Ayllón et al., 2019) aligns with this idea, finding that students are more successful if they feel that their instructors are there to help and encourage them every step of the way. It also finds that students learn better when instructors implement collaborative learning in the classroom and show that they value their students' wellbeing, (Umbach & Wawrzynski, 2005) bringing together the ideas that collaboration is more effective than competition and the role of faculty is very important in student success.

The second research question addresses the relationship between program competitiveness and academic social comparison. Data analysis found a positive, significant relationship between program competitiveness and academic social comparison. This means that students who viewed their programs as highly competitive tended to engage in higher levels of academic social comparison. This relationship is supported by prior research (Kumar, 2006), which found that as students' progress in their studies the environment gets more competitive, leading to more comparison. Moreover, students may originally feel accomplished in their own

work until comparing themselves to others in their cohort. If students view their program as not applying external competitive pressure, then they may not feel the need to engage in academic comparisons as those enrolled in competitive programs. This experience was also brought up in interviews. Students who indicated their programs were competitive were more likely indicate they felt the need to constantly try to measure up to others, especially when this competition was heightened by professors or advisors. Again, this points to what an instrumental role professors have in the lives of their students and the responsibility they hold in the way they are dialoguing with their classes and mentees. Some students noted that their program pushed competition in a healthy way that encouraged working together for the success of the whole, while still putting forth the very best work individually. One student specifically cited her program being competitive, but in a way that pushed her to do better for herself, not to simply try to be better than other students. In this instance, her program only pushed competition in group projects, so there was still comradery within each group and no real way to compare individual successes. This points to the possibility that competitive work between groups can be a healthier form of competition than individual competition. Each member is still putting forth their very best to be an asset to the group, but the entire group is working together towards a goal. Prior research supports this relationship, with students having a much more negative view towards individual competition and preferring cooperation (Sherman, 1986; Hilk 2013). It is important to remember that although competition can be damaging, it can also be motivating and inspiring if stimulated in a helpful way.

Additionally, students in STEM fields cited more formal types of competition than those in humanities fields. In programs like aerospace engineering or biological sciences, students felt that professors were more open about which students were most successful and that they served

as the one to beat, making competition something students were almost unable to ignore. However, in programs like communications or mental health counseling, students felt as though their professors either did not mention any type of competition or specifically tried to negate competition in their courses. However, these students still managed to compete amongst themselves in their own ways. While both types of students experienced competition in their own ways, those in programs where competition was not encouraged by faculty found the competition to be at least somewhat more manageable. This is an important differentiation, as prior research contends that instructors who encourage collaboration over competition have more successful and happier students (Umbach & Wawrzynski, 2005). These findings, in combination with the research that already exist, point to the need for more focus on collaboration in STEM fields and less formal competition encouraged by professors. To address the competition within humanities programs, all professors could utilize some dialogue about how important each individual student's work is. Without extremely different contributions from each person, a majority of the research known today would not exist- there is no way to measure success in research on social media versus success in research on parent-child relationships. Differentiating between success and success in comparison to others can help students stay focused on their work without being negatively affected by how others around them are performing.

The third research question, which tested the relationship between program competition and communication privacy boundaries, was the only one that resulted in a nonsignificant relationship. This finding suggests there is no relationship between CPM and program competitiveness. Thus, program competitiveness does not appear to influence how “thick” or “thin” a student's communication privacy boundaries are when determining what or how to share information with others in their cohort. However, even the earliest studies into communication

privacy management show that communication privacy varies considerably from person to person (Petronio, 2002; Schrodt, 2013). For instance, some students noted that they did not share private academic information because they did not often share any kind of information with anyone not in their family. Specifically, I asked students who described themselves as very private why they did not share academic information with others. Kevin, a second-year master's student, explained that he has always been a private person. He did not often share with new people or discuss anything personal with others, also noting that most of his family was also very private. This example aligns with prior research (Myers, 1998; Li, Chen & Liu, 2020) which found that, while certain personality traits may point to a likeliness to disclosure (ex. shyness, location), it is hard to actually pin down if someone will disclose information or not since there are so many factors that can affect their decision-making.

While the quantitative analysis was not statistically significant, the supplemental interviews gave some insight into the situation. Many students discussed feeling less likely to share if they felt their program was highly competitive. These students also tended to engage more in social comparison, and also found it harder to connect with others in their cohort. As this situation was reoccurring in many conversations, it is important to consider a way to more effectively measure this relationship in the future. Although the reliability analysis for the measure of communication privacy utilized in this study was robust ($\alpha = .76$), there remains the question of its validity. It may not be effective to measure communication privacy management in this context. With no general established scale for CPM, individual scales have been created to fit other contexts, (Frampton & Child, 2013; Hosek & Thompson, 2005; Worthington & Fitch-Hauser, 2019) but as both this study and prior research demonstrated, a scale originally designed to measure privacy in families can be difficult to adapt to other contexts. Such adaptations may

raise questions about reliability and validity. Certain dynamics addressed in a scale intended to measure privacy within a family (ex. ‘My spouse’s family considers me to be a family member’) (Serewicz, & Canary, 2008) or in a healthcare setting (ex. A patient’s personal information is not discussed with colleagues except for the purpose of benefiting him or her and maintaining his or her care’) (Özturk, 2014) are not relevant to educational contexts. To effectively measure communication privacy management in an academic setting, a scale must be specific to elements that only exist within academia (ex. ‘If grades are discussed in class, I expect other students not to discuss my test grades with those outside of the class’).

The fourth research considered how sharing academic information within a cohort would affect graduate students. This research question was only addressed by the interview portion of this study. Overall, students cited sharing within their cohort as extremely important but only in certain circumstances. There was a large difference between the different kinds of academic information shared. For example, multiple students explained how valuable it was to be able to discuss their struggles and difficulties with each other, so they did not feel alone. On the other hand, they found that the sharing of specific grades resulted in comparison and competition. So long as the conversation revolved around commiseration it seemed to be beneficial, but when it turned to specifics in grades/project status they expressed greater competitiveness. From the interviews it became apparent that sharing academic information was often only beneficial if the discussion was vague and revolved more around the emotions associated with certain grades than the actual grades themselves.

Other students in their cohort understood the struggle of graduate school and more specifically their program. Multiple students described feeling like no one outside of their program understood what their program expected of them or what pressures they were under.

