

THE ROLE OF HABIT AND EMOTIONAL REGULATION ON ENTERTAINMENT VIDEO
SELECTION BEHAVIOR

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ABSTRACT

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Prior communication research has largely sought to explore how users come to consume a particular media. This study examines audience selection of entertainment media, in particular television program genres streamed in the online environment. By drawing from social cognitive theory, the purpose of this study is to investigate whether acts of emotional self-regulation can provide an explanation for selective exposure to media entertainment. In an experimental setting, mood management theory and social cognitive theory are pitted against each other in determining entertainment content preference under the influence of sad moods. Putting all subjects in a sad mood, and manipulating habit strengths for comedic and dramatic content, it is predicted that subjects whose emotional self-regulation is depleted will select more habitual entertainment video options than those whose emotional self-regulation is not depleted.

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DEDICATION

To my mother,

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Foremost, I would like to express my sincere gratitude and appreciation to my supervisor and mentor Dr. Robert LaRose from whom I got a sense of how the golden balance in everything should be like. His feedback would often reach steps ahead of my work so that simply by revisiting his comments I would often solve problems or find new ways to analyze. I profoundly admire his rigor in research and helping his students. I will forever be thankful to him because his selfless time and care were sometimes all that kept me going. He is my best role model for a scientist, mentor and teacher.

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1. INTRODUCTION

Assessing media exposure and exploring its determinants has been at the heart of much communication research. For example, how do people make a decision of watching a comedy show rather than watching a courtroom drama? Early theories of mass media regarded media behaviors as consequences of a conscious decision-making processes or rational choice. However, contrary to premises of such deterministic approaches as Uses and Gratification theory (UG) (Palmgreen, Wenner & Rosengren, 1985) or Theory of Planned Behavior (TPB) (Ajzen, 1991), later empirical findings (Wood, Quinn & Kashy, 2002) suggest that a considerable portion of media exposure happens as a result of automatic and uncontrolled processes, and those processes can be unique predictors of what media content people consume (Verplanken & Orbell, 2003). With sufficient repetition, the instigation of media selection no longer relies on intentional control but is done by force of habit (Aarts & Dijksterhuis, 2000; LaRose, 2010; Ouellette & Wood, 1998; Verplanken & Orbell, 2003; Wood & Neal, 2007).

Despite its expanding acceptance among media scholars, the role of media habits in determining television genre preferences has not been established experimentally. By introducing the concepts of self-regulation and habits as separate predictors on media behavior, as well as examining interaction effects between the two, the current study aims to clarify the distinctive roles of each on determining genre preferences for TV viewership. Getting more sense of media habits can enlighten dynamics of habits that go out of control, as in cases of excessive media use referred to as media “addictions” in the literature.

By offering a Social Cognitive approach to entertainment research, this study also brings clarification to the paradoxical findings associated with mood management uses of media. There is an extensive literature examining how media content can be used to alleviate unpleasant

affective states; however, these studies are unclear in explaining the determinants of mood management in media selection processes. The purpose of the current study is to examine theoretically derived hypotheses about entertainment TV genre selection behaviors that are affected by habits and states of emotional self-regulation and explore the interaction of their effects.

2. LITERATURE REVIEW

This study examines audience selection of entertainment media, in particular television program genres streamed in the online environment. Television viewing behavior is one of the areas of communication research that witnessed vast changes over the course of fifty years. It is clear that TV consumption has shifted from being "television programmer-defined" to "viewer-defined" due to changes such as increased diversity in programming, innovation of recording and replaying technologies, development of content delivery platforms (cable TVs, online streaming video websites, mobile phones, etc.). Along with these changes in the media environment, media consumers gained access to technologies that empowered them with unprecedented control over when, how or where to consume media. This condition is often referred in communication research as *audience autonomy* (Eastman & Newton, 1995; Levy, 1989; Napoli, 2003).

Increased audience autonomy and abundance of alternatives create wide range of questions for and social relevance of entertainment research. To theorize program choice behavior on ever-new platforms, forms, and content of media entertainment, researchers need to understand individual dynamics of viewing behavior, especially the psychological processes involved in orienting to and selecting entertainment fare.

In order to explain individual exposure to entertainment media, several determinants have been investigated. In the following sections, some of these factors will be examined in more detail. The first part begins by laying out the basic contours of media psychology research that focus on the role that a viewer's mood plays in the media consumption process and presenting some paradoxical findings. The following chapters will focus on the concept of self-regulation and role of habits as alternative explanations to the variations in audience behavior. Finally, an integrated model of audience exposure to entertainment media will be proposed.

