STARS

University of Central Florida
STARS

Electronic Theses and Dissertations, 2004-2019

2018

Holding Off on the Fun Stuff: Academic Media Multitasking and Binge Watching Among College Students

Kelly Merrill Jr.
University of Central Florida

Part of the Mass Communication Commons

Find similar works at: https://stars.library.ucf.edu/etd

University of Central Florida Libraries http://library.ucf.edu

STARS Citation

University of
Central
Florida

STARS
Showcase of Text, Archives, Research & Scholarship

HOLDING OFF ON THE FUN STUFF: ACADEMIC MEDIA MULTITASKING AND BINGE
WATCHING AMONG COLLEGE STUDENTS

by

KELLY ROY MERRILL JR.
B.A. Barry University, 2016
B.S. Barry University, 2016

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
in the Nicholson School of Communication
in the College of Sciences
at the University of Central Florida
Orlando, Florida

Spring Term
2018

Major Professor: Bridget Rubenking

ABSTRACT

College students are often faced with the temptation of engaging in academic media multitasking and binge watching or completing their academic coursework in a timely and effective manner. A quantitative survey (N = 651) explored trait individual differences in self-control and academic delay of gratification and situational individual differences in enjoyment, reward, procrastination, regret, and guilt as predictors of academic media multitasking frequency, binge watching frequency, and binge watching duration. Hierarchal regressions reveal that self-control is not a predictor of these media behaviors, while age and greater enjoyment were the only predictors of academic media multitasking and gender and greater enjoyment were the only predictors of binge watching duration. On the other hand, the other five variables provided insight on what predicted binge watching frequency: academic delay of gratification, reward, procrastination, regret, and guilt. Greater self-control also led to greater academic delay of gratification. Lastly, there were small positive correlations between all of the media behaviors except for academic media multitasking and binge watching frequency. Practical and theoretical implications are discussed.

Keywords: academic delay of gratification, academic media multitasking, binge watching, enjoyment, guilt, procrastination, regret, reward, self-control

This thesis is dedicated to my uncle, Richard Fregeau, and my father, Kelly Roy Merrill Sr., who were both fighting cancer during the writing of this thesis. My uncle lost the fight on March 19th, 2018. Keep on fighting, Dad!

ACKNOWLEDGMENTS

First, I would like to express my sincere gratitude to my incredible thesis advisor, Dr. Bridget Rubenking, for her patience, enthusiasm, support, and continuous efforts with my thesis and my journey in graduate school. From day one, she has gone above and beyond the call of duty as an extraordinary advisor and mentor. Even when I doubted myself, she always saw my full potential. She is, in large part, the reason why I have a passion for research. I could not have imagined having a better advisor and mentor during my time at the University of Central Florida.

Second, I would also like to thank my committee members, Dr. William Kinnally and Dr. Deanna Sellnow for their constructive feedback and encouragement, but also for their challenging questions that warranted me to think more critically of my thesis.

Third, I would like to thank Kirsten Seitz and all of the graduate students, especially the ones in my cohort (Cynthia, Tatiana, Jenna, Emily K., Emily H., Brandon, Christina, and Chandler), in the Nicholson School of Communication. The sleepless nights, stimulating discussions, and frequent laughs in the graduate student lounge helped make graduate school the amazing experience that it was. Graduate school would not have been possible without all of you.

Lastly, I would like to thank all of my family for supporting me along the way. I will be forever grateful for your love.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

ADOG – Academic Delay of Gratification

ADOGS – Academic Delay of Gratification Scale

AMM – Academic Media Multitasking

BW – Binge Watching

DoG – Delay of Gratification

DoG-A – Delay of Gratification for Adults

CHAPTER ONE: INTRODUCTION

Our lives are mediated and spent with media technologies almost more than they are not. Many of these media technologies often function as distractions which offer immediate rewards: Checking social media while studying can stave off boredom, homework gets pushed aside as one opts to stay up later than planned binge watching a television show. This thesis explores these common distractions: Media multitasking in academic settings and binge watching as entertainment under the theoretical lenses of self-control and delay of gratifications.

Media multitasking is the act of using multiple media content streams or platforms simultaneously (Kononova & Alhabash, 2012). More specifically, media multitasking in academic settings, or academic media multitasking, is engaging with another media source or media technology while primarily working on academic coursework. Academic media multitasking often distracts students from completing their tasks in a timely, thorough, and productive manner. In fact, McCoy (2016) found that 97% of college students reported some form of media use distracts them while they are in the classroom. This problem is not only limited to in the classroom. More than 70% of college students stated that they are either using social media applications such as Facebook, listening to music, or texting when they are completing academic coursework outside of the classroom (Kononova & Yuan, 2017).

Another common media distraction among college students outside of the classroom is binge watching. Binge watching is the act of viewing a television series/show for multiple hours in succession, without interruption (Matrix, 2014; Merikivi, Mantymaki, Salvaara, & Zhang, 2016). One study found that 90% of millennials, which are individuals aged from 18-34, are binge watchers (Deloitte, 2017). The binge watching experience requires a lot of time because of the requirement of watching multiple episodes in succession. Although this experience is

generally seen as enjoyable (Matrix, 2014), it possibly takes away from time that could be allocated to other pressing tasks.

Data from multiple studies suggest that college students are engaging in *both* media multitasking and binge watching. Thus, college students are simultaneously combating media distractions from both academic media multitasking and binge watching. For example, they have to hold off on using their cellphones when trying to meet deadlines for a homework assignment. The same can be said for binge watching, as the instant access to thousands of hours of enjoyable content can be tempting and distracting for a student. Instead of spending a lot of time binge watching, these students have to allocate the time studying for upcoming exams and assignments. After an academic task is completed, college students can reward themselves for their hard work and accomplishment of completing a task. They might check their Twitter to catch up on the latest celebrity gossip or login to Netflix and reward themselves by watching extra episodes of *How to Get Away with Murder*. Therefore, it is important to investigate these two media behaviors –academic media multitasking and binge watching – regarding one's degree of self-control and ability to delay an immediate gratification for a larger, time-delayed reward. An individual's ability and tendency to delay these rewards, or more entertaining media uses, are linked together by trait differences in self-control and ability to delay gratification.

Self-control is centered around an individual's ability to resist temptation to engage with a secondary task to focus on completing a primary task (Metcalfe & Mischel, 1999). If individuals were cognizant of their media usage, the frequent temptation of these media devices could be limited. However, as mentioned earlier, college students are engaging in various media behaviors, such as media multitasking and binge watching, in large amounts. Often times, engaging in these activities are taking away from time that could be spent on assignments,

homework, and studying, which is necessary for the progression of their college careers. Usage of another media device during the completion of a primary task suggests that the individual engaging with the device has a low level of self-control (Panek, 2014). With a lack of self-control, individuals are also having a harder time delaying a gratification for a larger reward of successfully completing a task (Forstmeier, Drobetz, & Maercker, 2011), which could be related to college students and academic coursework.

By giving in to this temptation, these students are accepting an immediate reward or an immediate gratification. Media multitasking in and of itself functions as an immediate reward or an instant gratification because these students are generally exposed to content deemed more enjoyable than the primary task (Kononova & Yuan, 2017). In some settings, binge watching can also function as an immediate reward or instant gratification as streaming websites such as *Netflix* and *Hulu* allow college students to have instantaneous access to thousands of hours of television content. These instant gratifications can be harmful to one's performance. For example, the more a college student engages in media multitasking, the more likely they are to suffer academically (Zhang, 2015). College students have also reported losing track of time and their academics due to their experience of binge watching (Petersen, 2016). Investigating one's ability to delay an immediate gratification in an academic setting or a larger, time-delayed reward of completion of an academic task, or academic delay of gratification (Bembenutty & Karabenick, 1980), in relation to these media behaviors is important as it might reveal why these students are engaging in these media behaviors frequently instead of their academic coursework. In this sense, these media behaviors serve as conflicting secondary goals that make it harder for individuals to complete the primary goal of completing academic work in a timely manner.

In addition to individual differences in self-control and ability to delay a gratification, situational individual differences often function as decisions to engage in these different media behaviors instead of academic coursework. One of those situational individual differences is the enjoyment one receives from engaging with the media behaviors. In fact, enjoyment or entertainment is a motive for media multitasking (Hwang, Kim, & Jeong, 2014) and binge watching (Pittman & Sheehan, 2015). Individuals can receive enjoyment from media multitasking as this behavior might supplement a primary task deemed to be boring (Chinchanachokchai, Duff, & Sar, 2015). Individuals can also receive enjoyment from binge watching because they find the activity to be exciting, interesting, and engaging (Pittman & Sheehan, 2015). Due to the enjoyable nature of binge watching, individuals often reward themselves when making progress on or completing academic tasks by engaging in more binge watching (Petersen, 2016). Since the binge watching experience takes up a significant amount of time, these individuals have less time to focus on other pressing academic tasks. Similarly, daily needs often result in increased media multitasking (Wang & Tchernev, 2012). Over time, individuals that continuously use media multitasking will continue to spend a considerable amount of time on a secondary task instead of a primary task.

Other various situational individual differences that affect a student's media multitasking and binge watching decisions are procrastination, regret, and guilt. Individuals often use different forms of media as tools of procrastination, which is an avoidance of completing or working towards a primary task (Reinecke & Hofmann, 2016). In doing so, these students are avoiding tasks that might be of more importance by engaging in various media behaviors such as media multitasking and binge watching. These media behaviors also serve as "guilty pleasures" for college students (Panek, 2014), as they are spending more time for leisure than on other tasks.

Research has also shown that these individuals sometimes regret the time that they have spent with media behaviors, specifically binge watching, because of the time that it takes up (Walton-Pattison, Dombrowski, & Presseau, 2018). Therefore, it is important to investigate the impact that these situational individual differences have on a college student's usage of the media behaviors of importance, as these media behaviors are taking up time that could be used for more pressing issues, such as academic coursework.

Rationale

The ultimate goal of this thesis is to ascertain differences that predict the frequency of academic media multitasking, the frequency of binge watching, and the duration of binge viewing sessions among college students. The individual differences of importance in this study, which are derivatives of self-control theory, self-regulation, and reward theory, include seven variables: self-control, academic delay of gratification, enjoyment, reward, procrastination, regret, and guilt. By exploring these individual differences, a better understanding of why college students are often distracted from their coursework will be explained. This better understanding can prove beneficial to educators that are constantly faced with students engaged with a second screen both in and out of the classroom. Findings from this study could suggest how educators could alter their lessons and assignments for students to stay focused on their academic coursework and avoid distractions from media behaviors such as academic media multitasking and binge watching. This could build upon academic delay of gratification, as assignments as entertaining as media multitasking and binge watching might make it easier for students to delay these immediate distractions outside of the classroom. This study can also contribute to the growing literature on the roles of self-control and media behaviors. Additionally, learning more about these individual differences can inform media creators about what keeps these individuals

engaged frequently and for longer times. In doing so, media creators can guarantee individuals to tune in and engage with their technologies, which will help optimize on a company's profits. While there is a substantial amount of literature on self-control theory, self-regulation, reward theory, and delay of gratification, no previous research has associated these four concepts with college students and their common media use behaviors of media multitasking and binge watching. However, numerous studies provide background knowledge and a necessary direction for associating these concepts. The following literature review explores the two media use behaviors of importance in this study, academic media multitasking and binge watching. Theoretical perspectives on self-control theory, self-regulation, and reward theory in relation to the media behaviors are then addressed. Within the literature review, the concepts of enjoyment, reward, procrastination, regret, and guilt are introduced and related to the media behaviors of media multitasking and binge watching.

Hypotheses and research questions were derived from the literature that is reviewed in this thesis. A survey was administered to undergraduate students to test relationships posed in the hypotheses and research questions. From the data obtained by the survey, a series of hierarchal regressions and correlations were utilized to test the strength of individual variables predicting the dependent variables of the media behaviors and the relationship between specified variables. The final section of this thesis then interprets the results by providing practical and theoretical applications and suggestions for future research.

List of Terms

Throughout this thesis, there are many key terms that are necessary for one to understand. Below is a list of terms relevant to this study that are defined conceptually and operationally.

1. *Academic delay of gratification* is a trait individual difference of students postponing an immediate, smaller reward to complete a task related to their academics and receive a larger, time-delayed reward of success. Academic delay of gratification was measured by use of a modified academic delay of gratification scale (Bembenutty & Karabenick, 1998), which provides the participants with two alternative choices with one related to timely academic progress and the other related to an activity that takes away from academic progress.

2. *Academic media multitasking* is a media behavior that refers to engaging with another media source or media technology while primarily working on academic coursework. Engaging with another media source or media technology could be using another tab opened in your web browser for leisure, cell phone usage while on the computer, tablet usage while on the computer, etc. Academic media multitasking was measured by asking participants to indicate how much time they spend engaging in academic media multitasking by using a second screen that is not related to their academic coursework in the average hour that they are completing/studying homework/class readings.

3. *Binge watching* is a media behavior that refers to watching three or more episodes of TV shows in one sitting, which can occur on multiple platforms, including broadcast television, Netflix, Hulu, Amazon Prime, a computer/laptop, a phone, a tablet, TV, etc. The frequency of binge watching was measured by having participants indicate how often they binge watch TV (using the above conceptual definition) and how many days in the average month they binge watch. The duration of binge viewing sessions was measured by having participants recall the last time they binge watched and indicate how many hours they spent binge watching.

4. *Delay of gratification* is a trait individual difference that is a voluntary act of postponing an immediate reward for a larger, time-delayed reward. Delay of gratification was measured as an academic delay of gratification for this study. Please see academic delay of gratification.

5. *Enjoyment* is a situational individual difference that refers to the state of obtaining pleasure from something. Enjoyment was measured by the enjoyment audience response scale (Oliver & Bartsch, 2010), which focused on the content being fun, thought-provoking, lasting, and suspenseful.

6. *Guilt* is a situational individual difference that is the feeling of remorse for committing something that is wrong. Guilt was measured by one item that asked if the participant felt guilty after engaging in the specified media behavior.

7. *Media multitasking* is a media behavior that refers to engaging with another media source or media technology while simultaneously using a primary media source or technology for various reasons. Media multitasking was measured as academic media multitasking for this study. Please see academic media multitasking.

8. *Procrastination* is a situational individual difference that is an avoidance of completing or working towards a primary goal. Procrastination was measured by use of a modified scale of procrastination (Rubenking, Bracken, Sandoval, & Rister, 2018) that measured how likely the individuals were to continue putting off other tasks when engaging in the specified media behavior.

9. *Regret* is a situational individual difference that is the feeling of sorrow for committing an act that is wrong. Regret was measured by two items that asked if the individuals

would regret engaging in the specified media behavior if they did it this weekend and if they wish they had not engaged in the specified media behavior after they already did.

10. *Reward* is a situational individual difference that refers to the act of receiving something in return for accomplishing a task. Reward was measured using two items that asked if individuals reward themselves with binge watching after they completed an academic task and while they were completing an academic task.

11. *Self-control* is a trait individual difference that is the ability that an individual can control their behaviors and resist temptation from a secondary task to complete a primary task. Self-control was measured by the brief self-control scale (Tangney, Baumeister, & Boone, 2004), which focuses on five different sub-dimensions consisting of impulse control, performance regulation, control over one's own thoughts, emotional control, and one's ability to break habits.

CHAPTER TWO: LITERATURE REVIEW

This chapter consists of multiple sections that address the media behaviors of importance, theoretical perspectives, situational individual difference variables, hypotheses and research questions, and a model of the proposed relationships between the variables. First, the literature review explores media multitasking and binge watching, which are the key media behaviors investigated in this study. The literature review then focuses on the theoretical perspectives of self-control theory, self-regulation, reward theory, and delay of gratification. Throughout this section, previous research on media multitasking and binge watching related to these theoretical concepts is addressed. Additionally, literature on enjoyment, reward, procrastination, regret, and guilt and how these individual differences are related to academic media multitasking and binge watching is presented throughout. This review of literature builds to seven hypotheses and four research questions that are introduced throughout this chapter. At the end of the chapter, a model of the concepts of interest and their proposed relationships (See Figure 1) and a table of all of the hypotheses and research questions mentioned throughout the literature review (See Table 1) are presented.

Media Use Behaviors

More often than not, individuals are engaging with various media devices, platforms, and technologies. With the rapid introduction of new media technologies, individuals have a multitude of devices and media-based activities to choose from. In this study, two media use behaviors are of interest, media multitasking (specifically academic media multitasking) and binge watching.

Media multitasking. Individuals are now exposed to digital screens more than ever before. The phenomenon of constantly using multiple screens is becoming increasingly popular.

10

In fact, an individual generally engages with an average of four different tasks while they are viewing television content (Deloitte, 2017). Based on limited capacity theory (Lang, 2000; Lang 2009), it is suggested that attention is often divided among activities when simultaneously engaging in multiple screens. This can be seen as problematic, as an individual's performance on completing certain primary tasks decreases when they are engaged in two or more activities (Foehr, 2006). This simultaneous use of multiple media-related screens is often referred to as media multitasking (Rubenking, 2017).

Media multitasking, especially while viewing television content, is becoming more of a natural tendency among individuals. The other screens these individuals are interacting when engaging with a primary screen are commonly referred to as "second screens" (Pittman & Tefertiller, 2015). The second screen can be many different media-related sources or technologies, including a cell phone, computer/laptop, or tablet. In fact, the second screen can also be referred to as a second tab in the same web browser (Baumgartner & Sumter, 2017) because the individual is still exposed to two unique content streams in this setting. Various definitions of media multitasking have been provided by researchers. In this study, media multitasking will be referred to as engaging with another media source or media technology while simultaneously using a primary media source or technology for various reasons.

There are many different reasons an individual engages in media multitasking. Hwang et al. (2014) found support for general motives, platform-specific motives, and content-specific motives for media multitasking. Across these three levels, a total of five motives for media multitasking were identified: social, habit, efficacy, enjoyment, and information. Researches have investigated all of these motives in relation to media multitasking. For example, media multitasking on social networking sites is often seen as a social activity. In fact, many

researchers are interested in how media multitasking on social networking sites affect a user's viewing experience while watching television content (Kim, Song, Lee, 2017; Pittman & Tefertiller, 2015). Much support has also been found for individuals engaging with these second screens as a form of media multitasking for enjoyment (Chinchanachokchai et al., 2015; Oviedo, Tornquist, Cameron, & Chiappe, 2015). Often times, these individuals are accessing different phone applications, emails, and social media on their second screens.

Media multitasking has also been studied outside of second screen usage when watching television. Baumgartner and Sumter (2017) investigated media multitasking on one computer screen with multiple tabs. The researchers note that the other tabs are easily accessible, and the individual requires more effort to avoid temptation of interacting with them. About 88% of children and 71% of adults had a hard time focusing on a main task for ten minutes (Baumgartner & Sumter, 2017). Although this study found that more adults are likely to stay focused on one task, self-control levels of all individuals should be considered when testing whether children and adults can fight the temptation of interacting with a second screen.

Researchers have also focused on individual differences in media multitasking. Aside from the motives that one might use media multitasking for, previous research has indicated that females are more likely to engage in general media multitasking and media multitasking while watching television (Hwang et al., 2014). Age was also a predictor of media multitasking. In fact, research shows that younger audiences engage in media multitasking more often than older audiences (Jeong & Fishbein, 2007).