They felt solidarity in their conversations with those in their cohort. So long as specific grades did not come up, students felt encouraged by the conversation. This finding suggests that students should consider the amount of support they are getting from their cohort and may want to refrain from bringing specific grades into the conversation. Prior research into self-disclosure and communication privacy aligns with these findings, showing that sharing between people often bring them closer together, strengthening the relationship (Jones, 2017). Without this way to bond, students may not have the ability to gain as many relationships in their cohort, missing something that many students deemed an essential element to their happiness and success in their program. Students described sharing with others in their cohort as a way of relieving stress (Katie) and commiserating (Daniel) which they thought brought them closer together.

The fifth research question addressed how graduate students decide when and how they will share private academic information with others. This question was only addressed in the interviews. To gain information about how students create these rules and boundaries for themselves, I asked students about if they felt comfortable sharing academic information with those in their cohort and how they decided what things to discuss with them and which things to keep private.

Again, this was something that differed from person to person. Many students used conversation about academics as a conversation starter, a way to find commonality with others in their program. Conversations about classes and grades were used to bond and get closer to the people they spent the most time with. Students share in accordance with their own set of privacy rules, many which revolve around how vague or specific the conversation gets. Students were more likely to share when they were not the ones to start the conversation, reflecting internal rules about when it was appropriate to discuss academic information. Thus, students want a way

to bond with others in their cohort but also want to adhere to their own privacy rules about how such sharing should happen. Almost every student stated that they did not enjoy bringing up specific grades and progress first and would only share if others started the conversation.

According to prior research, it is possible that this is because many students do not start their program off as close friends to everyone in their cohort, so certain levels of small talk and superficial conversation are more appropriate at the beginning of these relationships (Masaviru, 2016). Students may not feel close enough to those in their cohort to share, and do not want to push boundaries of other students by asking them about personal academic information. Students are engaging in a constant analysis of their own privacy rules as well as those of the person they are considering sharing with. One student explicitly stated this, saying, “It’s hard when you’re starting out in your cohort, it’s the foundation of your career and your time in your program and it’s all brand new.” She details not sharing information because students are often unfamiliar with their peers and program at first, so such personal conversation is not as comfortable to discuss.

This study gives insight into many new elements of communication privacy management, academic social comparison and academic self-efficacy. Prior research in communication privacy management neglects to address the graduate student cohort context, despite the large role privacy plays in academics, especially at the graduate level. This research helps to better understand that students may be more likely to engage in information sharing in order to bond, but not likely to share specifics about their grades, showing that not only are students abiding by their own privacy rules and boundaries, these rules and boundaries may change often even within the same conversation. Additionally, the graduate school setting has been widely unresearched in terms of academic social comparison. It is obvious from this study that students are engaging in

comparison and competition, and that while self-efficacy plays a role, even some of the most confident students fall into the temptation of comparison. Students note circumstances where they are comparing themselves subconsciously, an idea that has yet to be addressed in other research. Lastly, while the idea of graduate student academic self-efficacy has been addressed in prior research, studies are few and far between leaving more questions than answers. Findings from this study show how important professors and faculty are to student self-efficacy even at the graduate level. Professors can ensure they are engaging in positive and uplifting dialogue with their students to ensure high student self-efficacy and student success.

Practical Application

This study gave considerable insight into the graduate student experience. First, both survey data and interviews emphasized how important every aspect of an academic program is to student happiness and success. The atmosphere cultivated by each department, and academia as a whole, is often extremely overwhelming for graduate students (Allen et al., 2020). Professors may unknowingly perpetuate an intense atmosphere because they were subject to the same type of experience, always feeling like there was more to be done, more to live up to and no room to ask for help. Many professors may think this is motivating, because if they successfully made it through graduate school, the experience could not have been that bad. However, just because it worked for some does not mean it works for all and that type of atmosphere can be extremely damaging to students (Eleftheriades, 2020). Many aspects of academia reinforce this constant pressure, with little attention given to how effective it actually is. This pressure can push students to prioritize schoolwork over their personal happiness. While students are responsible for their own actions, much of how they view themselves and their work comes from their professors and advisors. Competition has a place in an academic setting, but it is important for professors to

encourage it in a healthy way. To create a healthier sense of competition, professors can remind students that their work is different and not comparable to others in the course. Putting more emphasis on the individual path of each student was something many students cited as helpful for them. More prominence can be put on students always trying to build on their skills and strengthen their writing and researching abilities rather than exceeding those of other students. Students should strive to be better than they were before, not better than anyone else. Professors can weave these values into their classes both in what they are saying to students and how they are evaluating them (Emmanuel-Avina & Delaney, 2018).

Greater focus should be given to how faculty are dialoguing with their students to ensure students are all feeling supported and encouraged, as that is often when they do their best (Hagenauer & Volet, 2014). It is in the best interest for the student, the faculty and the program as a whole if everyone involved has the same goal. This research should encourage professors to think of the part they play in each of their students' lives and how influential their lessons and interactions with their students are. Despite the program, students are engaging in comparison. Interviewees from both STEM fields and humanities noted feeling the need to compete and compare. Prior research points to uncertainty motivating comparison (Butzer & Kuiper, 2006), and the normalization of uncertainty could help turn students' feelings of competition into focus on their own progress. Given how influential professors are they should remind students that everyone is uncertain at times and that those feelings are normal. These discussions could also help negate some of the toxic pressuring atmosphere that students discussed in their interviews. Professors can also turn off any elements of their online course page that allows for comparison, as students noted checking that feature and feeling a higher level of competition because of it.

This competition is based on nothing but a scale on the course page and is often not an adequate measure of success, so disabling for the course is beneficial for students.

Additionally, this study helped to test the four scales included in the survey. It showed the need for more specific scales to measure communication privacy management and program competitiveness in the academic context. This research utilized three of the scales in a context that they had not been used in before, giving more insight into how they can be used in the future and how they may need to be strategized to fit this new context. With such high scale validity, these scales can also be used again in this context to study graduate students at different universities or possibly in more specific circumstances within academia.

This study also looked more into the aspects of academia outside of the actual work that affect students. While it is easy to assume the most important part of a program is the curriculum, the papers and the tests, the findings here demonstrate that even the most capable students still engage in comparison and often unnecessary competition. Students should consider these things when entering a graduate program and should be proactive in trying to negate these interactions. It would be beneficial for students to stray away from asking others their grades and monitoring grade range tools on their course pages. Additionally, a closer focus on instructor feedback and personal progress can be a better way to measure success. If a student is consistently improving on writing and researching skills, they should remember that is a more accurate measure of their progress than by looking at other students' work. It is important to remember that everyone is at a different level in their coursework and come from different backgrounds, so it is impossible to compare one students' work to another. Also, speaking with professors can give a better measure of progress so students should pay closer attention to their comments rather than those of others in their cohort.