Watching TV programs online constitutes a further viewing mode with, again, specific possibilities for program choice: viewers can choose to watch whatever programs they like and view them whenever they like. Often, digitalization is anticipated as making viewers sovereign navigators, independent of any program schedule. Our framework could help test this assumption: patterns of viewing sequences should change when viewers can become more selective in their viewing choices.

2.1. Mood Management Theory

2.1.1. The Concept of Mood in Media Research

Examining emotional experiences in relation to media entertainment, Zillmann and Bryant (1985), and Zillmann (1988b) proposed and tested a model of media selection governed by affective states. The assumption of this line of research is that individuals select entertainment media content to enhance or prolong positive moods and avoid negative moods (Bryant, & Zillmann, 1984; Christ & Medoff, 1984; Meadowcroft & Zillmann, 1987). The assumptions of these studies were initially referred to as affect-dependent stimulus arrangement but subsequently gained more prominence under the label of mood management theory (MMT) (Knobloch, 2006).

2.1.2. Definition of Mood

Mood management refers to behaviors that alter a disagreeable mood, enhance a neutral one, or maintain a pleasant mood (Knobloch, 2003). The term *mood* is often used ambiguously and interchangeably in the literature with other terms such as affect, emotion, emotional state, and feeling. Generally, mood is defined as a type of affect, less intense than emotions in the subjective experience but relatively more enduring (Bagozzi, Gopinath & Nyer 1999), not

directed at specific targets (Ewert, 1970; Pieters & van Raaij, 1988), that has direction and intensity. Moods can be characterized by dimensions such as stimulus and target specificity, intensity, duration, amount of cognitive mediation, and functionality.

Luomala and Laaksonen (2000) distinguished the backdrop view and motivational view of mood. The basic distinction lies in the degree of agency or consciousness of the experience. The backdrop view postulates that moods are rarely experienced consciously by people (Clark & Isen, 1982). In this view, moods operate at an automatic level, biasing the use of memory, perceptions, and judgments. According to the motivational view of mood, individuals are conscious of their mood experiences. Researchers holding this view argue that a given mood may enter focal attention either because it intensifies or because other demands on attention are relaxed or some event causes individual introspection (Morris, 1989). From this perspective, while the target of the mood is seen as unspecific, the stimulus is not. In other words, individuals may not direct their affective states to specific events, things or persons but they may make attributions as to what or who caused it (Luomala & Laaksonen, 2000).

In MMT, mood is often conceptualized in line with the backdrop view. Although hedonistic motivations are clearly emphasized in mood management studies, it is also accepted that individuals may not necessarily be cognizant of their motivations (Knobloch, 2006; Zillmann, 1988). In that sense, mood management studies depart from the Uses and Gratifications (Palmgreen et al., 1985; Rubin, 1983) and Theory of Planned Behavior (Ouellette & Wood, 1998) traditions that posit conscious determinants of media selection.

2.1.3. Empirical findings

MMT research is typically conducted in experimental settings where opposing mood states are induced to the subjects and their preference for media are observed subsequently. The

theory postulates (at least) four strategies of mood management by using media: excitatory homeostasis, intervention effects, affinity between message and behavior, and hedonic valence (Bryant & Zillmann, 1984; Oliver, 2003; Zillmann, 1988).

Excitatory homeostasis refers to the effect of entertainment messages on physiological excitation and is defined as “sympathetic dominance in the autonomic nervous system” (Zillmann & Bryant, 1985). The basic assumption of this aspect of mood management is that people in states of extreme overstimulation select calming or relaxing stimuli over exciting ones, whereas under-stimulated individuals select arousing entertainment fare (Zillmann, 1988). Focusing on viewers’ selection of television entertainment Bryant and Zillmann (1984) tested the hypothesis by inducing stress or boredom. Stress was induced by requiring completion of Graduate Record Examinations (GRE) like intellectual problems, which exceeded the participants’ ability, while boredom was induced by asking participants to do monotonous tasks. Participants then were told they could select programs from any of six channels. The programs were prerecorded and included videos previously rated as relaxing or exciting. Measuring media exposure times, they found that individuals could overcome boredom or stress through selective exposure to exciting or relaxing television programming, respectively. In the context of music exposure, Knobloch and Zillmann (2002) demonstrated that individuals could improve negative moods by electing to listen to highly energetic-joyful music.