Binge watching. Binge watching, like media multitasking, is a common media behavior among college students. It is estimated that nearly 86% of millennials (people aged between 18-34) are binge watching (Irvine, 2016). The most common age group to engage in binge watching

are those that are enrolled in college (Devasagayam, 2014). Binge watching refers to the act of watching multiple, sequential episodes of a television series in succession (Matrix, 2014; Merikivi et al., 2016). More specifically, this study will define binge watching as the act of watching three or more episodes of TV shows in one sitting, which can occur on multiple platforms, including broadcast television, Netflix, Hulu, Amazon Prime, a computer/laptop, a phone, a tablet, TV, etc. This relatively new phenomenon is changing the way that individuals are viewing television. Binge watching is largely an affordance of streaming TV services, which are dependent on streaming technological capabilities and new ways of distributing television content. Streaming services and other new patterns of television viewing distribution have contributed to a decline in appointment viewing. Appointment viewing is an act that requires the individual to set aside time to watch the television content live, as it is airing (Conlin, Billings, Averset, 2016). This type of television viewing is frequently associated with the viewing of live events, such as the Super Bowl or the Grammys. If one missed the time slot the episode or the show aired, they would have to wait for the broadcasting company to rerun the episode. The inconvenience of appointment viewing is one reason why people are binge watching at higher rates than ever. In fact, more people are now engaging in binge watching than appointment viewing (Hallinan & Striphas, 2016). Streaming websites such as *Netflix* and *Hulu* have made binge watching popular, as there are entire series of television content readily available to their audience. No longer do these individuals have to wait for all of these episodes to air separately. This can explain why a growing number of individuals value their paid streaming services more than they value their paid television cable services (Deloitte, 2016).

Binge watching is a unique form of viewing in many different ways. First, binge watching requires a lot of an individual's time, especially compared to appointment viewing

(Pittman & Sheehan, 2015). Individuals are generally binge watching for hours, whereas tuning in to one episode, sometimes two, by means of appointment viewing might not take up as much time. However, there are some events, such as sporting events, that people appointment view that also take up a lot of time. In this case, binge watching is unique as well because the content involved in the binge watching experience is narrative driven. That is, a series of chronological events are presented that are all necessary to tell a coherent story. The feeling of immersion one experiences during binge watching is also very distinct to this viewing behavior. When binge watching, an individual is consuming several episodes in succession and this form of viewing can often last up to several hours. During this viewing experience, individuals are generally not engaged with other screens or activities. In other viewing behaviors, individuals might engage with other tasks or media devices (Pittman & Tefertiller, 2015), which can distract them from the television content. When engaged with other tasks by means of multitasking, individuals are generally not involved in an immersive experience (Oviedo et al., 2015). During this immersive experience that occurs when binge watching, Petersen (2016) found that individuals often lose track of time. The participants specifically mentioned that they lose track of time due to being immersed in the binge watching experience. In doing so, they would forget other responsibilities that they had to attend to.

Research on binge watching has generally looked at two different aspects. The first is the motives as to why individuals binge watch. Since binge watching is a form of television viewing, its motives are grounded in general television viewing motives. A previous researcher found nine general television viewing motives: companionship, relaxation, entertainment, habit, to pass time, arousal, escape, social interaction, and information-seeking (Rubin, 1983). These different motives provided a foundation for researchers to investigate motives behind binge watching.

Individuals that binge watch are mostly motivated by engagement, relaxation, pass time, hedonism, social (Pittman & Sheehan, 2015), habit (Conlin et al., 2016; Pena, 2015), and escapism (Pena, 2015). These seven different motives to binge watching take into consideration that the audience that is binge watching can be active users or passive users of the television content. Active users are actively seeking out this behavior, while passive users succumb to this behavior with little to no control. Thus, six of these motives explain why one might seek out binge watching (i.e. one might binge watch to relax). Habit is the motive that generally views the audience as passive, as an individual can possibly develop a habit with little to no awareness.

A second general topic that binge watching research focuses on is the individual differences among those that binge watch. By investigating individual differences, researchers have a better understanding of which populations binge watch, as well as how often these populations binge watch. One individual difference that is commonly researched in regard to binge watching is age (Devasagayam, 2014). Research shows that younger individuals are more likely to engage in binge watching (Shannon-Missal, 2013). Younger adults, especially college students, binge watch more frequently than older adults that work full-time (Devasagayam, 2014). This could be due to younger individuals having more free time compared to an individual that is committing 40 hours a week to a job. Another individual difference that researchers pay attention to is addiction (Petersen, 2016). In fact, Petersen (2016) found that many individuals admit to being addicted to binge watching. The last individual difference that researchers are commonly researching among binge watchers is self-control. Due to advances in technology, the viewer has more control over their viewing experience than ever before (Damratoski et al., 2011). An individual can choose which media messages they are exposed to and for how long they are exposed to that content.

Theoretical Perspectives on Self-control, Self-regulation, and Rewards

Media multitasking and binge watching are grounded in multiple theories. Of interest to this study are theories of self-control, self-regulation, and reward. Delay of gratification, a derivative of reward theory, is also discussed in this section of the literature review. These theories are necessary to understand how previous researchers have addressed these topics and associated different concepts with the media behaviors.

Self-control. Whether discussing media multitasking or binge watching, these media behaviors are affected by one's varying levels of self-control. Researchers have defined self-control as an individual's ability to resist temptation of a secondary task to focus on completing a primary task (Metcalfe & Mischel, 1999). Temptation exists in many contexts, such as whether one should spend money now or save for later, or whether someone should eat fast food now or eat a healthy meal when it can be prepared later. These decisions are unique to each individual, as everyone has varying degrees of self-control. Those with lower self-control have a hard time resisting temptation compared to those with higher self-control, thus making the individuals with low self-control more likely to engage with other options (Baumeister, Sparks, Stillman, & Vohs, 2008). Self-control theory also suggests that individuals with low self-control will engage in criminal and other risk-taking behaviors (Gottfredson & Hirschi, 2001). These criminal and risk-taking behaviors can be identified as an individual acting out of temptation, which is generally undesirable. Self-control theory also focuses on the idea that choice is depleting (Baumeister et al., 2008), or limiting. That is, while exposed to many different options, the individual still makes a choice on which they will act upon. More than likely, the individual is engaging with the choice that they find most satisfying. One can restrain oneself from engaging in an activity they should be avoiding in different ways. To avoid temptation, Hoch and Loewenstein (1991)

state that one can reduce the desire of the tempting options by avoiding those choices or by distracting oneself to keep the mind off the temptation. Additionally, the researchers mention that through exercise of willpower, one can overcome the temptation of engaging in an activity they should not be engaging in.

Self-control theory has been researched in multiple domains. In fact, investigating self-control allows researchers to learn a lot about an individual. An individual's academic achievement is related to higher levels of self-control (Haghbin, Shaterian, Hosseinzadeh, & Griffiths, 2013; Stadler, Aust, Becker, Niepel, & Greiff, 2016). For example, King and Gaerlan (2014) found a relationship between self-control and emotions, engagement, and achievement in students. Students that have higher levels of self-control are more hopeful and enjoy school more than students that have lower levels of self-control. In return, these students were more engaged with their schoolwork, and as a result, they performed better in school. In a different study, females were also found to perform better academically than males because they had higher levels of self-control (Duckworth, Shulman, Mastronarde, Patrick, Zhang, et al., 2015).

Self-control theory has also been examined in relation to rewards and self-regulation. Schmidt, Holroyd, Debener, and Hewig (2017) found that individuals that have low self-control created a larger reward positivity perception between an immediate reward and a delayed reward compared to an individual with high self-control. Reward positivity perception refers to the impact that the reward will have on the individual. Therefore, individuals with low self-control will find a larger difference in the rewards that they might receive. The satisfaction one might receive from completing a goal is of importance. Baumeister (2002) stated that if an individual has an uncertain or a conflicting goal, they are more likely to experience self-control failure than an individual that knows exactly what their goal is or how to achieve the original goal. In this

17

sense, these individuals are not able to reward themselves for completing a goal. This is due to the conflicting goal functioning as a temptation to act upon instead of something related to the primary task.

     Self-control and media use. Recently, researchers have investigated how an individual's self-control affects their media usage in certain situations. Bayer, Dal, Campbell, and Panek (2016) studied self-control and how individuals use mobile phones in a highly conscious manner and a minimally conscious manner. A highly conscious manner related to mobile phone usage included being in a state of immersion and a minimally conscious manner involved impulsivity, which is a factor that is important in determining one's self-control levels. However, these authors found that regardless of whether an individual is impulsive by nature, usage of mobile communication can be automatic and immersive. Thus, there is no relationship between an individual's level of self-control and awareness of subconsciously interacting with media devices.

     Self-control also affects the frequency that individuals are engaging with media devices. That is, individuals with lower levels of self-control are engaging with media devices more frequently and are taking longer to complete primary tasks than individuals with higher levels of self-control (Reinecke & Hofmann, 2016). The researchers found that individuals use media devices often, despite it being inconsistent with other tasks that they are trying to accomplish. These students could be using these media devices because they are engaged with boring tasks and are hoping to seek an instant gratification (Wilmer, Sherman, & Chein, 2017). Through constant use of these instant gratifications, an addiction can be formed. For example, those with lower self-control levels are more likely to become addicted to smartphones (Jeong, Kim, Yum, & Hwang, 2016). Addiction, in this sense, is a formed dependency on something, particularly a

media source or technology. Previous researchers have defined addiction as having a deficiency in self-regulation (LaRose & Eastin, 2003), as addictions affect an individual from completing other goals. Addiction differs from habits, as an addiction is in control of the person, whereas a person is active in the decision-making process of their habits (LaRose & Eastin, 2003). Additionally, addictions are associated with negative consequences, while habits can be either positive or negative.

Low levels of self-control often result in an individual experiencing negative effects, such as addiction to media devices. In fact, students predicted that the availability of media devices alone would result in a negative affective experience among those with lower levels of self-control (Calderwood, Green, Joy-Gaba, & Moloney, 2016). That is, students see having access to media devices in a negative manner and they realize that lower levels of self-control will warrant an individual to engage with these media devices. Procrastination could also result from lower levels of self-control and availability of media devices. Procrastination in this study is defined as an avoidance of completing or working towards a primary goal. Reinecke and Hofmann (2016) found that participants indicated using media as a form of procrastination from completing another task. Their lack of self-control influences these individuals to engage with a distracting application. Facebook is a common media outlet that individuals seek out to procrastinate on due to a lack of self-control (Meier, Reinecke, & Meltzer, 2017). Instead of completing tasks, they scroll through their Facebook feed to see what others are doing. These researchers found that individuals with lower levels of self-control engage in procrastination on Facebook more often than those with higher levels of self-control. Those that have lower self-control also tend to spend more time using media as a form of leisure compared to those that have higher self-control (Panek, 2014). In a sense, these students are seeing these media sources as a "guilty pleasure,"

where they can obtain a gratification from utilizing them, even though they should be engaged in a different activity. This guilt that students might feel from using their media as a form of leisure is likely due to the students coming to a realization that the media usage is affecting their initial goal. Therefore, these individuals are consciously aware of the negative effects their media usage has on their performance.

      Academic media multitasking and self-control. Another area where media multitasking is studied is in academic settings. A significant portion of the literature on self-control and media multitasking focuses on students and their academic coursework (Calderwood, Ackerman, & Conklin, 2014; Calderwood et al., 2016; Xu, Wang, & David, 2016). This specific form of media multitasking will be referred to as academic media multitasking. In this study, academic media multitasking will be defined as engaging with another media source or media technology while primarily working on academic coursework. The second media source or media technology is often represented by using another web browser tab for leisure, using a cell phone while on the computer, using a tablet while on the computer, etc. Previous research has shown that media multitasking during academic activities results in a negative effect on a student's academic performance (Zhang, 2015). Consistently, Kuznekoff and Titsworth (2013) found that cell phone usage while in the classroom negatively correlated to test scores. Those that engage with their cell phone more during lectures tend to score lower on their tests compared to those that do not engage with their cell phones as much. Laptop usage during academic activities also correlated with academic performance (Zhang, 2015). The more individuals used a laptop during lecture, the lower their academic performance in the course.

      Panek (2014) states that students might interact with other media devices when completing academic related tasks because they have lower levels of self-control. Students have

also realized that the usage of media devices during an assignment outside of class is a result of lower self-control levels (Calderwood et al., 2014). These media devices serve as a distraction from the primary task and these students have to fight the temptation of engaging with them. Those that have decreased levels of self-control will engage in higher levels of media multitasking compared to those that have higher levels of self-control (Xu et al., 2016).

Calderwood et al. (2016) found that students are now expecting to be exposed to an environment where they can engage in media multitasking. These students are aware that they have less self-control in settings where they are able to engage in media multitasking, but the negative effect from the original task is diminished because it is supplemented by the secondary media usages. However, with greater self-control, an individual can stay on task. Students expect this environment of instant access to media because of how boring the primary tasks of homework are generally perceived. Laran and Janiszewski (2010) found that when the researchers asked the participant to view the primary task as fun, the participant engaged with the other task less and completed the primary task faster, resulting in higher self-control. Based on the previous research mentioned above, the following hypothesis is proposed.

H1: Less self-control causes more frequent academic media multitasking.

Binge watching and self-control. An individual's level of self-control is the one of the most commonly researched individual differences associated with binge watching. Since the binge watching experience requires a large amount of time, researchers are interested in one's self-control ability during this immersive experience. Researchers have proposed that individuals who engage in binge watching are often viewed as having a lack of self-control (Matrix, 2014). These individuals are engaging with binge watching and they are having a hard time stopping their binge viewing sessions because of their lack of self-control. This is in part due to the fact

21

that these individuals are engaged in a viewing session that experiences little to no interruptions due to commercials and credits. It is suggested that a device which would dim the television or turn the volume down would be needed to help individuals break out of their immersive experience and gain control over their television viewing habits (Melichar, 2014). Before time-shifting technologies such as streaming websites, DVR technology, and VCRs, individuals had to watch an entire episode, commercials included, by watching the content live as it aired. Generally, the only way to avoid those commercials/advertisements required individuals to walk away from the television or change the channel (Damratoski et al., 2011). By walking away from the television content or changing the channel, individuals were able to break their immersive experience with the specific television content they intended to watch. Many platforms where binge watching occurs have options that lack advertisements/commercials. In doing so, these individuals are staying immersed in their television content, as there are fewer opportunities that their viewing experiences will be interrupted. Becoming immersed in the television content raises concerns about those who are in control of their viewing habits.

Adolescents and college students are populations of interest for researchers when investigating their self-control related to binge watching. Matrix (2014) found that there are concerns about teenagers engaging in binge watching, as they are referred to as couch potatoes for lacking activity during their immersive binge watching experiences. Therefore, it is proposed that:

H2a: Less self-control causes more frequent binge watching.

These immersive experiences can warrant individuals to lose control of the duration that they are viewing television content. Petersen (2016) interviewed college students that regularly participate in binge watching. These individuals felt as if they were immersed in the television

22

content and often lost track of time when they were binge watching on streaming websites. They were immersed in the television content because binge watching platforms such as *Netflix* and *Hulu* have an automatic option to continue watching the next episode. Essentially, these platforms have made watching another episode easier than stopping the binge watching experience. However, little research has looked at the exact duration of the binges. It is not clear whether levels of self-control affect how long a person engages in binge watching. Researchers have stated that a lack of self-control can lead to a more immersive television experience (Matrix, 2014; Petersen, 2016), which could influence how long a binge occurs. Therefore, the following hypothesis is proposed:

H2b: Less self-control causes longer binge viewing sessions.

Self-regulation. Research on self-control often looks at one's self-regulatory behaviors and whether the completion of a goal is affected by an individual's levels of self-control. By establishing goals, an individual can regulate their own actions to ensure they are working towards the completion of that goal. With increased levels of self-control an individual can avoid temptation from secondary tasks and work towards completing their goals set by their self-regulatory behaviors. This goal-oriented behavior is commonly referred to as self-regulation (Hofmann, Schmeichel, & Baddeley, 2012). Zimmerman (1989) states that self-regulatory behaviors are a part of learning activities. Therefore, individuals are constantly seeking knowledge and skills to help them achieve their goals. Zimmerman and Schunk (2012) reinforce this notion by labeling these individuals as self-regulated learners. This is due to individuals becoming active in self-regulatory behaviors. Individuals then have ownership over the outcomes they hope to achieve upon completion of their goal. Hofmann et al. (2012) state that successful self-regulation involves three different components: standards, motivation, and a capacity to

23

achieve the goal. Standards refer to the principles that the individual will maintain in the goal process, motivation refers to the effort that the individual will invest to ensure the goal is completed, and capacity to achieve the goal refers to the individual being able to reduce inconsistencies to achieve the set goal. If there is a lack of any of these three factors, an individual will be less likely to achieve a goal that they might have (Hofmann et al., 2012). Therefore, the process of decision making of acting on temptation or not is important to self-regulation. The decisions individuals make help them achieve their goals or hinders them from achieving their goals.

Much like self-control theory, there are many factors that are influenced by one's self-regulation. Previous research has identified self-efficacy as a factor that is influenced by self-regulation (Pintrich, 1999). Individuals are more confident about their ability to learn and are more motivated to learn when they use self-regulatory strategies. Use of cognitive strategies and academic performance are also influenced by self-regulation (Pintrich & De Groot, 1990). In one study, students were able to persist through and complete academic tasks and goals more often because they believed they were capable of doing so. These factors can help or hinder an individual's ability to self-regulate when aiming for goal completion. Impulsiveness is another aspect of self-regulation (Mullan, Allom, Brogan, Kothe, & Todd, 2014). These two concepts have an inverse relationship, such that the more impulsive an individual is, the less self-regulation they exhibit.

Lastly, self-regulation is important in delaying rewards (Schmidt et al., 2017; Wilson, Andrews, & Shum, 2017). Self-regulatory ability increases with age. Thus, as children get older, they are more likely to maintain their self-regulatory behaviors to delay a gratification of an immediate, small reward (Wilson et al., 2017). This is due to higher levels of impulsivity at

young ages. An individual who is great at maintaining self-regulatory behaviors can keep their mind from thinking about a reward that might be immediate and readily accessible in order to achieve a larger, time-delayed reward (Schmidt et al., 2017). This is due to the fact that individuals that can delay a gratification have more control over the environment around them (Bembenutty and Karabenick, 1998).

Self-regulation and media use. Researchers have also studied self-regulation and the role that it plays with media usage. Reinecke and Hofmann (2016) found that one's media usage (including watching TV, Internet access, video games, etc.) affects one's self-regulatory decisions that influence their judgments of both risks and chances. A risk that the media use could result in would be procrastination, thus delaying the achievement of one's goal. Procrastination typically happens when the goals associated with the media uses are inconsistent with the original goals the individual hopes to achieve from the primary task. On the other hand, the chance that the individual could take by means of media use would be recovery or stress relief from other activities. Therefore, it is up to the individual to decide how often they will engage in the media use and the outcome they will receive from the media. Frequent media use was also found to affect the initial long-term goal developed from self-regulatory behaviors. Wei, Wang, and Klausner (2012) studied college students' texting and how it relates to their self-regulatory behaviors. The researchers found that students that have higher levels of self-regulation are those that are less likely to engage with texting in the classroom. In return, these students with higher self-regulation will be aligned with their original goal of paying attention in the classroom. When the goals related to the media use are inconsistent with the initial goal, students will have a harder time paying attention and listening to a lecture in class (Zhang, 2015). The researcher found this by investigating self-regulatory behaviors through laptop multitasking

that a student might do throughout the school year or in a classroom. This multitasking and inconsistency in goals results in the participants spending more time on multiple tasks than intended. The inconsistency in goals lowered their ability to complete school work and their academic performance decreased as a result.