Additionally, work/life balance is something that is researched and discussed often within the workplace but is not as prevalent or many in the academic environment. However, many students are putting in the same amount of work as they would for a full-time career, so the considerations for a good work/life balance should be the same. Attention should be given to the dialogue used by professors and supervisors within the program as student wellbeing should be just as important at a university as employee wellbeing is within a workplace. Students who prioritize academics over their own physical and mental health may be susceptible to burnout and, as many students have described, a graduate school experience that leaves them less fulfilled than they expected. Graduate students that are reduced to spending all of their time on their degree often only have cohort members as an outlet which for some is not even possible because of the competitive environment of their program.

Another way to ensure balance would be for students to keep an accurate view of how much time they are allotting to each task, ensuring they are giving themselves enough personal time to recharge and enjoy hobbies outside of the classroom. Faculty and graduate program officers can help to reinforce how important this balance is by sending out reminders occasionally, telling students different ways to unwind or take some down time. Additionally, if possible, seminars could be hosted to educate students on how to allocate their time, so they are able to accomplish all of their tasks while still maintaining time for themselves. Since students often take cues from those in power, when professors and faculty are the ones stressing how important it is to avoid a work overload, students may be more likely to listen and implement strategies to stay balanced. More emphasis should be put on how important rest and enjoyment are to the graduate experience as a whole, and that students can be successful without giving up their whole lives for their degree. Addressing this element of graduate school is not something

that can be done by just one person, it must be considered by students, professors, advisors and the program as a whole to ensure a healthy and successful environment for everyone involved.

Limitations and Future Research

While this study has expanded our knowledge of graduate student experiences, it also had its limitations. First, it is important to note the possible role that the Covid-19 pandemic could have had on student responses. Some students may have begun their program fully online and may not have had time to make closer connections or have personal interaction with those in their cohort. This could have affected survey responses, but was accounted for in the supplemental interviews. I asked each student if their program was online or in person and how they thought COVID-19 affected their experience. Many students had at least some of their program in person before transitioning online and referenced their time in person for the duration of the interview to ensure more accurate information.

Additionally, there were difficulties in the availability of current reliable scales. All of the scales included had to be amended in some way to fit the specific context of the study and some items were more difficult to amend than others. This study can serve as a starting point for the creation of more scales specific to an academic environment. Specifically within the program competitiveness scale, many aspects of an academic program were not addressed within the scale items (e.g., course website page grade scale, professor recognition in the classroom). As a result, a number of elements that contribute to a competitive program went unaddressed. Future researchers may want to develop a scale specifically designed to measure competition within academics or in an organizational setting that is less centered on incentives and monetary compensation. None of the students I interviewed had any compensation changes or tangible

rewards as a result of doing the best in their program, meaning this section of the survey may not be applicable to the context and could have been removed or altered further.

Although I accounted for the underrepresentation of men in the survey with follow-up interviews, there was still not much representation within survey or interview responses from people other than white females. It is important to consider the demographic breakdown of the university as a whole, but there was still underrepresentation in this study. Further research should attempt to gain a more representative sample so that a greater range of experiences can be considered. This is particularly important in programs where women (or men) have traditionally been underrepresented (e.g., sciences, nursing, education).

Lastly, it is important to note the difficulties that arise when conducting interviews via Zoom. Although it allowed for participants to be comfortable in their own environment, it was also more difficult to build rapport with them. Computer-mediated conversation often eliminates some of the ability to empathize and get comfortable with others which may have made some respondents less open to sharing their experiences. At the same time, there were times when distractions (e.g., others in the room, audio/video issues and background noises), negatively affected the interviewer and interviewee's ability to fully focus on the conversation.

Chapter 7: Conclusion

In conclusion, there is so much more that goes into student success than the materials assigned or the time spent on each assignment. This study aimed to understand how graduate students evaluate themselves and their time in graduate school. It looked to understand how students set privacy boundaries for themselves when sharing academic information with others. Additionally, it considered how comparison and competition altered these communications or their experience as a whole. Ultimately, the results of this thesis suggests that no matter the

program they are enrolled in, students tend to engage in comparison and competition. Interview responses also suggest that these comparisons affect how students feel about their own work and about themselves as a student. Lastly, it illustrates the many levels of the academy that may influence student perceptions of themselves and others. Professors, administrators, faculty, cohort members and the voice in each student's head, plays a significant role in their pursuit of a degree. Communication about academics with peers is pivotal to many students and serves as so much more than just a conversation. These communications also serve as a means to relieve stress and a way of relating and bonding with those around them.

Many of these findings align with already existing research. Student interviews reinforced findings by notable CPM scholars (Petronio & Child, 2013), reinforcing the idea that communication privacy is difficult to measure. However, this study reinforced the very principles of CPM (Petronio, 2013). Graduate students often kept certain academic information private and expected those they shared with to do the same. However, this study reveals need for more research into student-student peer communication, as it is something many students cited as playing a major role part in their wellbeing and success in their graduate program.

These also findings confirm what prior social comparison researchers (Festinger, 1954; Kumar, 2006; Pulford, et al., 2018) have found; students are not immune to the need to compare and this comparison is affected by their own self-efficacy. Students who confidently entered into a graduate program, sure of their abilities, were less likely to compare themselves to others. However, even the most confident students still experienced struggles with comparison at times, especially those in a highly competitive program. However, this research did not find any notable demographic differences, unlike prior research which found women more likely to compare themselves than men (Pulford et al., 2018). It is possible these differences are due to the context

of the study, as no prior research has been done on how people engage in this type of comparison in the graduate school setting.

While significant findings were made in the survey portion of this research, some of the most notable findings were made during interview analysis. Students thrive off of the ability to share in their stresses and thoughts with their cohorts, coinciding with existing research that posits how important sharing is in relationship building (Jones, 2017; Nifadkar, et al., 2019). All of these findings point to practical implications that are easily implemented within a program. First, it is important for graduate faculty to foster a sense of *healthy* competition within their classroom, reminding students how different each of their paths are. The success of one student does not mean the failure of another.

Progress can be made the classroom by reassuring students that they can each be successful and the more collaborate an environment, the more possibility for creativity and innovation. Second, students should expect graduate school to be difficult but remember that their place in school was well earned, and that each student's path is individual. Students are at the heart of the university and current graduate students will be responsible for how future programs prioritize mental-health and student happiness; this future lies with how programs today foster a health academic environment.

