Immediate Media: How Instant Gratification, Self-Control, and the Expansion of Media

Choice Affect our Everyday Lives


by


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Chapter 1.

Introduction

Popular new media of the first decade of the 21$^{st}$ century, like new media of other eras, inspire great hope and terrible fear, not only among their users but also among those researching their effects on individuals and society. Examples abound as to how their use democratizes knowledge and marketplaces, enhances creativity, and boosts productivity (Anderson, 2008; Druin, 2009; Negroponte, 1995; Noveck, 2009; Shirky, 2008; Tapscott, 1998). The anticipated economic and democratic payoffs of enhanced connectivity and expanded choice motivate commercial and governmental efforts to expand broadband Internet access. At the same time, pundits and researchers warn of new media's unparalleled ability to distract or isolate users with frivolous pursuits, decrease well-being, lead to addiction, and compromise users' abilities to concentrate, learn, or form social bonds (Carr, 2010; Greenfield, 2009; Kraut et al., 1998; Ophir, Nass, & Wagner, 2009; Pariser, 2011; Small & Vorgan, 2009; Young, 1998).

That these two positions find empirical support for their hypotheses is an artifact of how quickly new media have developed into a multitude of experiences marketed, sold, and conceptualized in aggregate as the Internet, the computer, or the mobile phone. The backbone of most new media – the Internet – followed an evolutionary trajectory similar to that of electricity, growing from a single medium with limited uses to a grid that facilitates the distribution and functioning of an incredibly diverse array of

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applications (Marvin, 1988). The continued documentation of the effects of Internet use

in general or use of a rapidly changing online application like Facebook does little to help

predict the effects of future iterations of these technologies. In order to produce empirical

research on the effects of changing technologies that will be most easily relatable to

future iterations, researchers would do well to base their propositions on *attributes* of the

technologies rather than essentialized versions of the media themselves (Rice, 1999).

    This dissertation takes two attributes as its subject, attributes that bind much of

the emergent media of the early 21$^{st}$ century together: the increasing number of mediated

experiences and the increasing availability of these experiences *at any time* in contrast to

the constrained availability imposed by the scheduled media environments that

dominated the 20$^{th}$ century. The term "on demand" has been used to denote media

experiences that are available at any time. I avoid using this term due to its common use

as the designation for a particular pay structure for television content. I also avoid using

"unscheduled" or "non-linear" (Webster, 2009) because these terms do not capture the

significant increase in options that is characteristic of the new media environment

(Neuman, Park, & Panek, forthcoming) nor does it address the fact that the increasing

portability of digital communication technologies make content available to consumers in

more places. This particular added dimension of choice provides even more flexibility in

terms of when content can be consumed than that which is provided by technologies that

merely allow content to be consumed at any time but are limited to certain physical

locations (e.g., a digital video recorder that allows television users to view content at any

time but requires them to be in their living rooms while doing so). Instead, I use the term

"immediate" to refer to this attribute, as in "immediate media choice environment" (see

Table 1.1). To be sure, there were some pre-21$^{st}$ century technologies such as the car phone, the book, and the newspaper that provided users with some temporal and locative flexibility and some measure of choice greater than the limited, scheduled experiences available via broadcast media or via land-line telephone and telegraph. However, the combination of significantly expanded choice and temporal flexibility across information, entertainment, and social media choice environments is a purely 21$^{st}$ century phenomenon.

Table 1-1: Selection and Availability in Traditional and Immediate Media Environments

|  | Traditional Media Environment | Immediate Media Environment |
|---|---|---|
| **Information Technologies** | Books & recordings: large selection regulated by publishers, consumption limited by price per unit.<br><br>Newsprint: limited selection, updated daily<br><br>Radio (news): limited selection available at appointed times<br><br>Television (news): limited selection available at appointed times | Online news and encyclopedias (e.g., Wikipedia): virtually unlimited selection, less content regulations, updated continuously, consumption dictated by monthly subscription fees for connectivity<br><br>Blogs/Micro-blogs (e.g., Twitter): virtually unlimited selection, updated continuously |
| **Entertainment Technologies** | Television: limited selection available at appointed times<br><br>Radio (comedy, drama, and quiz shows): limited selection available at appointed times<br><br>Radio (songs): limited selection available at unpredictable times | On-demand video: less limited number of channels available any time<br><br>Online content: virtually unlimited selection, updated continuously<br><br>Mobile entertainment technologies (e.g., "smart phones"): virtually unlimited selection, updated continuously |
| **Social Technologies** | Land-line phone: limited times at which to reach people, selection limited to existing unmediated relationships | Mobile phone: less limited times at which to reach people<br><br>Social networking applications: updated continuously, selection typically limited to existing, unmediated relationships |

When considering the implications of a shift from the traditional media choice environment to the immediate media choice environment, it is important to note that users in the traditional media choice environment *can* make selections immediately before the act of "consumption"; the choice environment never *requires* media users to make selections ahead of time. However, choosers in this environment have their options limited if they wait until the last moment to make a selection. In the case of television in the pre-cable era, viewers would have to choose from 5 to 10 options at one particular time instead of being able to select from 50 to 100 options available at various times throughout the week if they had elected to make the choice ahead of time. In this way, the temporal constraints of the scheduled choice environment interact with the constraints in the number of available options to *encourage* selection in advance by limiting the options one is capable of selecting immediately before consumption. The user in a scheduled environment is faced with this initial "choice about choice": select from a greater number of options ahead of time and wait for the chosen option, or choose immediately before and make due with a limited range of options. The traditional choice environment imposes a special kind of restriction that leaves many options open to the individual inclined to select ahead of time while limiting the options of the individual who waits until the last minute to decide. In doing so, it preserves *some* degree of agency for the individual waiting until the last moment to choose, but limits the ability of that individual to select immediately gratifying options (Prior, 2007). The immediate media environment provides fewer such constraints.

These new attributes of the choice environment are products of technological innovation at the service of a preference common to most humans: the preference for

choice. In most modern Western societies, increased choice is synonymous with increased autonomy, control, and self-determination (Schwartz, 2004). Given a choice between an environment with very few options and one with more options, individuals tend to prefer environments with more options (Iyengar & Lepper, 2000). Choice increases feelings of life satisfaction and improves performance on a variety of tasks (Deci & Ryan, 1985; Nicholls, 1984). Many individuals also have a natural inclination towards "keeping their options open" by maintaining a number of options for as long as possible (Shin, Shin, & Ariely, 2004). Thus, it is expected that media users would prefer to have a greater number of options available to them at all times and to prefer to maintain that extensive menu of options for as long as possible, creating a demand for more media options that are both physically and temporally proximate (i.e., available in all places at all times).

Two attributes of the new media choice landscape meet this demand[1]: increasingly flexible availability (in terms of the times and places in which media experiences can be accessed) and the abundance of options. Entertainment content is increasingly structured in an unscheduled format (Webster, 2009). This allows users to choose from a variety of options and watch or read selections whenever they prefer instead of waiting for desired programs to be broadcast at certain times. Mobile phones and social networking sites allow users to contact one another without waiting until they are at home near a telephone or in physical proximity to the other. More generally, mobile media with some form of Internet connectivity allow users access to

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[1] These attributes are, in turn, functions of the increasing miniaturization and portability of digital technology and the speed at which information can move from place to place.

entertainment, social, education-related, and work-related experiences without requiring them to wait until they are at any specific location (e.g., their homes). Developments in fiber-optic technology, cellular telephony, and Bluetooth technology along with legislation aimed at expanding large cable and wireless providers' share of the radio frequency spectrum have allowed these companies to stream more content into the homes, offices, and onto the mobile devices of more media users.

The ways in which media experiences are sold have changed as well. The low marginal cost of the creation and distribution of digital content allowed vendors to experiment with various pricing schedules, leading to a complex, evolving marketplace in which the size and make-up of choice environments vary greatly. The vending practices of bundling information goods together in packages and selling subscriptions to media services are more efficient than selling such goods individually (Bakos & Brynjolfsson, 1997), and thus have become increasingly common over the past decade. This trend toward bundling information goods is likely to change the types of comparisons media users make when selecting media options. In many instances of media selection, the practices of bundling and subscriptions change the currency with which users calculate the worth of individual media experiences from money to time. Instead of considering whether a movie in a theater is worth the $10 it costs to see it, consumers in the immediate media choice environment are prone to consider whether the two hours it will take to watch the same movie available through their monthly subscriptions to an on-demand video streaming service is worth the value of seeing the movie. These changes in the media choice environment, like changes in any choice environment, are liable to alter the selection habits of choosers.

Markus Prior's (2007) research on the influence of high-choice media environments on selective exposure to news provides an example of how attributes of the media choice environment are associated with users' tendencies to select a certain type of content. Prior's survey analyses suggest that when the number of options grows, individuals who are predisposed to avoid news are more apt to do so while so-called "news junkies" consume much more news than they would in an environment with fewer choices. This widens the gap in selective exposure to news and, in turn, widens the political knowledge gap (Tichenor, Donohue, & Olien, 1970). Whereas access and literacy accounted for the gap between the informed from the under-informed in the age of newsprint (a gap that closed temporarily during the reign of limited-channel broadcast media, according to Prior), preference for news content and the number of choices available predict levels of exposure to news in a high-choice media environment (Prior, 2007).

The present study extends and refines research on selective exposure and media choice environments. Prior's (2007) approach, like the Uses and Gratifications approach to studying media selection, assumes that individuals possess and are capable of articulating relatively stable sets of preferences, allowing researchers to differentiate between individuals who are generally more interested in news and those who are less so. This assumption does not jibe with the findings of research on decision-making, which suggest individuals are not always capable of articulating why they chose something and often make choices that are not consistent with their stated long-term preferences (Evans, 2003; Hoch & Loewenstein, 1991; Iyengar, 2010). Inconsistencies between what we say we want at one moment and what we choose at another moment (often framed as failures

of self-control) complicate the Enlightenment-era notions of rational decision-making that serve as the basis for many models of selective media exposure. They also conflict with many choosers' notions of themselves as individuals who possess relatively stable sets of desires by which they define themselves, as well as "more choice is better" norms that pervade policy and commercial rhetoric concerning media technology in the early 21st century. Thus, their influence on media choice has been overlooked by many researchers and users.

Evidence from decision-making research suggests that choice environments that allow for more opportunities for selection immediately before consumption result in more impulsive selections that are at odds with individuals' long-term goals (Ainslie, 1975; Hoch & Loewenstein, 1991; Strotz, 1955). Though media users may accurately state at one point in time that they are generally interested in one kind of media option (e.g., news content), users' levels of exposure to this experience may be contingent upon their levels of self-control (i.e., his or her ability to resist more immediately gratifying options) in an environment that permits frequent opportunities for more immediately gratifying media experiences (Hoch & Loewenstein, 1991). If we assume that selecting news is understood by media users as a choice that may not be as immediately gratifying as other media options available at that moment, the knowledge gap would not only be attributable to the differences between those with stated preferences for news and those without such preferences, but also to the differences in levels of self-control.

The tendency of expanded, unscheduled choice environments to encourage individuals to select immediately gratifying options may already be having far reaching consequences for the heaviest users of this kind of media: teens and young adults.

Research initiatives like the Pew Internet and American Life Project and the Kaiser Family Foundation have found evidence that this population uses media to interact with many peers at once remotely, in school, in transit, and more frequently throughout the day than other groups in other eras (Kaiser Family Foundation, 2009; Lenhart, Ling, Campbell, & Purcell, 2009; Taylor & Keeter, 2010). Social and entertainment mediated experiences are converging, taking place on the same media and often in quick succession or simultaneously. Young people have a strong motivation to stay connected with their peers at all times, making them unlikely to schedule their media consumption.

At the same time, certain troubling trends have developed within this group. Rising levels of political and civic disengagement (Snell, 2010; Zukin, Keeter, Andolina, Jenkins, & Delli Carpini, 2006) and declining amounts of time spent on schoolwork (Arum & Roska, 2011) are evident among a population that would otherwise be considered quite fortunate: well-educated, healthy, young individuals living in one of the wealthiest countries in the world. They have access to unprecedented amounts of information and are allowed many opportunities for cultural enrichment, entertainment, education, and connection with one another. Though many factors may contribute to these problems, the central role of social and entertainment media in the lives of young people prompts us to consider the degree to which new media use contributes to such trends as well as the psychological mechanisms underlying this process.

A young person's tendency to select immediately gratifying media experiences that could lead to civic disengagement or could detract from time spent on schoolwork may not be a reflection of misguided values or stated preferences for these experiences, but rather of a chronic, widespread inability to select media experiences with delayed

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payoff. This inability is fostered by a choice environment in which immediately gratifying options are never far away. At the same time, media use researchers have been working to establish a definition of problematic Internet use or Internet addiction and develop an understanding of the psychological underpinnings of this phenomenon (LaRose, Lin, & Eastin, 2003; Byun et al., 2009). Isolating the effects of the presence or absence of scheduling of media options and the number of available options on selection behavior may help researchers to understand the increasing prevalence of problematic Internet use.

This dissertation also contributes to the growth in the number and diversity of theories and methods at the disposal of media choice researchers. The field of media choice research has enjoyed a period of significant growth over the past three decades, yielding several important insights about selective exposure to media (for a review, see Hartmann, 2009). Several studies from this period (e.g., Marewski, Galesic, & Gigerenzer, 2009; Zillmann & Bryant, 1985) acknowledge that media selection is often made under "sub-optimal" conditions, i.e., conditions in which individuals cannot assess the subjective values of all available options and select the best one. Other studies make the case for the existence of media selections that are, in some sense, mindless and involve automatic (as opposed to deliberative) mental processes (e.g., LaRose, 2009). Still others assess the effects of the interplay between structural attributes of the media choice environment and users' attributes and how they affect selection behavior (e.g., Dennis & Taylor, 2006). The studies presented in this dissertation build on these insights by providing empirical evidence of the effects of self-control and attributes of the choice environment on selection behavior.

1.1. Structure of the Dissertation

The dissertation is comprised of six chapters exploring the links among self-control, temporal proximity, the number of available options, and selection behavior. Figure 1.1 illustrates the conceptual model on which the following chapters are based. The second, third, fourth, and fifth chapters are intended to be independent of one another. As a consequence, there is a small degree of redundancy in the literature reviews of the chapters, though each chapter emphasizes different aspects of the literature. A brief description of the remaining five chapters follows.

The second chapter reviews a diverse array of literature on media selection, including "Uses and Gratifications" (U&G) literature, experimental psychologists' literature, and sociologists' work on leisure time and the social changes wrought by networked technology (e.g., Castells, 1996; Giddens, 1991). The establishment of U&G provided the discipline with an orthodoxy that persists in many models and methods used to understand media selection in the 21$^{st}$ century. Meanwhile, several alternate approaches to studying media selection have taken root. Researchers using affect-dependent models employ an experimental approach while those assessing the effects of structural factors on selection analyze television schedules and ratings. These alternatives address the shortcomings of self-report survey methods traditionally employed in U&G studies while possessing shortcomings of their own, namely the artificiality of the experimental choice environment and a lack of explanation of the psychological underpinnings of selection, respectively. These shortcomings have important implications for our knowledge of selection behavior in the immediate media choice environment. This chapter concludes with a description of several ways media choice research might

address these shortcomings, serving as a justification of the methods employed in the next three chapters of the dissertation.

The third chapter consists of a survey study that examines the associations between users' levels of self-control, feelings of guilt over media use, media uses that vary in the extent to which they can be accessed at any time, and an outcome of interest relevant to the field of higher education: the amount of time undergraduate students spend on schoolwork. While this study relies on users' self-reports of durations and types of media use, it does not assume that users are capable of accurately expressing why they elected to use various kinds of media for as long as they did. The degree to which certain types of media experiences (e.g., those that can be selected immediately before the moment of consumption) are associated with low self-control and feelings of guilt helps establish preliminary evidence that these experiences are, to some degree, not selected deliberately but are the result of lapses in self-control.

The fourth chapter presents an experiment designed to determine the extent to which alterations in a media choice environment (in particular the presence or absence of scheduled availability and the number of available options) affect users' tendencies to select immediately gratifying options and the extent to which these effects are moderated by self-control. By isolating these effects in a laboratory setting, the experiment provides compelling evidence that these particular attributes of media are the reasons why users of these particular kinds of media tend to select more immediately gratifying options than users of other kinds of media (e.g., media that offer a smaller number of experiences at scheduled times).

The fifth chapter describes the results of an observational study intended to provide external validation of the results of the laboratory study. This study uses experience sampling to track media selections as they occur outside of the lab and to find evidence of the correlation between immediate selection (i.e., unplanned use of media) and the extent to which options chosen are immediately gratifying. This study also explores the effects of ritualized selection (e.g., media selections that recur regularly at certain times) on the immediate gratification value of the selection. The study introduces a new measure for the extent to which media experiences are selected immediately before the moments at which they are experienced, planned ahead of time, how far ahead of time they are planned, and/or the degree to which they are regular, "ritual" behavior.

The sixth chapter sums up the findings of the three studies. It considers how the conceptualization of media attributes and the methods employed in these studies of selection behavior might be used as a template for research on the influence of other attributes on media selection behavior. Finally, it considers how creators and users of media technologies might account for the effects of the immediate media choice environment on selection behavior in subsequent design and use of media, offering practical means by which users and designers might achieve collective, long-term benefits.

Figure 1-1: Conceptual Model

Temporal Proximity

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Self-control

−

Immediately gratifying choices

−

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Assortment Size

Chapter 2.

Anytime, anywhere, anything: Understanding media selection in the immediate media

choice environment

The establishment and subsequent flourishing of media selection research

occurred at a time when work and leisure media use were largely separate. Work-related

media use typically took place on weekdays during the hours of nine to five at locations

dedicated to specific work-related activities (e.g., office buildings or factories) while

leisure media use took place in the evenings or on weekends in homes or venues

dedicated to specific leisure-related activities (e.g., movie theaters). The number of

options offered by any given medium was limited by the technological affordances of

broadcast and analog devices. At the start of the 21$^{st}$ century, the popularization of

networked media, portable media (e.g., Internet enabled mobile devices), and the digital

convergence of television content, news, work, social experiences, and educational

experiences dramatically increased the quantity and range of options and the places and

times at which these options are available. This review considers media selection

research in light of these developments, highlights the ways in which high-choice

environments challenge common assumptions about the media selection process, and

suggests ways of dealing with these inconsistencies.

Though the effects of the immediate media choice environment on selection

behavior remain largely unaddressed by many analyses from the pre-convergence era,

one particular strain of media choice research provides insight as to how changes in

availability alter selection behavior. Studies assessing the effects of structural factors, such as audience or content availability, on selection behavior suggests that such factors influence the likelihood of viewers selecting programs regardless of viewers' stated program preferences (Webster, 1985; 2009). This key finding – that scheduled availability influences selection habits - can be applied to the broader choice context of media use in the second decade of the 21st century. However, studies of the effects of structural factors reveal little about the psychological processes of the media user.

To understand media selection in the immediate media choice environment, researchers must integrate lessons drawn from studies of the impact of structural and technological factors in media selection processes with basic research on the psychology of decision making. Especially relevant to the emerging media choice landscape is research on the processes and outcomes of reflective vs. automatic decision making and the effects of self-control on decision making. This literature review chapter sets up the studies described in the subsequent three chapters by providing detailed descriptions of relevant research. It reviews research on media selection behavior, specifically: theories concerning the roles of gratifications sought by users, mood and arousal, and structural and technological factors. It then explains how recent technological developments alter the selection process in two important ways: increasing the number of options (i.e., the attribute of abundance) and increasing the temporal proximity of options. It explains why these effects remain obscure to researchers relying on self-reports of use motivations and laboratory experiments on media preference. It provides a description of a precedent for the current research: the research on the effects of the remote control on selection behavior. This leads to a review of the literature on reflective vs. automatic decision-

making and the effects of self-control on media selection. The review concludes with suggested methods for addressing this blind spot in media choice studies. These methods isolate the effects of abundance and temporal proximity and provide media selection researchers with a tool for understanding how users' levels of self-control interact with these characteristics to produce selection behaviors.

2.1. Uses and Gratifications

The Uses and Gratifications (U & G) approach to studying media selection is arguably the most fruitful and well-known of all approaches. This line of research conceives of selection behavior as a reflection of motivations for using media that may vary across individuals or within individuals across time. Questions relating to motivation and media use are of two fundamental types: those concerned with distal, chronic causes (e.g., "why does this particular individual choose to use this particular medium at all?") and those concerned with proximate, situational causes (e.g., "why does this particular individual choose to use this particular medium at this moment?"). The vast majority of U & G literature comprises the first attempts by mass communications scholars to track the motivations for and patterns of media use in efforts to answer the first, more general questions of motivations and use. These studies are chiefly comparative in nature, examining the links between selection of a medium, a genre, or a particular media text and motivations, gender, or personality characteristics of the user (e.g., Blumler & Katz, 1974; Lazarsfeld, 1940; Herzog, 1942, Rubin, 1984). Motives were either reported by the user or deduced by researchers based on established knowledge of the affordance of the medium, basic human needs, and various identifiable psychological characteristics such as need for affect or self-esteem.

The uses and gratifications approach has since then been applied to digital media use. These studies (e.g., Barker, 2009; Charney & Greenberg, 2001; Kaye, 1998; Kim, LaRose, & Peng, 2009; Mazalin & Moore, 2004) indicate that certain demographic and psychographic characteristics as well as gratifications sought by the users are associated with higher amounts of use of the Internet or use of a specific type of application such as instant messaging. Motivations and amounts of use are included in models of media use along with various outcomes of concern such as wellbeing or academic performance (e.g., Huang & Leung, 2009). This research is most useful for identifying distal, as opposed to proximate, factors that contribute to selective exposure (LaRose, 2009). It speaks to the question of why certain individuals use a medium or an application more than others or why one individual begins using a particular medium or application in the first place. It is less useful for answering why a given user, having already incorporated the use of a medium or application into his or her daily repertoire of activities, elects to engage in a specific media experience at a specific moment in time. Research on the influence of temporary affective states on media selection addresses this question.

2.2. The Role of Affect in Media Selection

Models of the moment-to-moment media selection process are grounded in experimental research on cognition, emotion, and behavior. Zillmann and Bryant's (1988) mood management theory (MMT) establishes the place of temporary affective states such as mood and arousal in the media selection process. Content is chosen by a user based on its perceived ability to help the user maintain or produce enjoyable emotional states or moderate levels of arousal and is also based on the user's evaluation of his or her own emotional state. Subsequent research on affect and media selection

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upholds this theory while establishing increasingly specific limits on the circumstances in

which users select media to achieve or maintain enjoyable emotional states. At times,

media users may seek out media that does not elevate their moods but rather prompts

them to consider and appreciate the purpose or meaning of their lives (Oliver, 2008;

Oliver & Bartsch, 2010). Users may do so because they are in a particular mood when

they make the selections, because they possess certain personality traits, or because they

are adhering to cultural norms of behavior and emotional expression (Oliver, 1993).

Users may experience favorable emotions when viewing sad films or television shows by

comparing their personal situations to those of characters within the texts, either drawing

pleasure from the fact that they compare favorably to those characters or taking comfort

in the fact that they are not alone in their sorrows (Knobloch, Weisbach & Zillmann,

2004; Mares & Cantor, 1992). The tendency to engage in use motivated by a need for

social comparison is associated with lower levels of self-esteem while the tendency to

look for "virtual company" via media when one is miserable is associated with higher

levels of empathy (Mares & Cantor, 1992).

Media users' real-world experiences outside of the reception process and the

resultant moods also play roles in media selection. It has been demonstrated that some

media users who are in situations that warrant the maintenance of a bad mood (e.g., when

male individuals have been wronged and are expected to take action against an aggressor)

will select media that they believe will maintain their bad moods (Knobloch-Westerwick

& Alter, 2006). Research on this topic also indicates that individuals may use media as a

means of distracting themselves from a real-world problem or as a way of working

through such a problem, based on whether they exhibit more general tendencies to avoid

a significant event that gives rise to an emotion or to experience the emotion itself (Arnold, 1960; Maio & Esses, 2001; Oliver, 1993). Finally, individuals have a need for relatedness, or a feeling of connectedness with others (Deci & Ryan, 2000). These needs are often served with various forms of interactive and social media (e.g., video games) as well as the traditional media (television and film) that are the subjects of most of the research on mood and media (Tamborini, Bowman, Eden, Grizzard, & Organ, 2010).

The laboratory environment of many experiments on mood and media selection may be an adequate proxy for a real-world environment in which users must choose from a relatively small number of options that are available temporarily. This is not, however, the environment in which many people make their media selections. The quantity of options, the ease with which a user may access and compare these options, and the time constraints on the selection process differ significantly between the experimental environment in which many media selection studies have been conducted and the real world environment of media choice for many users in the second decade of the 21$^{st}$ century. These differences may have profound effects on selection behavior as well as the outcomes of consequence previous mentioned. Media selection researchers must look beyond the laboratory to selection as it happens in the real world.