Rewards and motivation. With successful self-regulatory behaviors, individuals often reward themselves, either internally or externally, when completing a goal. Reward theory and incentives have mostly been shown in previous research to have beneficial effects, such as creating a sense of accomplishment and competence in a task (Eisenberger & Shanock, 2003), as well as promoting effort and performance (Lazear 2000). According to Kivetz (2003), effort is a clear indicator of the reward one will seek out. For example, when efforts increase, the individual will have a desire for larger rewards over smaller rewards. Larger rewards are generally more desirable.

Researchers have also investigated how rewards aid the usage and completion of media-related activities. If millennials are likely to receive an incentive or reward, they will be more likely to engage with an activity, as found in Smith (2011) where individuals were prompted to write an online review for a product. This implication is beneficial for marketing, as advertisers are more likely to receive feedback if there is an incentive or reward. Moreover, Ahrens, Coyle, and Strahilevitz (2013) investigated electronic referrals and rewards associated for both current members of the website, denoted as senders, and potential members for the website, denoted as receivers. The researchers found that the larger the incentive of equal value was for both the sender and receiver, the more likely the referrals were completed. This reinforces the idea that people desire to have a larger reward and are more likely to act for a larger reward.

The primary activity is an indicator of the type of reward that will be received. Some primary activities can serve to be rewarding in and of themselves, or intrinsically rewarding (Deci, 1971). Anything can be perceived as a reward, as long as the individual perceives it as desirable. An example of an activity acting as a reward could be exercising for leisure. This activity has a long-term reward for health. In this case, there is no need to be motivated by an external reward to engage in these activities. On the other hand, it was found that symbolic or material awards could be an alternative to having an activity serve as a reward (Lepper, Greene, & Nisbett, 1973). Instead, the completion of an original task could produce a physical reward that an individual might be working toward. These two differences are influenced by intrinsic and extrinsic motivations.

Intrinsic and extrinsic motivation. Individuals are often motivated to complete goals to receive a reward in return. There are two important categories of motivations, extrinsic motivation and intrinsic motivation. Extrinsic motivation refers to an external, palpable, or verbal reward that an individual will receive as a form of satisfaction, whereas intrinsic motivation refers to the completion of an activity solely for personal satisfaction or a benefit for oneself (Gagné & Deci, 2005). Previous research suggests that extrinsic and intrinsic motivations were often viewed as opposite ends of extremes that cannot occur at the same time (Eisenberger, & Shanock, 2003). This suggests that both cannot be enjoyed at the same time and they have different implications for rewards; intrinsic is for self-enjoyment of a task and extrinsic is for obtaining a tangible item when completing a task. Either way, both intrinsic and extrinsic motivation are essential for understanding relationships with other factors associated with goals and rewards. Baker (2004) found that intrinsic motivation has a positive relationship with self-regulation. The more intrinsic motivation one had, the more likely they were to set goals to

obtain the desired outcome. Additionally, the greater one's intrinsic motivation the less likely they were to experience stress and other unwanted emotions. The researcher also found that extrinsic motivation has an irrelevant relationship or a negative relationship with self-regulation. These motivations are important in describing the motivations behind achieving a reward, whether large or small.

  Delay of gratification. The type of reward an individual will receive is dependent on whether they are able to delay a gratification. A delay of gratification (DoG) is a voluntary act of postponing an immediate reward for a later reward (Mischel, Shoda, & Rodriguez, 1989). Bembenutty and Karabenick (1998) found that college students with a greater tendency to delay gratification were more motivated intrinsically and extrinsically. The later reward received from delaying a gratification can sometimes be larger, intrinsically rewarding, or more preferred. However, as time progresses, the temptation to engage with the immediate reward increases (Metcalfe & Mischel, 1999). Individuals have to ward off the temptation to receive the long-term reward, which requires some degree of self-control. In fact, an individual's ability to delay gratification and self-control are positively related (Forstmeier et al., 2011). The higher their perceived level of self-control is, the longer an individual can delay a gratification.

  Most DoG research explores individual differences in abilities among children. This is due to the fact that children are impulsive by nature, and researchers are interested in learning how children develop the ability to delay gratification (Mischel et al., 1989). Seminal studies of DoG were conducted by Mischel and Ebbesen (1970) and Mischel, Ebbesen, and Raskoff Zeiss (1972). In both studies, the researchers tested whether children would delay their gratification of eating a more preferred snack or whether they will give in to temptation and eat a less preferred snack. In the Mischel et al. (1972) study, the preferred snack was either a marshmallow or a

pretzel. This study is commonly known as the "Marshmallow" experiment. In the Mischel and Ebbesen (1970) study, the preferred snacks were multiple pretzels and animal cookies. The children were aware that if they chose the less preferred snack, they would then give up their rights to the more preferred snack. In order to receive the more preferred snack in both studies, the children would have had to fight temptation of eating the less preferred snack for 15 minutes. From the study, the researchers were surprised to see how well many of the children were able to delay their gratification. Therefore, researchers continued to investigate children's ability to delay gratifications by mostly use of exposing the participants to larger, time-delayed rewards verse immediate rewards (Labuschagne, Cox, Brown, & Scarf, 2017; Mischel, 1974; Mischel et al., 1989; Wilson et al., 2017).

Children's ability to delay a gratification provides useful information about how the children will function in the future. A child that is good at delaying gratifications will have higher success in future school endeavors (Herndon, Bembenutty, & Gill, 2015), will have greater success in social settings (Mischel, Shoda, & Peake, 1988), will engage in less violent behavior (Herndon et al., 2015), and will have more success with their health and well-being (Moffitt, Arseneault, Belsky, Dickson, Hancox, et al., 2011). Age plays an important role such that as children get older, their ability to delay gratification increases (Steinberg, 2007). Wilson et al. (2017) reinforced this claim by finding that older children are more likely to delay gratifications.

Adults' ability to delay gratification has also been explored. Forstmeier et al. (2011) refer to this line of research as the delay of gratification for adults (DoG-A). Researchers utilized snacks, a board game, and two decks of cards to learn how adults delay a gratification in regard to real money, hypothetical money, and snacks. The ability to save or delay the spending of

29

money for a larger gratification later is common concept that researchers are studying in adults. Liu, Wang, and Liao (2016) and Reyna and Wilhelms (2017) used self-report surveys that focused on an adult's ability to resist temptation to buy an immediate item and save money to purchase a larger, more desired item later.

      Academic delay of gratification. DoG has been explored in children and adults, in different settings, including in relation to academic performance. Bembenutty and Karabenick (1998) developed a scale to investigate how undergraduate college students delay their gratifications by completing an academic assignment. In fact, this study coined the term academic delay of gratification (ADOG), which refers to the act of students postponing an immediate gratification to complete a task related to their academics and receive a larger reward of accomplishment. Bembenutty (2009a) later investigated individual differences among those that are better at delaying their gratification in an academic setting. The researcher found that college students that are more likely to delay their gratification rated their instructor and the course higher and had a higher final grade than those that are not as great at delaying their gratification in an academic setting. Previous research has also stated that those better at delaying their gratification will perform better academically (Herndon et al., 2015; Mischel et al., 1988). Bembenutty (2009b) also found that there is no association with academic delay of gratification and test anxiety. This may be due to the fact that students are generally nervous whether they study well in advance or right before a test. Regarding children, Maruno and Zhang (2010) adapted the scale created by Bembenutty and Karabenick (1998) to investigate how children in elementary school delay their gratifications in academic settings. The researchers found that the elementary school students that had a greater ability to delay their gratification in an academic setting were generally more motivated and achieved higher grades. Zhang, Karabenick, Maruno,

and Lauerman (2011) continued to investigate children and their academic delay of gratification. These researchers found that their findings with children are similar to those that were found in previous research about academic delay of gratification among adults. Additionally, the researchers found that elementary school children that were better at academic delay of gratification studied more and played less in the weeks before an exam. However, as the test date approached, there was no difference in test performance between those good at delaying their gratification in an academic setting and those bad at delaying their gratification in an academic setting. The previous research looks at the impulsiveness of individuals and whether they can delay a gratification to complete an academic assignment. Prior research has already found that delay of gratification and self-control are positively related (Forstmeier et al., 2011). Therefore, it is proposed that

H3: Self-control will be positively correlated with the ability to delay a gratification in an academic setting.

Delay of gratification and media use. Although little research exists, another setting where DoG has been explored with individuals is in relation to different media platforms. The availability of media devices and their instant gratifications one receives from using them have made it harder for individuals to delay a gratification and receive a larger, time-delayed reward. Wilmer et al. (2017) provide one such example when they investigated the effect smartphones play in an adult's ability to delay a gratification. The researchers found that the more frequently an individual used their smartphone, the more likely they were to accept an immediate, smaller reward as opposed to waiting for a larger or more preferred reward. This suggests that these individuals constantly using their smartphones have a need for an instant gratification. This constant need is derived from these individuals feeling as if they are missing out on something if

they are not kept up-to-date with text messages and social media (Alsop, 2014). Furthermore, applications on smartphones are common reasons for adults to constantly check their devices for an instant gratification. Flanigan and Babchuk (2015) found that adults are easily distracted by their social media applications and find it hard to get back on task. The researchers also found that participants think of social media use as a reoccuring act and delaying the use of social media feels unnatural. As many different media platforms continue to play an increasing role in many people's lives, it may become harder to delay an instant gratification for a much larger or more preferred gratification.

   Media multitasking as a reward. The ease of access to the use of another screen while completing a primary task makes it harder for individuals to delay their gratification. Particularly, students must combat temptation of an immediate gratification from media use to obtain a larger, time-delayed gratification of completing academic goals. Kononova and Yuan (2017) found that over 70% of students admitted to using Facebook, listening to music, or texting/instant messaging when they are studying or working. These students are not just engaging with one of these activities, but sometimes a multitude of these activities while they are completing their academic coursework (Junco & Cotton, 2012). This is due to the instant gratification received from the second screen when completing academic coursework. Previous research has stated that constant access to devices such as smartphones could develop a need for instant gratification (Wilmer et al., 2017). This is due to the availability of many different types of content on these Internet-enabled devices. The instant gratification received from smartphone interaction could function as extrinsic motivation for making progress on a primary task. Although the use of a smartphone or another media device can be extrinsically rewarding, a

larger reward could be obtained if these students delayed their need for an instant gratification.

Therefore, the following hypothesis is proposed:

H4: Greater ability to delay a gratification in an academic setting causes less frequent academic media multitasking.

Recent literature on media multitasking has looked at the role that the reward from the second screen plays in the enjoyment of the primary task. Wang and Tchernev (2012) state that media multitasking increases gratifications, such that an individual might feel satisfied from media multitasking because the secondary task helps make the primary task more entertaining. For example, an individual's enjoyment of television content can be influenced by the secondary tasks being completed. In fact, enjoyment depends on whether the secondary tasks function as positive supplements to boring primary tasks (Chinchanachokchai et al., 2015) or whether the secondary tasks are burdens to a primary task that is enjoyable (Oviedo et al., 2015). Chinchanachokchai et al. (2015) found support for participants enjoying tasks more when multitasking compared to completing a single task. On the other hand, Oviedo et al. (2015) found that the more participants engaged in multitasking, the lower levels of enjoyment they had compared to those who did not engage in multitasking as much. Therefore, it is suggested that enjoyment depends on locating a balance between being bored with one task and being overpowered with many tasks (Rubenking, 2017). Based on previous literature, the following hypothesis is proposed:

H5: Greater enjoyment of academic media multitasking causes more frequent academic media multitasking.

Binge watching as a reward. Previous research has noted that some individuals might use binge watching to reward themselves (Feeney, 2014; Jenner, 2015; Pittman & Sheehan,

2015). Binge watching as a primary task can be intrinsically rewarding or stimulated because an individual might feel accomplished (Deci, 1971) by finishing an entire series of television content. Individuals are exposed to enjoyable television content for extended periods of time when they are binge watching (Matrix, 2014). By being exposed to such long periods of enjoyable content, individuals can feel guilty of their binging (Silverman & Ryalls, 2016). Although individuals might feel guilty for binge watching for long periods of time, they are also enjoying the content they are watching. This form of enjoyment is for the self (Feeney, 2014) and one can gain personal satisfaction for finishing a television series quickly to stay in the know. However, Walton-Pattison et al. (2018) state that these individuals might regret their long binge viewing sessions. Moreover, binge watching can be extrinsically rewarding as well. This is possible when binge watching is used as a reward for completing of a primary task (Pittman & Sheehan, 2015). Either way, it is important to note that binge watching can be a tool used in receiving a delayed gratification. The individual delays their immediate enjoyment of watching television content as it airs to a later date where the television content is consumed in a larger amount. Here, binge watching is functioning as a larger, time-delayed reward. Conlin et al. (2016) state individuals might experience a fear of missing out of either the storyline or social interaction about the content if they do not binge watch in a timely manner. Therefore, it is possible that the longer a binge is put off, the less rewarding it could be perceived. However, Matrix (2014) suggests that binge watching can be an instant gratification, as these streaming websites allow the audience to have easy access to a large amount of television content. Therefore, it is possible that binge watching can function as either an immediate reward or a delay of gratification.

Very little research has investigated delaying a gratification of binge watching in any setting, academics included. Petersen (2016) found support for students who binge watch after completing substantial academic tasks. Although binge watching is not referred to as a delay of gratification in an academic setting, it is implied when scholars refer to it as a reward, as it is enjoyable. The relation between binge watching frequency/duration and one's ability to delay gratification needs to be explored more in depth. Therefore, the following research question and hypotheses are proposed:

RQ1: Does the ability to delay a gratification in academic settings relate to the frequency and duration of binge viewing sessions?

H6: Greater enjoyment of binge watching causes more frequent and longer binge viewing sessions.

H7: Using binge watching as a reward for progress in an academic task causes more frequent and longer binge viewing sessions.

The Current Study

This thesis brings together two media uses that are common among undergraduate college students, media multitasking and binge watching. However, there is still much that is unknown about the individual differences that might predict how frequent one engages in academic media multitasking or binge watching, or the duration of one's binge viewing sessions. Throughout this literature review, procrastination, regret, and guilt are often mentioned alongside media multitasking and binge watching. For example, Reinecke and Hofmann (2016) found that individuals use various forms of media as a form of procrastination. These individuals are engaging with media behaviors to put off completing other tasks. This could possibly be explained by these individuals using these media behaviors as a form of entertainment to stave

off the boredom from other tasks. College students are recognizing that these media behaviors as "guilty pleasure" because they are spending their time engaging with these media behaviors as a leisure activity than engaging with another activity (Panek, 2014). These are denoted as guilty pleasures, as they might not serve as much importance as the other tasks that the individuals are avoiding when using these media behaviors as a form of procrastination. Individuals often express a feeling of regret when recognizing the time spent engaging with these media behaviors, specifically binge watching, because the time would be better allocated to other tasks (Walton-Pattison et al. 2018). However, there is not a lot of research on these situational individual differences and their relation to frequent academic media multitasking, frequent binge watching, or longer binge viewing sessions. Thus, this thesis provides the following research questions:

RQ2: Is the frequency of academic media multitasking predicted by a) the likelihood an individual is to engage in academic media multitasking as a form of procrastination, b) the regret one feels from engaging in academic media multitasking, and c) the guilt one feels from engaging in academic media multitasking?

RQ3: Is the frequency or duration of binge viewing sessions predicted by a) the likelihood an individual is to binge watching as a form of procrastination, b) the regret one feels from binge watching, and c) the guilt one feels from binge watching?

Additionally, in exploring media behaviors common among college students, this thesis questions the consistencies of media usage across different platforms. Previous research has stated that media usage across platforms is common among users (Kim, 2016). In fact, more than half of the adults that are on the internet use multiple media platforms (Greenwood, Perrin, & Duggan, 2016). Therefore, the following research question asks whether there is a relationship between these two different media uses:

36

RQ4: What is the relationship between academic media multitasking and binge watching

frequency/duration?

Figure 1 provides a visual representation of the proposed hypotheses and research

questions that were addressed throughout the literature review. The figure brings together all the

variables that are of interest in this study (See Figure 1). Below the figure are all previously

posed hypotheses and research questions, included in one place here for greater readability (See

Table 1).
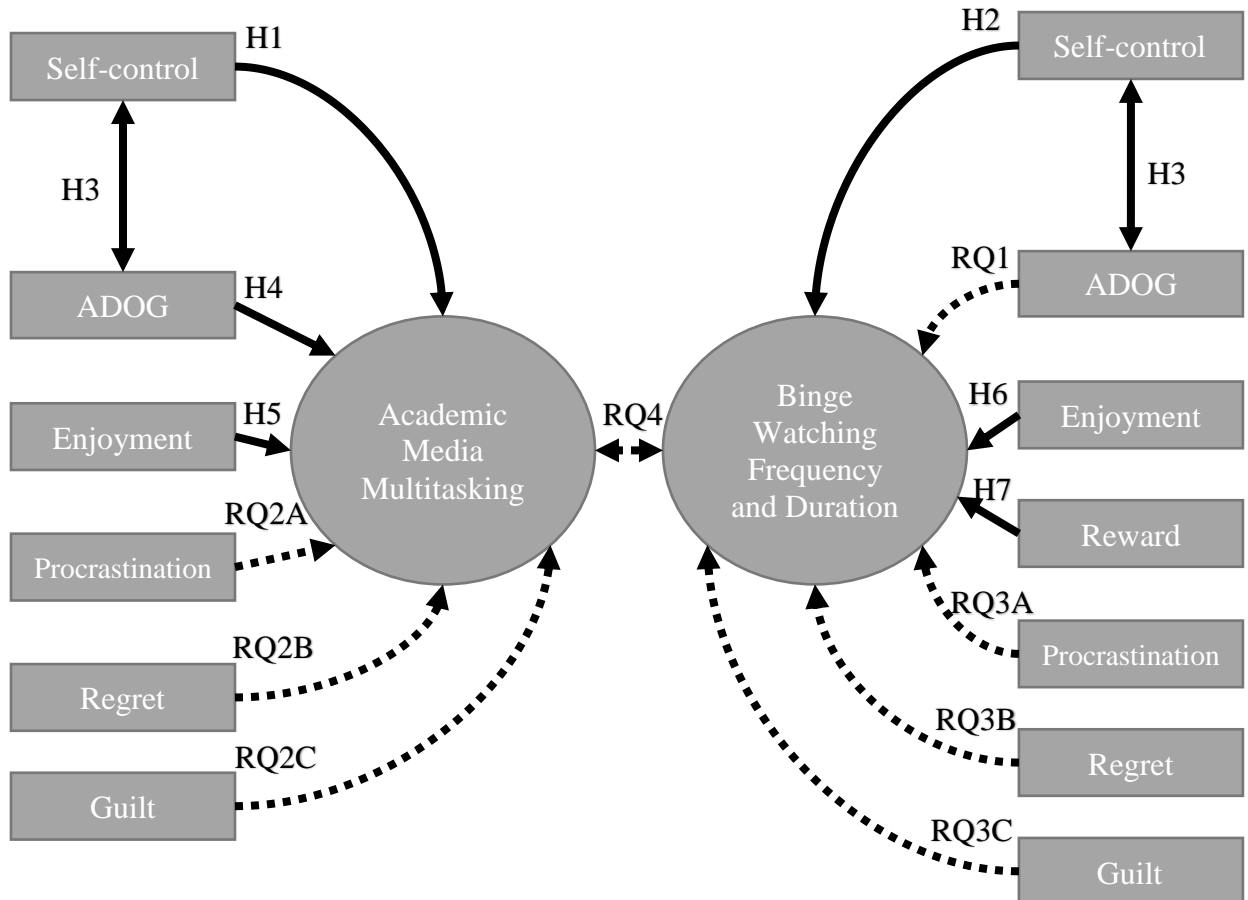
Figure 1. Proposed hypotheses and research questions. This figure illustrates the proposed relationships between the variables. Solid lines represent hypotheses and dotted lines represent research questions.