References

- Abi-Jaoude, E., Naylor, K., & Pignatiello, A. (2020). Smartphones, social media use and youth mental health. *Canadian Medical Association Journal*, *192*(6), E136–E141.
<https://doi.org/10.1503/cmaj.190434>
- Abouserie, R. (1994) Sources and levels of stress in relation to locus of control and self-esteem in university students. *Educational Psychology*, *14*, 323-330.
<https://doi.org/10.1080/0144341940140306>
- Allen, H., Lilly, F., Green, K., Zanjani, F., Vincent, K., & Arria, A. (2020). Graduate student burnout: Substance use, mental health, and the moderating role of advisor satisfaction. *International Journal of Mental Health and Addiction*.
<https://doi.org/10.1007/s11469-020-00431-9>
- Ayllón, S., Alsina, Á., & Colomer, J. (2019). Teachers' involvement and students' self-efficacy: Keys to achievement in higher education. *PLoS ONE*, *14*(5), 1–11.
<https://doi.org/10.1371/journal.pone.0216865>
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, *28*(2), 117–148. https://doi.org/10.1207/s15326985ep2802_3
- Bartimore-Aufflick, K., Bridgeman, Walker, Sharma, and Smith. (2016). The study, evaluation, and improvement of university student self-efficacy. *Studies in Higher Education* *41*(11): 1918–1942. <https://doi.org/10.1080/03075079.2014.999319>
- Braithwaite, D. (1991). “Just how much did that wheelchair cost?”: Management of privacy boundaries by persons with disabilities. *Western Journal of Speech Communication*, *55*(3), 254–274. <https://doi.org/10.1080/10570319109374384>
- Butzer, B., & Kuiper, N. (2006). Relationships between the frequency of social comparisons and

- self-concept clarity, intolerance of uncertainty, anxiety, and depression. *Personality and Individual Differences*, 41(1), 167–176
[. https://doi.org/10.1016/j.paid.2005.12.017](https://doi.org/10.1016/j.paid.2005.12.017)
- Cheng, Y., Tsai, C., & Liang, J. (2019). Academic hardiness and academic self-efficacy in graduate studies. *Higher Education Research and Development*, 38(5), 907–921.
<https://doi.org/10.1080/07294360.2019.1612858>
- Charoensap-Kelly, P., Mestayer, C. & Knight, G. (2020). To come out or not to come out: minority religious identity self-disclosure in the United States workplace. *Management Communication Quarterly*, 34(2), 213. <https://doi.org/10.1177%2F0893318919890072>
- Chou, H. & Edge, N. (2012). “They are happier and having better lives than I am”: The impact of using Facebook on perceptions of others’ lives. *Cyberpsychology Behavior Social Networking*. 15(2), 117–121. <https://doi.org/10.1089/cyber.2011.0324>
- De Wolf, R. (2020). Contextualizing how teens manage personal and interpersonal privacy on social media. *New Media & Society*, 22(6), 1058.
<https://doi.org/10.1177%2F1461444819876570>
- Derlega, V., Winstead, B., Mathews, A., Braitman, A. (2008). Why does someone reveal highly personal information? Attributions for and against self-disclosure in close relationships. *Communication Research Reports*, 25(2), 115–130.
<https://doi.org/10.1080/08824090802021756>
- Dibb, S., Simões, C., & Wensley, R. (2014). Establishing the scope of marketing practice: insights from practitioners. *European Journal of Marketing*, 48(1/2), 380–404.
<https://doi-org.spot.lib.auburn.edu/10.1108/EJM-04-2011-0212>
- Dijkstra, P., Kuyper, H., Van der Werf, G., Buunk, A., & Van der Zee, Y. (2008). Social

- comparison in the classroom: A review. *Review of Educational Research*, 78(4), 828–879. <https://doi.org/10.3102/0034654308321210>
- Dindia, K., & Allen, M. (1992). Sex differences in self-disclosure: A meta-analysis. *Psychological Bulletin*, 112(1), 106–124. <https://doi.org/10.1037/0033-2909.112.1.106>
- Dixon, H., Hawe, E., & Hamilton, R. (2020). The case for using exemplars to develop academic self-efficacy. *Assessment & Evaluation in Higher Education*, 45(3), 460–471. <https://doi.org/10.1080/02602938.2019.1666084>
- Eleftheriades, R., Fiala, C., & Pasic, M. (2020). The challenges and mental health issues of academic trainees. *F1000Research*, 9, 104. <https://doi.org/10.12688/f1000research.21066.1>
- Emmanuel-Aviña, G., & Delaney, H. (2018). The value assimilation effect between university professors and their students in the classroom. *Journal of Curriculum and Teaching*, 7(1), 158–185. <https://doi.org/10.5430/jct.v7n1p158>
- Erickson, L., Wisniewski, P., Xu, H., Carroll, J., Rosson, M., & Perkins, D. (2016). The boundaries between: Parental involvement in a teen’s online world. *Journal of the Association for Information Science & Technology*, 67(6), 1384–1403. <https://doi.org/10.1002/asi.23450>
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140. <https://doi.org/10.1177%2F001872675400700202>
- Fletcher, T., & Nusbaum, D. (2010). Development of the competitive work environment scale: A multidimensional climate construct. *Educational and Psychological Measurement*, 70(1), 105–124. <https://doi.org/10.1177%2F0013164409344492>
- Frampton, B., & Child, J. (2013). Friend or not to friend: Coworker Facebook friend requests as

- an application of communication privacy management theory. *Computers in Human Behavior*, 29(6), 2257–2264. <https://doi.org/10.1016/j.chb.2013.05.006>
- Frisby, B., & Sidelinger, R. (2013). Violating student expectations: student disclosures and student reactions in the college classroom. *Communication Studies*, 3, 241. <https://doi.org/10.1080/10510974.2012.755636>
- Goudeau, S., & Croizet, J. (2017). Hidden advantages and disadvantages of social class: How classroom settings reproduce social inequality by staging unfair comparison. *Psychological Science (0956-7976)*, 28(2), 162–170. <https://doi.org/10.1177%2F0956797616676600>
- Hagenauer, G., & Volet, S. (2014). Teacher–student relationship at university: An important yet under-researched field. *Oxford Review of Education*, 40(3), 370–388. <https://doi.org/10.1080/03054985.2014.921613>
- Henningsen, M., Valde, K., Entzminger, M., Dick, D., & Wilcher, L. (2019). Student disclosures about academic information: Student privacy rules and boundaries. *Communication Reports*, 32(1), 29. <https://doi.org/10.1080/08934215.2018.1556312>
- Hilk, C. L. (2013). Effects of cooperative, competitive, and individualistic learning structures on college student achievement and peer relationships: A series of meta-analyses [ProQuest LLC]. In ProQuest LLC.
- Hollenbaugh, E. (2019). Privacy management among social media Natives: An exploratory study of Facebook and Snapchat. *Social Media + Society*, 5(3). <https://doi.org/10.1177/2056305119855144>
- Hosek, A. & Thompson, J. (2009). Communication privacy management and college instruction: Exploring the rules and boundaries that frame instructor private disclosures.