2.3. Structural Factors in Media Selection

Another strain of research on media selection behavior and motivation focuses on structural characteristics of the media choice environment, using television ratings to discern viewing patterns and extrapolating motivations from those patterns (Headen, Klompmaker, & Rust, 1979; Webster, 1985). Findings from this research suggest that

television viewers base their selections, at least in part, on when a program airs rather than any particular characteristic of the content. The data suggest that viewers watch many television programs "out of habit," either because they were already watching that particular television channel or because they happen to be available at that time and the programs are judged to be "less objectionable" than others available at that time (Goodhart, Ehrenberg, & Collins, 1975; Kline, 1971). Other studies suggest another characteristic of the television-viewing environment – whether one views as part of a group or views alone – can have significant effects on an individual's media selection (Lull, 1978; Webster & Wakshlag, 1983).

These studies draw attention to the fact that media selection, as it is carried out in the real world, may not be the same as it is in the experimental setting in which users are made to select from a series of content choices with identifiable mood-altering characteristics. Characteristics not accounted for in the experimental choice settings, such as viewer availability and content availability, influence viewers' selection process. These characteristics, which have been referred to as the "structure of available program options" (Webster, 2009, p. 223), may be radically different than they were when Webster and his colleagues conducted their secondary data analyses in the early 1980's. Webster (2009) acknowledges this and describes this change as the shift from a linear environment in which options are available at scheduled times to a non-linear environment in which these options are available at all times. Thus, the ways in which choice environments change over time must be considered when designing studies of media selection.

## 2.4. Access and Abundance

The immediate media choice environment is the result of several social and technological developments: an overall increase in leisure time, the blurring distinction between leisure time and work time, the complexity of coordinating communication among greater numbers of people, and communication technology that increased the number and proximity of options. Sociological and historical research on work and leisure time provides a theoretical framework for understanding these changes.

In modern capitalist societies, leisure time is defined in opposition to work time (Dumazedier, 1974). Though they can sometimes be structured or scheduled by others (e.g., religious ceremonies and other collective rituals that require participants to temporarily sublimate their preferences), non-work activities are typically entered into voluntarily. In the Greek and Roman empires of antiquity, work and leisure were often interconnected (Dumazedier, 1974), and it is believed that these societies' inhabitants did not make distinctions between the two (Kubey & Csikszentmihalyi, 1990). This lack of distinction between the structured impositions of work time and the relatively unstructured domain of leisure time was partially due to pre-industrial societies' inability to demarcate activities via a mutually agreed upon conception of time. Leisure and work schedules were based on local routines that differed from one another (Mumford, 1963). With the rise of manufacturing and shipping came a need for coordinating communication, labor, and distribution across space, a need met by the establishment of time zones and the popularization of time-keeping devices (Giddens, 1990; Thompson, 1967).

It was in this context that the popular one-to-many and one-to-one communication technologies of the 19$^{th}$ and 20$^{th}$ centuries developed. While recorded, atemporal media such as books and, later, vinyl records gave users some control over the times at which they accessed content, several factors restricted wide access of many options at a given time, including the logistics and cost of distribution of physical texts and low literacy levels. Broadcast media technologies of the 20$^{th}$ century did not require literate users and made distribution easier and less costly. However, these technologies possessed another limitation: the finitude of the broadcast spectrum. By necessity, these media doled out information at a regular, scheduled pace so as not to produce signal interference. As a consequence, broadcast programs could only be made available at certain times. At the same time, mediated social interactions took place via telephones that kept their users housebound while telegraphs required users to visit commercial offices. These physical restrictions required temporal coordination among one-to-one media users: users would have to be in their houses or at telegraph offices at the same time in order to converse. Just as modern work life was scheduled to ease coordination, so too was modern leisure life.

At the turn of the 21$^{st}$ century, the miniaturization of wireless media devices and the establishment of automated cellular communication networks allowed users to free themselves from these physical and temporal constraints. The broadcast media infrastructure was supplemented with a networked media infrastructure allowing for a greater flow of information, leading to a fracturing of the unifying temporalities established by mass media (Castells, 1996). There are indications that both leisure and work time have been undergoing a process of "felixibilization" since the early 1990's

(Garhammer, 1995). As one's work hours become less regular, one's leisure activities must adapt to accommodate an unpredictable work schedule. The more flexible the schedules of a population become, the more difficult it becomes for members of the population to coordinate with one another in advance (Warde, 1999; Southerton & Tomlinson, 2005). Non-place-based communication technology (i.e., mobile media) allows for coordination and revision ("opting in" or "opting out") of face-to-face activities (Ling, 2004).

Before the rise of the immediate media choice environment, the amount of control media users had over their abilities to use preferred types of media was circumscribed by employers who set the work hours for their employees and were required to coordinate their labor with the labor of others. Most media users could only engage in leisure media use during non-work hours. Similarly, social interactions within the domestic sphere (e.g., dinner with family) and outside this sphere (e.g., having a beer with a friend at a local pub) were, in the spatiotemporal sense, mutually exclusive. One was either at work or at home watching soap operas, at the dinner table or at the pub. The immediate media choice environment allows its media users to be "absently present": physically present in one location while interacting with others remotely (Fortunati, 2005; Gergen, 2002). While physical absence from work or the dinner table was conspicuous, the "absences" of a worker engaging in leisure media use or a family member conversing with a friend via text message are sufficiently inconspicuous as to allow for greater flexibility in terms of where and when users access preferred media experiences.

In the era of the traditional media choice environment, it was entirely reasonable to expect a choice of leisure media activity to constitute a choice among television shows

or songs that were no more or less easily accessible than one another and, collectively, were far more accessible at various times and particular places than other leisure activities. In the language of information theory (Marschak, 1968; Shannon & Weaver, 1949) the cost, in time and effort spent, of accessing each of these options was roughly equal to the cost of the others and was significantly less than the cost of accessing other leisure options. As a consequence, research on media choice typically looked at selection within a particular medium or context. Studies of television choice (e.g., Zillmann & Bryant, 1985) examine viewers' choices from content available on television channels while studies of media selection in the workplace (e.g., Daft, Lengel, & Trevino, 1987) examine workers' selections from assortments of one-to-one electronic communication technologies. However, such expectations about the separateness of work and leisure media use are unwarranted in the immediate media choice environment.

Advances in digital media production, distribution, and consumption technologies (in particular the technological convergence of video, audio, one-to-one, and broadcast communication) allow media users to engage in a wide range of mediated experiences using a single medium. Toggling among one-to-one personal communication, business meetings, schoolwork, and television content consumption is often as simple as changing television channels. At the same time, the "flexibilization" of work and leisure time (Garhammer, 1995) results in media users no longer having to select from a set of work-related media uses during certain hours and select from a less restricted set of leisure-related media uses during others. Technological convergence and flexibilization of schedules demand that media choice researchers examine choice from large, diverse sets of mediated experiences not necessarily limited by either medium or physical context.

The environment forces the user to compare various media or applications, all of which are equally accessible at any given time or place, as well as various content options within each medium or application (Wolling, 2009). In terms of the diversity and quantity of its options, the choice menu confronting media users may be less similar to the assortment of television shows available at a given time to broadcast television viewers or the array of communication technologies available to office workers and more similar to the choices available in a shopping mall which can range from the purely utilitarian to the purely frivolous. It is thus to our advantage to look beyond existing research on media choice to the literature on consumer behavior and decision making under various constraints.

   2.5. Decisions and Media Use

   Much of the research on decision-making in general, like much of the research on media selection, uses an Enlightenment-era conception of human beings as rational decision makers who weigh costs and benefits and decide based on the expectations that one option will yield greatest benefit as a widely accepted framework which calls for certain important modifications. Research on the impact of characteristics of the choice environment, such as the ease with which an option may be accessed, the quantity of options available, and the extent to which these options are perceived to be capable of satisfying a salient need, indicate that such factors all have some bearing on the outcome of decisions as well as the ease with which decisions are made (Biehal & Chakravarti, 1983; Iyengar & Lepper, 1999; Iyengar, Wells, & Schwartz, 2006). As with existing experimental research on media selection, the experimental conditions under which many decision or choice studies are conducted create artificial temporal constraints that do not

exist in many choice environments, including the emerging immediate media choice environment.

This environment does not *require* choosers to wait until the last moment to select an option, but it does *encourage* this kind of behavior for the following reasons. First, choosers who wait until the last minute have one critical piece of information about the experience of which the chooser who selects ahead of time is deprived: mood at the moment of consumption. Secondly, there are several biases that individuals choosing in advance of consumption exhibit, such as overvaluing the pleasure of engaging in a variety of consumption experiences while undervaluing the pleasure of engaging in one's favorite experience repeatedly (Kahneman & Snell, 1992; Read & Loewenstein, 1995), or undervaluing the pleasures of having daily structure and routine (Gilbert & Wilson, 2000). If choosers are able to achieve better mood fit between their selections and their moods at the moments of the experiences while avoiding the biases that lead to "miswanting" (Gilbert & Wilson, 2000), they will experience greater immediate enjoyment of the experiences and will be more likely to engage in that mode of selection more often in the future. Thirdly, planning to engage in a media experience requires effort. It requires the user to compare other options that will be available at the time that the experience is made available in the future. In the case of interactive, real-time social media experiences, users who plan such use in advance must coordinate their plans with other users. Lastly, an abundance of options available at a given time does not force choosers who are unable to access the specific media option they desire at that given time to make due with only a few options. Instead, the abundance of options makes it more likely that choosers will be able to "satisfice" (Simon, 1987) by finding an acceptable

substitute experience at any given time, reducing the penalty of deciding immediately before consuming a media option.

The two decision-making strategies – deciding ahead of time and deciding immediately before the moment of consumption – are fundamentally different in that they involve two distinct types of cognitive processing. Decisions about future actions of any kind are typically deliberative, reflective, and "mindful," involving hypothetical thinking about future scenarios. By contrast, spontaneous in-the-moment decisions are generally automatic and intuitive, involving no conscious consideration of options (Evans, 2003, 2008; Stanovich & West, 2000). The privileging of one kind of cognitive process over the other has important implications for media choice outcomes.

### 2.6. Implications of Increasing Temporal Proximity of Options for Media Selection

Theories about the effects of temporal factors on decision making suggest that there are, in effect, multiple deciding selves within each chooser and that these selves are capable of disagreeing with one another (Chatterjee & Krishna, 2009; Schelling, 1978, 1984). Different levels of temporal proximity between chooser and options call upon the chooser's different mental selves. The more temporally proximate the options are, the more likely the chooser is to employ automatic mental processing. Empirical research based on these theories reveals that greater temporal proximity of options (i.e., situations in which the chooser selects immediately before the moment of consumption) is

associated with the tendency to select options higher in "hedonic" value (i.e., immediately gratifying options[2]) (Ainslie, 1975; Read & van Leeuwen, 1998).

This phenomenon, known as "present bias" (O'Donoghue & Rabin, 1999) or the "immediacy effect" (Prelec & Loewenstein, 1991) is explained by the theory of inter-temporal preference reversal as a result of hyperbolic time discounting (Ainslie, 1975). This theory posits that the valuation of an option that offers immediate gratification declines hyperbolically over time. Preference switches from the larger-later option to the smaller-sooner reward when consumption of the option is immanent (see Figure 1).

This phenomenon has been documented in various domains ranging from food choice (e.g., Chernev, 2006) to choice between hypothetical sums of money (Keren & Roelofsma, 1995). There is at least one instance of this phenomenon being observed in media selection. Read, Loewenstein, and Kalyanaraman (1999) had viewers make a choice from a list composed of highbrow films, which were rated by independent coders as films that provide less immediate pleasure but are more likely to provide long-term benefits such as greater knowledge of one's self or cultural enrichment, and lowbrow films, which were rated as immediately enjoyable but are often forgettable and sometimes regrettable. Half of the participants were required to choose, on the first day, three films to watch on three consecutive days while half were required to choose each of

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[2] These kinds of options appeal to one's desire for immediate pleasure rather than one's belief that they *should* partake of a product or experience so as to obtain long-term benefits such as cultural enrichment, enhanced ability to perform the duties of a responsible, informed citizen, or increased earning potential (Shiv & Fedorkhin, 1999). These options can be thought of as offering smaller, earlier rewards in contrast to options that offer delayed gratification value. In media terms, one might consider a lowbrow comedy to be a guilty pleasure while an intellectually challenging foreign film would not be a guilty pleasure (Read, Loewenstein, & Kalyanaraman, 1999).

the three films they would watch on the days on which they watched the films. Results showed a positive correlation between the distance in time from the moment of selection to the moment of consumption and the highbrow rating for the film.

Though the conditions of Read, Loewenstein, and Kalaynaraman's experiment were hardly naturalistic, various technologies and services create similar conditions for the media consumer. As Milkman, Rogers, and Bazerman (2009) demonstrated, the immediacy effect manifests itself in the rental habits of DVD-by-mail renting services users. DVD-by-mail services require choosers to select movies days in advance of when they view them. Often, these viewers find themselves stuck with highbrow films they had intended to watch but, when the moment came, could not bring themselves to watch. This highlights the possibility of disagreement between a planning self and an in-the-moment self within the context of media choice. Milkman, Rogers, and Bazerman found that renters held on to films rated as less immediately gratifying (e.g., documentaries) longer than those that were rated as more immediately gratifying (e.g., action films). As streaming video-on-demand services grow, it is clear that the in-the-moment chooser will make more selections within the home video marketplace.

2.7. Implications of Increased Number of Options for Media Selection

To date, research on media selection in high-choice environments has provided evidence that the number of options from which a media user chooses can affect selection behavior, though this research leaves important questions unanswered. Prior (2007) was able to demonstrate using a survey experiment that when individuals were provided with options similar to those offered television viewers at 6:00 pm on a weeknight (consisting

of four different news programs) as well as the option not to watch television, they were significantly more likely to watch news than individuals who were provided with options similar to those offered television viewers during the post-broadcast era (consisting of the same options plus five other entertainment-related television options). Prior's design of the low-choice condition was intended to recreate the common broadcast-era television programming practice of "road-blocking": simultaneously scheduling similar programs on all or most channels during a block of time. While it proves a point about the likelihood of viewers' selecting television news programs under specific, historically accurate conditions, it confounds the effect of preference for news under low-choice conditions with preference for watching television. Indeed, Prior acknowledges this in his invocation of Klein's (1971) Least Objectionable Program theory. Klein states that many television viewers in the low-choice broadcast era did not enjoy particular types of content so much as they preferred the activity of viewing television to other activities. Thus, it is unclear from the results of Prior's survey experiment if having fewer options prompts media users to select a certain type of content or if they make due with any kind of content if it is the only option other than not using the medium.

Prior's survey experiment and his survey-based research on the discrepancies in news consumption behavior between households with cable and internet and those without cannot provide a sufficient explanation as to what kinds of content or media experiences are preferred under high-choice conditions and what psychological theories explain differences in selection behavior between choices made from a larger number of choices and those made from a smaller number of choices. Research on the effect of the number of available options (referred to in the consumer research literature as

"assortment size") on selection habits provides a basis on which theories of the effects of high-choice environments on media selection may be constructed and tested.

This research has produced conflicting evidence. One study (Sela, Berger, & Liu, 2008) suggests that abundance prompts choosers to only select options they can justify choosing. The presence of many options tends to make deciding difficult. All else being equal, individuals faced with difficult decisions tend to select options that they can justify selecting. Immediately gratifying selections are harder to justify than less immediately gratifying selections (Bazerman, Tenbrunsel, & Wade-Benzoni, 1998); therefore, individuals faced with many varieties of goods that varied in the extent to which they were immediately gratifying (e.g., cookies and fruit) tend to select less immediately gratifying options unless they are provided with a means of justifying selection of a more immediately gratifying option.

Another perspective on the effects of abundance on selection behavior suggests that choosers are *more* apt to select more immediately gratifying options when options are abundant; this perspective could be referred to as the "preference fit" perspective similar to Simon's (1987) concept of satisficing. Behavioral economic theories of choice suggest that the greater the number of available options, the more likely an individual will be to find an option suiting his or her needs or desires at that moment (Baumol and Ide, 1956; Boatwright & Nunes, 2001). Researchers examining television choice find evidence that television viewers select programs in a manner consistent with this theory: viewers provided with more television channels are more likely to view programs of a type that coincide with their stated preferences (Youn, 1994). The expanded choice environment provides more opportunities for media users to select from many different

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types of experiences that may be consistent with their immediate desires, not just television content. Choosers may select immediately gratifying options at times and places in which they previously had to make due with less immediately gratifying options. Thus, having more options from which to choose is expected to increase the likelihood that media users will select immediately gratifying options and use them for longer durations than those who have fewer options.

Assuming selection is made without direct scrutiny from those who are physically proximate to the user (as is the case in many instances of media use in the immediate media choice environment), media users do not need to justify what they have chosen. Therefore, a need for justification does not affect selection from abundant media options. Given a larger variety of options and possessing no need to justify their selections, media users are less "captive" (Prior, 2007, p. 26) and are thus better equipped to select options that are congruent with their immediate desires instead of having to make due with less satisfying options.

## 2.8. Case study: The Remote Control's Influence on Television Program Selection

These changes in the media choice environment wrought by developments in communication technologies are not without precedent. The history of media technologies provides other examples of how changes in these technologies affect selection behavior. In much the same way that mobile networked devices such as smart phones and laptops reduce the cost of toggling among many leisure and work activities, remote control devices (RCDs) reduced the cost of toggling among options on television

simply by eliminating the seemingly inconsequential cost of having to get up from a comfortable sitting position to turn a knob. This cost reduction prompts television viewers to change channels more frequently. Electronic recordings of viewers' in-home channel switching behavior in 1997 showed that viewers switched channels 36.6 times per hour (Kaye & Sapolsky, 1997). 80% of the channel switches happened after no more than five seconds of exposure, suggesting that viewers using remote control devices "graze" on content by briefly sampling many options before settling on one. These observations stand in stark contrast to those from a study done in 1988, when remote controls were in 66% of households (Nielsen, 1992, reprinted in Klopfenstein, 1993) as opposed to the sample used by Kaye and Sapolsky in 1997 that consisted *entirely* of remote control users (Heeter, D'Alessio, Greenberg, & McVoy, 1988). Using electronic recording of in-home channel switching behavior, this study showed that viewers changed channels only 4.4 times per hour on average. It should be noted that the growth in the number of channels during this time period likely accounts for the increase in the number of switches per hour. Indeed, the growth in the number of options via expanding cable packages is inseparable from the growth in use of the remote control. The significant difference between the two figures suggests that technologies that increase the number of options and/or make those options more easily accessible alter the selection process.

Experimental evidence suggests that even when the number of options is held constant, those who use of a remote control engage in significantly more channel switching than those who must to get up from a sitting position to change the channel (Bryant & Rockwell, 1993). Users of RCDs were more likely to sample programs of the

same type but not to sample any wider variety of program types than viewers who did not use RCDs. When speculating about the implications of increasingly frequent channel switching, Bryant and Rockwell employ a dietary analogy to describe an audience divided into two groups: those who maintain a "balanced diet" of information, education, and entertainment, and those who binge on "sweets."

A closer consideration of the psychological processes involved in the practice of "grazing" – moving between channels quickly and often during a viewing session – lends credence to Bryant & Rockwell's worry that TV viewers who use the remote control will select more immediately gratifying options. Kaye and Sapolsky make a distinction between "meaningful" switches, which users are more likely to recall and report, and "mundane" switches, which users are less likely to recall and are made "without an end channel in mind." This description of meaningful switches is consistent with the aforementioned descriptions of deliberative cognition while mundane switches similar to the descriptions of automatic cognition. The television viewing practice of "grazing" likely involves more automatic cognition and is cultivated by technology that eases sampling of and transition amongst many options. The immediate media choice environment applies the logic of the television remote to all kinds of experiences. Work, school, entertainment, and social experiences are all available at the push of a button. Such technologies reduce the cost of accessing many options that were once physically or temporally remote. By extension, those who use networked media to "graze", toggling amongst a diverse array of media activities, are likely to employ automatic cognition when making a selection. These studies provide compelling evidence that changing the means of option selection can change selection habits in this manner.

2.9. The Role of Self-control in Media Selection

Bryant and Rockwell's choice of the "binging on sweets" metaphor for RCD-aided television viewing suggests that self-control may play an especially important role in media selection when more options are accessible to the chooser. In order to forgo guilty pleasures, choosers may call upon self-control or willpower: the conscious act of restraining one's self from engaging in an activity (Baumeister, 2008; LaRose, 2009). Hoch and Loewenstein (1991) make the distinction between two means of preventing one's self from making such selections: reducing desire by avoiding or distracting one's self from the tempting options or overcoming desire by exercising willpower. When choosers are put in environments that have opportunities for immediate gratification, the tendency of those who are low in self-control to select those options becomes more extreme (Baumeister, Sparks, Stillman, & Vohs, 2008).

Entertainment and social media make immediately gratifying experiences accessible to many people in many places at many times. It should come as no surprise, then, that subsequent research finds support for a negative correlation between the amount of media users' consume and their levels of self-control. International survey analyses confirm that those with lower levels of self-control watch more television than they intend to, leading to a decline in wellbeing (Frey, Benesch, & Stutzer, 2007). LaRose (2009) assesses the role of self-control, referred to is his research as self-regulation, in habitual Internet use, employing Bandura's (2001) socio-cognitive theory (SCT) to provide a theoretical framework for understanding why some Internet users are unable to stop themselves from using the Internet at certain times. LaRose and colleagues

(2003) find significant correlations between deficits in self-regulation and amount of time spent using the Internet.

Theories of self-control depletion provide several explanations as to how and why media test the self-control of users. Selection that goes against the best intensions of the deliberate self may be a result of a process known as ego depletion in which an environment that demands individuals to exert self-control depletes this limited resource, resulting in a decreasing ability to avoid temptation in the immediate future (Muraven, Tice, & Baumeister, 1998). In the same way a muscle eventually gives out after prolonged, constant exertion, lapses in self-control follow prolonged attempts to control one's craving for an immediately gratifying experience. The presence of temptations, which represent "smaller-earlier" rewards in contrast to "larger-later" rewards, depletes individuals' self-control (Gul & Pesendorf, 2004). Those lower in self-control may become depleted quicker and/or be less resistant to the ego-depleting effects of proximate temptations. The accessibility of various media experiences via mobile technology and/or networked technology amounts to having a temptation nearby in all places at all times. The constant presence of tempting media options saps the choosers' self-control reserves, making them more apt to select immediately gratifying options than if they were to choose from fewer options of the same type arranged in a linear, scheduled choice environment.

2.10.    Assessing the Effects of High Choice and Temporal Proximity of Options on Selection Behavior

The literatures on decision-making and self-control provide a theoretical foundation for investigating changes in media selection behavior that result from a shift to a choice environment with abundant, temporally proximate options. In the following section, I suggest several means of investigating these changes which address the shortcomings of methods currently used to understand media selection and serve as a justification for the methods used in the subsequent chapters of this dissertation.

The self-report method commonly used by media choice researchers assessing motivation requires choosers to reflect upon decisions from which they are, at the moment they are asked, temporally remote. Respondents have opportunities to reflect upon their selections and justify them a posteriori, making surveys of this nature an inadequate reflection of cognition during the selection process. In order to assess the extent to which a lack of mindfulness explains selection behavior in the immediate media choice environment, researchers should incorporate measures of self-control and emotions associated with repeated lapses in self-control (e.g., guilt) in surveys. Such measures would provide an indication of whether or not respondents tended to make selections based on impulsive, immediate desires.

Secondary data analysis can provide more evidence that choice environments affect selection tendencies. Prior (2007) compares the media selection habits of individuals who have more options via cable and Internet to those of individuals who do not have access to these options, finding that high-choice environments permit those uninterested in news to find other entertainment options. This leads them to consume less news than their counterparts in lower-choice environments. Two services provided by the video rental company Netflix provide a similar natural experiment in which individuals

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may make movie selections ahead of time by ordering DVDs through the mail or by making selections immediately prior to viewing them via online streaming video. Analysis of rental patterns could help to determine whether or not individuals tend to select more immediately gratifying films when they are making choices immediately prior to viewing.[3]

These kinds of analysis do not eliminate confounding variables. Netflix's streaming and mail-order rental services offer different catalogues, complicating any comparison of rental patterns. Laboratory experiments on media selection behavior allow researchers to isolate and manipulate variables but typically impose temporal constraints that do not exist in the real world. In the immediate media choice environment, choosers can endlessly defer a decision to select an option to which they will always have access, whereas the chooser in a laboratory setting must choose within a limited window of time. Media choice experiments should incorporate conditions in which users are made to select in advance of use as well as conditions in which users are made to select immediately before use. Following Prior's (2007) survey research on choice abundance and its effects on selection behavior, experiments should also incorporate conditions in which users have many options while others have fewer options. Such designs allow researchers to account for the extent to which temporal proximity and abundance interact to alter selection habits.

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[3] This dissertation does not contain such an analysis. It was proposed in an effort to include as many alternative ways of studying choice in the immediate media choice environment as possible.