Mood-message affinity refers to the degree of similarity between communication content and affective state. According to MMT, individuals in negative moods would seek messages that have more absorbing potential but if a message is also associated with aggression or hostility, then the restorative purpose of tuning into the content would not be achieved. Therefore, such

content would not be preferred by people in negative moods (Christ & Medoff, 1984; Zillmann, Hezel, & Medoff, 2006).

Hedonic valence refers to the positive or negative nature of a message and it is expected that media consumers tend to make media choices based on the perceived hedonic valence of the entertainment content. In particular, MMT posits that genre choice is often comedy. According to Zillmann (2000, p.51), comedy is "a winning formula for media entertainment. More often than not, people do look for merriment by picking comedy with all its foolishness over serious, problem-laden program alternatives".

In the MMT literature, empirical examinations have not yielded convincing results in support of this assumption. Table 1 and Table 2 presents summary of studies that confirmed or conflicted with the MMT hypotheses respectively. The weak findings pose the most important challenge to this theory: the question of why one would ever turn to saddening or dramatic entertainment content or to media offerings that intensify a dysphoric state (Knobloch, 2003; Mills, 1993; Oliver, 1993). For example, Erber, Wegner, and Therriault (1996), found sad participants preferred negative media fare without trying to repair their mood using positive media stimuli. Various examples of puzzling forms of media consumption have been examined, such as media that elicit sorrow or pain, as in the example of crime dramas (Wakshlag, Vial & Tamborini, 1983); fear and anxiety as in horror (Fischhoff, Dimopoulos, Nguyen, & Gordon, 2005); or sadness as in tearjerkers or tragedy (Oliver, 1993). have observed nervous individuals choosing horror films and sad individuals choosing dramas— choices that would seem to enhance, rather than repair, negative moods. Others, however, found anxious individuals choosing calming entertainment content and sad individuals choosing empowering or rewarding

entertainment content (e.g., Raghunathan & Corfman, 2004; Raghunathan, Pham, & Corfman, 2006), which aligns more with the conventional mood management hypothesis.

To explain the paradoxical results, some researchers defended the implicit pleasing components of those genres, such as supportive family bonds, shared love, or ultimate happily-ending in tearjerkers (Ahn, 2009; Oliver, 1993), or interpreted consumption of these genres as a form of sensation-seeking (Bartsch, Appel, & Storch, 2010). From a methodical perspective, Knobloch-Westerwick (2007) argued that gender differences were the main reason for opposing mood management strategies, resulting in insignificant findings when tested uniformly. One common element of these studies were examining and evaluating post-viewing responses such as enjoyment (Oliver, 2006; Tamborini, Bowman, Eden, Grizzard & Organ, 2010) or emphatic distress (De Wied, Zillmann, & Ordman, 1995) leading to a need for further exploration for conditions that set up the selection behavior.

Current study aims to examine an alternative explanation, which integrates socio-cognitive processes involved in predicting media behaviors (LaRose, 2010). It is possible that expressions of enjoyment could represent *post hoc* rationalizations for media selection behavior that in fact is not the product of conscious mood management but rather non-conscious selection processes. For example, a person with a strong habit of watching crime dramas or horror movies may well be selecting products of these genres by force of habit. In other words, when one's judgments become automatic, as in the case of habits, people may react on the basis of their past behavior. Since an act that reached at a level of automaticity demands very little cognitively, it causes much less stress when compared to making thoughtful selections as in the case of active mood management. Habit performance seems to have an insulating quality that reduces the immediacy of emotional experience (Wood et al., 2002). Accordingly, when in negative mood

states an individual may find relief in exerting habitual acts even though his behavior is seemingly not the most effective response to bring positive emotions. This proposition also explains some paradoxical findings in the MMT literature and will further be explained in the following sections.