- Communication Education*, 58(3), 327–349. <https://doi.org/10.1080/03634520902777585>
- Huang, C. (2013). Gender differences in academic self-efficacy: A meta-analysis. *European Journal of Psychology of Education*, 28(1), 1–35.
<https://doi.org/10.1007/s10212-011-0097-y>
- Jiang, S., & Ngien, A. (2020). The effects of Instagram use, social comparison, and self-esteem on social anxiety: A survey study in Singapore. *Social Media + Society*, 6(2), 1.
<https://doi.org/10.1177%2F2056305120912488>
- Jourard, S., & Lasakow, P. (1958). Some factors in self-disclosure. *The Journal of Abnormal and Social Psychology*, 56(1), 91–98. <https://doi.org/10.1037/h0043357>
- Jones, K. (2017). To tell or not to tell? Examining the role of discrimination in the pregnancy disclosure process at work. *Journal of Occupational Health Psychology*, 22(2), 239–250.
<https://psycnet.apa.org/doi/10.1037/ocp0000030>
- Kennedy-Lightsey, C., Martin, M., Thompson, M., Himes, K., & Clingerman, B. (2012). Communication privacy management theory: Exploring coordination and ownership between friends. *Communication Quarterly*, 60(5), 665–680.
<https://doi.org/10.1080/01463373.2012.725004>
- Kline, R. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.
- Knobloch-Westerwick, S., & Romero, J. (2011). Body ideals in the media: Perceived attainability and social comparison choices. *Media Psychology*, 14(1), 27–48.
<https://doi.org/10.1080/15213269.2010.547833>
- Kowtko, L. (2020). “*Why are you babysitting? That’s not a real job*”: How babysitters construct their work. [Unpublished master’s thesis]. Auburn University.

- Krasnova, H., Widjaja, T., Buxmann, P., Wenninger, H., & Benbasat, I. (2015). Why following friends can hurt you: an exploratory investigation of the effects of envy on social networking sites among college-age users. *Information Systems Research*, 3, 585. <https://doi.org/10.1287/isre.2015.0588>
- Kumar, R. (2006). Students' experiences of home-school dissonance: The role of school academic culture and perceptions of classroom goal structures. *Contemporary Educational Psychology*, 31(3), 253–279. <https://doi.org/10.1016/j.cedpsych.2005.08.002>
- Kwan, V., John, O., Kenny, D., Bond, M., & Robins, R. (2004). Reconceptualizing individual differences in self-enhancement bias: An interpersonal approach. *Psychological Review*, 111(1), 94–110. <https://doi.org/10.1037/0033-295X.111.1.94>
- Lambie, G., Hayes, B., Griffith, C., Limberg, D., & Mullen, P. (2014). An exploratory investigation of the research self-efficacy, interest in research, and research knowledge of Ph.D. in education students. *Innovative Higher Education*, 39(2), 139–153. <https://doi.org/10.1007/s10755-013-9264-1>
- Ledbetter, A., Heiss, S., Sibal, K., Lev, E., Battle-Fisher, M., & Shubert, N. (2010). Parental invasive and children's defensive behaviors at home and away at college: Mediated communication and privacy boundary management. *Communication Studies*, 61(2), 184–204. <https://doi.org/10.1080/10510971003603960>
- Li, L., Chen, Y., & Liu, Z. (2020). Shyness and self-disclosure among college students: the mediating role of psychological security and its gender difference. *Current Psychology*. <https://doi.org/10.1007/s12144-020-01099-z>
- Lohbeck, A., & Möller, J. (2017). Social and dimensional comparison effects on math and reading self-concepts of elementary school children. *Learning and Individual*

- Differences*, 54, 73–81. <https://doi.org/10.1016/j.lindif.2017.01.013>
- MacDonald, J., Sohn, S., & Ellis, P. (2010). Privacy, professionalism and Facebook: a dilemma for young doctors. *Medical Education*, 44(8), 805–813.
<https://doi.org/10.1111/j.1365-2923.2010.03720.x>
- McBride, M., & Wahl, S. (2005). “To say or not to say:” Teachers’ management of privacy boundaries in the classroom. *Texas Speech Communication Journal*, 30(1), 8.
<http://hdl.handle.net/10504/63355>
- McLaren, R., & Steuber, K. (2013). Emotions, communicative responses, and relational consequences of boundary turbulence. *Journal of Social & Personal Relationships*, 30(5), 606–626. <https://doi.org/10.1177/0265407512463997>
- MacNeil, A., Prater, D., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73–84.
<https://doi.org/10.1080/13603120701576241>
- Metzger, M. (2007). Communication privacy management in electronic commerce. *Journal of Computer-Mediated Communication*, 12(2), 335–361.
<https://doi.org/10.1111/j.1083-6101.2007.00328.x>
- Millham, M., & Atkin, D. (2018). Managing the virtual boundaries: Online social networks, disclosure, and privacy behaviors. *New Media & Society*, 20(1), 50–67.
<https://doi.org/10.1177/1461444816654465>
- Myers, S. (1998). Students’ self-disclosure in the college classroom. *Psychological Reports*, 83(3), 1067. <https://doi.org/10.2466%2Fpr0.1998.83.3.1067>
- Newport, M. (2019). Graduate student burnout and cynicism: Examining the effects of student co-rumination and need for cognition. [Unpublished Master’s Thesis].