Table 1

Proposed Hypotheses and Research Questions

H1: Less self-control causes more frequent academic media multitasking.
H2: Less self-control causes a) more frequent binge watching and b) longer binge viewing sessions.
H3: Self-control will be positively correlated with the ability to delay a gratification in an academic setting.
H4: Greater ability to delay a gratification in an academic setting causes less frequent academic media multitasking.
RQ1: Does the ability to delay a gratification in academic settings relate to the frequency and duration of binge viewing sessions?
H5: Greater enjoyment of academic media multitasking causes more frequent academic media multitasking.
H6: Greater enjoyment of binge watching causes more frequent and longer binge viewing sessions.
H7: Using binge watching as a reward for progress in an academic task causes more frequent and longer binge viewing sessions.
RQ2: Is the frequency of academic media multitasking predicted by a) the likelihood an individual is to engage in academic media multitasking as a form of procrastination, b) the regret one feels from engaging in academic media multitasking, and c) the guilt one feels from engaging in academic media multitasking?
RQ3: Is the frequency or duration of binge viewing sessions predicted by a) the likelihood an individual is to binge watching as a form of procrastination, b) the regret one feels from binge watching, and c) the guilt one feels from binge watching?
RQ4: What is the relationship between frequency of academic media multitasking and binge watching frequency/duration?

CHAPTER THREE: METHODS

The proposed research questions and hypotheses were explored by means of an online survey. All research procedures were completed with approval from the University of Central Florida's Institutional Review Board (IRB).

Participants

Undergraduate college students at the University of Central Florida were recruited as participants for this study. The students were all enrolled in at least one communication course that offered either extra credit or course credit for their participation. The only qualifying condition was that participants be at least 18 years old. A total of $N = 651$ participants completed the survey in full. Any partial data was not utilized in this study. The sample consisted of 63.6% female, 35.6% male, and 0.8% that identify as other. The age of the participants, $M = 20.45$, $SD = 3.65$, were ranged between 18 and 54. Participants were 52.7% White, 20.4% Hispanic or Latino, 10.6% Black or African American, 0.5% Native American or American Indian, 8.8% Asian/Pacific Islander, 6.0% Biracial or Multiracial (of two or more races), and 1.1% identified as other.

Measures

Independent variables

Self-control. The brief self-control scale published by Tangney et al. (2004) measures individuals' self-control ability. The scale measures self-control by looking at five different sub-dimensions consisting of impulse control, performance regulation, control over one's own thoughts, emotional control, and one's ability to break habits. The scale measures agreement with 13 items on a 5-point scale ranging from "Not at all" to "Very much." A sample item on the

scale states, "I am good at resisting temptations," and one of the reverse coded statements states, "I have a hard time breaking bad habits." A mean of the 13 items covering the various factors was produced from the scale. A greater score on the brief self-control scale indicates an individual has *greater* self-control than an individual with a lower score. In the current study, *M* = 3.21, *SD* = .65, and the reliability coefficient of the scale reached a .818. The measure is located in Appendix B.

   Academic delay of gratification. The academic delay of gratification scale (ADOGS) was created by Bembenutty and Karabenick (1998) to measure students' ability to delay opportunities that are readily available in order to pursue a chosen academic reward, which would be more valuable than the immediate opportunity. The scale consists of 10 sets of two alternative options the individual could choose. One statement provides an immediate opportunity and the other statement provides an academic reward, but at the cost of a delayed interval. Both statements included some rendition of an academic outcome, but the long-term reward was more likely to be received if the participant selected the statement with a delayed academic outcome. Lastly, the statement that included the delayed academic achievement was considered to be the more valuable choice among a student sample.

   The alternative statements were measured on a 4-point Likert-type scale that consisted of choosing either "Definitely choose A," "Probably choose A," "Probably choose B," or "Definitely choose B." Based on the scenario, a score of 1-4 was allocated, where 1 was assigned to the "Definitely choose" statement associated with an immediate opportunity and 4 was assigned to the "Definitely choose" statement associated with the delayed academic achievement or reward. An average score was obtained by averaging the results from all 10 alternatives. The higher score a participant received, the greater their ability to delay gratification in an academic

setting. A sample set of alternatives used in this scale states, "A. Study a little every day for an exam in this course and spend less time with your friends, OR B. Spend more time with your friends and cram just before the test." The scale, $M = 2.98$, $SD = .46$, reached a reliability coefficient of .727. The measure is located in Appendix B.

Enjoyment. The enjoyment audience response scale was developed by Oliver and Bartsch (2010) to measure the audience's enjoyment or appreciation of specific films. Audience enjoyment or appreciation consists of four sub-dimensions: fun, suspense, moving/thought provoking experience, and lasting impression. The scale measures agreement with 12 statements on a 7-point scale. A modified version was utilized. Participants had to refer back to the last time they engaged in either binge watching or academic media multitasking to answer the reworded questions. Sample questions used for this study stated, "I had a good time engaging with a second tab/screen while completing my academic coursework," or "I had a good time binge watching." Only a modified fun subscale that consisted of three items was utilized to reflect academic media multitasking enjoyment. The other subscales (suspense, lasting impression, and moving/thought provoking) would have had a little effect on academic media multitasking, as this is generally a quick and frequent phenomenon that requires little thought. The average score for the academic media multitasking fun subscale was $M = 4.53$, $SD = 1.33$, and the reliability coefficient of the scale reached a .935. The average score for the binge watching enjoyment was $M = 4.51$, $SD = 1.21$, and the reliability coefficient of the scale reached a .929. The measure is located in Appendix B.

Reward watching. The two-item reward scale measures how often an individual would reward their academic progress with binge watching. The reward watching items measure frequency on a 5-point scale ranging from "Never" to "Always." The two items are "After

completing an academic task, do you reward yourself by binge watching?" and "While working

on an academic task, do you reward yourself by taking a break to binge watch?" A larger score

on the reward watching scale indicates a higher likelihood of rewarding academic progress with

binge watching. In this study, $M = 2.27$, $SD = .95$, and the reliability coefficient of the scale

reached a .725. The measure is located in Appendix B.

Procrastination. A modified procrastination subscale from the binge watching

motivation scale developed by Rubenking et al. (2018) was utilized to measure the likelihood an

individual engages in academic media multitasking or binge watching as a form of

procrastination. The scale measures three items on a 7-point scale that range from "Not at all

likely" to "Extremely likely." Participants were asked to "Please indicate how likely each of the

following is to encourage you to…" either "engage in academic media multitasking," or "keep

viewing, or binge watch." A sample item on the scale stated, "When I'm putting off doing

homework." A larger score on the modified procrastination subscale indicates that the individual

is very likely to use the specific media behavior as a form of procrastination. The procrastination

subscale for academic media multitasking, $M = 5.15$, $SD = 1.38$, reached a reliability coefficient

of .884. The procrastination subscale for binge watching, $M = 4.46$, $SD = 1.65$, reached a

reliability coefficient of .879. The measure is located in Appendix B.

Regret. Regret was measured by two items for both of the media behaviors. The item

measures whether a person felt regretful from engaging in their media behaviors on a 7-point

scale of agreement. The average score of regret for academic media multitasking was $M = 3.79$,

$SD = 1.51$, and the reliability coefficient of the scale reached a .798. The average score of regret

for binge watching was $M = 3.36$, $SD = 1.56$, and the reliability coefficient of the scale reached

a .756. The measure is located in Appendix B.

Guilt. One item was utilized to measure guilt an individual felt from engaging in each media behavior. The item was measured on a 7-point scale of agreement. The average score of guilt for academic media multitasking was $M = 3.69$ ($SD = 1.62$). The average score of guilt for binge watching was $M = 3.20$ ($SD = 1.66$). The measure is located in Appendix B.

Dependent variables

Academic media multitasking frequency. Academic media multitasking was defined as engaging with a different media source/technology while working on academic coursework on one device. An example of using a laptop for homework in one tab and leisure in another tab was provided. Participants were asked to respond to how much time they spent engaging in academic media multitasking in one hour of completing/studying for homework/classwork readings. Answer choices to the questions included a scale included, "0 minutes," "1-10 minutes," "11-20 minutes," "21-30 minutes," "31-40 minutes," "41-50 minutes," and "51-60 minutes."

Among participants, 3.8% stated that they did not engage in academic media multitasking while studying/completing coursework. The scale, $M = 2.72$, $SD = 1.54$, consisted of the following responses: 18.4% stated 1-10 minutes, 28.4% stated 11-20 minutes, 22.6% stated 21-30 minutes, 13.4% stated 31-40 minutes, 5.1% stated 41-50 minutes, and 8.3% stated 51-60 minutes. The measure is located in Appendix B.

Binge watching frequency. Participants were asked to respond to how often they engaged in binge watching. Binge watching was defined as watching three or more episodes of a television show in one sitting. The participants were also informed of the many platforms that binge watching can occur on, such as Netflix, tablets, TV, etc. A previous scale on binge watching frequency that was developed by Rubenking and Bracken (under review) was utilized for this study. Answer choices to the question included a 9–point scale that ranged from "Never"

to "For a large part of every day." An open-ended question also asked participants about their frequency of binge watching by asking them to state how many days they binge watched in the last month.

Among participants, 10.6% stated they never binge watched. The scale, $M = 3.64$, $SD = 1.96$, consisted of the following items: Every few months at 29.5%, monthly at 12.0%, several times per month at 14.7%, weekly at 13.5%, 2-3 times per week at 11.4%, 4-6 times per week at 3.7%, daily at 2.8%, and for a large part of every day at 0.8%. This scale was used over the other frequency measure because some participants did not write a straightforward numerical value in the open-ended question. The measure is located in Appendix B.

Binge watching duration. Participants were asked to refer to their last binge watching experience to answer questions about how long they engaged in binge watching. They were asked to fill in the number of hours they binge watched. The scale, $M = 4.02$, $SD = 2.58$, ranged from 0 hours to 15 hours. The measure is located in Appendix B.

Procedure

Participants, $N = 651$, completed an online survey, hosted by Qualtrics, that began by completing the scales detailed above, the brief self-control measure (Tangney et al., 2004) and a modified academic delay of gratification scale (Bembenutty & Karabenick, 1998), which were presented in random order. Following, definitions of both academic media multitasking and binge watching were provided. Participants answered questions estimating the frequency with which they engage in academic media multitasking. The modified scales of the enjoyment audience response scale (Oliver & Bartsch, 2010), procrastination, regret, and the guilt item related to academic media multitasking were then presented to the participant in a randomized order. Participants were then asked the frequency that they binge watch, as well as the duration

of their binge watching. The modified scales of the enjoyment audience response scale (Oliver &

Bartsch, 2010), reward, procrastination, regret, and the guilt item related to binge watching were

then presented to the participant in a randomized order. The last section of the survey asked for

demographic information. All participants responded to all survey items, and the survey took

about 15 minutes for the participants to complete.

CHAPTER FOUR: RESULTS

Data Analysis

The bulk of the hypotheses and research questions posed were tested via three hierarchal regressions, predicting the frequency of academic media multitasking, frequency of binge watching, and the average duration of a binge watching session. Hypothesis four and research question four were tested via correlation analyses.

Specifically, the influence of self-control (H1), ADOG (H4), enjoyment (H5), procrastination (RQ2A), regret (RA2B), and guilt (RQ2C) were regressed on academic media multitasking frequency. Then, the influence of self-control (H2), ADOG (RQ1), enjoyment (H6), reward (H7), procrastination (RQ3A), regret (RQ3B), and guilt (RQ3C) were regressed on binge watching frequency. Lastly the influence of self-control (H2), ADOG (RQ1), enjoyment (H6), reward (H7), procrastination (RQ3A), regret (RQ3B), and guilt (RQ3C) were regressed on binge watching duration. Regressions, particularly hierarchal regressions, were utilized because they are useful in determining the relative strength of multiple independent variables predicting one dependent variable. Regressions also help illustrate the unique contribution that an independent variable has on predicting the dependent variable by controlling for covariates in previously entered blocks.

All three hierarchal regressions controlled for age and gender in the first block. This is because age and gender could potentially be related to frequency of academic media multitasking, frequency of binge watching, and duration of binge watching. After entering the control variables in the first block of each regression, self-control and ADOG were entered in the second block of each regression. These two variables were separated from the variables in block three because they are relatively unchanging variables of a person. That is, a person's level of

self-control or ability to delay a gratification in an academic setting would be the same in various settings because they are traits of that person, whereas an individual's enjoyment of something would depend on the situation. Reward (only for the binge watching regressions), enjoyment, procrastination, regret, and guilt were the situational individual difference variables that were added in the third and final block in each regression. Utilizing the second and third blocks in the analyses in these ways allow for the examination of the influence of the situational individual difference variables *after* controlling for the relatively unchanging personality traits posed to influence the academic media multitasking and binge watching. Figure 2 illustrates the results of the relationships between all variables discussed in this study.

Academic media multitasking regression. In the academic media multitasking regression, age was found to be a significant predictor of one's frequency of academic media multitasking in the first block: $\beta = -.129$, $p = .001$, the second block: $\beta = -.116$, $p = .003$, and the third block: $\beta = -.077$, $p = .05$. Thus, the younger the individual, the more frequent academic media multitasking they are engaged in. Gender was not found to be a significant predictor of one's frequency of academic media multitasking in the first block: $\beta = .048$, $p = .215$, nor in subsequent blocks (See Table 2). Therefore, there was no significant difference of academic media multitasking frequency among the different genders.

Hypothesis 1 stated that less self-control predicts more frequent academic media multitasking. The regression analysis found that self-control, entered in the second block, was not a significant predictor of academic media multitasking in either the second block: $\beta = -.053$, $p = .221$, or the third block: $\beta = -.038$, $p = .394$ (See Table 2). Hypothesis 1 is not supported: Self-control does not predict the frequency an individual engages in academic media multitasking.

Hypothesis 4 predicted that a greater ability in ADOG predicts less academic media multitasking. ADOG, which was entered in the second block along with self-control, was a significant predictor of the frequency one engages in academic media multitasking in the second block: $\beta = -.097$, $p = .027$. That is, those that are not so good at delaying their gratification in an academic setting were engaging in more frequent academic media multitasking. However, it failed to be a significant predictor in the third block: $\beta = -.061$, $p = .162$ (See Table 2). Therefore, hypothesis 4 has mixed support: When the situational individual difference variables are introduced, ADOG is no longer a contributor in predicting academic media multitasking frequency.

Hypothesis 5 predicted that greater enjoyment of academic media multitasking results in a greater frequency of it. Enjoyment was a significant predictor of the frequency of academic media multitasking: $\beta = .200$, $p = .000$ (See Table 2) in the third block of the regression. Hypothesis 5 is supported: The more enjoyment an individual received from academic media multitasking, the more they engaged in academic media multitasking. In fact, enjoyment is the largest predictor of frequency of academic media multitasking.

Research question 2 asked the role that three situational individual differences had in the frequency of one's academic media multitasking. First, does using academic media multitasking as a form of procrastination predict frequency of academic media multitasking? Second, does the regret one feels from engaging in academic media multitasking predict the frequency of academic media multitasking? Third, does the guilt one feels from academic media multitasking predict the frequency of academic media multitasking? Procrastination, regret, and guilt were entered in the third block of the academic media multitasking regression. Using academic media multitasking as procrastination was not a significant predictor of frequency in academic media

multitasking: β = .017, *p* = .685. The regret one feels after engaging in academic media multitasking was not a significant predictor of the frequency one engages in academic media multitasking either: β = -.063, *p* = .260. Lastly, the guilt one feels after engaging in academic media multitasking was also not a significant predictor of the frequency one engages in academic media multitasking: β = .030, *p* = .582 (See Table 2). Thus, these situational individual differences are not predictors of one's frequency of engaging in academic media multitasking.

The first block of the regression model, which included age and gender as predictors of academic media multitasking frequency accounted for only 1.6% of the variance in the model: R^2 = .016, F (2,648) = 6.414, p = .002. After accounting for self-control and ADOG, which were added in the second block, 3.0% of the variance is explained in this model: R^2 = .030, F (2,646) = 5.531, p = .004. When the remaining variables of enjoyment, procrastination, regret, and guilt were added in the third block, only 6.7% of the variance was accounted for in the entire model: R^2 = .067, F (4,642) = 7.480, p = .000 (See Table 2). Table 3 includes correlations between all of the variables in the academic media multitasking frequency regression (See Table 3).

Binge watching frequency/duration regressions. In the binge watching frequency regression, age was not a predictor of one's frequency binge watching in the first block: β = -.050, *p* = .200, nor subsequent blocks. Thus, the age of the individual did not predict how frequent the individual engaged in binge watching. Gender was found to be a significant predictor of one's frequency of binge watching in the first block: β = .090, *p* = .021, and the second block: β = .110, *p* = .004, but it failed to be a predictor of binge watching frequency in the third block: β = .060, *p* = .096 (See Table 4). Females binge watch more frequently than males, until other variables are introduced in block three of the regression.

Table 2

Summary of Regression Analysis for Variables Predicting Academic Media Multitasking (AMM) Frequency (N=651)

Variable	Model 1			Model 2			Model 3		
	B	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Age	-.055	.016	-.129**	-.049	.016	-.116**	-.033	.017	-.077*
Gender	.151	.122	.048	.192	.122	.061	.174	.121	.056
Self-control				-.126	.103	-.053	-.089	.104	-.038
ADOG				-.323	.146	-.097*	-.205	.146	-.061
Enjoyment							.230	.048	.200**
Procrastination							.019	.047	.017
Regret							-.064	.057	-.063
Guilt							.029	.052	.030
R^2		.016			.030			.067	
F for change in R^2		6.414**			5.531**			7.480**	

Notes: *p < .05, ** p < .01

Table 3

Summary of Correlations Between Variables in the Academic Media Multitasking Frequency (AMM) Regression (N=651)

Variable	1	2	3	4	5	6	7	8	9
1. AMM Frequency	-								
2. Age	-.131**	-							
3. Gender	.052	-.026	-						
4. Self-control	-.096*	.057	.121**	-					
5. ADOG	-.129**	.108**	.066	.453**	-				
6. Enjoyment	.246**	-.216**	-.003	-.167**	-.194**	-			
7. Procrastination	.109**	-.093*	.124**	-.255**	-.234**	.282**	-		
8. Regret	-.062	-.058	.009	-.126**	.072	-.141**	.100*	-	
9. Guilt	-.015	-.081*	.051	-.113**	.032	-.071	.145*	.721**	-
M	2.72	20.45	1.65	3.21	2.98	4.53	5.15	3.79	3.69
SD	1.54	3.65	.493	.65	.46	1.33	1.38	1.51	1.62

Notes: *p < .05, ** p < .01

In the binge watching duration regression, age was not a predictor of binge watching duration in the first block: β = -.063, p = .106, nor subsequent blocks. Thus, age was also not a predictor of the duration of one's binge viewing sessions. Gender was again found to be a significant predictor of binge watching duration in the first block: β = .078, p = .045, the second block: β = .091, p = .020, and the third block: β = .089, p = .022 (See Table 6). Therefore, females are more likely to have longer binge viewing sessions than males.