Table 1 Summary of studies that report supporting findings of the MMT hypotheses

Author(s)	Medium	Independent Variable(s)	Dependent Variable(s)	Procedure	Results
Anderson, Collins, Schmitt, & Jacobvitz, 1996	TV programs	•Stress measured by stressful life events •Gender	Selective exposure to TV programs such as comedy, news, game, action, and violent programs	Survey	•Stress was associated with increased comedy and decreased news in the viewing diet. •Stressed women watched more game and variety programming as well as more overall TV. •Stressed men watched more action and violent programming.
Biswas, Riffe, & Zillmann, 1994	News articles (magazine)	State of mood	Selective exposure to news stories. The mean score of number of bad news selection was measured	Bad, neutral, vs. good mood interventions (mood was measured with emotions expressed facially)	•Women in a bad mood were drawn to good news, sampling significantly more of it than women in a good mood. •Men did not show such preference

Table 1 (Cont'd)

Author(s)	Medium	Independent Variable(s)	Dependent Variable(s)	Procedure	Results
Bryant & Zillmann, 1984	TV programs	Stress vs. boredom	•Selective exposure to TV programs •Excitatory state •Enjoyment of television viewing	Mood manipulated by inducing stress with GRE/SAT type tests vs. boredom by threading metal washer	•Stressed individual watched greater proportion of tranquil program •Bored individuals selected a greater amount of exciting fare.
Dittmar, 1994	TV programs	•Depression •Gender	Television viewing	Students were assessed for depression then asked to chart their television viewing for a period of one week. (2x2 gender by depression)	•Depressed students watched more TV, significant interaction effects of gender and depression.
Helregel, 1989	TV programs	State of mood (defined as a factor of pregnancy-related physiological changes)	Selective exposure to TV programs	Pregnant, non-pregnant women and new mothers were given the opportunity to select comedy, action adventure, drama, and game show programs for an evening's worth of television viewing and then provided ratings of their affective dispositions	•In dysphoric states women preferred comedy programs •A preference for action adventure programming was evident during physiologically induced heightened positive affect. •Affect-dependent preferences for game shows and dramatic fare were not significant

Table 1 (Cont'd)

Author(s)	Medium	Independent Variable(s)	Dependent Variable(s)	Procedure	Results
Meadowcroft & Zillmann, 1987	TV programs	State of mood (defined as a factor of menstrual cycle)	Selective exposure to TV comedy programs	Assessed female college students' hypothetical TV program preference (in an imagined 3 hours free to watch TV) in relation to their last menstrual period.	•Preference for comedy was significantly related to offset of the menses.
Potts & Sanches, 1994	TV programs	Depression	Television viewing	Subjects were measured for depression, motives for television use, and psychological outcomes of viewing TV newscasts	No significant association with amount of TV viewing for female students (but found negative association for males). News consumption was negatively correlated with depression.

Table 2 Summary of studies that report conflicting findings of the MMT hypotheses

Authors	Medium	Independent Variable(s)	Dependent Variable(s)	Procedure	Results
Carpentier, Brown, Bertocci, Silk, Forbes & Dahl, 2008	TV	Mood states	Media exposure	Adolescents diagnosed with major depressive disorder and the control group were called on up to 4 times a day and asked about their current	Adolescents in more negative moods did not often use media to improve their moods. When they did, boys were more likely than girls to use media that ultimately reduced negative mood levels. Findings are

Table 2 (Cont'd)

Authors	Medium	Independent Variable(s)	Dependent Variable(s)	Procedure	Results
Christ & Medoff, 1984	TV programs	Mood state	•Voluntary television viewing (using TV-channel switching) and duration •Selective exposure to TV programs	asked about their current mood state and media use for five weekends across an 8-week period 83 female college students solved diagram puzzles: Mood manipulated by providing feedback in form of an insult, or praise	negative mood levels. Findings are discussed in light of the literature on mood management, adolescence, and depression. •Annoyed individuals did not seek to reduce their annoyance• Annoyed females viewed television significantly less than praised individuals.
Mills, 1993	Movie	Attitudes towards empathy when someone is suffering	Appeal for tragedy	85 female subjects watched a tragic and less tragic versions of a movie about a ski racer getting injured and rated their appeal for it.	Women who reported stronger attitudes toward the importance of sharing another's sadness also reported enjoying a tragic movie more than did those with weaker attitudes toward empathy
Oliver, 1993	Movie	Non-hedonic content	Enjoyment	Enjoyment of media entertainment per se and to sad films in particular surveyed. Post-viewing Cinema	Enjoyment of or distaste for tragedy was a function of the viewer's disposition toward feeling of sadness

Table 2 (Cont'd)