- Oswalt, S., & Riddock, C. (2007). What to do about being overwhelmed: Graduate students, stress and university services. *College Student Affairs Journal*, 27(1), 24–44. ERIC Number: EJ899402
- Ozbay, F., Johnson, D., Dimoulas, E., Morgan, C., III, Charney, D., & Southwick, S. (2007). Social support and resilience to stress: From neurobiology to clinical practice. *Psychiatry*, 4(5), 35–40. PMID: PMC2921311
- Öztürk, H., Bahçecik, N., & Özçelik, K. S. (2014). The development of the patient privacy scale in nursing. *Nursing Ethics*, 21(7), 812–828.
<https://doi.org/10.1177/0969733013515489>
- Palinkas, L., Horwitz, S., Green, C., Wisdom, J., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Peng, C., Wu, T., Chen, Y., & Atkin, D. (2019). Comparing and modeling via social media: The social influences of fitspiration on male instagram users' work out intention. *Computers in Human Behavior*, 99, 156–167. <https://doi.org/10.1016/j.chb.2019.05.011>
- Petronio, S. (1991). Communication boundary management: A theoretical model of managing disclosure of private information between marital couples. *Communication Theory* (1050-3293), 1(4), 311. <https://doi.org/10.1111/j.1468-2885.1991.tb00023.x>
- Petronio, S. (2002). Boundaries of privacy: *Dialectics of disclosure*. Albany: SUNY Press.
- Petronio, S. (2010). Communication privacy management theory: What do we know about family privacy regulation? *Journal of Family Theory & Review*, 2(3), 175–196.
<https://doi.org/10.1111/j.1756-2589.2010.00052.x>

- Petronio, S. (2015). Communication privacy management theory. *The International Encyclopedia of Interpersonal Communication*, 1–9.
<https://doi.org/10.1002/9781118540190.wbeic132>
- Petronio, S. (2013). Brief status report on communication privacy management theory. *Journal of Family Communication*, 13(1), 6–14. <https://doi.org/10.1080/15267431.2013.743426>
- Petronio, S., & Child, J. (2020). Conceptualization and operationalization: Utility of communication privacy management theory. *Current Opinion in Psychology*, 31, 76–82.
<https://doi.org/10.1016/j.copsy.2019.08.009>
- Pulford, B., Woodward, B., & Taylor, E. (2018). Do social comparisons in academic settings relate to gender and academic self-confidence? *Social Psychology of Education*, 21(3), 677–690. <https://doi.org/10.1007/s11218-018-9434-1>
- Regnault, A., Willgoss, T., & Barbic, S. (2017). Towards the use of mixed methods inquiry as best practice in health outcomes research. *Journal of Patient-Reported Outcomes*, 2(1), 19. <https://doi.org/10.1186/s41687-018-0043-8>
- Robinson, S. C. (2017). Self-disclosure and managing privacy: Implications for interpersonal and online communication for consumers and marketers. *Journal of Internet Commerce*, 16(4), 385–404. <https://doi.org/10.1080/15332861.2017.1402637>
- Rockwell, A., Vidmar, C., Harvey, P., & Greenwood, L. (2019). Do sociology courses make more empathetic students? A mixed-methods study of empathy change in undergraduates. *Teaching Sociology*, 47(4), 284–302.
<https://doi.org/10.1177/0092055X19860563>
- Rokach, A. (2016). The impact professors have on college students. *International Journal of Studies in Nursing*, 1(1), 9. <https://doi.org/10.20849/ijsn.v1i1.80>

- Rounsefell, K., Gibson, S., McLean, S., Blair, M., Molenaar, A., Brennan, L., Truby, H., & McCaffrey, T. (2020). Social media, body image and food choices in healthy young adults: A mixed methods systematic review. *Nutrition & Dietetics*, 77(1), 19–40.
<https://doi.org/10.1111/1747-0080.12581>
- Rudi, J. & Dworkin, J. (2014). Youth online media use: Associations with youth demographics, parental monitoring, and parent-child relationships. *Journal of Youth Development*, 9(1), 59–70. <https://doi.org/10.5195/jyd.2014.72>
- Serewicz, M., & Canary, D. (2008). Assessments of disclosure from the in-laws: Links among disclosure topics, family privacy orientations, and relational quality. *Journal of Social and Personal Relationships*, 25(2), 333–357.
<https://doi.org/10.1177/0265407507087962>
- Sherman, L. (1986). Cooperative versus competitive educational psychology classrooms: A comparative study. *Teaching and Teacher Education*, 2(3), 283–295.
[https://doi.org/10.1016/S0742-051X\(86\)80008-7](https://doi.org/10.1016/S0742-051X(86)80008-7)
- Sidelinger, R., Nyeste, M., Madlock, P., Pollak, J., & Wilkinson, J. (2015). Instructor privacy management in the classroom: Exploring instructors' ineffective communication and student communication satisfaction. *Communication Studies*, 66(5), 569–589.
<https://doi.org/10.1080/10510974.2015.1034875>
- Smith, M. (2016, May 13). Ranked: the masters subjects that give the biggest pay boost.
Retrieved from
<https://www.businessinsider.com/the-masters-subjects-that-increase-pay-the-most>
- Smith, S., & Brunner, S. (2017). To reveal or conceal: Using communication privacy management theory to understand disclosures in the workplace. *Management*

- Communication Quarterly*, 31(3), 429–446. <https://doi.org/10.1177/0893318917692896>
- Snyder, J., & Cistulli, M. (2011). The relationship between workplace e-mail privacy and psychological contract violation, and their influence on trust in top management and affective commitment. *Communication Research Reports*, 28(2), 121–129. <https://doi.org/10.1080/08824096.2011.565270>
- Stein, J., Krause, E., & Ohler, P. (2019). Every (Insta)Gram counts? Applying cultivation theory to explore the effects of Instagram on young users' body image. *Psychology of Popular Media Culture.*, 10(1) 87-97. <https://doi.org/10.1037/ppm0000268>
- Thøgersen, N., Dodos, L., Chatzisarantis, N., & Ntoumanis, N. (2017). A diary study of self-compassion, upward social comparisons, and body image-related outcomes. *Applied Psychology: Health & Well-Being*, 9(2), 242–258. <https://doi.org/10.1111/aphw.12089>
- Tracy, S. (2020). Interview planning and design. In *Qualitative Research Methods: Collecting Evidence, Crafting Analysis, Communicating Impact* (p. 158). John Wiley & Sons, Inc.
- U.S. Census Bureau. (2019, May 23). Number of people with master's and doctoral degrees doubles since 2000. Retrieved from <https://www.census.gov/library/stories/2019/02/number-of-people-with-masters-and-phd-degrees-double-since-2000.html>
- Umbach, P., & Wawrzynski, M. (2005). Faculty do matter: The role of college faculty in student learning and engagement. *Research in Higher Education*, 46(2), 153–184. <https://doi.org/10.1007/s11162-004-1598-1>
- Wills, T. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, 90, 245–271. <https://doi.org/10.1037/0033-2909.90.2.245>

Wood, J. (1989). Theory and research concerning social comparisons of personal attributes.