Hypothesis 2 stated that less self-control predicts more frequent and longer binge viewing sessions. Self-control, entered in the second block of both binge watching regressions, was not a significant predictor of the frequency of binge watching sessions in the second block: β = -.029, p = .498, or the third block: β = .020, p = .623 (See Table 4). Also, self-control was a not significant predictor of the duration of binge watching sessions in the second block: β = -.049, p = .260, or the third block: β = -.038, p = .384 (See Table 6). Hypothesis 2 is not supported. Thus, self-control is not a predictor of either binge watching frequency or binge watching duration.

Research question 1 asked whether the ability to delay a gratification in an academic setting predicts the frequency or duration of one's binge viewing sessions. ADOG, which was entered in the second block of both binge watching regressions, was a significant predictor of the frequency that one engages in binge watching in both the second block: β = -.229, p = .000 and the third block: β = -.132, p = .001 (See Table 4). That is, those that are not so great at delaying a gratification in an academic setting are engaging in more frequent binge watching. On the other hand, ADOG was a significant predictor of the duration of an individual's binge viewing sessions in the second block: β = -.097, p = .028, but it was only a marginally significant predictor of the duration of an individual's binge viewing sessions in the third block: β = -.074, p = .090 (See Table 6). This too suggests that individuals that are not good at delaying a

52

gratification in an academic setting are binge watching for longer durations than individuals that are better at delaying a gratification in an academic setting. Therefore, less ability to delay a gratification in an academic setting is a larger predictor of the frequency that one engages in binge watching than the duration of one's binge watching sessions, but it is still beneficial in predicting both.

Hypothesis 6 predicted that greater enjoyment of binge watching results in more frequent and longer binge watching sessions. Enjoyment, entered in the third block of both binge watching regressions, was not a significant factor in the frequency of binge watching: $\beta = .043$, $p = .252$ (See Table 4). However, enjoyment was a significant predictor of the duration of one's binge viewing session: $\beta = .252$, $p = .000$ (See Table 6). Therefore, hypothesis 6 is partially supported: The more enjoyment one receives from binge watching is a predictor of one's duration of binge viewing sessions, but not the frequency of the binge viewing sessions.

Hypothesis 7 predicted that a greater likelihood to use binge watching as a reward for progress in an academic task results in more frequent and longer binge watching sessions. In the third block, reward watching was a significant predictor of the frequency that one binge watches: $\beta = .199$, $p = .000$ (See Table 4). However, reward watching was not a significant predictor of the duration of an individual's binge watching sessions: $\beta = -.019$, $p = .651$ (See Table 6). Hypothesis 7 is partially supported: Reward watching is a predictor of the frequency of one's binge watching sessions, but not the duration of one's binge watching sessions.

Research question 3 asked about the role that three situational individual differences had in the frequency of one's binge watching and the duration of their binge viewing sessions: Binge watching to procrastinate, as well as the regret and guilt one may feel from binge watching. Procrastination, regret, and guilt were entered in the third block for both of the binge watching

regressions. The usage of binge watching as procrastination was a significant predictor of an individual's binge watching frequency: $\beta = .201$, $p = .000$. The regret one feels from their binge watching experience was a significant predictor of an individual's binge watching frequency: $\beta = -.318$, $p = .000$. In fact, regret was the greatest predictor of one's binge watching frequency. Lastly, the guilt one feels from binge watching was a significant factor of an individual's binge watching frequency: $\beta = .146$, $p = .007$ (See Table 4). In the regression predicting binge watching duration, the usage of binge watching as a means of procrastination: $\beta = .053$, $p = .225$, the regret one feels from engaging in binge watching: $\beta = -.031$, $p = .591$, and the guilt one feels from engaging in binge watching: $\beta = .054$, $p = .348$ (See Table 6), were not significant predictors. Therefore, these situational individual differences are only useful in predicting the frequency of which an individual engages in binge watching and not the duration of an individual's binge viewing sessions.

The first block of the regression model for binge watching frequency, which included age and gender, accounted for .8% of the variance in the model: $R^2 = .008$, F $(2,648) = 3.581$, p $= .028$. After self-control and ADOG were added in the second block, 6.4% of the variance in this model was accounted for: $R^2 = .064$, F $(2,646) = 20.244$, p $= .000$. After all the other variables of enjoyment, reward, procrastination, regret, and guilt were accounted for, a total of 21% of the variance in the entire model was explained: $R^2 = .210$, F $(5,641) = 25.042$, p $= .000$ (See Table 4). Table 5 includes correlations between all of the variables in the binge watching frequency regression (See Table 5).

On the other hand, the first block of the regression model for binge watching duration, which included age and gender, accounted for .7% of the variance in the model: $R^2 = .007$, F $(2,648) = 3.411$, p $= .034$. After adding self-control and ADOG, 2.0% of the variance in this

model was accounted for: $R^2 = .020$, F (2,646) = 5.224, p = .006. After all the other variables including enjoyment, reward, procrastination, regret, and guilt were accounted for, a total of 8.1% of the variance in the entire model was explained: $R^2 = .081$, F (4,642) = 9.552, p = .000 (See Table 6). Table 7 includes correlations between all of the variables in the binge watching duration regression (See Table 7).

Correlations. Correlations are used to show whether a linear relationship exists between two variables, as well as the strength and direction of said linear relationship. Specifically, self-control, ADOG, academic media multitasking frequency, binge watching frequency, and binge watching duration were the variables tested.

Hypothesis 3 stated that self-control and academic delay of gratification should be positively correlated. A strong positive correlation was found between self-control and academic delay of gratification: $r = .453$, $p = .000$ (See Table 8). Hypothesis 3 is supported: Those with higher levels of reported self-control are also better at delaying a gratification in academic settings than those with lower levels of self-control.

Research question 4 asked whether there is a relationship between academic media multitasking frequency and binge watching frequency/duration. There is no significant correlation between an individual's academic media multitasking frequency and an individual's binge watching frequency: $r = -.011$, $p = .785$. However, there is a small correlation between an individual's academic media multitasking frequency and an individual's binge watching duration: $r = .081$, $p = .039$. Thus, there is a positive relationship between how often an individual engages in academic media multitasking and how long an individual engages in binge watching. There was also a small, significant correlation between one's binge watching frequency and the duration of their binge viewing sessions: $r = .095$, $p = .015$ (See Table 8).

Table 4

Summary of Regression Analysis for Variables Predicting Binge Watching (BW) Frequency (N=651)

Variable	Model 1			Model 2			Model 3		
	B	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Age	-.027	.021	-.050	-.013	.021	-.023	.005	.019	.009
Gender	.360	.156	.090*	.437	.152	.110**	.237	.142	.060
Self-control				-.087	.129	-.029	.059	.121	.020
ADOG				-.978	.182	-.229**	-.562	.172	-.132**
Enjoyment							.069	.060	.043
Reward							.412	.082	.199**
Procrastination							.239	.048	.201**
Regret							-.400	.067	-.318**
Guilt							.172	.063	.146**
R^2		.008			.064			.210	
F for change in R^2		3.581*			20.274**			25.042**	

Notes: *p < .05, ** p < .01

Table 5

Summary of Correlations Between Variables in the Binge Watching (BW) Frequency Regression (N=651)

Variable	1	2	3	4	5	6	7	8	9	10
1. BW Frequency	-									
2. Age	-.053	-								
3. Gender	.092*	-.026	-							
4. Self-control	.121**	.057	.121**	-						
5. ADOG	-.238**	.108**	.066	.453**	-					
6. Enjoyment	.164**	-.100*	-.020	-.034	-.074	-				
7. Reward	.317**	-.102**	.046	-.176**	-.227**	.224**	-			
8. Procrastination	.317**	.127**	.124**	-.272**	-.285**	.220**	.403**	-		
9. Regret	-.192**	-.010	-.029	-.050	.048	-.151**	.065	.095*	-	
10. Guilt	-.050	.002	-.026	-.092*	.007	-.150**	.142**	.126**	.750**	-
M	3.64	20.45	1.65	3.21	2.98	4.51	2.27	4.46	3.36	3.20
SD	1.96	3.65	.49	.65	.46	1.21	.95	1.65	1.56	1.66

Notes: *p < .05, ** p < .01

Table 6

Summary of Regression Analysis for Variables Predicting Binge Watching (BW) Duration (N=651)

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Age	-.045	.028	-.063	-.035	.028	-.050	-.016	.027	-.023
Gender	.411	.205	.078*	.477	.205	.091*	.465	.202	.089*
Self-control				-.195	.173	-.049	-.149	.171	-.038
ADOG				-.540	.245	-.097*	-.414	.244	-.074
Enjoyment							.536	.085	.252**
Reward							-.052	.116	-.019
Procrastination							.083	.069	.053
Regret							-.051	.095	-.031
Guilt							.084	.090	.054
R^2		.010			.026			.094	
F for change in R^2		3.411*			5.224**			9.552**	

Notes: *p < .05, ** p < .01

Table 7

Summary of Correlations Between Variables in the Binge Watching (BW) Duration Regression (N=651)

Variable	1	2	3	4	5	6	7	8	9	10
1. BW Duration	-									
2. Age	-.065	-								
3. Gender	.080*	-.026	-							
4. Self-control	-.085*	.057	.121**	-						
5. ADOG	-.118**	.108**	.066	.453**	-					
6. Enjoyment	.263**	-.100*	-.020	-.034	-.074	-				
7. Reward	.094*	-.102**	.046	-.176**	-.227**	.224**	-			
8. Procrastination	.150**	.127**	.124**	-.272**	-.285**	.220**	.403**	-		
9. Regret	-.028	-.010	-.029	-.050	.048	-.151**	.065	.095*	-	
10. Guilt	-.002	.002	-.026	-.092*	.007	-.150**	.142**	.126**	.750**	-
M	4.02	20.45	1.65	3.21	2.98	4.51	2.27	4.46	3.36	3.20
SD	2.58	3.65	.49	.65	.46	1.21	.95	1.65	1.56	1.66

Notes: *p < .05, ** p < .01

59

Table 8

Self-control, Academic Delay of Gratification, and Media Behavior Frequency/Duration
Correlations and Descriptive Statistics (N = 651)

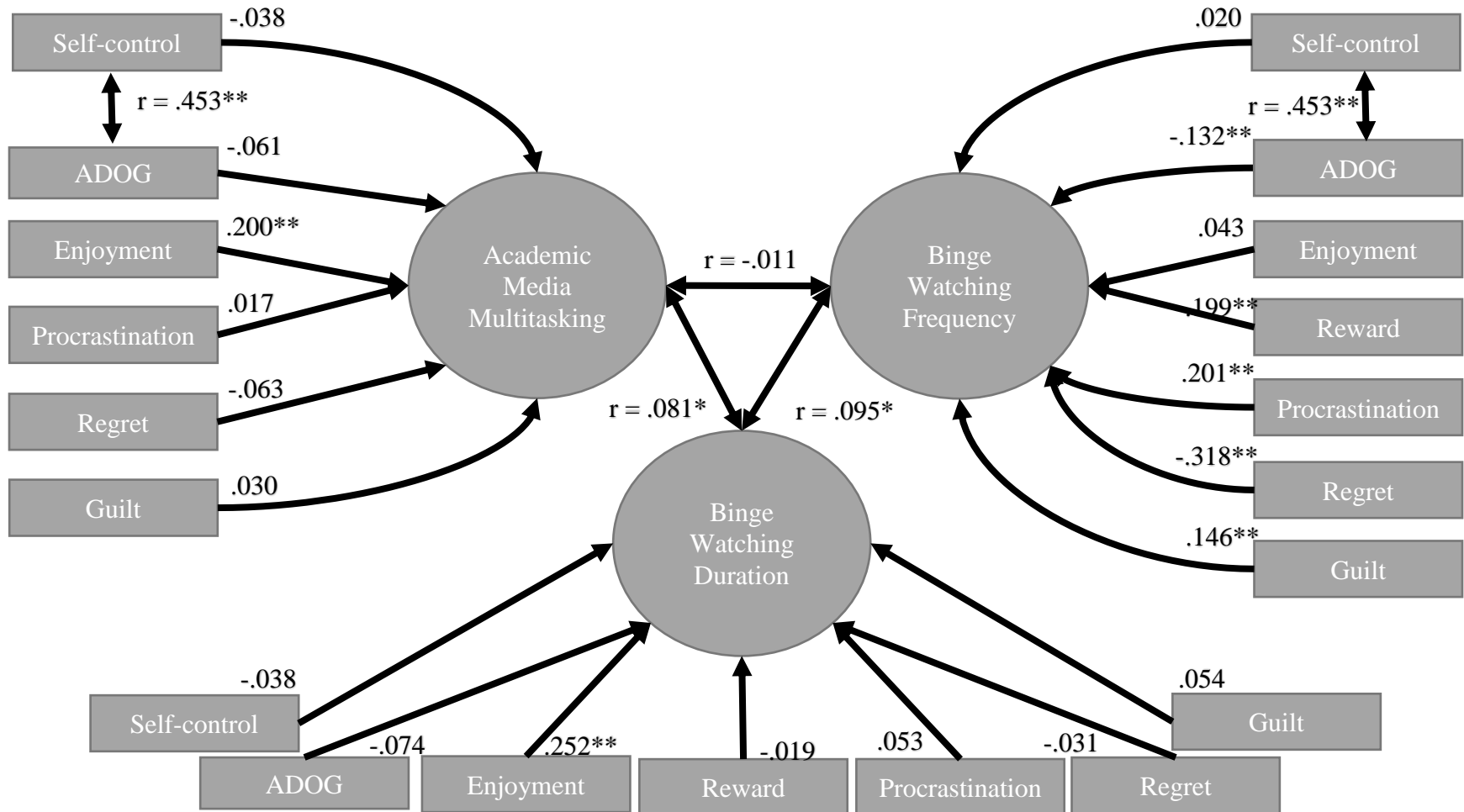| Variable	1	2	3	4	5
1. Self-control	-				
2. ADOG	.453**	-			
3. AMM Frequency	-.096*	-.129**	-		
4. BW Frequency	-.121**	-.238**	-.011	-	
5. BW Duration	-.085*	-.118**	.081*	.095*	-
M	3.21	2.98	2.72	3.64	4.02
SD	.65	.46	1.54	1.96	2.58

Notes: *p < .05, ** p < .01

Figure 2. Third block of beta weights from hierarchal regressions and correlations between variables. This figure represents the beta weight values and the correlation coefficients of the tested variables.

CHAPTER FIVE: DISCUSSION

This study examined individual differences among college students and their frequency of academic media multitasking, frequency of binge watching, and duration of their binge watching sessions. These media behaviors were studied alongside one another because they are common new media behaviors that often serve as media distractors among college students. Additionally, these two media behaviors are often viewed as instant gratifications, as individuals often have access to the endless opportunities on the Internet and thousands of hours of television content on streaming websites that are commonly used for binge watching. Theoretically, previous research has consistently shown that self-control is related to these media behaviors and that self-control also plays a role in an individual's ability to resist temptation of immediate rewards for a larger, time-delayed reward.

The findings provide support for individual differences that predict frequency of academic media multitasking and binge watching, as well as the duration of binge viewing sessions. First, self-control is not a predictor of academic media multitasking frequency, binge watching frequency, or binge watching duration. In fact, the only predictors of academic media multitasking were age and enjoyment, while the only predictors of binge watching duration were gender and enjoyment. On the other hand, the other five variables (ADOG, reward, procrastination, regret, and guilt) were all found to be predictors of binge watching frequency. Overall, these predictors lay a foundation for predicting the frequency of academic media multitasking, the frequency of binge watching, and the duration of binge viewing sessions for future researchers. A detailed review of the results follow, as well as a discussion of the study limitations and implications.

Self-control and Academic Delay of Gratification

Hypothesis 1 and hypothesis 2 predicted that less self-control would lead to more frequent academic media multitasking, more frequent binge watching, and longer binge viewing sessions, but none of these predictions were supported. These are noteworthy findings, as they do not support previous research that suggests self-control plays a role in academic media multitasking usage (Panek, 2014) and binge watching experiences (Melichar, 2014; Damratoski, Field, Mizell, & Budden, 2011; Matrix, 2014; Petersen, 2016).

This anomaly in the data may be explained by reviewing past research on self-control. Much of the previous literature associates self-control with risk-taking behaviors (Gottfredson & Hirschi, 2001). That is, individuals are engaging in risk-taking behaviors that are in conflict of another goal, due to a depleted level of self-control. Previous research highlights both of these media behaviors, academic media multitasking and binge watching, as a risk-taking behavior. For example, academic media multitasking has often been seen as a risk, as it affects an individual's academic performance (Kuznekoff & Titsworth, 2013; Zhang, 2015). Also, aside from the negative connotation of this type of viewing being a "binge," researchers have suggested that binge watching is a risk-taking behavior because it takes up a lot of time and individuals often lose track of their time when binge watching (Petersen, 2016), resulting in longer binge viewing sessions.

However, it is very likely that these two media behaviors are no longer viewed as risk-taking behaviors by college students. That is, college students no longer feel that they are risking anything when they are using their phones during an academic homework assignment or when they are binge watching frequently and for long periods of time. Instead, academic media multitasking and binge watching function as sensation-seeking behaviors. The individuals

63

engaging with these media behaviors are exposed to interesting and exciting reactions, which explains why they are so common among individuals. In fact, academic media multitasking is very common, as 70% of college students admitted engaging in some form of academic media multitasking outside of the classroom (Kononova & Yuan, 2017). Moreover, 90% of millennials are binge watchers (Deloitte, 2017). In this study, it was found that 96.2% of the participants engage in some form of academic media multitasking when completing homework assignments and 89.4% of the participants engage in binge watching. Therefore, since almost everyone is engaging in these behaviors, the findings in this study might suggest that academic media multitasking and binge watching are more likely to be viewed as an expectation or a standard among college students as opposed to being perceived as a risky behavior. In regard to binge watching, it is likely that these individuals are in control of how often and how long they are binge watching and they might not be immersed in the content, as previous literature has suggested (Petersen, 2016).

Unlike self-control, mixed support was found for ADOG. Those that are bad at delaying a gratification in academic settings were more likely to engage in more frequent academic media multitasking, but this was only found to be significant in the second block of the regression. Similarly, those that are bad at delaying a gratification in an academic setting are more likely to engage in more frequent binge watching, and this relationship remained significant in all blocks of the regression. Lastly, ADOG only had a marginally significant negative relationship with the duration of one's binge viewing sessions. Therefore, ADOG is still an important factor in predicting both binge watching frequency and duration.

ADOG suggests that individuals are postponing smaller, immediate rewards for a larger, time-delayed reward related to one's academics (Bembenutty & Karabenick, 1998). Thus, if an

individual is not good at delaying a gratification in an academic setting, they are more likely to interact with a smaller, immediate reward or gratification. This study reinforces previous literature, which states that those not good at delay a gratification in an academic setting are interacting with immediate rewards and gratifications (Bembenutty & Karabenick, 1998), which are represented as academic media multitasking and binge watching here.