Authors	Medium	Independent Variable(s)	Dependent Variable(s)	Procedure	Results
				Paradiso subjects went through emotional screening.	
Oliver, Weaver, & Sargent, 2000	Movie	•Gender	Enjoyment	Participants viewed sad vs. neutral 8 min. movie clip and rated their enjoyment of the clips.	Participants scored significantly higher on the enjoyment scale for tragic clips than neutral clips. Gender differences were also significant for enjoying tragic/sad movies, indicating that females enjoyed them more than males.
Tamborini & Stiff, 1987	Movie	•Personality traits •Desire to experience satisfying resolutions •Desire to see destruction	Horror film attendance	Audience members leaving the theater after viewing Halloween II were surveyed.	Young males enjoyed the horror film more.
De Wied, Zillmann, & Ordman, 1995	Movie	Empathic distress	Media enjoyment	Participants watched "Stealing Magnolias" (tragedy) and rated content	•Those who experienced greater hedonic lows during exposure to tragic happenings came to experience greater hedonic highs after the exposure •High empathizers experienced more empathic distress during the film than low empathizers •Females experienced more empathic distress

Table 2 (Cont'd)

Authors	Medium	Independent Variable(s)	Dependent Variable(s)	Procedure	Results
					than males, but also enjoyed the film as a whole more than males did.

2.2. Role of Habits in Media Use Behavior

Prior communication research has largely sought to explore how users come to consume a particular media. Among these theories are UG (Krcmar & Strizhakova, 2009; Palmgreen et al., 1985; Rubin, 1983), TBP (Oullette & Wood, 1998), Social Cognitive Theory (SCT, Bandura, 2001), and MMT (Zillmann, 1988). TBP and UG are social psychology theories that focus on the role of conscious intentions in predicting future behavior. The common assumption of both theories is that media users actively and consciously select whether or what to consume in terms of media, program and genre (Katz, Blumler, & Gurevitch, 1974; Palmgreen et al., 1985).

The active audience argument is consistent with the TBP (Ajzen, 1991) paradigm. Remarkably, Windahl (1981) argued, “the notion of activeness leads a picture of the audience as super rational and very selective, a tendency which invites criticism” (p. 176). The assumption that all media behaviors are rational fails to take account of other non-cognitive or irrational determinants of behavior. Compared to affective processing models such as MMT, TBP and UG overlooks emotional variables such as sadness, joy, or mood, or automatic behavioral processes

that are initiated without conscious deliberation, such as remote control use or reaching for the morning newspaper. A meta-analytic review (Armitage & Conner, 2001) of TBP provided limited support for the predictive validity of intentions with respect to behavior, accounting for only 27% variance ($R=.27$, across 185 correlations) in behaviors.

The limited predictive validity of the model may be due, in part, to exclusion of habit. A controversial topic in TBP research is the effect of past behavior on current behavior, which has attracted considerable attention (see Eagly & Chaiken, 1993; Ajzen, 2002). It is argued that many behaviors are results of one's past behavior rather than fresh cognitions (Aarts, Verplanken, & Van Knippenberg, 1998). Repeated behaviors are partly defined by conscious intentions that evaluate the benefits and costs of a behavior, but also by habitual, automatic processes that respond to cues associated with previously learned actions (LaRose, 2010; Ronis, Yates, & Kirscht, 1989).

2.2.1. Concept of habit

In social psychology, habits are defined as "learned sequences of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end-states" (Verplanken & Aarts, 1999). They regard habits as goal-directed behaviors. There are three key factors embedded in a habitual movement: frequency, automaticity and contextual cuing (Verplanken, 2010). The first feature is the frequency, suggesting that the action has a history of repetition. Automaticity aspect refers to the lessening of cognitive demand with each repetition such that the initiation of the action can be done without attention, awareness or intention. Contextual cuing, which refers to the presence of contextual cues (e.g., seeing the TV set upon entering the living room) as well as internal cues (e.g., lack of stimuli or desire to feel

better) behaviors are enacted automatically. Each of these features of habits will be discussed in the following section in relation to media behaviors and this study.

First aspect of habit is frequency of behavior. Unlike children, most adults engage in completely novel behaviors on a very infrequent basis. The majority of daily life activities are behaviors that have a long history of repetition (such as brushing teeth at night, reading newspapers in the morning). In this sense, it seems simple to define habits as an acquired behavior pattern resulting from repetition of past behavior (Bentler & Speckart, 1979; Ouellette & Wood, 1998; Wood et al., 2002). Despite their gravity in our daily lives, the role of habits in social science theories has been neglected until recently. For example, studies focusing on television usage (Koch, 2010 as cited in Hartmann, Jung, & Vorderer, 2012; Oullette & Wood, 1998) found that both habits and intentions jointly predicted future behavior. In unstable contexts in which features that maintain the behavior are shifting or are difficult to negotiate intentions were superior predictors over habits, whereas in behavioral domains that are encountered more often and that provide a relatively stable context, such as watching television, habits emerged as better predictors of future behavior.