Psychological Bulletin, 106(2), 231–248. <https://doi.org/10.1037/0033-2909.106.2.231>

Woolston, C. (2021). “Crisis” looms on US campuses: Study reports that graduate students’

mental health is at risk nationwide. *Nature*, 590(7844), 171–172.

<https://doi-org.spot.lib.auburn.edu/10.1038/d41586-021-00229-2>

Worthington, D., & Fitch-Hauser, M. (2019). Communication privacy management and mobile

phone use. *Cloud Security*, 1829-1843. doi:10.4018/978-1-5225-8176-5.ch090

Appendix A

Descriptive Information

Please answer the following questions to the best of your ability.

1. Please indicate your biological sex.
 - a. Male
 - b. Female
 - c. Intersex
 - d. Prefer not to answer
2. Please indicate your ethnicity.
 - a. African-American
 - b. Asian/Asian-American
 - c. White/Caucasian
 - d. Hispanic/Latino/a
 - e. Native Hawaiian
 - f. Other
 - g. Prefer not to answer
3. What year did you receive your undergraduate degree (BA/BS).
4. In what college is the graduate program in which are you currently enrolled?
 - a. School of Nursing
 - b. School of Forestry and Wildlife Sciences
 - c. College of Engineering
 - d. College of Business
 - e. School of Pharmacy
 - f. College of Veterinary Medicine
 - g. College of Sciences and Mathematics
 - h. College of Liberal Arts
 - i. College of Human Sciences
 - j. College of Education
 - k. College of Architecture, Design and Construction
 - l. College of Agriculture
 - m. Interdisciplinary
 - n. Other; Please specify: _____
5. Are you a full-time or part-time student? _____
6. Is your graduate program an online program?
 - a. Yes
 - b. No
7. What type of graduate degree are you currently pursuing?
 - a. Ph.D. (if PhD, skip to #10)
 - b. Master's Degree (e.g., MA/MS/MBA/etc.) (skip to #11)
 - c. Graduate Certificate (skip to #11)
 - d. Other; Please describe: _____ (skip to #11)
8. What year did you receive your Master's Degree, or related graduate degree/certificate (do not answer if currently working toward Master's Degree)?
9. How many semesters of graduate coursework have you completed? _____

Scale Items

Communication Privacy Management (Serewicz & Canary, 2008; Ozturk et al., 2014)

The following items focus on your feelings of privacy with those in your graduate school program. Please think of ‘academic information’ as anything from exam grades to assignment feedback to amount of progress made on certain assignments. Please respond with as accurate description of your experiences as possible.

Cohort refers to students who entered your graduate program at approximately the same time you did.

On a scale from 1 to 5, with 1 = strongly disagree and 5 = strongly agree, please answer the following questions.

1. People in my cohort are very open with each other about their private academic information.
2. People in my cohort do not often discuss private academic information with each other.
3. Everyone in my cohort knows everything about each other.
4. There are specific people in my cohort that keep their academic information more private than others.
5. I discuss my private academic information more with people in my cohort than I do with people outside of my cohort.
6. I wouldn't mind if someone told my private academic information to someone I didn't know.
7. I would not share someone else's private academic information with anyone else unless they told me it was okay.
8. I freely tell my private academic information to most people.
9. I carefully protect my private academic information.
10. I would not discuss someone else's private academic information in public.
11. I would only be okay with someone else sharing my private academic information if it was beneficial to me.
12. Even if I am not on good terms with someone, I expect them to keep any private academic information I've shared with them private.
13. I make sure I discuss private academic information in a confidential setting.
14. Someone should ask me before sharing my private academic information with anyone else.

Academic Social Comparison Scale (Pulford et al., 2018)

The following items focus on how graduate students may compare themselves to others in their graduate program. Please respond with as accurate description of your experiences as possible.

On a scale from 1 to 5, with 1 = strongly disagree and 5 = strongly agree, please answer the following questions.

Downward Social Comparisons

1. I compare myself to those students who seem less comfortable writing research reports/papers than me.
2. When writing for my academic assignments, I compare myself to those students who I perceive as less skilled at writing than me
3. I compare myself to those students who I perceive as less able to produce coursework than I am
4. I compare myself to those students who are less capable of reading and interpreting research than me
5. When using computers, I compare myself to those students weaker at using them than myself
6. When I am feeling confident and happy with my degree, I compare myself to those students who are doing badly
7. I can't help but compare myself to other students who appear to be less skilled than me in group discussions
8. I compare myself to those students who organize their time less efficiently than myself

Upward Social Comparisons

9. When writing papers/reports, I compare myself to those students who seem more comfortable with writing than I am
10. When things are going poorly for me in my degree, I think of other students I know who are doing better than me
11. I evaluate my ability to produce coursework in relation to those students who appear to be better at it than myself
12. I compare myself to those students who appear to be more at ease with writing essays than me
13. I compare myself to those students who appear to be more prepared in exam situations
14. In presentations, I compare myself to other students who have performed better than me
15. I think about how capable I am of reading and interpreting research in relation to those students who are better than me at it
16. I sometimes compare myself to other students who seem more skilled and at ease in group discussions

No Social Comparison

17. I do not think about my ability in reading and interpreting research in relation to other students
18. I am not concerned with comparing myself to other students in my ability to meet deadlines
19. I do not compare myself to other students when thinking about how efficiently I organize my time
20. I never consider my ability to complete assignments in relation to other students

21. When things are going well in my degree, I do not think to compare myself with the progress of other students
22. I don't mind whether other students I study with seem more intelligent or less intelligent than myself
23. When writing essays, I don't compare myself to the essay-writing ability of other students

Graduate Student Academic Self-Efficacy Scale (Cheng et al., 2019)

The following items focus on your attitudes and opinions about your work as a graduate student. As you answer these questions, think about what you feel as you are completing course papers, projects and exams (if applicable). Please respond with as accurate description of your experiences as possible.

On a scale from 1 to 5, with 1 = strongly disagree and 5 = strongly agree, please answer the following questions.