The finding of academic media multitasking may be explained by the fact that previous literature has found that media multitasking is often viewed as a smaller, immediate reward, or an instant gratification (Wilmer, Sherman, & Chein, 2017), even when completing academic tasks. When engaging in academic media multitasking, individuals have access to many different applications, social networking sites, and tasks. These supplementary tasks are instant gratifications that take away from the primary task of academic coursework. However, since ADOG was not significant in the final block, there might be some instances where academic media multitasking is not predicted by an ability to delay a gratification in an academic setting. This might be due to the academic media multitasking being a task that is beneficial to the academic coursework, such as texting others about the assignments or conversing with a group member on Facebook. Additionally, these individuals might have an automatic response to engage with these devices because they might have a lack of attention, awareness, intention, or control (Bayer, Dal, Campbell, Panek, 2016). In doing so, they are not thinking about the secondary devices they are engaged with and it might not impede their progress in an academic setting. This suggests that future research should explore the automaticity of an individual's media use when academic media multitasking.

Previous literature has also shown that binge watching can be viewed as an immediate gratification (Matrix, 2014). Individuals generally binge watch on streaming websites, which

include Netflix, Hulu, and Amazon Prime. On these streaming websites, individuals have immediate access to thousands of hours of television content, which helps explain the findings in this study. At any point, someone can disregard their primary task and start viewing television content of their choosing. This can either happen frequently, or for long periods of time. Therefore, those bad at delaying their gratification in academic settings are engaging in more frequent binge watching, and longer binge viewing sessions than those that are good at delaying their gratifications in an academic setting. In doing so, these individuals are settling for the immediate gratifications of binge watching instead of feeling accomplished by completing their academic coursework in a timelier manner.

ADOG was also found to be a stronger negative predictor of binge watching frequency than academic media multitasking frequency. This is due to the fact that binge watching takes up more time than academic media multitasking. When engaging in academic media multitasking, one can simply check their phone for a few minutes and return to their work. When binge watching, one must dedicate at least an hour of time to watching television content, based on the definition of binge watching that was provided for this study. Therefore, binge watching takes an individual away from their work for longer periods of time than academic media multitasking. Additionally, academic media multitasking is conceptually defined in this study as the usage of a second screen while completing an academic task. Thus, these individuals are still making some progress in their academic coursework while engaging in academic media multitasking. On the other hand, when an individual is engaging in binge watching, there is the possibility that they are not simultaneously completing their academic coursework. In fact, binge watching could serve as an indulgence, which functions as a conflict with the goal of completing academic coursework (Baumeister, 2002). This explains why ADOG would be a larger negative predictor

of binge watching than academic media. Those that are not good at delaying a gratification in an academic setting are more likely to engage in the activity that takes them away from their academics, which is binge watching.

When comparing the two trait individual differences of self-control and ADOG, a positive correlation was found. Previous research has also found a positive correlation between self-control and ADOG (Forstmeier, Drobetz, & Maercker, 2011). In order to delay a gratification in any setting, individuals have to ward off the temptation of the small, immediate reward in order to receive a larger, time-delayed reward. Thus, those that are better at resisting the temptation are more likely to receive the larger, time-delayed reward.

Enjoyment and Reward

Contrary to the lack of self-control results and mixed ADOG results, greater enjoyment was found to be a positive predictor of academic media multitasking and the duration of binge viewing sessions. This may be explained by previous literature that has stated that enjoyment of a primary task is increased with media multitasking (Wang & Tchernev, 2012). However, Rubenking (2017) states that enjoyment of media multitasking depends on locating a balance between being bored with one task and being cognitively overloaded with too many demanding tasks. Specifically, if the primary task is under-stimulating, such as it does not present any new information or emotion, then the secondary task will be perceived as more attractive to the individual. Generally, academic tasks outside of the classroom, such as homework, might be viewed as an extension of the coursework that is completed in the classroom. Thus, these outside of the classroom tasks can be perceived as providing no new information. This would, in return, result in these individuals engaging in academic media multitasking more because they find their academic coursework outside of the classroom as boring and academic media multitasking

makes the experience more enjoyable. This is in support with previous literature, as enjoyment depends on the secondary tasks functioning as positive supplements to boring primary tasks (Chinchanachokchai et al., 2015). This also might be explained due to the students not being intrinsically motivated to complete their homework, which leads them to having a difficult time completing their goals (Baker, 2004). Additionally, those that are frequent multitaskers think that they are much more competent when multitasking than they actually are (Ophir, Nass, & Wagner, 2009). Thus, these students are multitasking more frequently during the academic coursework because they find it enjoyable and they do not perceive any conflict in their goals when engaging in academic media multitasking.

Likewise, enjoyment as a predictor of binge watching duration is explained by the idea same idea of students not being intrinsically motivated, which results in a difficult time completing goals (Baker, 2004). When binge watching, individuals are exposed to hours of enjoyable content (Matrix, 2014). If these individuals are enjoying the content, they are more likely to continue watching, resulting in longer binge viewing sessions. This is especially true when there is no perceived conflict between the binge watching and other goals. In this study, binge watching only requires the individual to watch at least three episodes of television content in succession, which might only be an hour long. Thus, those engaging in frequent binge watching might only be doing so for a relatively short amount of time. If only binge watching for a short period of time, these individuals might not be as immersed in the television content as they would with a long binge viewing session. In return, the lack of immersion might not cause the individual to find the binge viewing session as enjoyable.

Unlike enjoyment, reward watching only significantly predicted the frequency that one binge watches. This finding might be due to the fact that binge watching can sometimes be

viewed as an instant gratification because of the immediate access an individual has to a large amount of television content (Matrix, 2014), as well as a larger, time-delayed reward for completing a task. In fact, Petersen (2016) found support for students who binge watch after completing substantial academic tasks. Frequently rewarding oneself with binge watching prevents someone from binge watch for long periods of time, as they have other tasks to attend to.

Procrastination, Regret, and Guilt

The current study questioned the role that three situational individual differences played in relation to one's frequency of academic media multitasking, frequency of binge watching, and duration of binge viewing sessions: procrastination, regret, and guilt. None of the three situational individual differences were predictors of one's frequency of engaging in academic media multitasking. This finding presents a different view of academic media multitasking than what is presented in previous literature. Individuals admitted to using different forms of media as a form of procrastination from completing another task (Reinecke & Hofman, 2016). This finding might be due to the specific content that the individual is engaging with when engaging in academic media multitasking. Individuals often stated that they are listening to music, using Facebook, or texting others as a form of media multitasking. (Kononova & Yuan, 2017). Music might help these individuals stay focused when completing academic tasks. Therefore, these individuals might not be using academic media multitasking as a form of procrastination, but instead as a way to assist with the primary task. In return, these individuals are not regretful for engaging with a second screen because it might serve a purpose for their academic coursework.

Panek (2014) stated that individuals often feel guilty from engaging in media multitasking. However, Panek also states that individuals might not feel guilty if the secondary

activity is valued more than schoolwork, such as some form of professional development. It is likely that students engaging in academic media multitasking are doing so for various reasons, some of which might be valued more or equally as important as academic coursework. This would explain why individuals might not feel guilty for engaging in academic media multitasking and why guilt was not a significant predictor of one's frequency of academic media multitasking.

Different from the results in academic media multitasking, this study found that all three of these situational individual differences were significant predictors of binge watching frequency, while none of these situational individual differences were significant predictors of binge watching duration. In fact, regret was the largest (negative) predictor of binge watching frequency. That is, individuals that feel less regretful are engaging in more frequent binge watching. Individuals that use binge watching as a form of procrastination are binge watching more often and individuals also binge watch more the guiltier they feel. These findings might be due to the idea that binge watching can be viewed as an instant gratification (Matrix, 2014), and individuals are likely to use instant gratifications as a form of procrastination to avoid another primary task (Reinecke & Hofman, 2016). Therefore, individuals might binge watch frequently, as they want to avoid other tasks often. However, if the binge viewing session that is being used as a form of procrastination is too long, then the individual might not complete the primary task in a timely manner. This explains why using binge watching as a form of procrastination can predict one's binge watching frequency, but not the durations of their binge viewing sessions. Moreover, these individuals are frequently binge watching the less regret they feel, but the guiltier they feel from their binge viewing experiences. This presents a small conundrum, given the relationship between regret and guilt. Perhaps, because binge watching is an enjoyable

experience (Matrix, 2014), individuals do not regret the enjoyment that they received from it. Additionally, college students might feel guiltier the more they engage in binge watching because this media behavior might function as a "guilty pleasure" for them (Panek, 2014). Individuals engage in guilty pleasures because they feel good about what they are engaging in. Thus, they feel guiltier the more frequently they binge watch. On the other hand, regret and guilt were not predictors of the duration one binge watches. This is conflicting with previous research, as Walton-Pattison, Dombrowski, and Presseau (2018) state that individuals might regret their long binge viewing sessions. This finding of regret and guilt not playing a role in the duration of one's binge viewing sessions might be due to the amount of time that is required to binge watch. These individuals do not feel regretful or guilty of the duration of the binges because they are cognizant of how much time they are spending binge watching. Additionally, since binge watching is not a risk-taking behavior, these individuals do not regret or feel guilty of their long binges.

Academic Media Multitasking and Binge Watching

Lastly, this investigation questioned whether there were any correlations between frequency of academic media multitasking, frequency of binge watching, and duration of binge viewing sessions.

There is no relationship between one's academic media multitasking frequency and the frequency with which they engage in binge watching. This finding is not in support with previous literature, as researchers have stated that media usage across platforms is common among individuals (Kim, 2016). This finding might be explained by different situations these individuals might encounter. At times, these individuals might spend so much time engaging in academic media multitasking that they need more time to focus on their academic coursework.

71

Thus, they are doing less frequent binge watching because their time needs to be focused on their academics. Similarly, the reverse can be stated. These individuals might spend so much time binge watching that they have to focus on their academic coursework and cannot afford to spend time engaging in academic media multitasking.

However, there is a small correlation with one's frequency of academic media multitasking and the duration of their binge viewing sessions. Although individuals that are engaging in frequent academic media multitasking do not have time to do frequent binge watching, they are engaging in long binge viewing sessions. Individuals that engage in more frequent academic media multitasking could be engaging in more frequent regular media multitasking while binge watching. Long binge viewing sessions might cause these individuals to engage with a second screen frequently. One of these reasons might be explained by the concept of social TV, which describes the act of watching television content while simultaneously talking with others online about the television content (Kim, Song, & Lee, 2017).

Similarly, there is also a small positive correlation between binge watching frequency and binge watching duration. That is, those engaging in frequent binge watching are often binge watching for longer periods of time. Since the binge watching experience takes time (Matrix, 2014; Petersen, 2016), these individuals that are engaging in more frequent binge watching might have the time to set aside to engage in even longer binge watching sessions. Additionally, the binge viewing experience is generally a longer experience than other types of viewing. Therefore, those that engage in frequent binge watching might already binge watch for longer periods of time.

Limitations

As any study, there are limitations to be addressed. First, this study utilized a survey that requested self-reported data from all of the participants. Thus, what the participants reported has to be taken at face value. It is likely that participants were unsure of how to answer some questions, as they had to recall on their memory of specific media behaviors. For example, participants were asked to recall the last time that they binge watched. Some participants stated that they only binge watching a very small number of times a year, which might be a long time for a participant to think back to. This recall could have affected some of the data that was received from the participants.

The variance explained in the three regression models also serve as a limitation of this study. Only 6.7% of the variance was explained in the academic media multitasking regression and only 9.4% of the variance was explained in the binge watching during regression. Additionally, only age and enjoyment predicted academic media multitasking, whereas enjoyment was the only predictor of the duration of binge viewing sessions. Although the study had success in explaining 21.0% of the variance in the binge watching frequency regression with five different variables, improvements can be made here as well.

Another limitation of this study is associated with the sample. The sample size comes from one university in the southeastern United States. Therefore, it is likely that this sample is not representative of all college students in the United States. Additionally, the sample was predominantly female and identified as White. Results indicated that females were more likely to have longer and more frequent viewing sessions. It is possible that a larger sample of males could have different results. Also, cultural differences are important when looking at the breakdown of the race/ethnicities involved within this study. It is likely that different norms

across different cultures might affect how often or how long an individual binge watches

television or how frequent an individual engages in academic media multitasking. Lastly, the age

of the population was limited. Although the ages ranged from 18 to 54, the mean age was 20.54.

Thus, this younger population of college students could potentially engage in academic media

multitasking or binge watching differently than an older sampe of college students.

Lastly, the measure of binge watching frequency serves as a limitation of this study. The

measure utilized for binge watching frequency had items that focused on how often one binge

watches, which included responses such as "Every few months" to "A large part of every day."

This did not specifically look at a quantifiable number of how frequent the individual binge

watches. Instead, individuals that binge watch very few times of the year were compared to

individuals that binge watch for a large part of every day. The other binge watching frequency

question that was available was an open-ended question. Unfortunately, some of the responses

were undecipherable and were all open to interpretation, so this measure was not utilized.

Directions for Future Research

This study prompted many questions about the data that was presented. Thus, future

research is suggested to gain a better understanding of the relationships between the variables

tested in this study. First, the role that self-control plays in these media behaviors was

unexpected, as it did not predict any of the media behaviors. It is likely that these media

behaviors are not risk-taking behaviors, as they might be viewed as normal behaviors among

college students. Since academic media multitasking and binge watching might be perceived as

normal behaviors, an individual's act of indulging in these media behaviors may serve to slow

down academic progress rather than directly impede it. For example, a student might check their

social media accounts while completing their homework, but they will eventually return and

complete their homework. Thus, the engagement of these media behaviors is not stopping these students from completing their assignments altogether, but it is slowing the process. However, it is also possible that academic media multitasking and binge watching are affecting their academic performance. Binge watching for a long period of time could take a student away from their work longer than anticipated. Future research should explore the effects that academic media multitasking and binge watching have on an individual's academic performance.

Additionally, future research should explore other behaviors that might be associated with impeding a student from completing their work. Checking Facebook while completing an academic assignment or watching long hours of television are behaviors that are not causing college students to dropout, but other binge related behaviors among college students might. Some of these other binge related behaviors include drug and alcohol abuse, unsafe and frequent engagement in sexual activity, and gambling. These commonly binged behaviors among college students are likely to have a larger and more negative affect on an individual's academics compared to academic media multitasking and binge watching. Instead, these media behaviors function as sensation-seeking behaviors. The individuals engaging with these media behaviors are exposed to interesting and exciting reactions, which explains why they are so common among individuals. Therefore, future research on self-control's role in academic media multitasking and binge watching should not be limited to using the brief self-control measure created by Tangney, Baumeister, and Boone (2004), but instead, it should utilize the entire self-control scale created by the same authors. Although there was a strong correlation between these two scales, it is likely that this slight difference could explain the inconsistencies on self-control found in this study. In doing so, a more representative operational definition of self-control might be implemented to test the temptation of media behaviors that are not risk-taking behaviors.

Future research should also explore the tasks an individual engages with when academic media multitasking. This study found that procrastination, regret, and guilt were not predictors of academic media multitasking frequency. It is likely that the secondary task might better inform researchers about how these situational individual differences are related to academic media multitasking. For example, if the secondary tasks when academic media multitasking prove to have some benefit to the students' academics, then they are not procrastinating when engaging with another media device because they are still making progress towards their academics. Likewise, an individual might not regret using their phone or feel guilty for using their phone if the secondary task has no perceived conflict with the primary task. Thus, the secondary task could better inform researchers about the role these situational individual differences play in academic media multitasking. Additionally, engagement in academic media multitasking could be a habitual and automatic act. Thus, these individuals might not be aware of how often they are engaging with a second screen. This would explain why individuals might not view academic media multitasking as a risk. Future research should explore the habitual and automaticity of academic media multitasking and how it affects an individual's performance on a primary task.

Another phenomenon that is worth exploring further is the usage of binge watching as a reward. This relatively new way of using binge watching has not been explored much in previous research. Future research should continue to investigate the frequencies and durations of reward watching, or the usage of binge watching as a reward. This study found that college students are frequently rewarding themselves with binge watching while completing an academic task. If these students are constantly rewarding themselves, they might not have the time to binge watch for long periods of time because they might have to complete another academic assignment or they might engage in another task. This is especially true during an academic semester, as

students are constantly completing assignments. Thus, rewarding themselves with a long binge watching session after completing an academic task might not be ideal, although binge watching somewhat more frequently may be a more common self-motivating behavior.

Taken together, this research has combined two commonly used media distractions among college students. However, little is still known about what predicts academic media multitasking frequency, binge watching frequency, and binge watching duration. Only 6.7% of variance was explained for the academic media multitasking frequency regression model, 21.0% for the binge watching frequency regression model, and 9.4% for the binge watching duration regression model. Thus, there are other variables that predict a large amount of academic media multitasking frequency, binge watching frequency, and binge watching duration.

Future researches should also consider utilizing a sample that is more balanced in terms of age, gender, and race/ethnicity. Although most college students are aged between 18-25, there are many nontraditional college students that engage differently with academic media multitasking and binge watching. Additionally, the sample utilized in this study featured much more females than males. Females are already more likely to binge watch than males, so this could have potentially skewed the data. Also, a more diverse sample in terms of race and ethnicity would be ideal, as others cultures might have different views on engaging with media devices while completing academic coursework.

Lastly, future research should establish a more universal and strategic measure for binge watching frequency. Previously, different measures have been utilized to operationalize the frequency that one binge watches. The various ways of measuring one concept makes it difficult to appropriately test the variable. A more clear and concise measure of binge watching should be developed to ensure that the variable is being measured correctly.

Contributions and Implications

      This study brings together two common media behaviors among college students in various ways. First, as mentioned before, academic media multitasking and binge watching are new media behaviors that often function as a distraction for college students completing their academic coursework. College students are constantly faced with the task of completing their academic coursework or engaging with one of these media behaviors. In previous research, this would suggest that a degree of self-control would play a role in how college students are using academic media multitasking (Panek, 2014) and binge watching (Melichar, 2014; Damratoski, Field, Mizell, & Budden, 2011; Matrix, 2014; Petersen, 2016).. However, this research suggests that a new perspective on self-control should be utilized when discussing these new media behaviors. Additionally, academic media multitasking is often viewed as an instant gratification (Kononova & Yuan, 2017), as well as binge watching (Matrix 2014). This is due to an individual having access to endless opportunities when surfing the Internet while completing academic coursework and thousands of hours of television content on streaming websites that people commonly use to binge watch. However, through ADOG, these two media behaviors can also function as a larger, time-delayed reward. For example, academic media multitasking can function as a larger, time-delayed reward because the individual could engage with their second devices for longer periods of time when the homework is complete. The same can be said for binge watching, as individuals could engage in binge watching as a larger, time-delayed reward (Pittman & Sheehan, 2015). Additionally, an individual can delay their immediate gratifications in an academic setting and complete their academic coursework, which in return will reward the individual with a larger reward of the sense of accomplishment. Lastly, this study shows that enjoyment is a factor in predicting academic media multitasking frequency and the duration of

one's binge viewing sessions. This reveals that enjoyment helps drive these individuals to participate more often and longer, respectively, in these media behaviors.