While such experiments can isolate the effects of abundance and temporal proximity, they cannot determine whether differences in selection behavior are necessarily relevant to choice in the immediate media choice environment. It should not be assumed that individuals tend to wait for desired options or make do with the limited array available at one given time, nor should it be assumed that individuals with more flexible, plentiful options make their choices spontaneously. In order to understand this aspect of the selection phenomenon, researchers must assess selection in the real world. The experience sampling method (Kubey & Csikszentmihalyi, 1990) provides researchers access to moments of selection as they occur outside of the lab. In such studies, media users are asked at random times throughout the day what they have chosen to do. By asking media users whether each instance of their media use was planned ahead of time or chosen spontaneously, researchers will be able to know how common planned media use is in a given population and what types of media use tend to be planned.

## 2.11. Conclusion

The aforementioned methods give media choice researchers the power to assess the extent to which media users are selecting media experiences ahead of time, differentiate between ahead-of-time selection and in-the-moment selection, and differentiate between constrained in-the-moment selection and unconstrained in-the-moment selection. It is important to know the differences in selection habits in these various kinds of media choice environments not just to know the precise nature of the changes wrought by shifts in certain characteristics of the media choice environments, but also because communication technology and social structures continue to change.

Understanding the effects of temporal proximity and abundance on leisure media selection helps us to know how new technologies that increase options or restrict them privilege the short-term and long-term preferences of users. This knowledge can be used to inform strategies for addressing problematic use of all kinds of media, for understanding why media users demand more of a certain kind of content (e.g., news) while simultaneously eschewing it for content they recognize as "guilty pleasures", and for developing new technologies that allow media users to be aware of their media selection habits and make choices based on this awareness. The remainder of this dissertation is an attempt to develop and test the proposed methodological tool set for dealing with changes in the media choice environment. The development and refinement of such tools is essential in order to maintain the richness, relevance, and ecological validity of media choice research going forward.

Figure 2-1: Intertemporal Preference Reversal

Chapter 3.

Left to their own devices: College students' 'guilty pleasure' media use and time

management

The transition from high school to college represents a profound change in the lives of young people, from the highly structured, highly supervised home environment to the relatively unsupervised, unstructured campus environment. Though many college students have as many curricular and extracurricular demands on their time as they did before coming to college, they are not required to physically be in a single building for eight hours each day nor are their leisure activities monitored by parents. Without these external constraints, college students are free to spend their time as they wish: socializing, completing schoolwork, or engaging in entertainment experiences at various times throughout each day.

The generation making its way through college at the start of the second decade of the 21st century has an unprecedented number of options as to what to do with their leisure time. Their adolescence coincided with the popularization of new media that served to multiply the quantity of experiences and the places and times in which these experiences could be accessed: mobile communication devices (e.g., cell phones), time-shifting television viewing technologies (e.g., Digital Video Recorder or "DVR") and the Internet. There is concern over the possibility that time spent using some or all of these leisure media may be substituting for time spent on school-related activities. Evidence suggests that the amount of media use a student engages in can affect the student's

scholastic performance. Children ages 8-18 who spend less time using media do better in school than those who use more media (Kaiser Family Foundation, 2010). Though these survey findings are correlational and thus cannot account for all third variables, they do suggest that time spent using media for leisure purposes may be time that students are not studying, leading to lower grades.

Of the students who are unable to maintain a balance between schoolwork and leisure pursuits, it is likely that some make deliberate decisions to neglect their schoolwork while other students may not deliberately choose to spend less time on schoolwork but may end up doing so anyway. The latter behavior comes about when students low in self-control make choices in an environment that offers sufficiently tempting alternatives. Knowing the difference between media experiences that are selected based on a rational consideration of options and experiences that are selected when self-control has failed is essential to understanding college students' time budgeting.

Individuals' susceptibility to temptation may vary as well as the extent to which choice environments test the resolve of individuals. Some leisure activities may be seen by students as temptations - such as alcohol consumption or video game playing - while others are more often chosen by those who decide that they are more important than schoolwork - such as athletics or club activities. Media researchers have noted the frequency with which the term "guilty pleasure" is used to refer to certain types of media use, including reality-based television viewing (Baruh, 2010; Pozner, 2010), reading romance novels (Radway, 1984), or personal Internet use at work (i.e., "cyberloafing") (Stratton, 2010). Gauntlett and Hill (1999) found that many television viewers refer to

TV viewing as a guilty pleasure regardless of the content being viewed. For the purposes of this chapter, the term "guilty pleasure" will be used to refer to media use that is associated with deficits in self-control as well as feelings of guilt. New media technologies - mobile devices and the Internet - are not obviously or exclusively used for activities regarded as "guilty pleasures" or for activities that one consciously values as much or more than schoolwork such as professional advancement. Researchers must differentiate amongst specific uses of the Internet and mobile devices to determine the extent to which various uses of new media are indicative of lapses in self-control and to determine what characteristics of some of these media experiences make them particularly tempting.

The study presented in this chapter establishes evidence indicating the extent to which popular leisure media experiences function as distracting temptations for college undergraduates. Though it concerns the same general topics as the rest of this dissertation (i.e., the media choice environment, self-control, and selection behavior), its specific focus on the extent to which various kinds of leisure media distract students from schoolwork necessitated that the precise concepts, models, measurements, and media categories in this chapter differ from those used in subsequent chapters. Determining whether or not media use correlates with trait levels of self-control, feelings of guilt, and the amount of time students dedicate to schoolwork is an important step in understanding media selection behavior in a choice environment in which more options are temporally and physically proximate to choosers than ever before. I present a brief review of the literatures on media choice and self-control, leading to my hypotheses.

3.1. Media Temptations and Self Control

Users' exposure to various leisure media experiences is contingent upon the availability of the users and the content (Webster, 1985). For example, prime-time (8pm-10pm) television ratings have, historically, been the highest due partly to the fact that most individuals are not at work and are not asleep at that time (Webster, 1985). However, the constraints of work hours are not the same for all populations. The lack of regular structure in college students' lives, relative to that of high school students or those working full-time jobs, and their relative autonomy present them with opportunities to select leisure media experiences immediately before use (Chak & Leung, 2004; Young, 2001). Together with the relaxation of the restrictions on quantity and availability of leisure media options created by digital media technologies, this creates a situation in which all students can, potentially, spend most of their time using leisure media instead of devoting time to schoolwork.

In order to determine which students will eschew schoolwork for leisure media the most often in this situation, I differentiate students based on a particular individual trait that has been shown to be a powerful indicator of the tendency to choose more immediately gratifying options over less immediately gratifying ones: self-control. As stated in Chapter 2, self-control is the ability to consciously forego temptation.  The close physical proximity of various leisure media experiences via mobile communication technology amounts to having a temptation nearby in all places at all times. Additionally, various "time-shifting" on-demand entertainment technologies such as DVR and online video (e.g., Hulu) bring desired entertainment experiences out of the scheduled availability choice environment in which desired options are often temporally remote

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from a media user into a choice environment in which all options are unscheduled and are thus always in close temporal proximity to the user. This constant presence of tempting media options makes it difficult for students who are low in self-control to resist these options.

### 3.2. Media Selection and Self-Control

To the extent that the research on media selection conceives of media use as influenced by users' levels of self-control, much of it concerns so-called abuse of a medium or addiction. There has been much debate over what it means to be addicted to a medium. Byun et al.'s (2009) meta-analysis of 39 quantitative studies of Internet addiction from 1996-2006 concludes that there is little consensus on how to define addiction in this context. Nevertheless, Internet addiction studies continue to proliferate. In many of these studies, Internet addiction is regarded as a behavioral impulse control disorder in which individuals who exhibit loneliness, depression, or low self-esteem use the Internet to temporarily alleviate feelings of emotional tension (e.g., Dell'Osso, Altamura, Allen, Marazziti, & Hollander, 2006; Young, 1998).

By focusing on the relatively small portion of the population that suffer from what might be called addiction, researchers may be missing an opportunity to understand the basic dynamics of motivations and rewards that underlie all new media use. There are circumstances, which have been referred to as "benignly problematic" use (Hall & Parsons, 2001) or "unregulated media behavior" (LaRose et al., 2003), in which use does not interfere significantly with one's life and, therefore, does not meet the clinical criteria for addiction. Still, this behavior is not entirely under one's conscious control and can,

over time, interfere with users' abilities to achieve long-term goals. The ability to forgo immediate gratification in favor of distant goals (i.e., future-oriented self-control) is associated with superior scholastic performance, superior coping skills, and better relationships (Shoda, Mischel, & Peake, 1990; Tangney, Baumeister, & Boone, 2004). This suggests that there is merit in not limiting studies of the negative consequences of Internet use to include only those who exhibit signs of addiction.

Among a general sample of undergraduate Internet users, amount of Internet usage was found to be positively correlated with deficiencies in self-regulation (LaRose et al., 2003). Research on television viewing has shown that the amount of time adults spend on television viewing is negatively associated with self-control (Kubey & Csikszentmihalyi, 1990). Though these studies demonstrate negative correlations between various media use and self-control, their approach provides limited insight as to what characteristics of the media, the content, and the audience explain these correlations. LaRose et al.'s study does not indicate what applications or websites on the Internet are used more by those who have deficient self-regulation. Given the wide variety of social and entertainment leisure activities one can engage in via new media technology, it is essential to establish correlations between certain popular online activities and self-control rather than treating all Internet use as the same. Similarly, in their analysis of self-control and television use, Kubey and Csikszentmihalyi assume a certain degree of homogeneity to the leisure media choice environment and to the television viewing experience in particular. Frey, Benesch, and Stutzer (2010) find that the likelihood that individuals with low self-control watch more television than they had intended to was positively related to the number of available television channels. This

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suggests that the relationship between the amount of leisure media use and self-control depends on the number of leisure options from which one chooses. Since the finding linking television use to deficits in self-control, the number of alternative leisure activities has grown significantly. Assuming the user has access and flexibility in his or her schedule, portable devices and networked devices (e.g., laptops) are often physically and temporally proximate to the user and, thus, are just as (if not more) likely to test the willpower of users as television.

The aforementioned research on the effects of proximity on the tendency of low self-control choosers to select immediately gratifying options and the research on self-control and media selection lead to the hypotheses that the level of students' self-control will be negatively associated with the amount of leisure media use.

*H1: College students' self-control is negatively associated with amounts of leisure media use independently of gender and the age at which they began using leisure media.*

Experiences of failed self-control in the face of temptation are likely to be coupled with the self-reactive attitude of guilt (Bandura, 1991; LaRose et al., 2003). Guilt has been hypothesized to be a symptom of deficient self-control (Ainslie, 1996) but it may also be an indication that the individual is *aware* that they have lost control, indicative of some degree of successful self-monitoring (LaRose & Eastin, 2002) and allowing for subsequent improvement in self-control (Baumeister & Heatherton, 1996). It is important to establish evidence of the presence or absence of a correlation between media-related guilt and media use in order to make the distinction between lapses in self-

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control of which individuals are not aware and lapses of which they are aware. If individuals are aware of over-use, then they are more likely to be accepting of efforts to help them spend less time on these activities and more time on others, such as school work. If they are not aware of over-use, they are less likely to be accepting of such interventions. The constant presence of tempting, proximate media options is hypothesized to result in more lapses in restraint and thus lead to greater feelings of media-related guilt.

> *H2: College students' guilt about media use is positively associated with amounts of leisure media use independently of gender and the age at which they began using leisure media.*

After leaving for college, young people spend significant amounts of time using these media for various leisure activities, ranging from text messaging to social networking websites to online video viewing, in addition to the dominant form of leisure media use: television viewing (Junco & Cole-Avent, 2008). One survey found that college students spent 51% of their time on socializing and recreation while spending only 7% of their time studying (Arum & Roksa, 2011). The amount of time college students dedicate to studying has steadily declined over the past five decades (Babcock & Marks, 2010), which suggests that recent advances in technology are not entirely to blame for the decline. There are and always have been many other leisure activities which may detract from the time students spend on school work (e.g., face-to-face social interaction). Nevertheless, the combination of an unscheduled time environment and an unprecedented multiplicity of appealing diversions make the leisure time choices of these individuals somewhat unique and, based on extant knowledge of self-control and

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decision-making in high-choice environments, are likely to exacerbate an existing trend. It is thus hypothesized that time spent using leisure media will substitute for time spent on schoolwork.

*H3: The amount of leisure media use is negatively associated with amounts of time college students spend on schoolwork independently of gender and the age at which they began using leisure media.*

College students' leisure media use may be explained using other individual-level variables. Media users' stated "gratifications sought" have proved an effective means of explaining variance in the amounts of use of traditional and new forms of media (e.g., Papacharissi & Rubin, 2000). It is possible that the variance in the amount of time students spend using leisure media can be better explained by their stated motives rather than their levels of self-control. To address the argument that greater amounts of use of these leisure media are attributable to certain motives rather than the user's level of self-control, an analysis was performed that compared the power of factors derived from Flanigan and Metzger's (2001) measure of motivations for Internet use with that of self-control to explain variance in the amount of use of two popular online applications used by students – social networking sites (SNS) such as Facebook and online video. It is hypothesized that self-control will explain variance in the amounts of media use to a greater degree than stated motivations for using media.

*H4a: Self-control will explain variance in the amounts of social networking site use by college students to a greater extent than students' stated reasons for*

*Internet use independently of gender and the age at which they began using*
*leisure media.*

*H4b: Self-control will explain variance in the amounts of online video use by*
*college students to a greater extent than students' stated reasons for Internet use*
*independently of gender and the age at which they began using leisure media.*

Much of the research on self-control and media use examines different media (e.g., cell phones, television) in isolation. In order to provide insight as to which media or online applications are the most tempting or distracting to students and which media or applications interfere with students' abilities to complete schoolwork, I will conduct an analysis that compares the significance and the strength of the relations between amounts of use, self-control, guilt, and amount of time on schoolwork across various popular leisure media and online applications.

*RQ: What media or online applications have the strongest associations with self-*
*control, feelings of guilt, and time spent on schoolwork among students?*

### 3.3. Methods

#### 3.3.1. Participants

A survey was administered online during the fall 2010 semester and winter 2011 semester to students enrolled in a communications class at a large Midwestern university. Participants received credit in exchange for participation. 458 students took the survey. 74% (336) of these participants were female and the median age was 19 (Mean = 18.8, SD = .80). The entire sample's ethnic make-up was not determined; however, a sub-

sample of 173 students drawn from the sample consisted primarily of Caucasians (70%) and Asians or Asian Americans (15%).

### 3.3.2. Measures

The survey to assess media use was developed after consulting the most recent studies tracking the media habits of adolescents (Kaiser Family Foundation, 2010; Lenhart, Purcell, Smith, & Zickuhr, 2010). To verify that this information accurately and exhaustively reflected the ways in which college students were using media, I conducted a round of individual interviews with 30 undergraduate students in 2010[4]. Students were asked to describe an average day of media use from the moment they awoke to the moment they went to sleep. From this, several leisure media or applications emerged as popular among the population of interest: SNS use, watching television as it is broadcast, watching online video, watching previously recorded programs on a digital video recorder (DVR), and watching DVDs.

To assess various kinds of video use, participants were asked, *"On average, how much time do you spend engaging in these activities with your TV or laptop each day?"* and told to provide the answer in minutes. There were four video use measures: *"watching online video", "watching recorded programs when you want (On-demand, DVR, or TiVo)", "Watching DVDs", "Watching TV programs at the times they are broadcast (not recorded programs).* Amount of SNS use was assessed by asking students how many times each day they visited an SNS site such as Facebook and, on average,

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[4] A full review of the methods, analysis, and results of these interviews lies beyond the scope of this chapter.

how much time they spent on the site each time they visited[5]. These variables were added together to create a single daily leisure media use variable (known hereafter as "leisure media use").

To assess individual differences in self-control, Tangney et al.'s (2004) 13-item measure of self-control was used. Participants rated 13 statements based on the degree to which they felt each statement described them (1 = "*Not at all like me*" to 5 = "*Just like me*") (example of an item: "*Rate the degree to which you feel these statements describe you: 'I am good at resisting temptation'*"). This measure was considered appropriate for this study given the fact that it was conceived by its creators as a way to assess, in particular, individuals' abilities to "interrupt undesired behavioral tendencies (such as impulses) and refrain from acting on them" (p. 274). The internal reliability of the measure was .85 in this sample, which is comparable to validations in previous samples (alpha = .89) (Tangney et al., 2004).

To assess media-related guilt, participants were asked to rate the degree to which they felt the following four statements described themselves (1 = "*Not at all like me*" to 5 = "*Just like me*"): "*I often feel guilty about the amount of television I watch*"; "*I often feel guilty about having watched certain TV programs*"; "*I often feel guilty about the amount of time I spend online*"; "*I often feel guilty about having engaged in certain activities online*". These questions measured guilt associated with amount and type of television and Internet consumption. Together, they had an alpha = .73 and were

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[5] While video viewing sessions are typically of several, easy-to-recall durations (e.g., 30 minutes, 1 hour), SNS use is not. It was expected that participants be able to recall the number of times they use SNS on an average day and the average duration of their visit.

combined in a single measure of media guilt by adding them together and dividing them by four.

Given the amount and frequency of new media use among young people and given the increasingly "user-friendly" nature of the various online applications, it is likely that many young users have achieved a level of mastery of the use of such technologies and that self-efficacy plays a diminishing role in explaining variance in the amounts of use. In order to ensure that self-efficacy is not significantly associated with amounts of media use within this population, I include a proxy for self-efficacy (e.g., age of media technology adoption) as another independent variable in the regression models. So as to control for differences in use between males and females, gender was also assessed (Female =1; Male = 2).

To assess the amount of time participants spent on schoolwork each day, I asked students to report the number of hours they spent doing schoolwork on an average day.

To assess motivations for using SNS and online video, participants were asked to report the extent to which they used the Internet for 20 different reasons (examples of items: "*To get information*", "*To be entertained*") (1 = "*Never*" to 5 = *Very Often*"). A complete list of motivations and the factor loadings appears in Table 3-7.

### 3.3.3. Analysis

To test the first hypothesis, that self-control is negatively related to the amount of leisure media use, the composite leisure media use variable was used as a criterion variable in a regression. Gender, the composite measure of age of media technology adoption, and self-control were used as simultaneous predictor variables. In order to test

the second hypothesis, that leisure media use is positively associated to feelings of media-related guilt, a regression was run with gender, the composite measure of age of media technology adoption, and guilt over amount of media use as simultaneous predictor variables and the composite leisure media use variables as the criterion variable. To test the third hypothesis, that leisure media use is negatively related to the amount of time devoted to school work, a regression was run with the composite measure of students' self-reports of media use as the criterion variable with gender, age of adoption of media technologies, and the amount of schoolwork per day as the predictor variables.

To test the fourth hypotheses, that self-control explains a greater amount of the variance in the amount of time spent using leisure media use than students' self-reported reasons for use, principle component analysis was performed on the 20 item Internet uses index. This yielded four factors with eigenvalues greater than 1 (see Table 3-7). The following nine items loaded highest on the first factor: *"to generate ideas", "to learn more about myself and others", "to get to know others", "to impress people", "to have something to do with others", "to gain insight into myself", "to feel less lonely", "to feel important", "to stay in touch".* These items related primarily to social uses and are thus labeled "social" (alpha = .89). These seven items loading heaviest on the second factor: *"To get information", "to be entertained", "to learn how to do things", "to do schoolwork", "to provide others with information", "to play", "to contribute to a pool of information".* These items relate primarily to information gathering and entertainment and are thus labeled "information/entertainment" (alpha = .89). The third factor consists of two items: *"to solve problems", "to make decisions"*, both of which could be considered utilitarian use of the Internet and are thus labeled "utilitarian" (alpha = .70).

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Finally, the fourth factor consisted of two items: *"to pass time when bored", "to relax"*, both of which connote using the Internet as a way to pass time and are thus labeled 'to pass time" (alpha = .77). These four uses were used along with self-control as independent variables in two regressions, the first of which used SNS use as a criterion variable and the second of which had online video use as a predictor variable. As with the aforementioned regressions, gender and age of adoption were controlled for.

### 3.4. Results

In this population, participants reported an average of just over 4 hours each day on schoolwork (4.20; SD = 1.84), roughly 95 minutes using SNS (95.51; SD = 78.27), about 25 minutes watching television as it is broadcast (24.87; SD = 36.20), roughly 23 minutes watching online video (23.19; SD = 33.58), 14 minutes watching pre-recorded video (14.00; SD = 28.58), and 7 minutes watching DVDs (7.36; SD = 22.00). The total average amount of time spent using the five popular leisure media or applications was roughly 2 hours 45 minutes (164.43; SD = 111.01). The large variance in this sample reflected positively skewed kurtotic distributions in which many of the participants did not use media in some of these ways and several other participants used them frequently and/or for long durations. The mean score of the 5-point scale self-control variable was 3.1 with a standard deviation of .62 while the mean score of the 5-point scale composite guilt variable was 2.41 with a standard deviation of .80. Additionally, the average age of media technology adoption was 12.26 with a standard deviation of 1.30, confirming that this sample is relatively homogenous in terms of its levels of experience with these technologies.

Hypothesis 1, that self-control would be negatively associated with amounts of leisure media use, was supported. Predictor variables in the regression explained 6.3% of the variance in media use ($R^2$ = .063, p = .001). Males used roughly 31 fewer minutes of media than females (unstandardized B = -30.98, p = .01). The age at which students adopted media did not significantly affect the amount of media they used (unstandardized B = -6.73, p = .11). Self-control was negatively associated with media use. For every point on the five point self-control scale, students used roughly 35 fewer minutes of media (unstandardized B = -35.61, p = .001) (see Table 3-1).

Hypothesis 2, that guilt about media use would be positively associated with amounts of leisure media use, was also supported. The predictor variables in the regression explained 8.1% of the variance in media use ($R^2$ = .081, p = .001). Media use guilt was significantly positively associated with amount of media use. For every point on the five point guilt scale, students consumed roughly 34 minutes of media (unstandardized B = 33.96, p = .001) (see Table 3-2).

Hypothesis 3, that the amount of leisure media use would be negatively associated with amounts of time college students spend on schoolwork, was not supported. Predictor variables in the regression explained 3.1% of the variance in media use ($R^2$ = .031, p = .006). Amount of time spent on schoolwork was not significantly associated with media use (unstandardized B = -5.46, p = .07) (see Table 3-3).

### 3.4.1. Accounting for Motivation

These results suggest that self-control is negatively related to the amount of leisure media used by students. In order to assess the power of self-control to explain

variance in the amounts of SNS use and online video use relative to that of students'

reported uses, I conducted two regressions (see pages 57-58). Hypothesis 4a, that self-

control would explain variance in the amount of SNS used by college students

independently of their stated reason for using the internet was supported. The first

regression accounted for 14.4% of the total variance in amount of SNS use ($R^2$ = .144, p

= .001). Self-control significantly explained the amount of SNS use (unstandardized B = -

31.10, p = .001) while "social", "information/entertainment", "utilitarian", and "to pass

time" were not significantly associated with amount of SNS use. This indicates that for

every point on the five point self-control scale, students spend roughly 31 fewer minutes

using SNS (see Table 3-4). Hypothesis 4b, that self-control would explain variance in the

amount of online video used by college students independently of their stated reason for

using the internet was supported as well. Self-control significantly explained variance in

the amount of online video use (unstandardized B = -11.12, p = .001) while the four uses

were not significantly associated with amount of online video use. This indicates that for

every point on the self-control scale, students spend roughly 11 fewer minutes watching

online video (see Table 3-5).

### 3.4.2.   Self-control, Guilt, Schoolwork, and Individual Media

In order to address the research question, a bivariate correlation was conducted

with the following variables: SNS, Online video, DVD, DVR, Broadcast TV, Self-

control, Guilt, and Schoolwork (see Table 3-6). This disaggregation of media uses shows

self-control to be negatively associated with SNS use and online video use. Self-control is

not associated with DVD, DVR, or broadcast TV use. Feelings of guilt are positively

associated with SNS use and, to lesser extents, with online video use and broadcast

television use. Finally, online video use is negatively associated with the amount of time students' spend on schoolwork while no other media use is significantly correlated with amount of schoolwork.

3.5. Discussion

This study provides support for the claim that students who are low in self-control are apt to spend more time using leisure media and are apt to feel guilty about doing so. Findings suggest that levels of self-control are a more accurate indicator of the amount of SNS use and online video use than users' stated reasons for using the Internet. Additionally, the analysis differentiates among many media activities engaged in by college undergraduates and establishes associations among self-control, guilt, and some uses while demonstrating that no such associations exist for other uses. In doing so, it increases understanding of the characteristics of tempting media experiences beyond the basic medium-specific understanding of self-regulation and media use. Specifically, this analysis suggests that online video use and SNS use are associated with deficits in self-control and feelings of guilt while television viewing, DVR, and DVD use is not. Despite the fact that SNS use functions as a temptation for college students, it does not take away from the amount of time students spend on schoolwork. Of the popular leisure media surveyed, only online video viewing is negatively associated with the reported amount of time spent on schoolwork. Together, these findings suggest that the constant presence of online video and SNS tests the self-control of students to a greater degree than other media in their choice environment, that students are aware of this, and that online video viewing displaces time spent on schoolwork. Though there is concern about the degree to which SNS and mobile phones distract students (e.g., Hanson, Drumheller, Mallard,

McKee, & Schlegel, 2010), there is relatively little research concerning the extent to which streaming video applications do so. This study suggests that more research on the place of these applications is essential to understanding students' time budgeting.