1. I believe I will receive an excellent grade after taking a course.
2. I'm certain I can understand difficult learning materials presented in my graduate courses.
3. I'm confident I can understand basic concepts presented in my graduate courses.
4. I'm confident I can understand the most complex materials presented in my graduate courses.
5. I'm confident I can raise good research questions.
6. I believe I can solve research problems.
7. I'm certain I can become an outstanding graduate student/scholar.
8. On the whole, I believe I can develop independent thinking for doing research.

Program Competitiveness Scale (Fletcher & Nusbaum, 2010)

The following items focus on your attitudes and opinions about your work as a graduate student. As you answer these questions, think about how you feel each applies to your experiences with your graduate program. Please respond with as accurate description of your experiences as possible.

On a scale from 1 to 5, with 1 = strongly disagree and 5 = strongly agree, please answer the following questions.

Tangible Rewards

1. My program my cohort members and I are graded based on our performance relative to each other.
2. I receive higher grades when I perform better than others in my cohort.

3. I am offered incentives to perform better than others in my cohort.
4. I receive better grades if I perform better than others in my cohort.

Non-tangible Rewards

5. The amount of freedom and personal discretion I get is based on performing better than others in my cohort.
6. The best students are offered additional opportunities that are not available to all students.
7. Having freedom and personal discretion at in my program is based on performing better than others.
8. Assignments (e.g., choice of tasks, flexible scheduling) are based on performance relative to others.

Recognition

9. I feel especially proud of my academic accomplishments when I know I have done much better than others in my program.
10. People in my cohort are generally aware of who is doing the best in their classes and who is falling behind.
11. My academic accomplishments are only recognized if they are better than others in my cohort.
12. Good performance is often recognized when it is better than someone else's performance.

Status

13. My status in my program depends on my performance relative to others.
14. I feel as though I am seen favorably in my department when I am doing the better than everyone else in my cohort.
15. My standing in the graduate program is based on my performance relative to others.
16. Rank and privilege in my program are based on outperforming others.

Appendix B

Recruitment/Information Letter:

Hello Graduate Students,

You are invited to participate in a research study entitled “Do You Measure Up? A study of graduate student academic comparison, privacy management, and perceived program competition” which examines the way graduate students may compare themselves to others in their cohort and adjust their privacy about grades accordingly.

The survey should take no longer than 20 minutes. As a reward for your participation, you will have the chance of entering into a drawing to win one of four \$25 Amazon gift cards. Participants will complete the questionnaire through Qualtrics, an online survey platform. To enter the drawing for the Amazon gift cards, participants will have the option of entering their name and email address into a second survey, the link to which will be provided upon completion of the first survey.

At the end of the survey, you will be asked if you’d like to participate in a follow-up interview, which will address these questions more in depth to gain more understanding of your experience as a graduate student. Interviews will be conducted over Zoom and your identity will be kept confidential. If you choose to participate in the interview portion of this study, you will be given a \$10 Amazon giftcard for your time. Your odds of winning one of the four Amazon gift cards for the survey will not change based on your participation in the interview portion.

Proceeding with this online survey indicates that you consent to participate in this study.

To begin the survey, please go to this website:

Your participation in this survey is completely voluntary and your insights will be used to help us further contribute to the developing body of knowledge regarding grade comparison and competition across the graduate student population. As you complete the survey, you can end your participation at any time by closing the browser. Your responses will remain anonymous and no individual data about you will be reported.

Within any research study there is always a potential risk when participant disclosure is involved as you might feel uncomfortable thinking about your graduate school experience. Benefits for participants include having the opportunity to reflect on your own graduate school experience, as well as aid in developing knowledge regarding graduate student grade competition and comparison. There are no costs for participants of this study.

This study is being conducted by Melissa McCormick, M.A. student (Auburn University) and Debra L. Worthington, Ph.D. (Auburn University). If you have further questions about this project, you may contact Melissa McCormick at mzm0228@auburn.edu or Debra L. Worthington at worthdl@auburn.edu. If you have questions about your rights as a study participant, please direct your questions to the Auburn University Office of Research Compliance at (334) 844-5966 or irbadmin@auburn.edu.

Thank you for being willing to share your insights and participate in this important research.

Thanks!

Melissa McCormick
Auburn University
mzm0228@auburn.edu

Appendix C

Interview Protocol

(Tracy, 2020; Kowtko, 2020)

This interview protocol below was used for all participants, administered via Zoom and transcribed; anonymity is maintained in the analysis by replacing all names.

I am studying the ways graduate students maintain and negotiate academic privacy within their cohort. I will be asking you about your time in your graduate program. This interview will take about 45-60 minutes. I will be recording this Zoom call, which I will then transcribe into a written document. All names and identifying information will be changed in the transcripts in order to protect the confidentiality of the participants. You may ask to skip or rephrase questions. If at any time you want to end your participation in this interview, you can let me know and I will immediately stop the recording and terminate the interview. I will begin the interview now.

Introduction

- Tell me about your time so far in your graduate program.
- What year of the program are you in?
- What is your favorite part of the program?
- Tell me about what your typical day looks like.
 - What is the best part of the day?
 - The worst?

Questions about academic privacy within the cohort

- Do you ever discuss academic information with other people?
 - Do you ever discuss academic information with those in your cohort?

- If yes, what type of information do you discuss?
- If no, what keeps you from discussing it with them?
- How do you decide what you are comfortable discussing?
- If you discuss academic information with others in your cohort, how do those exchanges make you feel? (ex. relief, stress)

Questions about academic social comparison

- How do you decide when you have been successful in a class? (Ex: making specific grades, deadlines met, etc.)
- Do you ever compare yourself to others in your cohort?
 - If yes, how do you feel if you are doing better/worse than them?
- Do people in your cohort discuss their grades/progress often?
 - If yes, how does this discussion effect you?
 - Do you feel encouraged by discussing academic information?

Questions about academic self-efficacy

- What expectations do you have for yourself in your program?
- How do you feel about your abilities in the classes you are taking/the program as a whole?
- Do you ever feel overwhelmed with your workload?

Questions about program competitiveness

- Would you consider your program to be competitive?
 - If yes, where does that feeling come from?
- What types of competition are encouraged in your courses/program (if any)?

- Do you ever feel as though your feelings of success in the program come from how well you're doing in relation to others?
- How aware are you of how others are doing in their courses?
- How challenging would you consider your program in relation to others at the school?
- Is there any kind of recognition given to those who are doing the best in your program?
 - If yes, what kind?

General Questions

- How do you feel overall about your time so far in your program?
- How successful/unsuccessful do you feel about your time as a graduate student?
- What advice you would give to someone considering your program?
- Is there anything else you think I should know about your time in graduate school?