This study also highlighted the differences between the two media behaviors. For example, age was found to be a negative predictor of academic media multitasking, while being female was found to be a predictor of binge watching. Although a college student sample was used, the ages of the participants ranged between 18 and 54 ($M = 20.54$). This study found that the younger an individual was, the more likely they were to engage in frequent academic media multitasking, which has been previously supported (Jeong & Fishbein, 2007). With new technologies constantly being created, the younger individuals are adapting faster and utilizing more of these technologies than the older individuals. Younger individuals have grown up in a technological age where they have been constantly exposed to various media devices at a young age. While these individuals were raised, they were learning on iPads and smartphones, whereas older individuals did not have access to these devices when they were raised. Most of the participants in this study were likely to have grown up with the same technological background. Since younger individuals are more familiar with these devices, they are more likely to use them, compared to older individuals that were first exposed to these devices at a later age. Thus, when engaged in academic media multitasking outside of the classroom, these individuals are likely to be engaging with more devices and more frequently.

In regard to binge watching, previous research has shown that females are more likely to binge watch than males (Light Speed Research, 2016). However, this difference may only apply to individuals in this age cohort. Alternately, there may be critical genre preferences important to binge watching across genders. Binge watching frequency and binge watching duration were also found to have multiple differences. It is suggested that the duration of binges is driven by

enjoyment, whereas the frequency of binge viewing sessions is driven by reward and the situational individual differences of procrastination, regret, and guilt. Thus, individuals are binge watching for long periods of time because they are enjoying the content they are watching. On the other hand, they are binge watching more frequently because they are procrastinating from doing other tasks. When they are not procrastinating, they are rewarding themselves with frequent binge watching. Additionally, the guiltier and less regretful these individuals feel, the more they binge watch.

The current study suggests real-world implications and theoretical implications for practice and research. First, this study shows that students are engaged in academic media multitasking outside of the classroom. In fact, in this study, only 3.8% of the participants indicated that they do not engage in academic media multitasking outside of the classroom. This investigation also showed that these individuals are likely engaged in academic media multitasking because they find it enjoyable. Using a second screen might function as a supplementary enjoyable task to a primary task of academic coursework that might be considered boring (Chinchanachokchai et al., 2015). A combined percentage of 26.7% of students in this study stated they are engaging in academic media multitasking for more than 31 minutes of every hour. Depending on the task that they are doing on these second devices, this can be very problematic in allowing these students to reach their goals. More than half of their time every hour of completing academic coursework is not even focused on their work, but a second screen. However, procrastination, regret, and guilt were not significant predictors of the frequency that these individuals engage in academic media multitasking. Thus, these individuals might not be using their academic media multitasking as a form of procrastination and they might not feel regretful or guilty for engaging in academic media multitasking. Accordingly, this

suggests that instructors and educators should create more interactive and enjoyable assignments for students to complete for homework. This can be accomplished by possibly using different technologies outside of the classroom that will enhance learning and keep the students engaged. Instructors and educators should reevaluate their learning objectives that are provided to students to optimize on the opportunities that allow students to be engaged in an interactive environment outside of the classroom. In doing so, students will be able focus more on their academics and be less distracted by a second screen because the primary task itself will be enjoyable to them. Students that are more focused and less distracted might provide better quality in the work they are submitting. In return, this could result in an increase in the grades that these students are receiving.

Although the study did not explore in-class academic media multitasking, the previously mentioned finding might also suggest a solution for the increasing number of students that are engaged in academic media multitasking in the classroom. Tindell and Bohlander (2016) found that 92% of students use their cell phones to text inside of the classroom. It is likely that these students have a lack of motivation in the classroom, which results in a conflict of completing other goals (Baker, 2004). Again, this may be due to the perception of the primary task of learning in the classroom to be boring and the secondary task of texting supplements that boring task. Instructors and educators can also utilize different technologies and ensure that content in the classroom is interactive and enjoyable to ensure that students are engaged with their coursework and not engaging in academic media multitasking inside of the classroom.

Second, the current investigation also has implications for media creators. This study shows that both the duration of one's binge viewing sessions and the frequency that someone engages in academic media multitasking is predicted by enjoyment. Thus, media creators should

continue to create enjoyable narrative content, as it is likely to predict longer viewing sessions from the individual. Additionally, they should continue to produce enjoyable content, as individuals are changing screens more often when then content is enjoyable.

Lastly, this study builds upon the theoretical concepts of self-control theory and delay of gratification theory. In regard to self-control theory, which is often associated with risk-taking behaviors (Gottfredson & Hirschi, 2001), this current investigation shows that academic media multitasking and binge watching might not be risk-taking behaviors. This suggests a shift in the literature, as previous studies have shown associations between media multitasking and self-control (Calderwood, Green, Joy-Gaba, & Moloney, 2016; Xu, Wang, & David, 2016) and binge watching and self-control (Damratoski, Field, Mizell, and Budden, 2011; Matrix, 2014).

Under the theoretical lens of delay of gratification, this study specifically adds to the ADOG literature. The positive correlation between self-control and ADOG, a derivative of DoG, is reinforced (Forstmeier et al., 2011), but ADOG is only a predictor of binge watching frequency. Thus, even though immediate gratifications are received from engaging in academic media multitasking (Wilmer, Sherman, & Chein, 2017), the frequency in which they engage with a second screen is not predicted by their ability to delay a gratification in an academic setting. This research does show that having the ability to delay gratifications in an academic setting does limit how often one engages in binge watching, but it might not be applicable to different media behaviors.

APPENDIX A: DESCRIPTIVE STATISTICS

Gender

	Frequency	Valid Percent	Cumulative Percent
Male	232	35.6	35.6
Female	414	63.6	99.2
Other	5	.8	100.0

Ethnicity

	Frequency	Valid Percent	Cumulative Percent
White	343	52.7	52.7
Hispanic or Latino	133	20.4	73.1
Black or African American	69	10.6	83.7
Native American or American Indian	3	.5	84.2
Asian or Pacific Islander	57	8.8	92.9
Biracial or Multiracial	39	6.0	98.9
Other	7	1.1	100.0

Age

Range	Minimum	Maximum	Mean	SD
36	18	54	20.45	3.65

Academic Media Multitasking Frequency

	Frequency	Valid Percent	Cumulative Percent
0 minutes	25	3.8	3.8
01-10 minutes	120	18.4	22.3
11-20 minutes	185	28.4	50.7
21-30 minutes	147	22.6	73.3
31-40 minutes	87	13.4	86.6
41-50 minutes	33	5.1	91.7
51-60 minutes	54	8.3	100.0

Binge Watching Frequency

	Frequency	Valid Percent	Cumulative Percent
Never	69	10.6	10.6
Every few months	192	29.5	40.1
Monthly	78	12.0	52.1
Several times per month	96	14.7	66.8
Weekly	88	13.5	80.3
2-3 times per week	74	11.4	91.7
4-6 times per week	24	3.7	95.4
Daily	25	3.8	99.2
For a larger part of every day	5	.8	100.0

Binge Watching Duration

Range	Minimum	Maximum	Mean	SD
15	0	15	4.02	2.58

APPENDIX B: INSTRUMENT

PERSONALITY MEASURES
This section of the survey is concerned with a couple personality measures. Please read all instructions carefully and answer all questions.

<u>Random - Self-control and Academic Delay of Gratification</u>
Brief Self-Control Measure (Tangney et al., 2004)
5 point scale, Not at all – Very Much

"Please respond to the following items. I'm interested in your first, initial, response."
SCM1   I am good at resisting temptation
SCM2   I have a hard time breaking habits
SCM3   I am lazy
SCM4   I say inappropriate things
SCM5   I do certain things that are bad for me, if they are fun
SCM6   I refuse things that are bad for me
SCM7   I wish I had more self-discipline
SCM8   People would say that I have iron self-discipline
SCM9   Pleasure and fun sometimes keep me from getting work done
SCM10   I have trouble concentrating
SCM11   I am able to work effectively toward long term goals
SCM12   Sometimes I can't stop myself from doing something, even if I know it's wrong
SCM13   I often act without thinking through all the alternatives

Modified Academic Delay of Gratification (ADOG) (Bembenutty & Karabenick, 1998)
Below is a series of choices between two alternative courses of action. Please read each set of statements carefully, and relate each statement to the course you are earning extra/course credit for completing this survey for. Then tell which course of action you would be more likely to choose and the strength of that choice. There are no right or wrong answers. Please respond with your true beliefs rather than the way you think you should respond. That is, *tell us what you really would do under the conditions described in the statements.*
- Definitely choose "A"
- Probably choose "A"
- Probably choose "B"
- Definitively choose "B"

ADOG1
A. Go to a favorite concert, play, or sporting event and study less for this course even though it may mean getting a lower grade on an exam you will take tomorrow, OR
B. Stay home and study to increase your chances of getting a higher grade

ADOG2
A. Study a little every day for an exam in this course and spend less time with your friends, OR
B. Spend more time with your friends and cram just before the test.

ADOG3

A. Miss several classes to accept an invitation for a very interesting trip, OR
B. Delay going on the trip until the course is over

ADOG4
A. Go to a party the night before a test for this course and study only if you have time, OR
B. Study first and party only if you have time.

ADOG5
A. Spend most of your time studying just the interesting material in this course even though it
    may mean not doing so well, OR
B. Study all the material that is assigned to increase your chances of doing well in the course.

ADOG6
A. Skip this class when the weather is nice and try to get the notes from somebody later, OR
B. Attend class to make certain that you did not miss something even though the weather is
    nice outside.

ADOG7
A. Stay in the library to make certain that you finish an assignment in this course that is due the
    next day, OR
B. Leave to have fun with your friends and try to complete it when you get home later that
    night.

ADOG8
A. Study for this course in a place with a lot of pleasant distractions, OR
B. Study in a place where there are fewer distractions to increase the likelihood that you will
    learn the material.

ADOG9
A. Leave right after class to do something you like even though it means possibly not
    understanding that material for the exam, OR
B. Stay after class to ask your instructor to clarify some material for an exam that you do not
    understand

ADOG10
A. Select an instructor for this course who is fun even though he/she does not do a good job
    covering the course material, OR
B. Select an instructor for this course who is not as much fun but who does a good job covering
    the course material

BWADOG11
A. Get a head start on an assignment that is due next week OR
B. Watch multiple episodes of the same TV content in succession first and then work on your
    assignment later

BWADOG12
A. Go to the library and study for an upcoming test OR
B. Binge watch an entire new season the week it is released and study closer to the test date

MEDIA BEHAVIORS

Media Multitasking
Media Multitasking Frequency
We're going to define "***academic media multitasking***" as engaging with another media source or media technology while *primarily working on academic coursework* outside of the classroom. Engaging with another media source or media technology could be using another tab opened in your web browser for leisure, cell phone usage while on the computer, tablet usage while on the computer, etc.

Academic media multitasking
- In an average hour of completing/studying homework/class readings, how much time do you spend engaging in academic media multitasking by using a second screen that is not related to your academic coursework? (scale is in minutes)
    - o 0 minutes
    - o 01-10 minutes
    - o 11-20 minutes
    - o 21-30 minutes
    - o 31-40 minutes
    - o 41-50 minutes
    - o 51-60 minutes
- In an average hour of general media use, how often are you engaging in academic media multitasking?
- Never   Sometimes   About half the time   Most of the time   Always

Media Multitasking Scales – Randomized Within
Media Multitasking - *Modified Enjoyment Audience Response Fun Subscale (Oliver & Bartsch, 2010) Reworded to reflect academic media multitasking*

Answer these questions by referring back to the last time you engaged in academic media multitasking

MM1. It was fun for me to engage with another screen while doing my academic coursework.
Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree

MM2. I had a good time engaging with a second screen while completing my academic coursework.
Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree

MM3. Engaging with a second screen while completing my academic coursework was entertaining.
Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree

Media Multitasking – *Modified Procrastination Subscale - Binge Watching Motivations (Rubenking et al., 2018)*
Final scale items, 7-point scale, 1 = *Not at all likely*, 7 = *Extremely likely*

"Please indicate how likely each of the following is to encourage you to keep engaging in academic media multitasking. . ."
1. When I'm putting off doing homework
2. When I'm procrastinating and putting off other academic tasks
3. When I don't feel like studying

Media Multitasking - *Anticipated regret modified from (O'Carroll, Ferguson, Hayes, & Shepherd, 2012), located in (Walton-Pattison et al., 2018) and Guilty item.*
Final scale items, 7-point scale, 1 = *Strongly Disagree*, 7 = *Strongly Agree*

"Please rate your agreement with the following statements: Use these for media multitasking and binge watching."

1. If I engage in academic media multitasking this weekend, I would feel regret.
2. I often wish I had not engaged in academic media multitasking after I have.
3. I feel guilty after engaging in academic media multitasking.

Binge Watching
Binge Watching Frequency
We're going to define "*binge watching*" as watching three or more episodes of TV shows in one sitting. Binge watching can occur on multiple platforms, including broadcast television, Netflix, Hulu, Amazon Prime, a computer/laptop, a phone, a tablet, TV, etc.

OftBin   How often do you binge watch TV? (*Scale responses below*)
1. *Never*
2. *Every few months*
3. *Monthly*
4. *Several times per month*
5. *Weekly*
6. *2-3 times per week*
7. *4-6 times per week*
8. *Daily*
9. *For a large part of every day*

DaysBin1   In an average month how many days per month do you binge watch? _____
                (*Fill in*)

Binge Watching Duration
Binge Watching Frequency *Modified from (Walton-Pattison et al., 2018)*

Thinking of the last time you binge watched, how many hours did you spend watching the TV show? (in hours, rounded to nearest half hour) (*Fill in*) ____

Binge Watching Scales - Randomized Within
Binge Watching - *Enjoyment Audience Response Scale (Oliver & Bartsch, 2010)*
Reworded to reflect binge watching

Answer these questions by referring back to the last time you binge watched
    BW1. It was fun for me to binge watch

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW2. I had a good time binge watching

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW3. The content I binge watched was entertaining

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW4. I found the content I binge watched to be very meaningful

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW5. I was moved by the content I was binge watching

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW6. The content I binge watched was thought provoking

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW7. The content that I binge watched will stick with me for a long time

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW8. I know I will never forget the content that I binge watched

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW9. The content I binge watched left me with a lasting impression

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW10. I was at the edge of my seat while binge watching

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW11. The content I binge watched was heart-pounding

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree
    BW12. The content I binge watched was suspenseful

Strongly Disagree 1   2   3   4   5   6   7   Strongly Agree

Binge Watching Reward

Final scale items, 5-point scale, 1 = *Never*, 5 = *Always*

1. *After completing an academic task*, do you reward yourself by binge watching?
2. *While working on an academic task*, do you reward yourself by taking a break to binge watch?

Binge Watching - *Binge Watching as Procrastination Subscale Binge Watching Motivations (Rubenking et al., 2018)*
Final scale items, 7-point scale, 1 = *Not at all*, 7 = *Extremely likely*

"Please indicate how likely each of the following is to encourage you to keep viewing, or binge watch . . ."
1. When I'm putting off doing homework
2. When I'm procrastinating and putting off other tasks
3. When I don't feel like cleaning or doing other household tasks

Binge Watching - *Anticipated regret modified from (O'Carroll, Ferguson, Hayes, & Shepherd, 2012), located in (Walton-Pattison et al., 2018) and Guilt item.*
Final scale items, 7-point scale, 1 = *Definitely no*, 7 = *Definitely yes*

"Please rate your agreement with the following statements:"
1. If I binge watched television this weekend, I would feel regret.
2. I often wish I had not binge watched after I have.
3. I feel guilty after binge watching.

You're almost to the end! On this last page, please answer a few questions about your demographics.

How old are you?
- _____

What gender do you identify with?
- Male
- Female
- Other

What race/ethnicity do you identify with?
- White
- Hispanic or Latino
- Black of African American
- Native American or American Indian
- Asian/Pacific Islander
- Biracial or Multiracial (of 2 or more races)
- Other

APPENDIX C: IRB APPROVAL LETTER AND MODIFICATIONS

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Determination of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Kelly R Merrill**

Date: **January 05, 2018**

Dear Researcher:

On 01/05/2018, the IRB reviewed the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination – Category 2 – Adult Participants
Project Title:	Holding Off on the Fun Stuff: Investigating College Students' Ability to Delay Their Gratifications of Media Multitasking and Binge Watching
Investigator:	Kelly R Merrill
IRB Number:	SBE-17-13610
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

This letter is signed by:

[signature]

Signature applied by Jennifer Neal-Jimenez on 01/05/2018 04:31:08 PM EST

Designated Reviewer

Page 1 of 1

Determination of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Kelly R. Merrill**

Date: **January 18, 2018**

Dear Researcher:

On 01/18/2018, the IRB reviewed the following activity as modifications to human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Modification Type:	Revised instrument. Title change from "Holding off on the fun stuff: Investigating college students' ability to delay their gratifications of binge watching and media multitasking" to "Holding off on the fun stuff: Media multitasking and binge watching." Revised Study application, version 1.1.
Project Title:	Holding off on the fun stuff: Media multitasking and binge watching.
Investigator:	Kelly R. Merrill
IRB Number:	SBE-17-13610
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

This letter is signed by:

Kamille Chap

Signature applied by Kamille Chaparro on 01/18/2018 03:16:55 PM EST

Designated Reviewer

Page 1 of 1

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Determination of Exempt Human Research

From: **UCF Institutional Review Board #1**
            FWA00000351, IRB00001138

To: **Kelly R. Merrill**

Date: **February 08, 2018**

Dear Researcher:

On 02/08/2018, the IRB reviewed the following activity as minor modifications to human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Modification Type:	Total number of participants was increased to 750. Revised Protocol was uploaded in iRIS.
Project Title:	Holding off on the fun stuff: Media multitasking and binge watching.
Investigator:	Kelly R. Merrill
IRB Number:	SBE-17-13610
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

This letter is signed by:

Kamille Chap

Signature applied by Kamille Chaparro on 02/08/2018 11:12:50 AM EST

Designated Reviewer

Page 1 of 1

REFERENCES

Ahrens, J., Coyle, J. R., & Strahilevitz, M. A. (2013). Electronic word of mouth: The effects of incentives on e-referrals by senders and receivers. *European Journal of Marketing*, *47*(7), 1034-1051. doi: 10.1108/03090561311324192

Alsop, R. (2014, July 17). *Instant gratification and its dark side.* Retrieved October 25, 2017, from http://www.bucknell.edu/communications/bucknell-magazine/instant-gratification-and-its-dark-side.html

Baker, S. R. (2004). Intrinsic, extrinsic, and amotivational orientations: Their role in university adjustment, stress, well-being, and subsequent academic performance. *Current Psychology*, *23*(3), 189. doi: 10.1007/s12144-004-1019-9

Baumeister, R. F. (2002). Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *Journal of Consumer Research*, *28*(4), 670-676. doi: 10.1086/338209

Baumeister R. F., Sparks E. A., Stillman T. F., Vohs K. D. (2008). Free will in consumer behavior: Self-control, ego depletion, and choice. *Journal of Consumer Psychology, 18*, 4-13. doi:10.1016/j.jcps.2007.10.002

Baumgartner, S. E., & Sumter, S. R. (2017). Dealing with media distractions: An observational study of computer-based multitasking among children and adults in the Netherlands. *Journal of Children and Media*, 1-19. doi: 10.1080/17482798.2017.1304971

Bayer, J. B., Dal Cin, S., Campbell, S. W., & Panek, E. (2016). Consciousness and self-regulation in mobile communication. *Human Communication Research*, *42*(1), 71-97. doi: 10.1111/hcre.12067

Bembenutty, H. (2009a). Teaching effectiveness, course evaluation, and academic performance: The role of academic delay of gratification. *Journal of Advanced Academics*, *20*(2), 326-355.