### 3.5.1. Anytime/anywhere Media and Self-Control

Physical and temporal proximity of the options are known to affect the extent to which products or experiences test the self-control of choosers: the closer one is to a tempting option, in time or in space, the more likely one is to choose that option over less tempting alternatives (Ainslie, 1975; Hoch & Loewenstein, 1991; Mischel, 1974). The past two decades have seen a steady shift toward increasingly physically and temporally proximate leisure media options; however, television viewing remains constrained by place and time – viewers typically watch only in their homes and content is only available at scheduled times. The presence of associations among self-control, guilt and anytime/anywhere media such as online video and SNS combined with the absence of such an association for television use suggests that constantly present media may test the self-control of individuals with flexible schedules to a greater extent than media experiences constrained by time and place.

The study did not find any associations among self-control, guilt, and DVD or DVR use. Of the media use options presented in the survey, DVD and DVR had the lowest mean amount of use, suggesting that, at least for this population, neither is as attractive an option as the other temporally proximate leisure media options. Many students do not have access to DVR while almost all students have access to the Internet and, hence, SNS and online video. Regardless of how one accesses DVDs (e.g., via

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library loan or via postal service), one must choose from fewer titles than one selecting an online video. There is also the possible influence of duration: DVDs and DVRs offer experiences of relatively long duration, typically between thirty minutes and two hours, while online video and SNS do not require users to commit such large chunks of time. A student asking herself whether or not she wants to watch a two-hour movie may be making a deliberative decision that is not as prone to be affected by deficits in self-control as less deliberative decisions (Shiv & Fedorikhin, 1999). Finally, DVR users typically choose from a menu of pre-determined options. This array of options is assembled at a time that is temporally remote from the moment of viewing and thus may be chosen in a deliberative, reflective way. The act of DVR viewing, then, may be an unscheduled act (one may sit down and view DVR programs whenever one likes) but the DVR viewers' options are circumscribed by available options assembled by a deliberating, reflective self.

### 3.5.2. Limitations

This cross-sectional survey relies on self-report data, which may misrepresent the actual amount of media use engaged in by the participants given individuals' tendencies to mis-estimate the amount of media they use (Collopy, 1996). Specifically, media users have tended to overestimate the amount of time they spend online and underestimate the amount of time they spend watching television (Bloxham, Holmes, Moult, & Spaeth, 2009), though one wonders if this may change the more people associate time spent online with leisure.

Though this study uses self-report survey data to determine media users' durations and types of media use, it does not simply take the users at their word as to *why* they chose what they chose. By demonstrating that students' levels of self-control are better indicators of amount of various kinds of media use than stated reasons for use, this study establishes preliminary evidence that these experiences are, to some degree, not selected mindfully. Such evidence should prompt researchers interested in explaining why users select certain media experiences to supplement assessments of self-reported media use motivations with a measure of self-control, in particular when studying SNS use and online video viewing.

There was no measure of overall Internet use, nor any measure of cell phones use or video game playing, activities known to be engaged in more by those with lower levels of self-control (Billieux, VanDer Linden, D'Acremont, Ceschi , & Zermatten, 2007; Billieux et al., 2011; Seay & Kraut, 2007) which are both more prevalent than viewing online video (Nielsen, 2009). All these measures should be included in future studies.

Among the variables not assessed in this study that may affect media use, guilt, and perception of self-control is perception of social norms (LaRose, Mastro, & Eastin, 2001). Though guilt can be understood as evidence of knowledge of such norms and acknowledgment that one has violated them (Baumeister, Stillwell, & Heatherton, 1994), there are other feasible ways of isolating the effects of the perception of one's leisure media selection relative to social norms. In future studies, media users could be asked to estimate the average amount of daily use of various kinds of media and applications.

In this study of individuals with unstructured time, there is no comparison group comprised of those who have more structured time. In order to address this, the findings in this study should be compared to survey results from a group of individuals of the same age (18-20 years old) that are currently employed at full time jobs. It may not be the lack of structure of the college environment that leads those with low self-control to use more SNS, but rather the fact that SNS happens to be an especially important mode of social surveillance, used to track minute changes in the status of peers among this population at this time. If there were a population that had more regular, regimented schedules that had similarly high needs for social surveillance and communication with peers, one might expect to see the same correlation between self-control and SNS use.

### 3.6. Conclusion

Medium-specific theories about overuse efface the difference between various types of Internet use, different media choice environments, and different media users. In some cases, the amounts of time users spend using various applications or functions of a medium are highly correlated with variables of interest such as self-control, guilt, and the amount of time students spend on schoolwork, justifying a medium-specific conceptualization of media use. In others, such as the case of online video, a particular application has different antecedents and consequences than other applications on the very same medium. It is therefore essential to develop theories of media use that conceptualize media uses in terms of attributes such as the degree to which their uses are constrained by time and place.

The continuing project of understanding college students' time budgeting as well as the project of defining, diagnosing, and treating problematic Internet use require a thorough understanding of the ways in which all users relate to media options in general, the unique attributes of new media experiences, and the circumstances in which users select such media from a variety of leisure-time options. Differentiating among uses and establishing the psychological mechanisms and choice environments that are associated with the repeated selection of leisure media options not only provides a basis for effective interventions aimed at improving college student achievement but may help all individuals intending to curb "guilty pleasure" use of media.

Table 3-1: Regression Results for Student Leisure Media Use

|  | Coefficient | Prob. |
|---|---|---|
| Self-Control | -35.61** | .001 |
| Gender | -30.98* | .01 |
| Age of Media Adoption | -6.73 | .11 |

$R^2$=.063
Pearson correlation statistics presented. *=p<.05
Pearson correlation statistics presented. **=p<.01

Table 3-2: Regression Results for Student Leisure Media Use

|  | Coefficient | Prob. |
|---|---|---|
| Guilt | 33.69** | .001 |
| Gender | -29.02* | .02 |
| Age of Media Adoption | -6.8 | .10 |

$R^2$=.081
Pearson correlation statistics presented. *=p<.05
Pearson correlation statistics presented. **=p<.01

Table 3-3: Regression Results for Student Leisure Media Use

|  | Coefficient | Prob. |
|---|---|---|
| Schoolwork | -5.46 | .07 |
| Gender | -32.30* | .01 |
| Age of Media Adoption | -7.21 | .09 |

$R^2$=.031
Pearson correlation statistics presented. *=p<.05
Pearson correlation statistics presented. **=p<.01

Table 3-4: Regression Results for Student SNS Use

|  | Coefficient | Prob. |
|---|---|---|
| Self-Control | -31.1** | .001 |
| Social Use | -.05 | .99 |
| Information/Entertainment Use | -2.82 | .49 |
| Utilitarian Use | 6.57 | .09 |
| To Pass Time | 3.65 | .30 |
| Gender | -36.80** | .001 |
| Age of Media Adoption | -8.31** | .004 |

$R^2$=.144

Pearson correlation statistics presented. **=p<.01


Table 3-5: Regression Results for Student Online Video Use

|  | Coefficient | Prob. |
|---|---|---|
| Self-Control | -11.12** | .001 |
| Social Use | .36 | .85 |
| Information/Entertainment Use | 1.96 | .30 |
| Utilitarian Use | -.15 | .93 |
| To Pass Time | -.12 | .94 |
| Gender | -7.67 | .05 |
| Age of Media Adoption | 2.25 | .08 |

$R^2$=.061

Pearson correlation statistics presented. **=p<.01


Table 3-6: Media Use, Self-Control, Guilt, and Schoolwork Correlation Matrix

|  | SNS | Online video | DVR | DVD | TV | Self-control | Guilt |
|---|---|---|---|---|---|---|---|
| SNS |  |  |  |  |  |  |  |
| DVR | .03 | -.04 |  |  |  |  |  |
| DVD | -.05 | -.04 | **.34** |  |  |  |  |
| TV | .09 | -.06 | **.17** | **.11*** |  |  |  |
| **Self-control** | **-.25** | **-.21** | -.01 | -.03 | .06 |  |  |
| **Guilt** | **.21** | **.12** | .08 | .06 | **.03*** | **-.32** |  |
| **Schoolwork** | -.06 | **-.13*** | .05 | -.03 | .02 | **.23** | -.05 |

Pearson correlation statistics presented. **=p<.01 *=p<.05.

Table 3-7: Principle Component Matrix of 20 Internet Uses (Flanigan & Metzger, 2001)

| Uses | Social | Information /entertainment | Utilitarian | To pass time |
|---|---|---|---|---|
| To get information | -.07 | **.67** | .35 | -.18 |
| To generate ideas | **.61** | .21 | .45 | -.17 |
| To learn more about myself and others | **.69** | .20 | .09 | .17 |
| To be entertained | -.03 | **.83** | .10 | -.05 |
| To get to know others | **.79** | .11 | .18 | -.01 |
| To learn how to do things | .02 | **.82** | .10 | -.09 |
| To impress people | **.83** | .01 | .03 | .16 |
| To do school work | -.08 | **.63** | .36 | -.37 |
| To have something to do with others | **.67** | .12 | .37 | .06 |
| To provide others with information | .25 | **.77** | .07 | .06 |
| To solve problems | .20 | .13 | **.76** | .05 |
| To play | .23 | **.76** | .01 | -.07 |
| To stay in touch | **.47** | .23 | .47 | -.13 |
| To relax | .24 | -.17 | -.09 | **.84** |
| To make decisions | .37 | .07 | **.67** | .04 |
| To contribute to a pool of information | .33 | **.72** | -.07 | -.08 |
| To gain insight into myself | **.75** | -.09 | .16 | .23 |
| To pass the time away when bored | .09 | -.20 | .10 | **.87** |
| To feel less lonely | **.72** | .08 | .19 | .07 |
| To feel important | **.60** | .47 | -.33 | .00 |

Chapter 4.

The influence of temporal proximity and high choice on media users' selections: An

experiment

As communication technologies undergo significant change, the processes by

which media users select and consume media change with them. The limited bandwidth

of analog communication technology and the highly regimented nature of work life

during the 20th century necessitated that a limited number of media options (e.g.,

television shows during the broadcast network era) only be available to media users at

appointed times. If users wished to engage in a particular media experience, they often

had to wait until the experience became available. Consequently, media users often chose

from a limited set of options at a given point in time and/or decided on an option in

advance of consumption. With the rise of digital media technology, constraints on the

number of options made available at a given time and the time at which options must be

consumed have loosened. Such changes in the structural factors (Webster & Phalen,

1997) of media availability have the potential to foster choosers' tendencies to select in

an automatic and impulsive manner.

This new media choice environment demands that researchers reconsider certain

assumptions about the act of media selection and take into account how structural and

technological characteristics of the choice environment affect selection behavior. Many

"active audience" models of media choice (e.g., Katz, Blumler & Gurevich 1973; Krcmar

& Strizhakova, 2009) assume that media selection is a conscious act engaged in to help

the user attain goals. Recent developments in the study of media choice have led to the development of a theoretical framework for studying automatic media selection conceptually defined as "habitual" media use (LaRose, 2010). By establishing a distinction between conscious and automatic selection, research on media habits have become a crucial component in the quest to make sense of media selection behavior in environments with fewer restrictions on choice. The study of media habits is, at this time, limited to the study of *repeated* media selection - either repeated at a particular recurring time or repeated in conjunction with other activities such as awaking or retiring for the evening. Such research makes no predictions regarding isolated instances of automatic selection. Moreover, it does not address how structural or technological characteristics of the choice environment may affect the frequency with which automatic selection behavior occurs or how this kind of selection might affect the kinds of media experiences users select. When media choice researchers do address the effects of structural and technological characteristics on selection behavior (e.g., Bryant & Rockwell, 1993; Webster, 2009), they tend not to consider how such characteristics interact with the psychological characteristics of media users. Hence, the studies find changes in certain attributes of selection behavior due to technological characteristics of the medium (e.g., greater frequency with which users make new selections while watching television with a remote control) but are unable to offer insight regarding the extent to which choice environment characteristics affect the types of options media users choose.

The aim of this chapter is to examine media selection as it is made in the immediate media choice environment. I explore how changes in the media choice environment affect the types of media experiences users select. Specifically, I present the

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results of an experiment designed to determine the extent to which two defining characteristics of the immediate media choice environment - the temporal proximity of the moment of selection to the moment of consumption and the number of available options - affect the likelihood that media users select more immediately gratifying options over less immediately gratifying ones and the extent to which these effects are moderated by users' self-control. In doing so, I provide evidence that the shift from the traditional media choice environment to the immediate media choice environment encourages media users to select more immediately gratifying options even when the options offered in both choice environments are the same in terms of the amount of immediate gratification they offer the user.

### 4.1. Literature Review

#### 4.1.1. Studies of Media Selection in High-Choice Environments

The rapid rise in the number of information and entertainment options available to media users has prompted scholars to speculate about its effects on selection behavior. Some express concern over the possibility that increased choice may lead to an expansion of the political knowledge gap between information seekers and entertainment seekers (Prior, 2007) while others worry that it may lead to greater political and ideological polarization via selective exposure (Mutz, 2006; Pariser, 2011). Others suggest that young people may be distracted by the panoply of options, prompting them to eschew schoolwork in favor of leisure-related media use leading to lower grades in school (Junco, 2011; Kim, 2011). These studies typically do not isolate specific characteristics of media or media choice environments (e.g., the number of available options), instead

attributing selection behavior to the medium itself (e.g., access to the Internet). An exception is Prior's 2007 survey experiment which attempted to isolate the effects of high-choice on television viewers' tendencies to select news programs. As discussed in Chapter 2, Prior's design confounds the quantity of choices with the ratio of news options to other options. To date, no study has attempted to isolate the effects of high choice on students' tendencies to select schoolwork over other options. The present experiment maintains the same ratio of news options and school options to other options across all conditions, making it the first study to isolate the effects of high choice on tendencies to select news and schoolwork.

4.1.2. The Effects of the Number of Available Options on Selection of Immediately Gratifying Options

The effects of high-choice environments on media selection can be understood using models of choice developed by behavioral economists and psychologists. The "preference fit" model discussed in Chapter 2 suggests that a greater number of options make media users more likely to find options they like (Baumol & Ide, 1956; Boatwright & Nunes, 2001; Youn, 1994). Based on this understanding of choice, users' exposure to news and use of media for school-related purposes in low-choice environments are, in some sense, accidental or incidental: users did not particularly desire these options but, perhaps because they desire to use the medium more than they desire any particular content (Klein, 1971), they make due with these options.

The effect of high-choice environments on selection behavior, in particular Prior's observation that viewers given fewer choices tend to select news more than viewers given

more choices, can also be understood as an instance of a more general effect of high-choice environments: the tendency of such environments to cultivate the selection of immediately gratifying options. Research shows that in situations in which individuals are unable to justify their selections, they are more apt to select immediately gratifying options when provided with more options than individuals presented with fewer options (Sela, Berger, & Liu, 2008). Assuming that media users can come up with an excuse for indulging themselves, they will be more apt to select immediately gratifying options when given more options than individuals provided with fewer options.

The extent to which a particular media option is immediately gratifying may be conceptualized and operationalized in several ways. Such an evaluation is, in some sense, subjective and therefore likely to vary within a population. In the same way one person may find chocolate cake to be immediately gratifying while another may not, one person may find watching the television program *The Jersey Shore* to be immediately gratifying while another may find it utterly stultifying. Prior research on media choice and immediate gratification (e.g., Milkman et al., 2009; Read et al., 1999) used independent raters to establish values indicating the extent to which each option is immediately gratifying. If, however, the extent to which a media user finds a selection immediately gratifying is based on personal taste and the extent to which each option appeals to any given user's taste is likely to vary,[6] then it is useful to consider the extent to which media users select options which *they* personally find immediately gratifying. Whether one understands the extent to which an option is immediately gratifying to be a matter of

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[6] Indeed, this is the very reason why media environments that offer larger assortment sizes foster the selection of immediately gratifying fare: there is greater likelihood of a match between any user's immediate desires and the available options.

consensus or a reflection of personal taste, the larger the number of available options is hypothesized to lead to more immediately gratifying selections.

*H1: The greater the number of options from which a media user selects, the more apt the media user will be to select options rated by consensus as more immediately gratifying.*

*H1a: The greater the number of options from which a media user selects, the more apt the media user will be to select options rated by that user as more immediately gratifying.*

4.1.3. Temporal Proximity

The aforementioned loosening of constraints on availability results in an increase in the times at which the many media options available to users may be consumed. Put another way, media users do not have to wait until appointed times to consume that which they have chosen. The theory of intertemporal preference reversal (e.g., Ainslie & Haslam, 1992; Loewenstein & Prelec, 1992) explains how the temporal proximity of the moment at which a media user selects an option to the moment at which he or she consumes that which he or she has chosen (i.e., the amount of time the user must wait to consume that which he or she has chosen) changes selection tendencies. This theory posits that the valuation of an option that offers immediate gratification declines hyperbolically over time. As depicted in Figure 4-1, preference switches from the options that offer larger benefits at a later time (i.e., delayed gratification) to options that offer smaller benefits immediately after consumption (i.e., immediate gratification) when consumption of the option is immanent.

Evidence of this phenomenon has been documented in various domains ranging from food choice (e.g., Chernev, 2006), choice between hypothetical sums of money (Keren & Roelofsma, 1995), and choice between films (Read et al., 1999). This phenomenon has been observed in media selection outside of the laboratory setting as well (Milkman et al., 2009). Records of DVD-by-mail renters suggest that individuals were apt to have DVD films that offered larger-later rewards (e.g., documentaries) sent to their homes for later consumption but when these viewers had to decide what to watch on a particular day or evening, they tended to select options that offered smaller-sooner rewards (e.g., action films). No studies of this phenomenon examine choice among various media options (e.g., social networking sites, school-related media activities, television content, news websites). The present study addresses this gap in the literature.

Given the propensity of choosers to select less immediately gratifying options in circumstances in which they are made to select in advance of the moment of consumption, it is hypothesized that media users who select in advance of the moment of consumption will select fewer immediately gratifying options and use those options for shorter durations than those who select immediately before consumption. As with the first hypothesis, immediate gratification is conceptualized and operationalized in two ways: as a value reflecting the consensus of members of the population of interest and as a value determined by the individual media user.

> *H2: The greater the temporal proximity of the moment of selection to the moment*
> *of consumption, the more likely the media user is to select options rated by*
> *consensus as more immediately gratifying.*

*H2a: The greater the temporal proximity of the moment of selection to the moment of consumption, the more likely the media user is to select options rated by that user as more immediately gratifying.*

### 4.1.4. Exploring the Interaction Between the Number of Available Options and Temporal Proximity

Studies of media choice have looked at the effects of temporal proximity and the number of available options in isolation. In order to understand the effects of particular attributes of the convergent, high-choice media environment on media selection behavior, it is important to understand the relative strength of such effects as well as the extent to which they interact with one another to change behavior. By incorporating both phenomena into an experimental design, this study allows us to compare the size of the effects of temporal proximity and the number of available options on the tendency to select immediately gratifying media options and to consider how these two characteristics interact to produce changed behavior. Though no particular study provides a basis from which a hypothesis regarding the interaction of the number of available options and temporal proximity may be constructed, the outcome is of interest and thus remains in this study as a research question.

*Research question: How do the number of available options and temporal proximity interact to influence the likelihood of media users selecting immediately gratifying options?*

### 4.1.5. The Moderating Effects of Self-Control

Choice from arrays of options that vary in the extent to which they offer the user immediately gratifying experiences has been understood within a dual-self conceptual framework of decision making (Chatterjee & Krishna, 2009; Schelling, 1978; 1984). In this framework, one "short-run self" may be keen on obtaining immediate gratification while another "long-run self" seeks to attain long-term goals. Opportunities to engage in immediately gratifying behavior provide stimuli which activate choosers' short-run selves. The act of choosing under such circumstances has the character of an impulse rather than a well though-out decision. The ability to resist acting on impulse – self-control – varies among individuals. One's tendency to select immediately gratifying options in environments in which such options are temporally and physically proximate is affected by the individual's level of self-control (Hoch & Loewenstein, 1991): the higher the self-control, the less likely an individual is to be tempted by temporally proximate immediately gratifying options. When the number of available options is larger and thus more likely to contain an option which the users would find tempting, users who possess adequate self-control may be able to exercise restraint in order to avoid choosing immediately gratifying options. Thus, it is hypothesized that the individual characteristic of self-control will moderate the effects of two environmental characteristics - temporal proximity and the number of available options - on the likelihood that media users will select immediately gratifying options.

> *H3: The effect of the number of options on the tendency of media users to select options rated by consensus as more immediately gratifying will be moderated by self-control, such that the effect will be greater for those lower in self-control.*

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*H3a: The effect of the number of options on the tendency of media users to select options which they have rated as more immediately gratifying will be moderated by self-control, such that the effect will be greater for those lower in self-control.*

*H4: The effect of temporal proximity of the moment of selection to the moment of consumption on the tendency of media users to options rated by consensus as more immediately gratifying will be moderated by self-control, such that the effect will be greater for those lower in self-control.*

*H4a: The effect of temporal proximity of the moment of selection to the moment of consumption on the tendency of media users to select options which they have rated as more immediately gratifying will be moderated by self-control, such that the effect will  be greater for those lower in self-control.*

### 4.2. Method

#### 4.2.1.  Study Design

This study employs a 2 (ahead-of-time vs. immediately before) by 2 (large the number of available options vs. small the number of available options) experimental design. The time elapsed between the moment of selection and the moment of consumption is one independent variable. The number of available options is the second independent variable. The immediate gratification value of the selection as established by independent raters and as established by individual users are the dependent variables. The user's level of self-control is the moderating variable.

#### 4.2.2.  Participants

The sample consisted of 144 volunteer participants from an introductory communication studies course at a large Midwestern university during the fall of 2011 and winter of 2012. College students constitute an ideal sample in which to test the hypotheses for several reasons. First, they have flexible schedules allowing for considerable autonomy in deciding at any given point whether to engage in work or leisure experiences. Secondly, as "digital natives" (Prensky, 2001), students are accustomed to using media technologies that offer a wide variety of activities at various times throughout the day. Thus, it would not seem unusual to members of this population to have to select from a menu of media options that included work-related, social, and entertainment options. The sample was 55% male, 69% white and had a mean age of 18.83 (SD = .97).

### 4.2.3. Materials and Measures

#### 4.2.3.1. Menu options

The menus of media options from which participants chose (see Table 4.1) were comprised of options that were popular among the population of interest and provide enough of a range of immediate gratification value so that differences in the extent to which selections were immediately gratifying could be detected. In order to assemble menus that fulfill these criteria, I drew from multiple sources: 30 guided interviews conducted with undergraduate students regarding their daily media use habits; 290 undergraduate students responses to an open-ended survey question asking them to name the three television programs they spend the most time watching; the Kaiser Family Foundation's report on teen and adult use from 2009-2011 (Kaiser Family Foundation,

2011); the web traffic tracking site Alexa (http://www.alexa.com/) which tracks the most

popular websites among 18-24 year-olds living in the United States. These menus

included software (e.g., Microsoft Office) and websites (e.g.,

https://ctools.umich.edu/portal) that students use to complete schoolwork, an activity that

comprises a significant amount of time in students' flexible schedules.[7]

The original menu of 39 popular media activities was then evaluated by a group

of 34 raters drawn from the same population as participants in the experiment. These

raters were instructed to rate each options based on the extent to which it was

immediately gratifying (*1 = not immediately gratifying at all; 7 = very immediately

gratifying*). They were instructed not to base their ratings on their own experiences or

preferences but rather to guess as to how a typical user of each media option would feel

about the option. The nine options with the lowest levels of inter-rater agreement were

dropped from the study, leaving a total of 30 options to be used in the experiment

(Krippendorff's alpha = .19). Two menus were created from this 30-item list: a high-

choice menu and a low-choice menu.

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[7] The level of specificity varied among the options for several reasons. When it was
anticipated that several or more participants would select a certain television program or
video game (e.g., the television program "Modern Family"), the name of the program
was specified. If a website allowed users to access many different programs, songs,
stories, or videos (e.g., YouTube) and the likelihood of many participants preferring any
particular one of those programs, songs, stories, or videos was low, the name of the
website was specified. In guided interviews, participants referred to certain websites
singularly (e.g., "watching YouTube") while referring to television programs they liked
to watch rather than simply say that they were "watching television". Lastly, it was
assumed that options such as the content available on Hulu or YouTube do not vary
significantly in terms of the extent to which their viewers find them immediately
gratifying while various kinds of one-to-one communication, such as using email for
school and using it with friends, do vary significantly in this way. For this reason,
distinctions were made between certain kinds of use of particular websites or applications
(e.g., email for school) and not others (e.g., Hulu, YouTube, or Facebook).

Using the independent ratings, menus were balanced in terms of the amount of immediately gratifying options they offered. In order to form the choice menus for the low-choice condition that, collectively, offered the same amount of immediate gratification as the 30-item high-choice menu, five sets of six options were created. The total immediate gratification value of each set as rated by the independent raters (ranging from 1 = not immediately gratifying at all; 7 = very immediately gratifying) were 4.52, 4.33, 4.53, 4.74, and 4.50. The total immediate gratification value of the high-choice set containing all 30 options was 4.51. Each of the low-choice sets contained a randomly selected news option, a randomly selected option related to schoolwork, and four randomly selected leisure options.

### 4.2.3.2.    Levels of temporal proximity

In prior studies of the effects of temporal proximity on selection behavior there has been significant variance in the amount of time between immediate and delayed choice conditions, from one month (Chernev, 2006; Keren & Roelofsma, 1995; Vuchinich & Simpson, 1998) to one week (Read et al., 1999; Vuchinich & Simpson, 1998) to one day (Read et al., 1999). In the context of research on the influence of recent changes in the media choice environment on selection behavior, it is reasonable to ask media users to select one week or one day ahead of time because many leisure media users making selections during the broadcast era had options (e.g., television programs) that were available on a daily or weekly basis, necessitating that television viewers decide

one day or several days in advance whether to watch a certain program.[8] In the interest of

practicality, levels of temporal proximity were limited to two levels: selection made

immediately before consumption and selection made one day in advance.

### 4.2.3.3.  Number of options

The sizes of the number of available options conditions also vary among studies

of choice. Iyengar and Lepper's (2000) study of food choice uses six options for the low-

choice condition and 24 and 30 for the high-choice conditions. Sethi-Iyengar, Huberman,

and Jiang (2004) track participation in 401(k) plans and show that participation is highest

when the number of options is below 10, consistent when it is between 10 and 30, and

drops off after 30. Both of these are representative of studies in which people become

overwhelmed by choice and simply opt out of choosing altogether and thus may not be

applicable to this study. It has also been suggested that all kinds of choice may not be

alike in terms of the extent to which they are affected by high numbers of choice. It is

possible that individuals making low-stakes choices between entertainment options for

which they have already paid to have access to may not have to make difficult trade-offs

and thus may not experience the "choice anxiety" that individuals experience when

making choices that have monetary or long-lasting consequences (Scheibehenne,

Greifeneder, & Todd, 2010). It is thus sensible to assume that individuals choosing from

media options would not be overwhelmed by 30 options and that this number of options

is both feasible and reasonably approximates the size of a personal media repertoire from

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[8] Researchers also frequently use a titration process to arrive at the point at which
preference reversal occurs, providing participants (either collectively or individually)
with many different levels of temporal proximity.

which individuals in high-choice media environments typically choose (Yuan & Webster, 2006). Thus, 30 options are presented to participants in the high-choice conditions.

Prior's (2007) survey experiment comparing choice from the broadcast-era number of television channels (five) to a high-choice condition that included 12 options is a close analog to this study. Given extant research on media choice, it was deemed appropriate to limit the number of choices in the low-choice conditions to six, so as to maintain some consistency with the existing research on low-choice vs. high choice selection behavior and to create a condition which is similar to the broadcast era choice environment.

### 4.2.3.4.    Self-control

In order to assess the trait levels of self-control of the participants, Tangney, Baumeister, & Boone's (2004) previously validated 13-item scale of self-control was used. Each item asked participants to rate statements on a 1-to-7 scale (*1 = "not at all" 7 = "very much")* based on the degree to which they believed each statement described them (example item: *"Pleasure and fun sometimes keep me from getting work done"*). Each participant's answers to the items were averaged, yielding a measure of self-control that ranges between 1 and 7 (M = 3.94, SD = .93) (Alpha = .84).

### 4.2.3.5.    Consensus Immediate Gratification Value (CIGV) rating

The initial group of 34 independent raters' ratings of the 30 menus options did not prove sufficiently reliable as a measure of the immediate gratification value of the menu options (Krippendorff's alpha = .19). Consequently, the degree to which each option was immediately gratifying (its "consensus immediate gratification value" or CIGV) was

determined by a second group of independent raters drawn from undergraduate students at the same university. These raters were provided with examples[9] of media options on which the previous group of raters could not agree and were explicitly reminded to rate the options based on what a hypothetical user of these options would rate the immediate gratification value of each experience. These raters were asked to rate each option on the extent to which it was immediately gratifying (*1 = not immediately gratifying at all; 7 = very immediately gratifying*). There were a total of 31 raters, each of whom rated five options, yielding at least six ratings for each option. This produced an improvement in the reliability of the measure of CIGV (Krippendorff's alpha = .45). The average values of the second group of raters' ratings for each of the 30 options were used in the analysis (see Table 4-1). The mean of all CIGVs as rated by the second group of raters was 4.92; the average standard deviation of all options was 1.21.

### 4.2.3.6.    Total CIGV and User-Rated Total IGV

In order to assess the extent to which each participant selected immediately gratifying options, the amount of time a participant chose to spend on each of the 30 activities was multiplied by the CIGV of each activity. These numbers were then summed to yield a value (Total CIGV) reflecting each participant's tendency to select options rated by consensus as more immediately gratifying. In order to test the hypotheses pertaining to the user-rated IGV of each option select, the number of minutes each participant chose to spend on each option was multiplied by the user's rating of the immediate gratification value of that option. These numbers were then summed to yield a

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[9] To avoid biasing coders' ratings of the final 30 menu options, examples of options not included in the final 30 options were used as illustrative examples of the earlier raters' failure to reach consensus.

value (User-Rated total IGV) reflecting each participant's tendency to select options that they rated as immediately gratifying. These numbers ranged from 58.25 (the CIGV of the lowest-rated option, an online course application, multiplied by 25) to 170.75 (the CIGV of the highest-rated option, the television program "Modern Family", multiplied by 25).

### 4.3. Procedure

Participants volunteered for a two-part study scheduled to take place during two half-hour periods on consecutive days. They participated in groups ranging from one to five participants. When participants arrived for the first part of the study, they were each seated at a computer and asked to fill out a survey. The first question of the computer-based survey informed participants that there would be 25 minutes of spare time during the study and asked participants to select from a list of options and to report if they would like to use an option and, if so, for how many minutes they would like to use the option. Participants were randomly assigned to one of the four conditions; condition assignment was double-blinded. Participants in the two "in advance" conditions were told that the spare time would be during the second session of the study on the following day while participants in the two "immediate before" conditions were told that the spare time would occur immediately after they made their selections. Participants in the high-choice conditions were provided with 30 options from which to select while participants in the low-choice conditions were provided with 6. The order of all options in all menus was randomized.

After making a media selection, participants were asked via the survey to rate each option based on the extent to which it was immediately gratifying. The participants

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then answered the 13-item self-control survey items as well as some basic demographic questions. During the second part of the study, participants completed another survey or participated in a related experience sampling study the results of which are not directly related to this experiment and therefore will not be discussed here. At the conclusion of the study, participants were asked probe questions about their decision-making strategies, debriefed, and thanked for their participation.

### 4.4. Results

In order to test Hypothesis 1, that individuals selecting from a larger number of options would be more apt to select immediately gratifying options than those selecting from a smaller number of options, the mean Total CIGV of participants in the high-choice conditions (n = 73; M = 142.88; SD = 19.12) was compared to the mean Total CIGV of participants in the low-choice conditions (n = 71; M = 135.51; SD = 10.49) using an independent-sample T test. Results of this supported the hypothesis (t = -2.23; p = .03). In order to test Hypothesis 1a, the mean user-rated Total IGV of participants in the high-choice conditions (M = 148.78; SD = 23.95) was compared to the mean user-rated Total IGV of participants the low-choice conditions (M = 138.01; SD = 30.98) using an independent-sample T test. Results of this test supported the hypothesis (t = -2.34; p = .02).

In order to test Hypothesis 2, that individuals selecting immediately before consumption would be more apt to select an immediately gratifying option than those in advance of consumption, the mean Total CIGV of participants in the in-advance conditions (n = 71; M = 139.00; SD = 21.62) was compared to the mean Total CIGV of

participants in the immediately-before conditions (n = 73; M = 139.49; SD = 18.60) using

an independent-sample T test. Results of this test did not support the hypothesis (t = -.15;

p = .88). In order to test Hypothesis 2a, the mean user-rated Total IGV of participants in

the in-advance conditions (M = 143.21; SD = 28.49) was compared to the mean user-

rated Total IGV of participants in the immediately-before conditions (M = 143.72; SD =

27.84) using an independent-sample T test. Results from this test did not support the

hypothesis (t = -.11; p = .91).

To test Hypothesis 3, that self-control moderated the effect of the number of

available options on the tendency to select immediately gratifying options, and

Hypothesis 4, that self-control moderated the effect of temporal proximity on the

tendency to select immediately gratifying options, a general linear model was used with

Total CIGV as the dependent variable, and the number of available options, temporal

proximity, self-control as a covariate, the interaction between the number of available

options and self-control, and the interaction between temporal proximity and self-control

as predictor variables. Results did not support either hypotheses; self-control did not have

a significant effect on Total CIGV [F(49, 139) = .72; p = .79] nor did the interaction

between the number of available options and self-control [F(20, 139) = 2.72; p = .37] or

the interaction between temporal proximity and self-control [F(20, 139) = .14; p = .71].

To test Hypothesis 3a and 4a, a general linear model was used with user-rate Total IGV

as the dependent variable, and the number of available options, temporal proximity, self-

control as a covariate, the interaction between the number of available options and self-

control, and the interaction between temporal proximity and self-control as predictor

variables. Results did not confirm the hypotheses; the effect of interaction between self-

control and the number of available options was not significant [F(20, 139) = .51; p = .84] and the effect of the interaction between self-control and temporal proximity was not significant [F(20, 139) = .85; p = .65].

Finally, the research question regarding the interaction between the number of available options and temporal proximity was tested. The mean Total CIGV scores of each of the four conditions were compared to one another using an ANOVA contrast analysis. An omnibus test of between-group differences among the four conditions is significant [F(3, 139) = 2.02, p =.11]. In the analysis of Total CIGV, a significant difference existed between the immediately-before low-choice condition and the immediately-before high-choice condition (t = -2.33; p = .02) as well as the in-advance low-choice condition and the immediately-before high-choice condition (t = -2.01; p = .048). All other differences between group means were not significant (see Figure 4-2). In a similar analysis of user-rated Total IGV, an omnibus test of between-group differences was not significant [F(3, 139) = 2.23, p = .09]. However, a significant difference existed between the immediately-before high-choice condition and the immediately-before low-choice condition (t = -2.38; p = .02). The difference between the immediately-before high-choice condition and the in-advance low-choice condition was marginally significant (p = .058). All other differences between group means were not significant (see Figure 4-3).

### 4.5. Discussion

Taken together, the results of this experiment suggest that the number of available options and temporal proximity can alter selection behavior, though not precisely in the

manner that was predicted. The differences between the selection behavior of those who selected from a larger assortment and the selection behavior of those who selected from a smaller assortment was consistent with the expected pattern: individuals who chose from a greater number of options selected options that were rated as more immediately gratifying and that they felt were more immediately gratifying. When they chose from fewer options, media users "made due" with options that they felt were less immediately gratifying.

In some sense, this is hardly surprising. When there is a larger set of options, media users can find options that are consistent with their preferences for gratifying options. The observed difference between the user-rated IGV means of the high-choice and low-choice conditions does not necessarily reflect low-choice users' conscious or unconscious desire to select options offering delayed gratification, but rather could reflect a lack of satisfaction on the part of the choosers. This "preference fit" explanation of the difference between selection patterns of these groups does not tell the full story, however. All media users in the low-choice conditions had the same opportunities to select options that were judged *by independent raters* as immediately gratifying as media users in the high-choice conditions. Media users in choice environments with smaller assortments are, in some sense, making due. Instead of making due with the next most immediately gratifying option or choosing options offering varying levels of immediate gratification at random, users in low-choice conditions exhibit a systematic bias toward selecting less immediately gratifying options.

The results of the experiment also showed that the timing of the choice relative to the moment of consumption does not significantly affect selection behavior in the

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hypothesized manner. Regardless of whether IGV is determined by the user or by independent raters, temporal proximity does not appear to influence the likelihood that they will select immediately gratifying options. Post-experiment probe interviews with participants revealed that individuals did not feel as though the 25-minute period would be long enough to engage in school-related media use, which were rated as the least immediately gratifying options. This may have attenuated users' tendencies to select schoolwork in the in-advance condition. Future studies of temporal proximity could avoid this problem by presenting options of equal duration.

While the timing of the choice, by itself, appears not to significantly alter the likelihood that users will select immediately gratifying options in this experiment, the ANOVA contrast analysis of the mean IGV of each of the four groups showed that users making selections from a larger set of options immediately before consumption were more likely to select immediately gratifying options than those selecting from a smaller set of options at the same time.[10] In other words, the number of options influences the likelihood of users selecting immediately gratifying options in the expected manner (the greater number of options, the more likely users will be to select an immediately gratifying option), but only if users select immediately before consumption. If users select in advance, the size of the assortment does not significantly affect the likelihood of selecting an immediately gratifying option.

Self-control did not influence users' likelihood of selecting immediately gratifying options nor did it influence the relationship between the number of available

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[10] Though the ANOVA contrast analysis presented in this chapter uses Total IGV as a dependent variable, the same pattern emerges when user-rated IGV is used.

options and the likelihood of selecting immediately gratifying options or temporal proximity and the likelihood of selecting immediately gratifying options. It is possible that the "waiting room" conditions imposed in this experiment gave all users license to select immediately gratifying options regardless of whether they were high or low in self-control. As noted above, these conditions may not have allowed students the proper amount of time to complete school-related work thereby attenuating the effect of self-control on users' likelihood of selecting these options.

### 4.5.1. A Brief Inductive Analysis of Selection Behavior Across Choice Conditions

The data yielded by this experiment can be analyzed in ways that do not depend on subjective ratings of the extent to which options are immediately gratifying but still provide insight as to how the number of available options and temporal proximity affect selection behavior. By taking an inductive approach, it is possible to develop a preliminary understanding of what types of media (e.g., television shows, or news content) are most likely to be selected under various choice conditions.

An examination of the frequency with which participants chose different selections (see figure 4-4) reveals that the most popular options, Facebook and YouTube, were selected by roughly half of all users who had access to them (participants in most of the low-choice conditions did not have access to either). A by-condition breakdown of the users who selected each of the 30 options provides more insight as to what options were selected under which conditions. Figure 4-5 shows, for each of the 30 selections, the percentage of those who were in each of the four choice conditions. One pattern in these

findings suggests that individuals in the high-choice conditions are significantly less apt to select news options (yahoo news, nytimes.com, cnn.com, The Huffington Post, and foxnews.com) than those in the low-choice conditions. Indeed, an independent-sample T-test comparing the likelihood of users in high-choice conditions and users in low-choice conditions selecting any kind of news content confirms that this difference is statistically significant ($t = 2.48$; $p = .01$) (see figure 4-6). Participants in the low-choice conditions (mean likelihood of selecting news = .32) are *more than twice as likely* to select news media options as those in the high-choice condition (mean likelihood of selecting news = .15). This is consistent with the findings of Prior (2007) which show that individuals who are given more choice and do not have a strong preference for news are less apt to consume news than if they were in an environment that offered less choice.[11]

Why are low-choice users selecting news options even when they have access to options that are rated as more immediately gratifying? In this experiment, news is never presented as the only kind of website or television program, so users' selections cannot be explained using Klein's (1971) explanation that individuals' desire to use a particular medium trumps their lack of affinity for the content. The findings from this experiment suggest that Prior's finding may be but one manifestation of a more general principle: media users who have more choice are less apt to select less immediately gratifying options, of which news is one. This finding is not medium-specific; regardless of whether the options are television content or web content, media users are more apt to select news when their options are restricted.

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[11] Analyses of the likelihood to select other types of options (such as television shows, entertainment websites, and school-related use) revealed no significant differences amongst the four choice conditions.

Another explanation holds that users either strongly prefer or strongly dislike non-news options while they tend to feel less strongly about news. Users in high-choice conditions are able to find and select non-news options they prefer while users in low-choice conditions who are not able to find non-news options they prefer dislike news options less than they dislike the few available non-news options. For example, a user who prefers sports-related media options and is forced to choose between *Sex & the City* and nytimes.com may select news as would a user who prefers *Sex & the City* who is forced to choose between sports-related media options and nytimes.com. Unlike sports-related media options or *Sex & the City*, nytimes.com is less specifically intended for a particular demographic category of user (e.g., women age 18-34). As a consequence, it is more apt to be "settled for" by users faced with options intended for other users.

A third explanation for this difference is that the news options presented in the experiment each contain greater choice and greater diversity than many other options. If users decide to visit *The Huffington Post* website, they can then choose to read articles about celebrities or articles about international trade policy. In this sense, users in the low-choice conditions who select news sites are retaining their access to a variety of options, including entertainment-related content. Future experiments of choice could eliminate the confounding factor of "retained choice" by presenting a large or small number of individual links to stories on a single webpage that vary based on the extent to which they are immediately gratifying (e.g., "hard" news and celebrity gossip news). Even if, in this experiment, choosers are selecting news sites to retain choice, they are more likely to be incidentally exposed to "hard news" headlines than users who select more immediately gratifying entertainment media options.

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4.5.2. Limitations

The findings presented in this chapter come with several caveats. Most importantly, the low reliability of the IGV ratings suggests that further training of independent raters is required in order to develop an acceptably reliable dependent variable. Options with the lowest inter-coder agreement included those used for one-to-one social purposes (e.g., email with friends or family), micro-blogging (e.g., Twitter), or video games. In the case of one-to-one social media and micro-blogging, it is possible that these options can be used in ways that are both immediately gratifying and ways that are not especially immediately gratifying. In the case of online gaming, it seems more likely that raters were unable to agree on how immediately gratifying such an option would be due to a lack of familiarity with this or similar media options.

It is possible that despite receiving explicit instructions to do otherwise, raters continued to rate options based more on the extent to which they perceived options as gratifying at all, and not in terms of whether that gratification was immediate or delayed. It is likely that the extent to which media options are immediately gratifying is, to an extent greater than is the case with food or consumer goods, in the eye of the beholder. Nevertheless, iterative rating using the same set of raters would likely improve the reliability of the dependent variable. Additionally, the measure of the extent to which options are immediately gratifying could be improved to make clearer the distinction between *immediate* gratification and *delayed* gratification as well the distinction between one's personal preferences and a hypothetical other user's orientation toward the options. This may be achieved by presenting raters in a forced-choice question (e.g., *"Please rate*

*the following options on this scale: 1 = offers its users **immediate** gratification…7 =*

*offers its users **delayed** gratification)*. Such measures should be taken in the future.

Secondly, due to the fact that participants rated the extent to which options were immediately gratifying immediately after they made their selections, it is possible that their selections may have biased their ratings. Participants may have felt compelled to defend the value of that which they had just chosen or may have merely remembered selecting certain options and based their ratings on what they recalled selecting. By increasing the time between the point at which participants make selections and the point at which they rate the options, the possibility that one could bias the other could be reduced.

To ensure comparability across conditions, the range of options available to participants in all conditions was limited to 30 options. Individual preference for particular media options likely accounts for a great deal of the between-subject variance in selection behavior. If participants are allowed to assemble their own menus, this may reduce the possibility that a lack of congruency between the participants' preferences and the offerings was responsible for an attenuation of the extent to which participants chose immediately gratifying options under certain conditions. Another alternative design that would provide a better test of the intertemporal preference reversal hypothesis would be to limit the menu options to several options whose use are not as contingent on personal taste as many other options. Based on the findings presented in the third, fourth, and fifth chapters of this dissertation, Facebook and the online course tools website are almost universally popular within this population. Also, they are on opposite ends of the immediate/delayed gratification spectrum. Hence, they would be ideal options to be used

in a forced-choice experiment exploring the effects of temporal proximity. Regardless of whether the menus are assembled by participants or by researchers, the effect should be the same: those selecting from smaller assortments and/or in advance of consumption would be less likely to select immediately gratifying options.

### 4.6. Conclusion

Despite its limitations, this study provides preliminary evidence that the number of available options and temporal proximity affect selection behavior when all other factors are held equal. Specifically, the results suggest that the combination of a lack of restriction on the number of available options and on the timing of selections is apt to increase the likelihood that individuals select immediately gratifying options, even when the types of options and the ratio of immediately gratifying options to non-immediately gratifying options are held constant across choice conditions. This suggests that media users in the immediate media choice environment may select more immediately gratifying options and use those options for longer durations not because this new kind of media offer more immediately gratifying fare or different types of experiences than those that are available through traditional, established media but because it lacks temporal constraints that are imposed by the scheduling of media content as well as constraints on the number of available options. Based on these findings, continued research on the effects of these and other attributes of digital media on selection behavior is warranted.

Table 4-1: Media Options

| Media Option | Mean CIGV | Standard Deviation of CIGV Ratings |
|---|---|---|
| Glee (TV show) | 6.67 | .52 |
| The Jersey Shore (TV show) | 5.83 | .98 |
| SportsCenter (TV show) | 6.33 | .82 |
| How I Met Your Mother (TV show) | 6.5 | .84 |
| Modern Family (TV show) | 6.83 | .41 |
| Family Guy (TV show) | 6.17 | .75 |
| Facebook | 6.33 | .82 |
| Hulu | 5.67 | 1.21 |
| YouTube | 6.00 | .89 |
| ESPN.com | 5.17 | 1.33 |
| Funnyordie.com | 4.83 | 1.47 |
| Collegehumor.com | 5.67 | 1.03 |
| TMZ.com | 5.33 | 1.63 |
| NYTimes.com | 4.33 | .82 |
| Cnn.com | 3.67 | 1.75 |
| Huffingtonpost.com | 4.00 | 1.26 |
| Foxnews.com | 3.5 | 1.38 |
| Yahoo News | 3.00 | .63 |
| Ctools (online course website) | 2.33 | .82 |
| Google Scholar | 2.33 | .82 |
| Microsoft Office | 3.5 | 1.38 |
| Email for school-related use | 4.00 | 1.9 |
| Sex and the City (TV show) | 6.00 | 1.10 |
| Bridesmaids (DVD) | 6.33 | .82 |
| Reading for class | 3.00 | 2.00 |
| Batman: Arkham City (video game) | 4.33 | 2.42 |
| Gears of War 3 (video game) | 4.67 | 2.5 |
| Kinect Sports (video game) | 5.33 | 1.03 |
| Online shopping website | 4.33 | 2.06 |
| Spotify (online music website) | 5.67 | .82 |

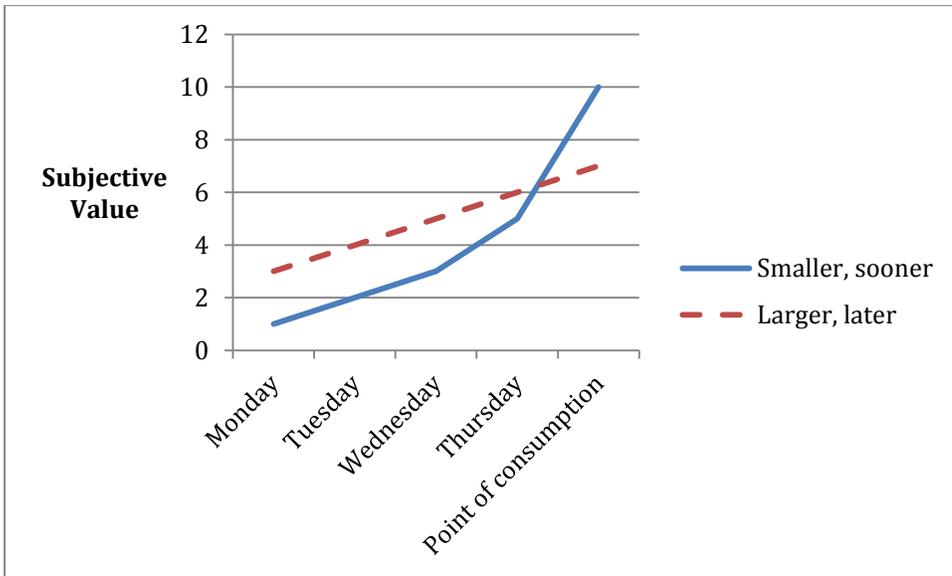Figure 4-1: Intertemporal Preference Reversal