Bembenutty, H. (2009b). Test anxiety and academic delay of gratification. *College Student Journal*, *43*(1), 10-21.

Bembenutty, H., & Karabenick, S. A. (1998). Academic delay of gratification. *Learning and Individual Differences*, *10*(4), 329-346. doi: 10.1016/S1041-6080(99)80126-5

Calderwood, C., Ackerman, P. L., & Conklin, E. M. (2014). What else do college students "do" while studying? An investigation of multitasking. *Computers & Education*, *75*, 19-29. doi: 10.1016/j.compedu.2014.02.004

Calderwood, C., Green, J. D., Joy-Gaba, J. A., & Moloney, J. M. (2016). Forecasting errors in student media multitasking during homework completion. *Computers & Education*, *94*, 37-48. doi:10.1016/j.compedu.2015.10.021

Chinchanachokchai, S., Duff, B. R., & Sar, S. (2015). The effect of multitasking on time perception, enjoyment, and ad evaluation. *Computers in Human Behavior*, *45*, 185-191. doi: 10.1016/j.chb.2014.11.087

Conlin, L., Billings, A.C. & Auverset, L. (2016). Time-shifting vs. appointment viewing: The role of fear of missing out within TV consumption behaviors. *Communication & Society 29*(4), 151- 164. doi: 10.15581/003.29.4.151-164

Damratoski, K. J., Field, A. R., Mizell, K. N., & Budden, M. C. (2011). An investigation into alternative television viewership habits of college students. *Journal of Applied Business Research, 27*(1), 69-76. doi: http://dx.doi.org/10.19030/jabr.v27i1.911

Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, *18*(1), 105.

Deloitte (2016). *Digital democracy survey | Deloitte US | Media & Entertainment.* Retrieved August 15, 2016, from https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/digital-democracy-survey-generational-media-consumption-trends.html

Deloitte (2017). *Digital democracy survey 11th edition | Deloitte US | Media & Entertainment.* Retrieved August 20, 2017, from https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/digital-democracy-survey-generational-media-consumption-trends.html

Devasagayam, R. (2014). Media bingeing: a qualitative study of psychological influences. *Marketing Management Association Spring 2014 Proceedings*, 40-44.

Duckworth, A. L., Shulman, E. P., Mastronarde, A. J., Patrick, S. D., Zhang, J., & Druckman, J. (2015). Will not want: Self-control rather than motivation explains the female advantage in report card grades. *Learning and Individual Differences*, *39*, 13-23. doi: 10.1016/j.lindif.2015.02.006

Eisenberger, R., & Shanock, L. (2003). Rewards, intrinsic motivation, and creativity: A case study of conceptual and methodological isolation. *Creativity Research Journal*, *15*(2-3), 121-130. doi: 10.1207/S15326934CRJ152&3_02

Feeney, N. (2014, February 18). *When, exactly, does watching a lot of Netflix become a 'binge'?* Retrieved September 06, 2017, from http://www.theatlantic.com/entertainment/archive/2014/02/when-exactly-does-watching-a-lot-of-netflix-become-a-binge/283844/

Flanigan, A. E., & Babchuk, W. A. (2015). Social media as academic quicksand: A

    phenomenological study of student experiences in and out of the classroom. *Learning*

    and Individual Differences, 44, 40-45. doi: 10.1016/j.lindif.2015.11.003

Foehr, U. G. (2006). Media multitasking among American youth: Prevalence, predictors and

    pairings. *Henry J. Kaiser Family Foundation*, 1-39.

Forstmeier, S., Drobetz, R., & Maercker, A. (2011). The delay of gratification test for adults:

    Validating a behavioral measure of self-motivation in a sample of older

    people. *Motivation and Emotion*, *35*(2), 118-134. doi: 10.1007/s11031-011-9213-1

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of*

    Organizational Behavior, *26*(4), 331-362. doi: 10.1002/job.322

Gottfredson, M. R., & Hirschi, T. (2011). Self-control and opportunity. *Control Theories of*

    Crime and Delinquency, *1*, 5.

Greenwood, S., Perrin, A., & Duggan, M. (2016, November 11). *Social media update 2016.*

    Retrieved September 08, 2017, from http://www.pewinternet.org/2016/11/11/social-

    media-update-2016/

Haghbin, M., Shaterian, F., Hosseinzadeh, D., & Griffiths, M. D. (2013). A brief report on the

    relationship between self-control, video game addiction and academic achievement in

    normal and ADHD students. *Journal of Behavioral Addictions*, *2*(4), 239-243. doi:

    10.1556/JBA.2.2013.4.7

Hallinan, B., & Striphas, T. (2016). Recommended for you: The Netflix prize and the production

    of algorithmic culture. *New Media & Society*, *18*(1), 117-137. doi:

    10.1177/1461444814538646

Herndon, J. S., Bembenutty, H., & Gill, M. G. (2015). The role of delay of gratification, substance abuse, and violent behavior on academic achievement of disciplinary alternative middle school students. *Personality and Individual Differences*, *86*, 44-49. 10.1016/j.paid.2015.05.028

Hoch, S. J., & Loewenstein, G. F. (1991). Time-inconsistent preferences and consumer self-control. *Journal of Consumer Research*, *17*(4), 492-507.

Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Sciences*, *16*(3), 174-180. doi: 10.1016/j.tics.2012.01.006

Hwang, Y., Kim, H., & Jeong, S. H. (2014). Why do media users multitask?: Motives for general, medium-specific, and content-specific types of multitasking. *Computers in Human Behavior*, *36*, 542-548. doi: 10.1016/j.chb.2014.04.040

Irvine, V. (2016). *Binge watching in the U.S*. Retrieved September 01, 2017, from https://www.statista.com/topics/2508/binge-watching-in-the-us/

Jenner, M. (2014). Is this TV IV? On Netflix, TV III and binge-watching. *New Media & Society,* 1-17. doi: 10.1177/1461444814541523

Jeong, S. H., & Fishbein, M. (2007). Predictors of multitasking with media: Media factors and audience factors. *Media Psychology*, *10*(3), 364-384. doi: 10.1080/15213260701532948

Jeong, S. H., Kim, H., Yum, J. Y., & Hwang, Y. (2016). What type of content are smartphone users addicted to?: SNS vs. games. *Computers in Human Behavior*, *54*, 10-17. doi: 10.1016/j.chb.2015.07.035

Junco, R., & Cotten, S. R. (2012). No A 4 U: The relationship between multitasking and academic performance. *Computers & Education*, *59*(2), 505-514. doi: 10.1016/j.compedu.2011.12.023

Kim, J., Song, H., & Lee, S. (2017). Extrovert and lonely individuals' social TV viewing

    experiences: A mediating and moderating role of social presence. *Mass Communication*

    and Society, *21*(1), 50-70. doi: 10.1080/15205436.2017.1350715

Kim, S. J. (2016). A repertoire approach to cross-platform media use behavior. *New Media &*

    Society, *18*(3), 353-372. doi: 10.1177/1461444814543162

King, R. B., & Gaerlan, M. J. M. (2014). High self-control predicts more positive emotions,

    better engagement, and higher achievement in school. *European Journal of Psychology*

    of Education, *29*(1), 81. doi: 10.1007/s10212-013-0188-z

Kivetz, R. (2003). The effects of effort and intrinsic motivation on risky choice. *Marketing*

    Science, *22*(4), 477-502. doi: 10.1287/mksc.22.4.477.24911

Kononova, A. G., & Yuan, S. (2017). Take a break: Examining college students' media

    multitasking activities and motivations during study-or work-related tasks. *Journalism &*

    Mass Communication Educator, *72*(2), 183-197. doi: 10.1177/1077695816649474

Krämer, N. C., Winter, S., Benninghoff, B., & Gallus, C. (2015). How "social" is Social TV?

    The influence of social motives and expected outcomes on the usage of Social TV

    applications. *Computers in Human Behavior*, *51*, 255-262. doi:

    10.1016/j.chb.2015.05.005

Kuznekoff, J. H., & Titsworth, S. (2013). The impact of mobile phone usage on student

    learning. *Communication Education*, *62*(3), 233-252. doi:

    10.1080/03634523.2013.767917

Labuschagne, L. G., Cox, T. J., Brown, K., & Scarf, D. (2017). Too cool? Symbolic but not

    iconic stimuli impair 4-year-old children's performance on the delay-of-gratification

    choice paradigm. *Behavioural Processes*, *135*, 36-39. doi: 10.1016/j.beproc.2016.11.014

Lang, A. (2000). The limited capacity model of mediated message processing. *Journal of Communication*, *50*(1), 46-70. doi: 10.1111/j.1460-2466.2000.tb02833.x

Lang, A. (2009). The limited capacity model of motivated mediated message processing. *The SAGE Handbook of Media Processes and Effects*, 193-204.

Laran, J., & Janiszewski, C. (2010). Work or fun? How task construal and completion influence regulatory behavior. *Journal of Consumer Research*, *37*(6), 967-983. doi: 10.1086/656576

LaRose, R., Lin, C. A., & Eastin, M. S. (2003). Unregulated Internet usage: Addiction, habit, or deficient self-regulation?. *Media Psychology*, *5*(3), 225-253.

Lazear, E. P. (2000). The power of incentives. *The American Economic Review*, *90*(2), 410-414.

Lepper, M. R., Greene, D., & Nisbett, R. E. (1973). Undermining children's intrinsic interest with extrinsic reward: A test of the" overjustification" hypothesis. *Journal of Personality and Social Psychology*, *28*(1), 129. doi: 10.1037/h0035519

Liu, X., Wang, L., & Liao, J. (2016). Enabling delay of gratification behavior in those not so predisposed: The moderating role of social support. *Frontiers in Psychology*, *7*, 366. doi: 10.3389/fpsyg.2016.00366

Maruno, S. I., & Zhang, L. (2010). Causal relationships among academic delay of gratification, motivation, and self-regulated learning in elementary school children. *Perceptual and Motor Skills*, *111*(2), 631-642. doi: 10.2466/10.11.20.PMS.111.5.631-642

Matrix, S. (2014). The Netflix effect: Teens, binge watching, and on-demand digital media trends. *Jeunesse: Young People, Texts, Cultures*, *6*(1), 119-138. doi: 10.1353/jeu.2014.0002

McCoy, B. R., (2016). Digital distractions in the classroom phase II: Student classroom use of

    digital devices for non-class related purposes. *Faculty Publications, College of*

    Journalism & Mass Communications. Paper 90.

    http://digitalcommons.unl.edu/journalismfacpub/90

Meier, A., Reinecke, L., & Meltzer, C. E. (2016). "Facebocrastination"? Predictors of using

    Facebook for procrastination and its effects on students' well-being. *Computers in*

    Human Behavior, *64*, 65-76. doi: 10.1016/j.chb.2016.06.011

Melichar, L. (2014). *Sparking behavior change to create a culture of health.* Talked delivered to

    MIT Media Lab Seminar "Tools for Wellbeing," 11 April.

Merikivi, J., Mäntymäki, M., Salovaara, A., & Zhang, L. (2016). Binge watching television

    shows: conceptualization and measurement. *European Conference on Information*

    Systems Research Papers. Paper 16.

Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification:

    dynamics of willpower. *Psychological Review*, *106*(1), 3-19.

Mischel, W. (1974). Processes in delay of gratification. *Advances in Experimental Social*

    Psychology, *7*, 249-292. doi: 10.1016/S0065-2601(08)60039-8

Mischel, W., & Ebbesen, E. B. (1970). Attention in delay of gratification. *Journal of Personality*

    and Social Psychology, *16*(2), 329-337.

Mischel, W., Ebbesen, E. B., & Raskoff Zeiss, A. (1972). Cognitive and attentional mechanisms

    in delay of gratification. *Journal of Personality and Social Psychology*, *21*(2), 204.

Mischel, W., Shoda, Y., & Peake, P. K. (1988). The nature of adolescent competencies predicted

    by preschool delay of gratification. *Journal of Personality and Social Psychology*, *54*(4),

    687.

Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of gratification in

    children. *Science*, *244*(4907), 933-938.

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H. ... & Sears,

    M. R. (2011). A gradient of childhood self-control predicts health, wealth, and public

    safety. *Proceedings of the National Academy of Sciences*, *108*(7), 2693-2698. doi:

    10.1073/pnas.1010076108

Mullan, B., Allom, V., Brogan, A., Kothe, E., & Todd, J. (2014). Self-regulation and the

    intention behaviour gap. Exploring dietary behaviours in university

    students. *Appetite*, *73*, 7-14. doi: 10.1016/j.appet.2013.10.010

Ophir, E., Nass, C., & Wagner, A. D. (2009). Cognitive control in media

    multitaskers. *Proceedings of the National Academy of Sciences*, *106*(37), 15583-15587.

Oviedo, V., Tornquist, M., Cameron, T., & Chiappe, D. (2015). Effects of media multi-tasking

    with Facebook on the enjoyment and encoding of TV episodes. *Computers in Human

    Behavior, 51*, 407-417. doi: 10.1016/j.chb.2015.05.022

Panek, E. (2014). Left to their own devices: College students' "guilty pleasure" media use and

    time management. *Communication Research*, *41*(4), 561-577. doi:

    10.1177/0093650213499657

Pena, L. L. (2015). *Breaking binge: Exploring the effects of binge watching on television viewer

    reception* (Doctoral dissertation, Syracuse University).

Petersen, T. G. (2016). To binge or not to binge: A qualitative analysis of college students' binge

    watching habits. *Florida Communication Journal, 44*(1), 77-88.

Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self-regulated

    learning. *International Journal of Educational Research*, *31*(6), 459-470.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, *82*(1), 33-40.

Pittman, M., & Sheehan, K. (2015). Sprinting a media marathon: uses and gratifications of binge-watching television through Netflix. *First Monday, 20*(1). doi: 10.5210/fm.v20i10.6138

Pittman, M., & Tefertiller, A. C. (2015). With or without you: Connected viewing and co-viewing Twitter activity for traditional appointment and asynchronous broadcast television models. *First Monday*, *20*(7). doi: 10.5210/fm.v20i7.5935

Reinecke, L., & Hofmann, W. (2016). Slacking off or winding down? An experience sampling study on the drivers and consequences of media use for recovery versus procrastination. *Human Communication Research*, *42*(3), 441-461. doi: 10.1111/hcre.12082

Reyna, V. F., & Wilhelms, E. A. (2017). The gist of delay of gratification: Understanding and predicting problem behaviors. *Journal of Behavioral Decision Making*, *30*(2), 610-625. doi: 10.1002/bdm.1977

Rubenking, B. (2017). Boring is bad: Effects of emotional content and multitasking on enjoyment and memory. *Computers in Human Behavior*, *72*, 488-495. doi: 10.1016/j.chb.2017.03.015

Rubenking, B., Bracken, C. C., Sandoval, J., & Rister, A. (2018). Defining new viewing behaviours: What makes and motivates TV binge-watching?. *International Journal of Digital Television*, *9*(1), 69-85.

Rubenking, B. & Backen, C. C. (under review). Binge watching: A suspenseful, emotional, habit. *Submitted to: Communication Research Reports.*

Rubin, A. M., (1983). Television uses and gratifications: The interactions of viewing patterns

    and motivations. *Journal of Broadcasting, 27*, 37-52.

Schmidt, B., Holroyd, C. B., Debener, S., & Hewig, J. (2017). I can't wait! Neural reward signals

    in impulsive individuals exaggerate the difference between immediate and future

    rewards. *Psychophysiology*, *54*(3), 409-415. doi: 10.1111/psyp.12796

Shannon-Missal. (2013). *Americans taking advantage of ability to watch TV on their own*

    schedules, Harris Interactive, Retrieved August 28, 2017,

    from http://www.harrisinteractive.com/NewsRoom/HarrisPolls/tabid/447/ctl/ReadCusto

    m%20Default/mid/1508/ArticleId/1176/Default.aspx.

Silverman, R. E., & Ryalls, E. D. (2016). "Everything is different the second time around." The

    stigma of temporality on Orange Is the New Black. *Television & New Media*, *17*(6), 520-

    533. doi: 10.1177/1527476416647496

Smith, K. T. (2011). Digital marketing strategies that millennials find appealing, motivating, or

    just annoying. *Journal of Strategic Marketing*, *19*(6), 489-499.

    doi:10.1080/0965254X.2011.581383

Stadler, M., Aust, M., Becker, N., Niepel, C., & Greiff, S. (2016). Choosing between what you

    want now and what you want most: Self-control explains academic achievement beyond

    cognitive ability. *Personality and Individual Differences*, *94*, 168-172. doi:

    10.1016/j.paid.2016.01.029

Steinberg, L. (2007). Risk taking in adolescence: New perspectives from brain and behavioral

    science. *Current Directions in Psychological Science*, *16*(2), 55-59. doi: 10.1111/j.1467-

    8721.2007.00475.x

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good

    adjustment, less pathology, better grades, and interpersonal success. *Journal of*

    Personality, *72*(2), 271-324.

Walton-Pattison, E., Dombrowski, S. U., & Presseau, J. (2018). 'Just one more episode':

    Frequency and theoretical correlates of television binge watching. *Journal of Health*

    Psychology, *23*(1), 17-24. doi: 10.1177/1359105316643379

Wang, Z., & Tchernev, J. M. (2012). The "myth" of media multitasking: Reciprocal dynamics of

    media multitasking, personal needs, and gratifications. *Journal of Communication*, *62*(3),

    493-513. doi: 10.1111/j.1460-2466.2012.01641.x

Wei, F. F., Wang, Y. K., & Klausner, M. (2012). Rethinking college students' self-regulation and

    sustained attention: Does text messaging during class influence cognitive

    learning?. *Communication Education*, *61*(3), 185-204.

    doi:10.1080/03634523.2012.672755

Wilmer, H. H., Sherman, L. E., & Chein, J. M. (2017). Smartphones and cognition: A review of

    research exploring the links between mobile technology habits and cognitive

    functioning. *Frontiers in Psychology*, *8*, 605. doi: 10.3389/fpsyg.2017.00605

Wilson, J., Andrews, G., & Shum, D. H. (2017). Delay of gratification in middle childhood:

    Extending the utility and sensitivity of the standard task. *PsyCh Journal*, *6*(1), 8-15. doi:

    10.1002/pchj.161

Xu, S., Wang, Z. J., & David, P. (2016). Media multitasking and well-being of university

    students. *Computers in Human Behavior*, *55*, 242-250. doi: 10.1016/j.chb.2015.08.040

Zhang, L., Karabenick, S. A., Maruno, S., & Lauermann, F. (2011). Academic delay of

    gratification and children's study time allocation as a function of proximity to

consequential academic goals. *Learning and Instruction*, *21*(1), 77-94. doi:

10.1016/j.learninstruc.2009.11.003

Zhang, W. (2015). Learning variables, in-class laptop multitasking and academic performance: A

path analysis. *Computers & Education*, *81*, 82-88.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal

of Educational Psychology*, *81*(3), 329-339.

Zimmerman, B. J., & Schunk, D. H. (Eds.). (2012). *Self-regulated learning and academic

achievement: Theory, research, and practice*. Springer Science & Business Media.