Figure 4-2: Mean Consensus Total Immediate Gratification Value of Selections by Condition
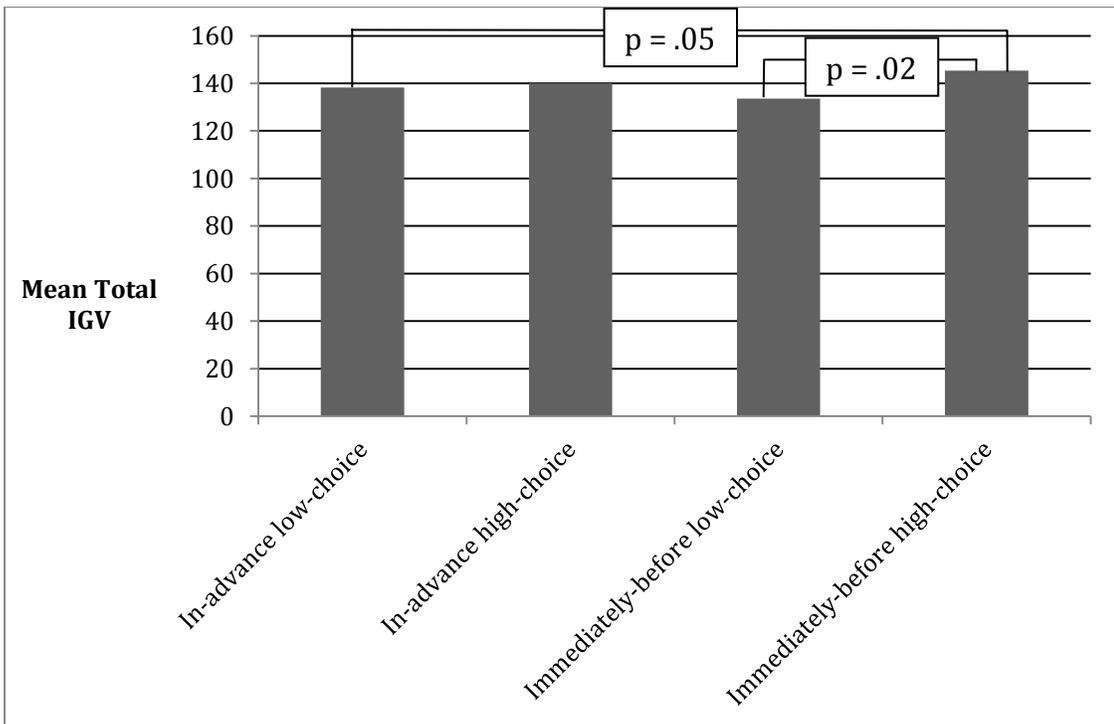
Figure 4-3: Mean User-Rated Total Immediate Gratification Value of Selections by
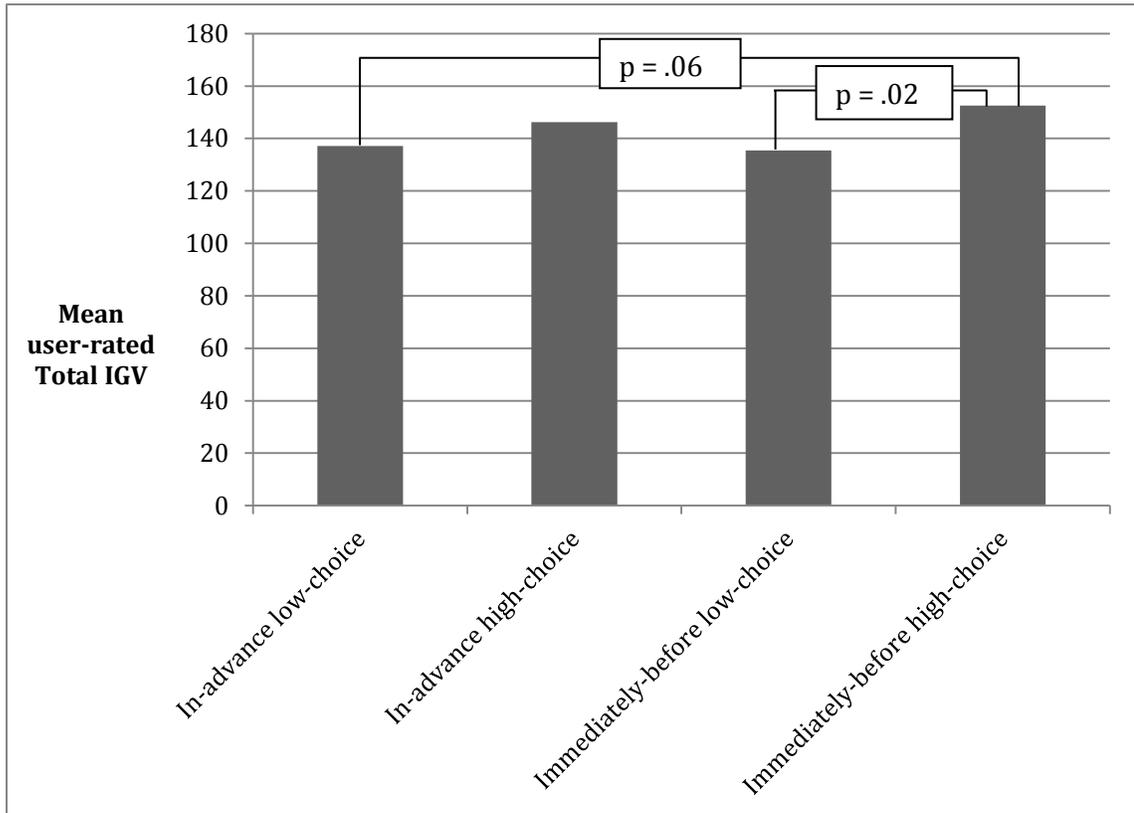Condition

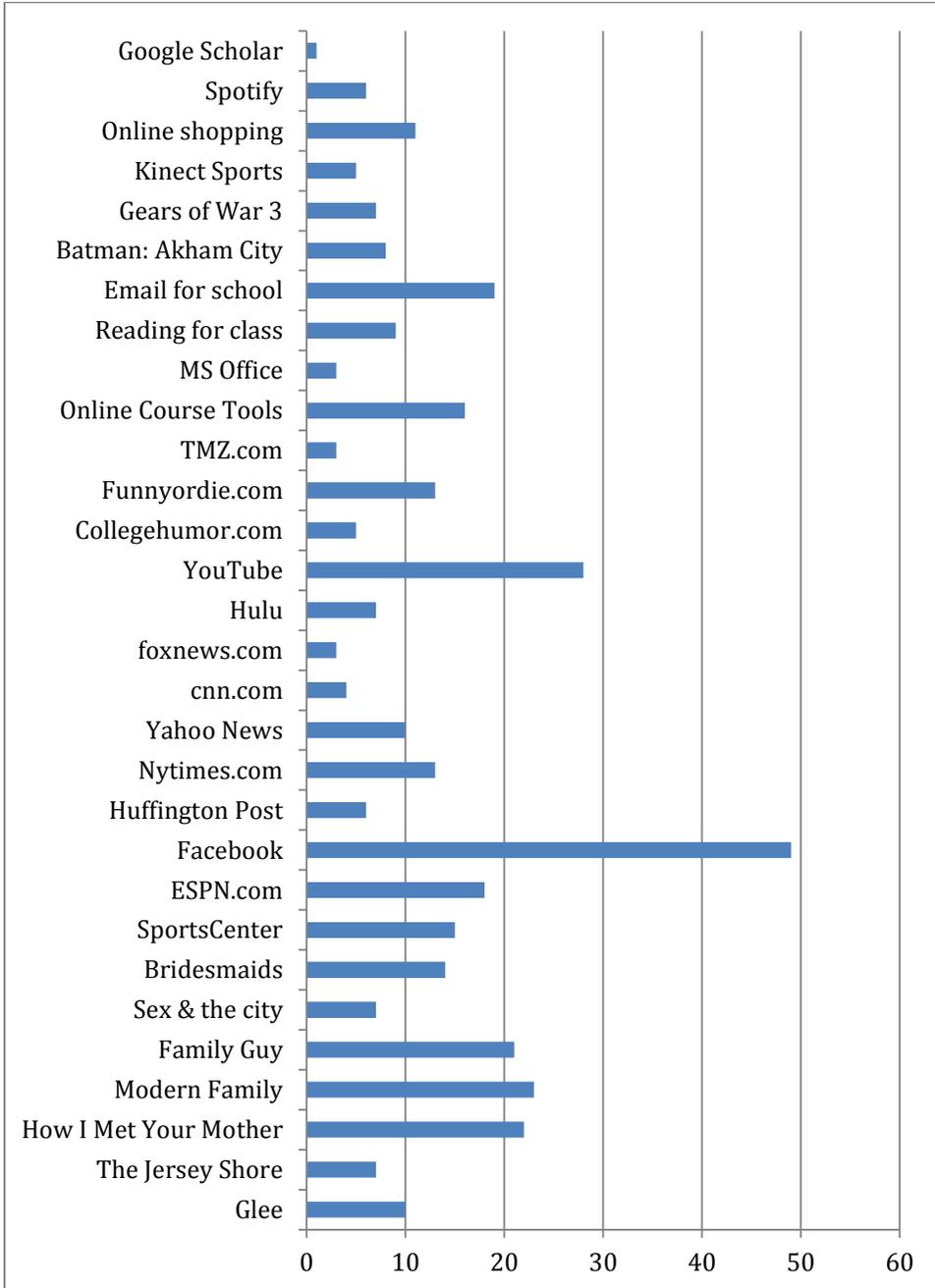Figure 4-4: Frequency of Selections Across Conditions

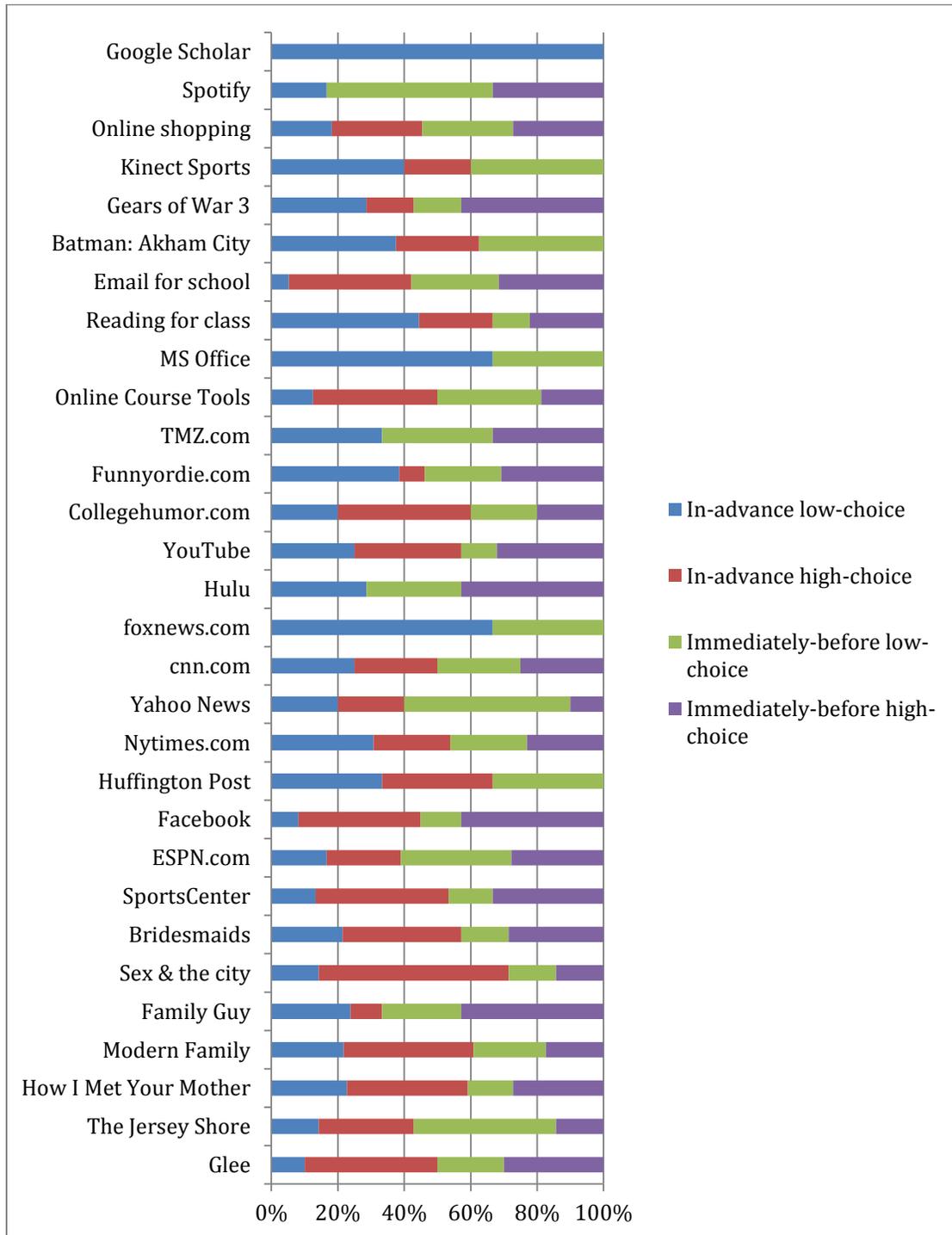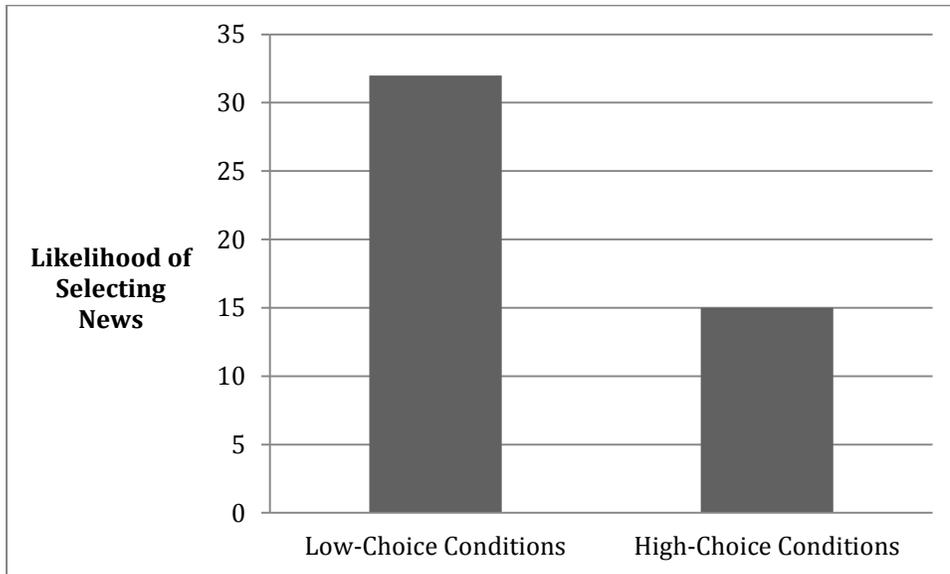Figure 4-5: Selections by Condition (Percentages)

Figure 4-6: Tendency to Select News by High/Low Choice Conditions

Chapter 5. Choosing when to choose: A field observational study of planned, unplanned,

and ritual media selection

The shift from analog to digital communication technologies and the growth in

the amount of information which may be conveyed via these technologies have given rise

to the immediate media choice environment: an environment in which users can access a

large amount of media options anytime and anywhere. The impact of this erosion of

constraints is apt to be greatest among users who are available at more times throughout

the day (i.e., those who do not have their media use restricted by others during most of

the day). The fact that the immediate media choice environment provides these media

users who are not otherwise restricted with the opportunities to select media experiences

spontaneously does not necessarily imply that users take advantage of these

opportunities. For a variety of reasons, planned use and regular, routinized media use[12]

may persist even when users have many opportunities to engage in unplanned, un-

routinized use. First, the point at which content is first made available may still be the

most popular time at which it is consumed simply because of the desire of consumers to

experience it as soon as possible. Certain types of content in particular, such as news and

sports, tend to lose their value to the consumer when they are experienced after the

moment at which they are first made available (Lotz, 2009). Secondly, the logistics of

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[12] Planned use is considered to be use which has been consciously planned in advance
while regular, routinized use occurs at predictable recurring times and/or in conjunction
with certain recurring activities such as meals. Both are similar in the sense that neither is
spontaneous; however, they are different in that the former tends to be a conscious,
deliberative act while the latter tends to be automatic or unconscious.

engaging in media activities requiring any kind of social coordination are facilitated by planning and routinization. Thirdly, not all content or experiences are available at all times. The scheduled availability of television content, in particular, has been "softened" rather than eradicated, allowing users access to content within a certain range of times. Lastly, consumers may simply engage in planned and regular, routinized use simply because, in certain contexts, it is more enjoyable than spontaneous, unplanned use.

In the field observation study presented in this chapter, the experience sampling method (ESM) is used to examine planned, unplanned, and regular, routinized media selections as they are made by college students throughout the day. The study introduces new ecologically valid measure for the temporal proximity of media selections. In this chapter, temporal proximity is conceptualized as "planned-ness" of media use (i.e., whether they are planned or unplanned and how far in advance media use is planned). The literature on temporal proximity and decision-making tends to assess behavior under experimental conditions. By contrast, research on planning tends to focus on behavior in the real world. Conceptualizing media selection as it occurs in the real world as planned or unplanned provides an opportunity to understand this activity in the context of the extensive literature on planning and planned behavior.

Experience sampling provides researchers with a rich understanding of media use in its everyday context (Kubey, Larson, & Csikszentmihalyi, 1996) which is especially valuable in studies of planned-ness and media selection behavior. Surveys used for assessing the extent to which planned media selection differs from unplanned media selection are subject to recall bias; media users may recall that a particular instance of media use was planned when it, in fact, was not. Experiments examining this

phenomenon impose artificial conditions that do not reflect those in which media users make selection throughout the day; the experiment presented in the fourth chapter of this dissertation offers no insight as to whether or not users with access to both linear and non-linear modes of content delivery plan any their media use in advance. The data yielded by these new ESM measures provide answers to questions about media selections as they occur in the day-to-day world.

Additionally, the study provides insight as to *what types* of media individuals select in a planned fashion (i.e., selecting in advance of consumption) and what types they select in an unplanned fashion (i.e., spontaneous selection). There are, of course, many ways in which the panoply of options from which media users choose could be classified into "types". Research on the effects of planned-ness on decisions suggests that the distinctions between outcomes of planned and unplanned choice are best characterized by the extent to which they are gratifying to the decider at the moment that the decision is made (i.e., the extent to which they are immediately gratifying). Specifically, research on temporal discounting (e.g., Ainslie & Haslam, 1992; Loewenstein & Prelec, 1992; Read et al., 1999) indicates that individuals making selections in advance of consumption tend to select options that are less immediately gratifying than those made by individuals making selections immediately before consumption. This study assesses selections made by media users based on the extent to which they are immediately gratifying as well as whether or not they were planned or unplanned activities. Evidence from this field observation study is intended to supplement findings from the survey and experiment in the third and fourth chapters of this dissertation regarding the correlations between temporal proximity of the moment of

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selection to the moment of consumption, self-control, and the tendency to select immediately gratifying media options.

### 5.1. Planned and Unplanned Behavior

There are many definitions of "planning" that exist in psychology literature (Friedman & Scholnick, 1987). This study assumes the term to refer to the act of deciding to engage in a particular behavior in the future. Planned choices are based primarily on mental representations of future states of one's self and one's environment (Friedman & Scholnick, 1987; Morris & Ward, 2005). The utility of planning in the process of problem solving has been well documented (e.g., Klahr & Robinson, 1981; Gobet & Simon, 1996) though its utility in the context of media choice would be better framed as a tool that facilitates goal achievement or gratification obtainment rather than as a means by which to solve problems. Numerous studies of choice in various domains established the tendency of individuals making selections in advance – that is, planning to use or consume something in the future – to select options that offer delayed, rather than immediate, gratification (e.g., Ainslie & Haslam, 1992). The further in advance the selection is made, the less likely a chooser is to select an immediately gratifying option.

By contrast, unplanned choice has greater potential to possess the characteristics of an unconscious impulse. Instead of being influenced chiefly by mental representations of future selves and environments, unplanned choices are subject to greater influence from stimuli in the environment during the moment at which the choice occurs as well as individuals' reactions to that environment. While planned choices are apt to reflect long-standing goals and considerations of the consequences of actions vis-a-vis these goals,

unplanned choices are more apt to be influenced by the most salient aspects of one's

internal state (i.e., mood), the environment, and the interaction between the two (Rook,

1987). Planned behavior, by definition, cannot result in immediate gratification for an

individual at the moment at which the individual experiences that which he or she has

planned, while unplanned behavior can, and often does, result in immediate gratification.

This is likely due to a chooser's diminished awareness of the negative long-term

consequences associated with unplanned, immediately gratifying selections (Rook, 1987,

p. 191).

Research on impulse buying suggests that several environmental factors are

associated with increases in the unplanned selection of immediately gratifying options.

These factors include those which increase the ease with which immediately gratifying

options may be bought (Stern, 1962). As discussed in previous chapters, the immediate

media choice environment significantly reduces the amounts of time, money, physical

effort, and mental effort one must expend to access immediately gratifying experiences.

The environment represents near ideal conditions for the unplanned selection of

immediately gratifying options.

At the same time, it would be foolish to expect that *all* media choices made using

networked digital media will be unplanned and immediately gratifying. Despite having

near-constant access to immediately gratifying experiences, media users are likely to

consider the price of neglecting long-term goals altogether to be too high. In addition to

the aforementioned advantages that planned or regular media use provides the user,

planning could be used as a kind of commitment device: a tool for preventing one's

future self from constantly eschewing options offering delayed gratification for easily

accessible, immediately gratifying ones (Ariely & Wertenbroch, 2002; Brocas, Carrillo, & Dewatripont, 2004). If used in such a manner, planning would be observed most often in conjunction with actions that one knew one would be unlikely to spontaneously choose in the future, i.e., actions that offer delayed gratification. Given the abundance of easily accessible, immediately gratifying media options and the potential utility of planned selection as a commitment device, the following hypotheses are put forth:

*H1: Planned media selections will be less immediately gratifying than unplanned media  selections.*

*H2: The earlier the planned selection is made, the less likely it will be to be an immediately gratifying option.*

As discussed in prior chapters, the tendency of individuals to select more immediately gratifying options the closer they are in time to the moment of consumption is understood chiefly as a failure of self-control (Ainslie & Haslam, 1992). Though individuals possess the will to eschew options that offer an immediate payoff for ones that offer delayed gratification, they are unable to act on that will at times. Individuals with the abilities to resist temptation are less likely to have stimuli in the environment, such as immediately gratifying options, alter their decision-making strategies (Hoch & Loewenstein, 1991). Hence, it is expected that individuals' trait levels of self-control will moderate the effect of planning on the extent to which media users select immediately gratifying options.

*H3: The effect of planning on the extent to which media users select immediately gratifying options will be moderated by self-control, such that the higher the user's level of self-control, the lesser the effect will be.*

5.2. Ritual Media Use in the Context of Planned-ness

In addition to planned and unplanned choice, there exists a kind of selection that appears to be neither immediate nor mindful. Routine, regularly recurring selection can be automatic in the way that unplanned selection is but is not subject the influence of stimuli in the environment. The automaticity associated with this kind of selection is likely a consequence of having repeated behaviors many times; being cognitive misers (Fiske & Taylor, 1984), individuals who have made decisions under similar circumstances before reduce the amount of mental energy required to make the decision again by relegating such choices to automatic, unconscious cognitive processes (LaRose, 2010).

Though the term "habit" has been used to refer to this kind of media selection (LaRose, 2010), this term is not used here because of its association with repetitive use that does not take place at certain designated times or in conjunction with certain recurring events, but rather recurs *irregularly* for a variety of other reasons (e.g., the habit of smoking cigarettes). Instead, I refer to regularly recurring media selection as ritual media use. The term "ritual" has been applied to various kinds of media use by many cultural theorists (e.g., Carey, 1992; Couldry, 2003) as well as some media use researchers (e.g., Rubin, 1984), typically to make a larger point about the place of ritual media use in people's lives. The term is used in this research only to designate regularly

scheduled selection and to render it distinct from planned or unplanned selection so that I may test its association with the selection of options high in immediate gratification value.

A repeated tendency to select a media option at a recurring time or in conjunction with a recurring activity can start as a carefully considered choice that, upon repetition, becomes unthinking behavior (Aarts & Dijksterhuis, 2000; LaRose & Eastin, 2003). While both ritual and spontaneous, unplanned selection can be considered automatic, only the former is primarily a reaction to the immediate environment. As such, uses that recur at certain times may not involve the activation of so-called "hot" emotional processing systems (Metcalfe & Mischel, 1999) by environmental stimuli and thus may not be as likely to result in impulsive selections of immediately gratifying options. However, it is not clear that *all* or even most such repeated, scheduled selections start as carefully considered choices. They may have begun with an impulsive decision which was repeated at a recurring time only because the activity was available at that place and that time or because scheduling it at a recurring time facilitated coordination among participants in the activity. Thus, there are no strong, a priori reasons to think that such use will or will not be associated with the tendency to select guilty pleasures. This study does not offer specific hypotheses regarding the effects of this kind of media selection, but explores its connection to immediate gratification.

*RQ1: To what extent is ritual media use likely to result in the selection of immediately gratifying options?*

5.3. Method

For reasons discussed in the introduction of this chapter and in the second chapter of this dissertation, this field experiment uses experience sampling method (ESM) to test these hypotheses (Kubey, 1996). Mobile phones with text-messaging capabilities constitute an ideal tool for gathering ESM data: they are already widely used by media users and the cost to both researchers and participants of sending and receiving text messages is low. Many media users carry these devices with them at all times. The experience sampling method most often is used is a repeated-measures study design where each participant is assessed several times. This makes it feasible to sample a high number of media use instances (between 500 and 600 in this study) without having to recruit hundreds of participants.

5.3.1. Measures

5.3.1.1. Type of media selection and planned, unplanned, and ritual selection

In order to assess the media activity the individual is engaged in and the extent to which each activity was planned, unplanned, or ritual selection behavior, a query text message was crafted. It reads: "what is your most recent media activity? Was it part of a ritual? Was it planned? If so, how far in advance was it planned?". Text message replies to this query specify the important characteristics of the media activity users are currently engaged in or the most recent media activity in which they were last engaged (i.e., the medium, the application if applicable, the name of the program if applicable, the relation of the user to the person or people with which they are communicating if applicable) as

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well as the letter "Y" or "N" to signify whether or not the media activity in which they were engaged was part of a ritual, the letter "Y" or "N" to signify whether or not the media activity was planned, and a number followed by an abbreviation that, together, indicate a period of time (e.g., "1hr", "2wks", "1mo")·

### 5.3.1.2.    Immediate Gratification Value (IGV)

As in the previous chapter of this dissertation, the extent to which media selections were immediately gratifying (immediate gratification value or IGV) was determined by a group of independent raters. Raters were asked to rate options based on the extent to which they were immediately gratifying (*1 = not immediately gratifying at all; 7 = very immediately gratifying*). In cases in which participants in the field observation study had made selections that had already been rated as part of the experimental study presented in the previous chapter, the IGV as determined by raters from the prior chapter's study was used. In cases in which participants in the field observation study had made selections that had not been rated as part of the experimental study, the IGV was determined by a new group of raters. There were a total of 91 raters in this new group, each of whom rated at least four options, yielding at least eight ratings for each option. Krippendorff's alpha for this second round of IGV rating was .23. Each option was assigned the corresponding mean value of raters' ratings. The overall mean IGV of all options chosen was 4.97 and the overall standard deviation was 1.22 (see Table 5-1 for the full list of selections with their mean IGV ratings).

### 5.3.1.3.    Self-control

As in the prior chapter's experiment, Tangney, Baumeister, & Boone's (2004) previously validated 13-item scale of self-control was used. Each item asked participants to rate statements based on the degree to which they believed each statement described them (example item: *"Pleasure and fun sometimes keep me from getting work done"*). Each participant's answers to the items were averaged, yielding a measure of self-control that ranges between 1 and 7 (M = 4.12; SD = .90) (Alpha = .80).

### 5.3.2.  Participants

Though the phenomenon of temporal discounting is not exclusive to any particular population, it is most likely to be observed in the context of media use within a population that has frequent opportunities to engage in unplanned, non-ritual media selection. For such use to occur, media users must have frequent access to immediately gratifying options and they must be available at various times throughout the day in order to use these options. As discuss in the prior chapters of this dissertation, college students in the early 21$^{st}$ century possess the access to immediately gratifying media options and the flexible schedules that would make evidence of temporal discounting in media use most likely to be observed. Therefore, they were deemed an appropriate population for the field observation.

This study was conducted in conjunction with the experiment from the previous chapter of this dissertation. Participants in the experiment were asked to participate in the field observation study in exchange for additional credit toward an introductory communication course. Students agreed to send and receive text messages related to their everyday use of media over the course of several days. Ninety participants agreed to

participate in the field observation. Two-thirds (66%) of the sample for this study was male, two-thirds (66%) were white, and the mean age was 18.9 (SD = 1.10).

### 5.4. Procedure

#### 5.4.1. Information Session

Field observation participants completed a survey as part of the experiment presented in the previous chapter. This survey included the measure of self-control as well as measures of demographic characteristics such as age, gender, and race. Participants in the experiment were told that in order to receive additional credit, they needed to respond to text messages that would be sent to them throughout the following several days asking them questions about what kinds of media experiences they were engaging in. They were instructed how to respond to the questions sent by the researchers via text-message to ensure that reply messages were easy for researchers and IGV raters to interpret. In order to ensure that participants understood the concept of ritual media use and understood the distinction between unplanned, planned, and ritual use, they were provided with examples of each included in a set of instructions to take with them after the information session (see Appendix A). At the conclusion of the study, participants were sent a text message that thanked them for their participation and directed them to a website containing debriefing information.

#### 5.4.2. Field Observations

In order to collect information about participants' selections throughout the day, an online bulk text messaging application[13] was used to send the query messages to participants and to receive their replies. The application allows researchers to enter phone numbers of participants, specify the content of messages they would like sent, and specify times in the future at which point they would like the messages to be sent to participants. Participants were sent query messages between three and twenty times[14] between the hours of 10am and 10pm over the course of the several days following the information session. The precise times at which participants were sent query messages were determined through a process of stratified sampling of time periods. The 12 hours of each day were divided into four three-hour segments. Within each of those segments, participants were sent one message. The precise time within each segment was chosen using a random number generator.

5.5. Data Analysis

At the conclusion of the field study, responses to the initial query messages regarding the type of activity in which participants were engaged were simplified and made uniform to facilitate IGV rating. Despite careful instructions that stressed the importance of specific answers to this question, a number of the messages received from participants were too vague to have their IGV rated. Examples of reply messages that were deemed too vague for analysis included: "computer", "cell phone", "email", "none",

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[13] See http://www.redoxygen.com/ for details.

[14] This discrepancy was the result of the study being run close to the end of a semester. Participants who participated closer to the end of the semester were sent fewer texts because their participation in the study could not extend beyond the conclusion of the semester.

"television", "the Internet", "watching a movie" "google" "phone" "Skype" or "watching BET". Replies specifying certain television networks (e.g., "CNN" or "ESPN") were retained for the subsequent analysis because the content of these particular networks (e.g., CNN) was judged to be more homogeneous than the content of others (e.g., BET). Answers to the final question regarding how far in advance media selections were planned were re-coded as number of hours to facilitate analysis. After the elimination of entries that were too vague, entries in which participants did not provide any indication of whether or not a selection was planned and/or whether or not it was ritual use, and the removal of data from participants who did not answer questions on the 13-item self-control measure, there were 525 responses from 78 participants to be used in the analysis.

The resulting data set was considered to be multi-level by virtue of the fact that it consisted of time-points (at which the independent variables of planned-ness and ritual-ness and the dependent variable of media selection were measured) nested within participants (who each possessed a level of self-control). It could not be assumed that the errors associated with each time-point assessment were uncorrelated with one another. More specifically, it would be reasonable to assume that the errors associated with the time-point measurements of the independent and dependent variables for any given individual would be correlated with each other, violating an assumption of regression analysis. Hierarchical linear modeling (HLM) is used by researchers to analyze multi-level data (Raudenbush, Bryk, & Congdon, 2000) and was thus deemed an appropriate technique for completing this analysis. In order to test the first three hypotheses and to explore the relationship between ritual media selection, self-control, and IGV, the model equations used were as follows:

Level 1 Model:

*Predicted IGV = $P_0$ + $P_1$(ritual) + $P_2$(planned) + $P_3$(planned minutes) + e*

Level 2 Model:

$P_0 = \beta_{00} + \beta_{01}$(self-control) + $\rho_0$

$P_1 = \beta_{10} + \beta_{11}$(self-control) + $\rho_1$

$P_2 = \beta_{20} + \beta_{21}$(self-control) + $\rho_2$

$P_3 = \beta_{30} + \beta_{31}$(self-control) + $\rho_3$

Self-control, IGV, and planned minutes were treated as continuous variables while ritual and planned-ness were dummy coded as 1 (planned; ritual) or 0 (not planned; not ritual).

### 5.6. Results

#### 5.6.1. Types of Media Selections

There were 65 discrete types of media choices made. Most of these (61) could be categorized as either social media (Facebook or Twitter), video entertainment (e.g., YouTube videos, various television shows), entertainment websites (e.g., cracked.com), school-related (e.g., online course tools website, reading textbooks), news (e.g., cnn.com, CNN television news channel), music (e.g., ITunes, Spotify), video games (e.g., Words with Friends, FIFA 2012), or one-to-one communication (e.g., texting, Skype) (see Appendix A for a full list of types and categories). Of these, social media recurred with the greatest frequency (33.1%) followed by school-related media (22.9%), video entertainment (18.5%), one-to-one communication (8.8%), entertainment websites (5.1%),

music (5.1%), news (3%), video games (2.1%), and unclassified types of media use (1.3%) (see Figure 5-1).

### 5.6.2. Planned, unplanned, and ritual selection and IGV

Results of the hierarchical linear model analysis are presented in Table 5-2. Hypothesis 1, which predicted that planned media selections would be less immediately gratifying than unplanned media selections, was confirmed. The difference between the mean IGVs for planned selections (4.05; SD = 1.12) and unplanned selections (5.16; SD = 1.16) was statistically significant (T-ratio = -5.70, p < .001) and the difference was in the expected direction. Hypothesis 2, which predicted that the earlier a media selection was planned, the less immediately gratifying the selection would be, was not confirmed (T-ratio = .59; p = .56).[15] Hypothesis 3, which predicted that the effect of self-control would moderate the effect of whether or not the selection was planned on IGV of selections, was not confirmed (T-ratio = .79, p = .43). To answer the research question regarding the extent to which IGV was influenced by whether or not media selection was part of a ritual, the IGV means of ritual and non-ritual were compared. Results suggested that there was no significant difference between the IGV mean of ritual (4.87; SD = 1.39) and non-ritual (5.00; SD = 1.19) media selections.

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[15] Most selections were not planned in advance; hence, the amount of time that most selections were planned in advance was 0, resulting in a highly skewed, kurtotic variable. A log transform was performed and the log of the original variable was used in a subsequent analysis. The outcome was the same: there was no significant correlation between the amount of time in advance the selection was made and the IGV of the selection.

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5.7. Discussion

This study provides evidence from field observations of college students' media use that media users' patterns of selection are consistent with the theory of temporal discounting: when media use is planned ahead of time, users are less apt to select immediately gratifying options than if they were to make selections immediately before engaging in use. This is true regardless of how far in advance the selection is planned or how much self-control the media user possesses.

The rich data set provided by this field observation can elucidate which particular types of media use are driving the effect of planned-ness on IGV within this population. Most types of students' media use are planned between 14% and 19% of the time (news = 19%; one-to-one communication = 17%; video entertainment = 15%; video gaming = 18%; other = 14%). The largest differences in planned-ness are between social media (planned 2% of the time), music (4%), and entertainment website use (never planned) which are never or almost never planned and school-related use which is planned 45% of the time. For this particular population, school-related use is planned far more frequently than any other kind of media use.

As discussed in the introduction, there are various reasons why particular kinds of media use may be planned ahead of time even though non-linear distribution and portable communication technologies allow users to engage in most experiences spontaneously. It is possible that planning is necessary to ease students' coordination and collaboration on schoolwork. However, it is unlikely that the reading of a textbook would require coordination with others, and yet 13 out of the 19 instances of textbook use were planned. Another plausible argument is that school-related media use is part of a "soft schedule"

for students: while it does not have to be used at specific times, school-related media very often must be used within a limited range of times (i.e., before a deadline). It is not temporally un-constrained in the way that watching a less-than-immediately-gratifying film would be. The difference between the outcomes yielded when a viewer puts off watching *Hotel Rwanda* for two weeks as opposed to one week is unlikely to be as stark as the difference in outcomes for a student who has completed his term paper on time and one who elected to put off its completion until the day after it is due. Still, most instances of school-related media use observed in this study, like most other kinds of media use in the convergent, high-choice media environment, likely could have occurred at least somewhat earlier or later than they did.

This leaves the most likely explanation of the observed pattern of media use: the users' decisions to plan this kind of media use, which offers delayed rather than immediate rewards, is consistent with the view that planning media use is a kind of commitment device. Planning is used to prevent one's future self from engaging in more immediately gratifying media options that will be available to the user in the future. There is no significant relationship between self-control and tendency to plan media use,[16] which suggests that planning media use is not simply something that people with high self-control do more or less than anyone else. It is more likely a technique to achieve long-term goals used by any media user who knows that they will have access to more immediately gratifying options in the future.

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[16] In order to test this, I conducted another HLM analysis with the planned-ness of each instance of media use as the Level 1 dependent variable and self-control as the Level 2 independent variable. Results of this analysis suggested that the two are not significantly related to one another (T-ratio = -1.69; p = .09).

The fact that the two most popular types of media use among this population could be so different, both in terms of the extent to which they are immediately gratifying and the likelihood that each type is planned in advance, and yet are most often engaged in using the same media technology – a networked laptop computer – is important for several reasons. It underscores the necessity of developing fine-grained measures of media use; these distinctions would be unobservable if types of media use were defined by medium alone. It also provides a reminder that the selection behaviors of users are only partially dictated by the affordances of the medium. Users' agency in the process of selective exposure is hardly a new discovery. However, the agency revealed in this field observation is not enacted by users making selections from available options but by users making a choice about choice. The user who plans his or her use in advance chooses *when* choices are made instead of simply observing the array of options that he or she has access to at a given time and place. The rapid rise in the number and types of media options that are available at more times and in more places promotes this kind of strategic adaptation. To fail to do so is to confront the possibility that increased choice may lead to fewer long-term goals accomplished.

The study also reveals that ritual use (mean IGV = 4.87) lies somewhere in between unplanned use (mean IGV = 5.16) and planned media use (mean IGV = 4.05) in terms of the extent to which it involves immediately gratifying media experiences. Of the nine types of use, music and school-related uses were the most likely to be part of a ritual: 46% of the 27 instances of music media use were part of a ritual and 23% of the 120 school-related media uses were part of a ritual. This suggests that some other

characteristic of these activities determines the likelihood that they will be part of a media ritual.

### 5.7.1. Revisiting "Appointment" Media Use

This rich data set provides an opportunity to explore the extent to which students are more likely to engage in certain kinds of media use at certain times of day. The term "appointment television viewing" has been used to denote purposeful viewing of particular content at particular times in contrast to "just watching to watch" television (Pingree et al., 2001, p. 460). Previous studies of college student television viewing (e.g., Cooper & Tang, 2009; Pingree et al., 2001) have established that college students, like members of the general population, are more apt to watch television at certain times of day (e.g., between 8pm and 10pm). These studies do not, however, make the distinction between planned, ritual, and spontaneous viewing, making it unclear as to whether the tendency to watch certain programs at certain times are similar to "appointment" in the sense that they are premeditated or part of a recurring ritual, or if viewers are making spontaneous decisions to watch certain programs during their free time, which happens to recur at the same time each day. Additionally, these studies do not assess the impact of changes in the ways that video content is consumed (e.g., online video viewing) on the likelihood of viewers with flexible schedules to engage in video viewing throughout the day.

An examination of planned, unplanned and ritual video viewing throughout the day reveals a pattern similar to those shown in previous studies (e.g., Pingree et al., 2001): video viewing increases in evening hours (see Figure 5-2). This is true for

planned, unplanned, and ritual video viewing, which suggests that appointment viewing

(i.e., planning to view particular content at particular times or viewing at the same

content at a regularly recurring time in the day) persists in an era in which most video

content may be viewed at any time of day and that unplanned viewing is no more or less

likely to occur at certain times of day than planned viewing. In order to explore whether

this chronological pattern is unique to video viewing, a comparison was made between

video viewing patterns and usage patterns of two other types of media that are popular

among college students: social media and school-related media. In contrast to video

viewing, social media use and school-related media use are highest during daytime hours

and decline during evening hours (see Figure 5-3). This provides preliminary evidence

that video viewing remains temporally constrained to a greater degree than social media

use and school-related media use. Further research on time-of-day patterns of these

different types of use among college students could provide insight as to whether social

media replaces or supplements students' video viewing and to what degree appointment

viewing persists in the immediate media choice environment.

### 5.7.2. Limitations of the Study

This study introduced a new measure of the extent to which instances of media

use are planned, unplanned, or part of a routine, ritualized pattern of use. The rise in

popularity of networked, mobile media presents researchers with new tools for

understanding media use as it occurs in the real world in real time. In an era in which

many instances of media use are of short duration and are engaged in very frequently

over the course of the day, often without much consideration, self-monitoring of media

use becomes more difficult, thus greatly diminishing the utility of global recall measures

of media use. It is less likely that media users would be capable of accurately reporting the frequency with which they use media. While movie-goers may be able to recall and report the frequency of a less frequent activity, such as the number of films they had seen during the previous month, mobile phone users are much less accurate when trying to recall the frequency and duration of their use (Inyang, Benke, Morrissey, McKenzie, & Abramson, 2009). Experience sampling via personal mobile media significantly reduces the possibility that media users under-report or over-report amounts of media use due to recall bias.

As with many new behavioral measurements, it became apparent over the course of the field observation that certain characteristics of the instrument may have limited the extent to which it was able to accurately and reliably assess behavior. In 22 instances of media use, participants recorded their use to be both ritual and planned. Planned and ritual selections were intended to be two mutually exclusive categories of use: either media use was conscious, deliberately planned to occur at one particular point in the future or it was part of a regularly recurring choice pattern. The data indicate that some participants did not grasp this distinction. Indeed, the distinction between the two can, at times, be quite subtle. It is not clear how many times a selection must be regularly repeated in order to be automatic and routine and, thus, part of a ritual. It is equally unclear whether media users would be able to report how many times they selected media on a regularly scheduled basis. One possible solution to this problem would be to increase the duration of the observation period from several days to at least two weeks. This would increase the possibility that ritual media use could be detected after the fact through analysis of the data: if the user checks their email at a certain time every morning

or watches a certain television program at a certain time each week, this would be reflected in the data and researchers would not need to rely on participants' abilities to understand the concept of ritual media use and be able to report instances of such use.

The measurement of the extent to which each option chosen by the participants was immediately gratifying also possessed shortcomings. To a large degree, the IGV ratings did possess validity in that the ratings conformed to common-sense notions of what kinds of media choices would be considered immediately gratifying (e.g., browsing Facebook) and what kinds would not be considered immediately gratifying (e.g., reading a textbook). However, the inter-rater reliability for the IGV measure was low. Of the 65 discrete types of media use that were rated, online shopping (SD = 2.07), Reddit.com (SD = 2.06), cracked.com (SD = 2.06), South Park (SD = 2.16), The Elder Scrolls V: Skyrim (video game) (SD = 2.11) exhibited the greatest degree of variance in ratings. This lack of agreement among raters regarding the immediate gratification value of these particular experiences is unlikely to have affected the outcome of the analysis, as instances of these uses account for only 2.6% of the total. Raters were in much greater agreement regarding the immediate gratification value of more common uses of media such as Facebook (M = 6.33; SD = .82) and the online course tools application (M = 2.33; SD = .82). Inter-rater reliability could be increased by engaging in an iterative process with a small number of trained raters. These raters would rate several options, convene to discuss the options on which they disagreed, and rate the options again. This cycle would be repeated until inter-rater reliability improved to a desirable degree.

5.8. Conclusion

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For much of its history, media choice research has tended to emphasize the roles of characteristics of the media user such as mood (e.g., Zillmann & Bryant, 1988) and preference as well as characteristics of the size and diversity of the menu of options that can be accessed via various media. The results of this study suggest that in order to understand media choice in the convergent, high-choice media environment, researchers must expand their variables of interest to include characteristics of choices themselves, in particular the extent to which choices are planned in advance or made spontaneously. The results also suggest that media choice researchers should not limit their understanding of selection behavior to that which can be observed under carefully controlled experimental conditions. By constraining the timing of selections as well as the number and type of options from which media users select, researchers studying selection in lab settings may be overlooking a crucial aspect of the process of media selection. Finally, it is also important to acknowledge the insights produced by research in the burgeoning interdisciplinary field of decision science and incorporate its theories and findings in our models of media selection behavior.

Table 5-1: List of Media Selections Made by Participants Classified by Category

| Names of categories and selections | Number of instances | IGV mean rating |
|---|---|---|
| **Music** | | |
| Ipod or ITunes music | 18 | 6.64 |
| Pandora | 3 | 6.64 |
| Radio | 4 | 6.64 |
| Spotify | 2 | 5.32 |
| **News** | | |
| CNN (TV) | 5 | 4.00 |
| Cnn.com | 3 | 3.65 |
| Google News | 3 | 3.73 |
| Online newspaper | 5 | 4.27 |
| **One-to-one Communication** | | |
| Facetime | 1 | 5.79 |
| Skype with friends | 3 | 5.79 |
| Texting with friends | 42 | 5.91 |
| **Other** | | |
| Online shopping | 1 | 5.50 |
| Online rental equipment schedule | 1 | 2.68 |
| Watching or listening to a sporting event | 2 | 4.85 |
| Wikipedia | 3 | 4.56 |
| **School-related use** | | |
| Ctools | 42 | 3.56 |
| Email (school-related) | 7 | 3.00 |
| Google search (school-related) | 2 | 3.00 |
| MS Office (Word, Excel, or Powerpoint) | 34 | 3.41 |
| Reading for school (textbooks of articles) | 22 | 2.68 |
| Wolverine Access (online school-related administrative website) | 12 | 3.71 |
| **Social Media** | | |
| Facebook | 144 | 6.09 |
| Twitter | 30 | 5.12 |
| **Video Entertainment** | | |
| Amazing Race | 1 | 4.00 |
| America's Next Top Model | 1 | 3.69 |
| Big Bang Theory | 2 | 4.15 |
| Bones | 1 | 3.50 |
| Ellen Degeneres Show | 2 | 4.69 |
| ESPN (TV) | 11 | 3.62 |
| Family Guy | 1 | 5.00 |
| Friends | 2 | 5.32 |
| Gilmore Girls | 3 | 3.42 |

| | | |
|---|---|---|
| Glee | 1 | 5.24 |
| Grey's Anatomy | 4 | 4.79 |
| House, M.D. | 1 | 4.67 |
| How I Met Your Mother | 5 | 5.55 |
| Hulu | 7 | 5.29 |
| Modern Family | 6 | 5.21 |
| South Park | 2 | 4.07 |
| SportsCenter | 4 | 4.97 |
| That 70's Show | 2 | 4.58 |
| The Office | 3 | 5.64 |
| Toddlers & Tiaras | 1 | 3.06 |
| Top Chef | 1 | 3.50 |
| MTV's True Life | 1 | 3.08 |
| Videos on NHL.com | 2 | 4.58 |
| YouTube | 31 | 5.76 |
| **Video Games** | | |
| FIFA 2012 | 6 | 4.85 |
| NHL 2012 | 1 | 4.85 |
| Runescape | 2 | 2.86 |
| Elder Scrolls: Skyrim | 1 | 2.55 |
| Words with Friends | 1 | 5.18 |
| **Entertainment Websites** | | |
| Cracked.com | 3 | 3.08 |
| Engadget.com | 4 | 2.57 |
| ESPN.com | 4 | 4.88 |
| Perezhilton.com | 2 | 4.56 |
| Pinterest.com | 2 | 5.77 |
| Reddit.com | 7 | 3.57 |
| Tumblr | 4 | 5.17 |

Table 5-2: Results of Hierarchical Linear Model Testing

| Level 1 Model: |
| --- |
| $IGV = P_0 + .06(ritual) - \textbf{1.31*}\textit{(planned)} - .01(planned\ minutes) + e$ |
| Level 2 Model: |
| $P_0 = \beta_{00} - .02(self\text{-}control) + \rho_0$ $P_1 = \beta_{10} + .05(self\text{-}control) + \rho_1$ $P_2 = \beta_{20} + .11(self\text{-}control) + \rho_2$ $P_3 = \beta_{30} + .01(self\text{-}control) + \rho_3$ |

Standardized coefficients are presented. * p<.05

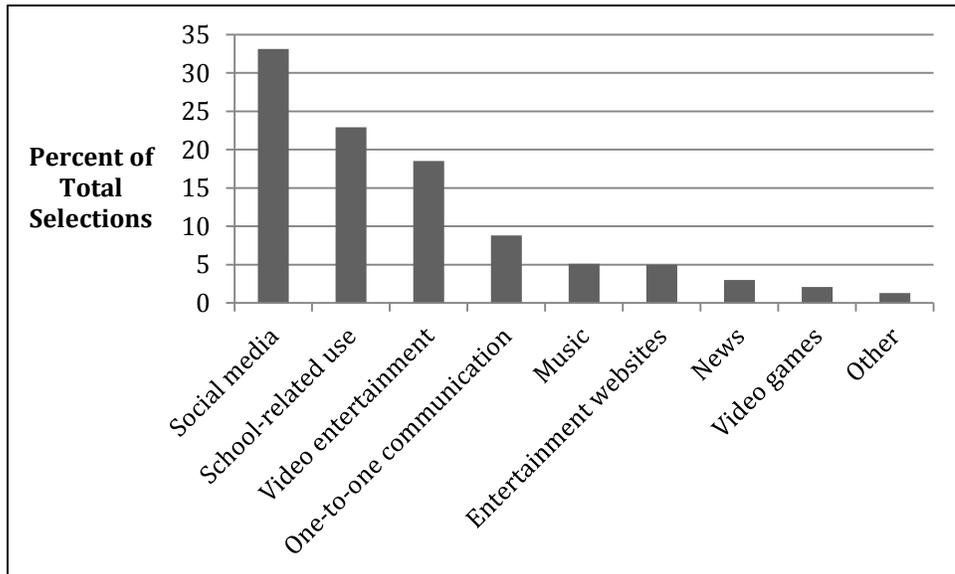Figure 5-1: The Frequency of Types of Media Use

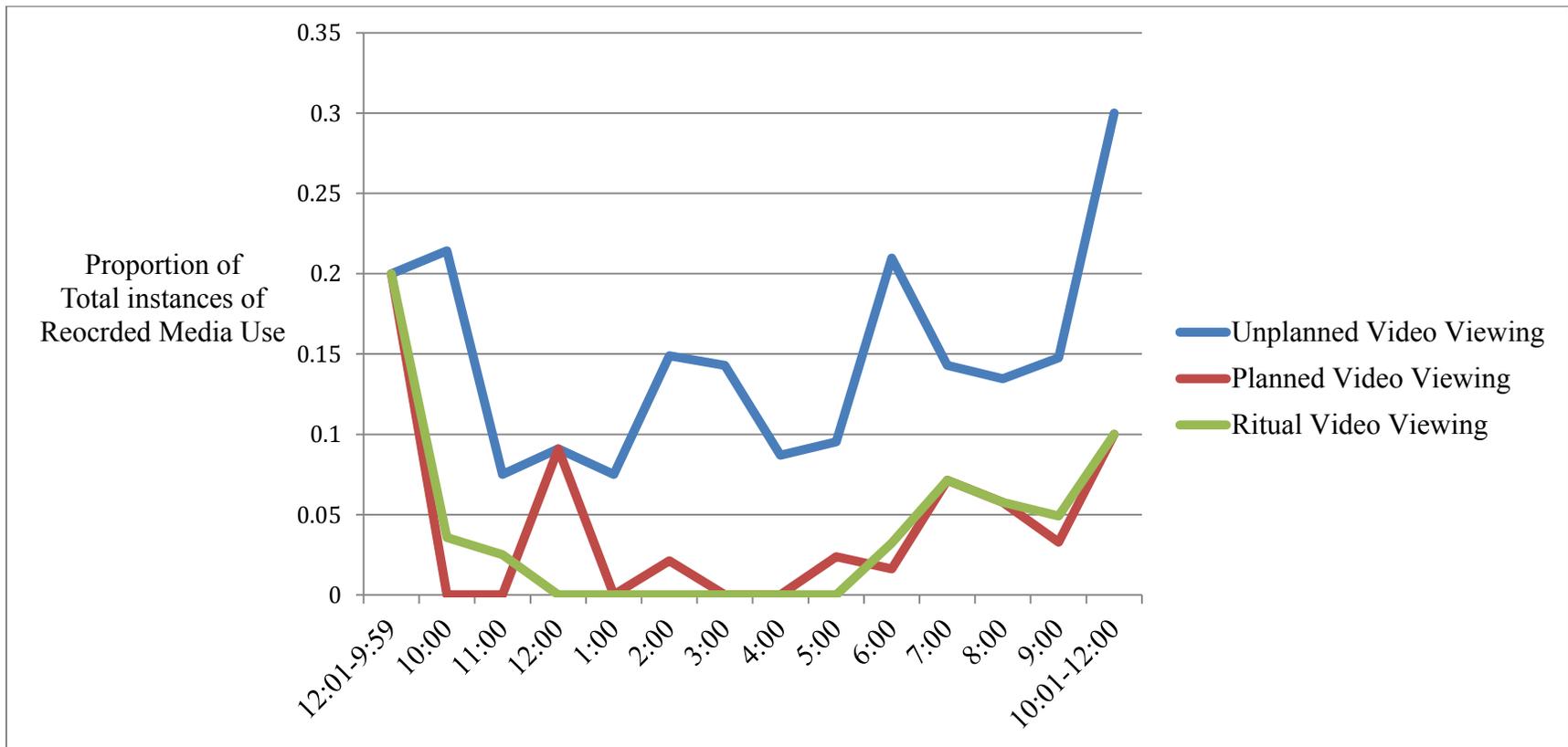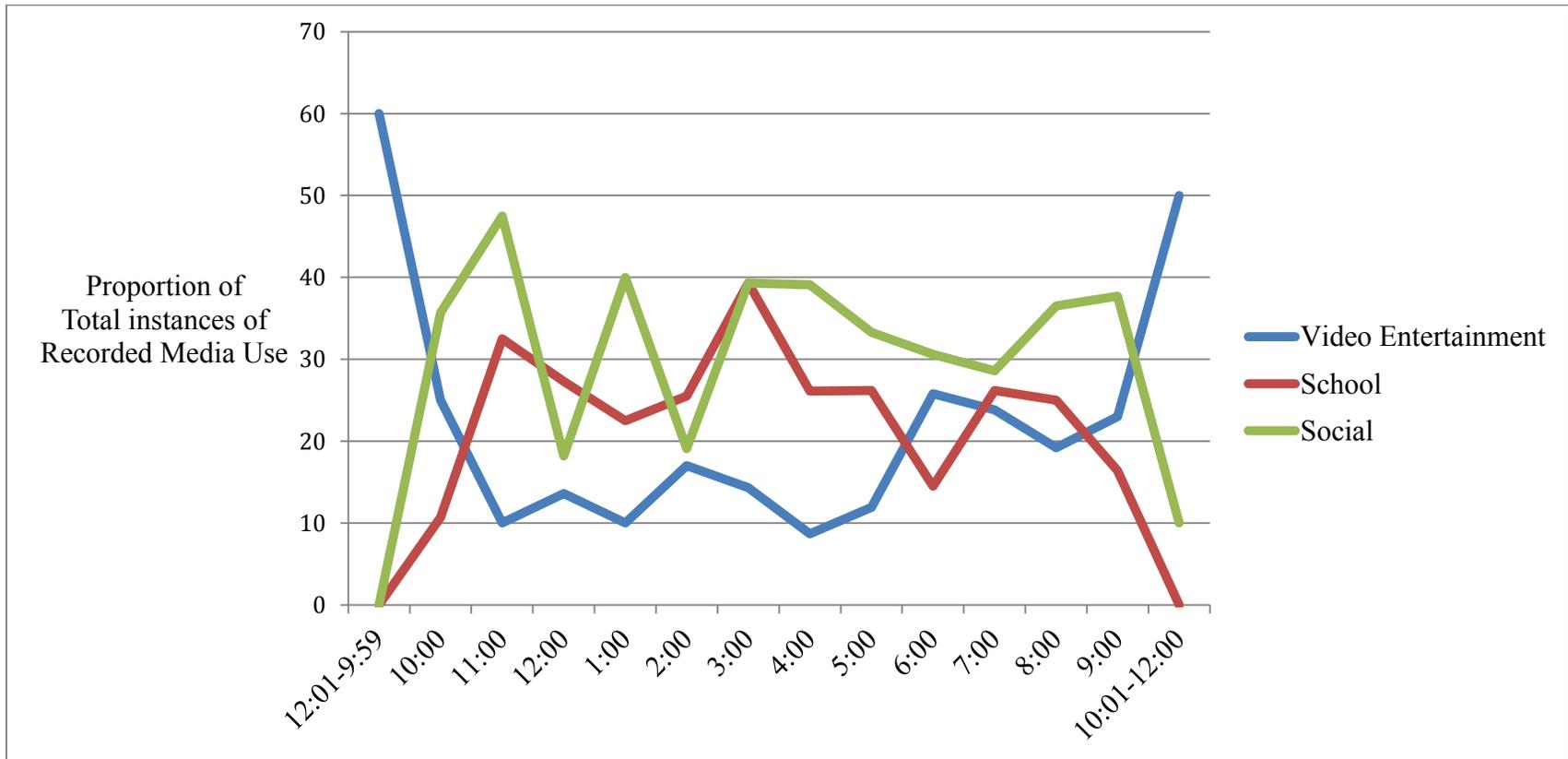Figure 5-2: Planned, Unplanned, and Ritual Video Viewing Throughout the Day

Figure 5-3: Video Viewing, School-Related Media Use and Social Media Use Throughout the Day

Appendix A

Responding to Text Messages

Reminder: you **DO NOT have to return to the lab for the second part of the study**.
You only need to respond to text messages to continue on with this study.

The text message will read: "**what media did you last use? Was it part of a ritual
(y/n)? Was it planned (y/n)? If so, how far in advance was it planned?**". We would
like you to reply by texting back a brief description of what you were doing with media at
that moment or, if you weren't using media, the last media experience you had. **"Media"
includes books, writing on paper, any kind of phone use, television use, computer
use, etc**. So, you might text "using Facebook" or "reading chemistry book for class" or
"watching America's Next Top Model". **We want as much specificity as you can give
us, so instead of just saying "watching TV" or "computer" try to text back the
specific program you were watching or website you were using. If you are texting or
emailing or talking on the phone, you don't have to tell us who you are
communicating with, but try to give us an idea of your relationship to them**
(examples: "texting a friend", "talking on phone w/ boyfriend" or "emailing a professor").

**In addition to that, we would like answers to our questions about whether that
activity was part of a ritual, whether it was planned, or how far in advance it was
planned. Rituals take place at roughly the same time each day, week, month, or
year.** For example, if you watch a program every Tuesday night or talk to your parent
every morning, you would answer "y" for the ritual question. If you just spontaneously
decided to use Facebook, read a magazine, or got a random call from a friend, you would
answer "n" to the question about ritual and "n" to the question about whether it was
planned. If you made plans ahead of time to use media - to skype with someone or to use
Microsoft Word to complete an assignment, for example - then you would answer "n" to
the ritual question, "y" to the planned question, and then tell us how far in advance the
activity was planned (maybe you decided that morning to do it at that time or maybe you
decided 1 week ago to do it at that time). You can text that part in any combination of
letters of numbers you want (something like "1 week" or "5 hrs ago" would be fine).
**Please separate each part of your response with periods.**
Example response:
**"Using facebook. n. n"**
**"watching Ides of March. n. y. 2days"**
**"Skype with father. y. n"**

You will receive directions to a debriefing website at the conclusion of the study. You
will receive full credit for participating in both sessions.

Chapter 6.

Conclusion

This dissertation uses survey analysis, experimental analysis, and a field observation study to examine the influences of characteristics of media choice environments and of media users' levels of self-control on media selection behavior. It applies lessons drawn from the study of decision-making and the study of the influence of structural characteristics of media environments on media selection behavior to the study of media selection behavior of college students at the start of the 21$^{st}$ century. The results of these three studies offer the following insights as to how changes in media choice environments and individual traits of media users alter selection behavior.

Results from the survey analysis indicate that of the three most common types of leisure media use among college students, social networking site use and online video viewing are negatively associated with self-control and positively associated with feelings of guilt while television viewing is not associated with either self-control or guilt. This suggests that social networking sites and online video test the resolve of users who may eschew them for options that offer delayed gratification, such as schoolwork, if their levels of self-control are higher. These results are consistent with the claim that media technologies or applications that offer users a greater range of options from which to choose and those which are more temporally proximate to the user are more tempting to users. However, they do not rule out other possible explanations for why users low in self-control may spend more time using social networking sites and online video.

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In order to isolate two particular attributes of the media choice environment – the number of available options and temporal proximity – an experiment was conducted using a sample drawn from the same population. Evidence from this experiment suggests that when media users select from smaller sets of options, they tend to select less immediately gratifying experiences. In particular, participants choosing from six options were more than twice as likely to select news as participants selecting from thirty options. the number of available options and temporal proximity appear to interact in such a way that media users choosing in the high-choice condition immediately before consumption tend to select more immediately gratifying options than users choosing from a smaller set of options immediately before consumption and users choosing from a smaller set of options one day in advance of consumption. There were, however, no significant effects of users' levels of self-control on the extent to which users selected immediately gratifying options.

Why does self-control appear to be associated with the amount of immediately gratifying media students report using on the survey while not being associated with the amount of immediately gratifying media selected in the experimental setting? There are at least three plausible explanations for this discrepancy. First, it is possible that students who are low in self-control may have over-reported their use of SNS and online video on the survey to a greater extent than students who are high in self-control, causing an effect to be observed where there is not any true, significant correlation between the characteristic and the behavior. It is also possible that there is indeed a significant association between the two, but that all participants in the experiment did not feel as though they could do any work during the allotted time; thus, students who are high in

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self-control would just as soon spend time accessing SNS or video entertainment as students who are low in self-control. Finally, it is also possible that the particular measure of self-control used in these studies did not completely and accurately capture the underlying construct of self-control. A logical next step in the study of the impact of these two attributes of the choice environment and the trait of self-control would be to conduct a field experiment in which some participants have their media the number of available optionss and the times at which they have access to particular options restricted while others do not for an extended period of time. At the conclusion of such a study, the extents to which participants in each group chose immediately gratifying options would be compared in a way similar to the manner in which it was compared in this experiment. Additionally, alternate measures of self-control, including implicit measures, should be used in future studies.

Results of the experiment rule out the possibility that individuals' tendencies to select more immediately gratifying options when offered fewer options are a consequence of any particular media technology or application offering a greater proportion of immediately gratifying options than another. Prior (2007) theorizes that Klein's (1971) theory of least objectionable program explains why individuals with fewer choices select more news. Specifically, he posits that individuals who want to watch television must watch news and therefore that their exposure to news is not explained by their liking of news but by their desire to watch television. This theory, however, cannot explain why users in the low-choice conditions in the experiment in Chapter 4 chose news of other options. These users had the opportunity to use the same medium in different ways; news options were not presented in a "road-block" scheduled format

where they were the only option available for that medium at that time. Still, more of these users selected news options than users in the high-choice conditions. So why is this happening? This dissertation suggests that this phenomenon might be a consequence of a more general principle of decision making: the tendency of individuals selecting from a smaller set of options to select less immediately gratifying options.

To supplement these findings, a field observation study was conducted. The results of this study show that media users tend to plan activities that are less immediately gratifying (e.g., school-related media use) more frequently than they plan activities that are more immediately gratifying (e.g., social media use). This is inconsistent with findings from the experiment that temporal proximity does not affect students' likelihood of selecting school-related media. The conflicting findings about the effects of temporal proximity might be a reflection of the complexity of the relationship between the timing of selection or consumption and the value of the experience. This relationship is far less complex in cases in which it does not particularly matter whether the option is consumed at one time or another time, as is the case with movies rented through a mail-order DVD service. SNS and school-related media use are similar to live television news or sports (Lotz, 2007) in that their value to the user fluctuates over time. In the case of school-related media use, students may need to feel as though they have enough time to complete their schoolwork. It is also possible that students in the immediately-before conditions did not have their textbooks with them and were thus unable to read what they wanted to read for school. In the field observation study, students had enough time to schedule and engage in media use in advance.

Together, these findings shed light on why certain uses of media are negatively associated with self-control while others are not, at least within this population. Television, assuming it is viewed at the time at which it is broadcast, offers users fewer options when compared to popular Internet applications such as social networking sites or online video applications. Though the number of options offered by television as it is broadcast at any given moment may seem large, many of the offerings at any given point in time are unlikely to be matched to the desires of any particular user. Additionally, the offerings available on television all offer fundamentally passive experiences. Digital media offer a larger number and wider range of experiences than television. The quantity and types of options of potential interest from which a user may choose is not limited to the extent that it is in the case of television. It is, then, not surprising that television, a medium typically regarded as a guilty pleasure, proves to be less of a temptation for media users with access to media that offer a greater number of immediately gratifying options at any time.

Users of high-choice, unscheduled digital media still select options that are typically considered not to offer immediate gratification but to be in the best long-term interest of the individual or society in general, such as school-related media use. Evidence from the survey and the field observation study suggest these selections tend to happen only under certain circumstances. If users possess self-control or if they plan their media use ahead of time, they may be more likely to select these kinds of experiences. If media choice technologies restrict users, either in terms of when options were made available or the number of options made available, users are more likely to select these and other options that offer delayed, rather than immediate, gratification.

6.1. Implications for Our Understanding of Media Choice

Understandings of media selection have progressed through several phases, as has

the extent to which options available to media users were, at the time, explicitly or

implicitly constrained in quantity or by schedules. Theories and approaches used in the

study of media use were reflections of, among many other things, what media choices

were possible at the time. At mid-century, particular media such as television or

newsprint offered limited numbers of options at regular, scheduled times. Use was

understood chiefly in terms of these limitations on choice. According to many theorists of

the time, media users did not so much choose but were rather subjected to that which

mass media dispensed. The lack of choice within a particular medium explicitly

constrained the actions which could be performed with that medium at that time. What

little choice there was could be viewed as illusory in that the few available options

reflected a singular set of values (Horkheimer, Adorno, & Noerr, 2002; Marcuse,

1964/2002)

As the broadcast television era gave way to the cable television era, the number of

options available to media users grew. At the same time, theorists' models of media use

and choice recognized users' agency in the process of media selection (e.g., Rubin,

1984). This change was anticipated by uses and gratifications research which provided a

means of assessing the intentions of the user and provided evidence that such intentions

were correlated with exposure (e.g., Blumler & Katz, 1974). The turn toward the

conceptualization of an active audience in the cultural studies tradition of media studies

anticipated this shift as well (Hall, 1974). Studies of audience feelings, actions, and

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reactions (e.g., Fiske, 1987; Radway, 1984) continued to flourish in the following decades.

In this third stage, digital media and the increasing portability of media have caused the number of options as well as the places and times in which users can access these options to increase dramatically. These changes to the media choice environment result in a kind of unconscious biasing of selection behavior of which the user is not necessarily aware. Selective exposure to media must be understood not exclusively in terms of explicit restrictions on choice (i.e., issues of access) or the conscious experience of audiences and users, but also in terms of more subtle effects of the choice environment and in terms of the unconscious biases of users.

6.2. The Study of Media Choice Environment Attributes: Future Directions

This study is intended to serve as an initial example of research on the ways in which attributes of a media choice environment unconsciously bias selection behavior. Another such attribute which might be studied in the same way is what might be called "social proximity": the extent to which a media option is chosen by other individuals in the user's social network. Network analyses of media users could reveal the likelihood that a user will base his or her selection on the selections of others if those others are in close to the user. Additionally, researchers could study the impact of the chooser's *awareness* of the social proximity of various options; it is possible that the impact of social proximity is contingent upon the user being aware that his or her friends and family use the media option in question. Social media developers have endeavored to make it easier for media users to know what media options their friends, family, and co-

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workers have chosen, creating the potential for social proximity to play a greater role in the selection process.

It is also important to consider the effects of changing norms of privacy on media selection. The extent to which a choice is visible (and thus open to scrutiny) to those who are physically or socially proximate to the chooser influences the likelihood of individuals choosing to engage in an activity known, by themselves and by others, to be contrary to their long term interests (Böhm & Pfister, 1996). The possibility that others may witness an act of indulgence acts as a powerful deterrent to engaging in such behavior. It stands to reason, then, that the inability of others to easily identify a user's selections as either benefiting short-term or long-term interests eliminates this deterrent. Physical characteristics of portable technology such as the laptop and the mobile device – namely their size and their orientation toward the user – prevent moment-to-moment visibility of the short-term/long-term value of selections by those who are physically proximate to the user. Social norms and laws regarding privacy and media use prevent the close observation of discrete online activities by those who are physically or socially proximate to the user[17]. To an observer, the user is "online" or "on one's phone," regardless of whether he/she is arranging a business meeting or playing a video game. These technologies allow the user to be in public, to be physically proximate to people who might judge his or her behavior (e.g., peers, family members, co-workers) and to

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[17] It is widely acknowledged that networked media erodes privacy, but only in a way that makes formerly private behavior visible to companies and governments that are neither physically nor socially proximate to the user. Any study of the effects of privacy on media selection should take into account the relation of the surveyor of the individual's behavior to the individual and how the awareness of this increased or decreased visibility to certain others is likely to affect future selection habits.

engage in any kind of behavior he or she chooses. Thus, the expansion of opportunities to indulge one's immediate desires occurs not only across time but also in place, extending to both public and private venues.

## 6.3. Generalizability

The manner in which structural and technological elements of the choice environment affect media users is unlikely to vary across age, gender, or race: everyone possesses a set of long-term goals as well as desires for immediate gratification that occasionally conflict with these goals. Two conditions necessary for the number of available options, temporal proximity, and self-control to affect choice behavior are access to immediately gratifying options and enough unstructured time so that users can freely choose between more immediately gratifying and less immediately gratifying options. In order to establish evidence of these phenomena, this dissertation examined the choices of a group of media users who typically made selections under these conditions: American college students at the start of the second decade of the 21st century. This is not to say that the observed effects of characteristics of the choice environment and users' self-control on selection behavior are not likely to be observed in other populations. Recent research concerning the practice of "cyber-loafing" (e.g., Stratton, 2010) suggests that many office workers have access to immediately gratifying media options and select these options even when such behavior is known by the user to be against the will of his or her employer. Similarly, illicit use of leisure media in classroom contexts has been documented (Campbell, 2006). This suggests that access can, in some sense, trump restrictions set by employers, educators, and parents, so long as technical or physical restrictions (e.g., website blocking software) do not limit access.

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6.4. Filtering Technologies

As digital communication technologies were making more information available to more people at more times and places, program developers were creating ways of making large numbers of options more manageable for the user. Among the most popular of these technical solutions to this problem are personalized and collaborative filtering and recommendation programs implemented by companies such as Google, Apple, Netflix, and Amazon. These programs provide each user with a smaller, personalized menu of options from which to choose that is based on assessments of prior choosing behavior and the choosing behavior of others. Many consider this method of "curating content" to be an improvement over the "top-down" decisions of network executives and newspaper editors to make certain media experiences available to users at certain times. Personalization of availability has the potential to increase users' sense of autonomy and the pleasure they experience while using that which they have selected, both of which are likely predictors of future use.

The calculations used by personalized filtering algorithms are often based on a certain kind of selection behavior: instantaneous, unconsidered reactions to a large (often 30 or more) list of options. In his book "The filter bubble: What the Internet is hiding from you", (2011) Eli Pariser expresses concern over the ramifications of this. "Because it's our present self that's doing all the clicking," Pariser writes, "the set of preferences it reflects is necessarily more 'want' than 'should'…Personalized filters play to the most compulsive parts of you, creating 'compulsive media' to get you to click things more" (p. 118, 127). Evidence from the studies presented in this dissertation provides an indication that Pariser's concerns about the menu of media options influencing the likelihood of

choosing certain types of selections (namely those that are not immediately gratifying, such as news options) are warranted.

Personalized and collaborative filtering and recommendation programs are not the only technical solution to the problem of too much choice. Programs such as Freedom, StayFocusd, or the aptly-named Selfcontrol allow users to restrict their access to certain websites at certain times throughout the day, thereby providing users with the opportunity to "un-bundle" the wide range of options to which they have access at most times and places. The barriers to access erected by users of these programs differ from the barriers of the broadcast era in that they are not dictated by technological limitations but by individual users. Unlike the decisions that influence personalized recommendation algorithms, the decisions made when using a commitment technology are based on a self that is thinking about the long-term (often, most likely, a guilty, contrite self that is aware of one's own lapses in the face of temptation and is desperate to do something about it).

People's attempts to alter or restrict their own behavior often result in failure (Polivy & Herman, 2002). So, too, might media users' attempts to alter their selection behavior by restricting future access. It is possible that these high rates of failure are a consequence of the individual's depriving the "immediate self" of agency altogether by totally restricting in-the-moment decision making. It is also possible that simple alterations of the choice environment may not restrict the immediate self altogether but rather force that self to "satisfice" or make due with a selection from a limited number of options. Evidence from this dissertation suggests that something as simple as whether the list of options from which a media user chooses is comprised of 6 or 30 options can significantly change what user chooses, which, in an environment consisting of iterative

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personalized filtering, can change the next menu of options users see in the future. The continued testing and refinement of personalized filtering technologies could provide a viable means with which media users can monitor, reflect upon, and alter their unconscious media habits.

6.5. Conclusion

The expansive new media choice environment is such that individuals cannot compare nor take stock of all available options and thus are left to rely on recommendations, search engines, and filters to form manageable personal repertoires from which they choose on a moment-to-moment basis (Adomavicius & Tuzhilin, 2005; Heeter, 1985; Neuman, Park, & Panek, forthcoming). The formation and refinement of these customized repertoires as well as the moment-to-moment selections from these repertoires take place in, and are products of, an environment of perpetual access. The choice environment from which media users assemble repertoires extends well beyond the living room television to encompass many types of social interaction, gaming, education, work, and content production at many places and many times. The extent to which the act of selecting from a repertoire of websites that includes such a diverse array of activities is similar to the act of selecting from the same number of cable channels on a television is unknown. The mere fact that cell phones and networked computers are more commonly used by individuals rather than groups and are available in transit, at school, and at work give media choice researchers reason to doubt that studies of personal television channel repertoire creation and maintenance can simply be mapped on to all kinds of media choice. This dissertation represents a first step in examining the effects of the immediate choice environment on selection habits of media users, a necessary step to

understanding the power of new media to reshape our individual and collective

experiences.

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