In the light of the criticism (Ajzen, 2002) that this approach overlooks repetitive yet non-habitual behaviors, habit definitions have been modified. Contemporary theoretical explications regard habits as cognitive knowledge structures, or so to say, “scripts” (Abelson, 1981), (Abelson, 1981) that exist independently from past behavior (Aarts & Dijksterhuis, 2000; Armitage, 2007). So, rather than deliberating upon each alternative in regard to expectations sought or pleasures attained, people tune in the same sit-com at same time of the week in an automatic fashion by responding to a time cues of the television program schedule.

Another important aspect of the habitual behavior (Ouellette & Wood, 1998) is context stability. In changing contexts, or contexts that imply cognitive difficulties, habit was less strong. Likewise, as people repeat actions, their decision making recedes and the actions come to be cued by the environment. Therefore, earlier perception of habits regarded stable contexts as triggers of scripts for activation and conserving valuable resources of cognition. The concept of stable context however, is problematic, bringing the question: What aspects of the environment are most important to keep stable or successful formation of habits? Scholars who study habits such as Wood, Tam and Witt (2005) directly acknowledge that there is lack of evidence to support the assertion habitual behaviors are cued immediately by recurring stimuli in the environment. Moreover, internal states such as emotions are recognized by Ji and Wood (2007) as sufficient cues for activating habitual responses.

Alternatively, scholars argued that habits could be understood as associations between goals and actions (Aarts & Dijksterhuis, 2000), with automaticity being the most defining characteristic. Automaticity denotes a self-directed process that, once started, runs by itself and does not need conscious guidance or monitoring (Wegner & Bargh, 1998) and yet may still be consciously guided (Graybiel, 2008). Unlike intentional actions, which require forethought and conscious effort, habitual responses are automatic. Redirecting the emphasis from external cues to internal processes, Bargh (1989) proposed that repeated behaviors, especially when rewarded create an easily accessible and powerful cognitive schema. Habits are formed and maintained to economize on the cognitive processes. Therefore, in need for easier access to goal-oriented behaviors habits interface with goals in ways that allow for mutual influence (Wood & Neal, 2007).

In the current literature of habit, the most prevalent operational definition of habit strength does not allow for testing this proposal. These studies employ Self-Report Habit Index (SRHI), which is a 12-item scale assessing repetition and automaticity of behavior and the extent to which it corresponds with one's self-identity (Verplanken & Orbell, 2003). Despite its popularity in habit literature, this scale is faulty of three important things: First, it conflates a precondition of habit (history of enactment) with automaticity. Second, the scale conflates habit with possible consequences of habits, e.g., "makes me feel weird if I do not do it". Finally, it measures self-identity, which does not readily appear to be a necessary feature of habitual behavior (Sniehotta & Penseau, 2012). Moreover, automaticity dimension of habits comes with the assumption that individuals are not necessarily aware of their behaviors, which means that self-report data, characteristic of UG research, may not be appropriate for testing hypothesis of habitual media use (LaRose, 2010). A further problem is that the SRHI does not manipulate habit strength and thus leaves causal direction of relationships between habits and other constructs untestable in a controlled setting.

To overcome this methodological problem, scholars need to use an alternative measure of habit strength, which does not rely on self-reports of the frequency of past behavior. Changing past behavior is literally not possible; accordingly, manipulating one's habitual behavior may seem unachievable under controlled conditions. However, it has been argued and illustrated that in order to change *perceptions* of past behavior it is not necessary to actually change the real life itself, simply reconstruction of one's memory is adequate (Aarts & Dijksterhuis, 1999; Armitage, 2007; Schwarz, Bless, Strack, Klumpp, Rittenauer-Schatka, & Simons, 1991). The manipulation relies on the memory phenomenon known as the "ease of retrieval" effect. When people judge their own memory, they are more likely to rely on their experienced ease of retrieval, rather than

the amount of information they retrieve (Tversky & Kahneman, 1973). In particular, individuals derive judgments of frequency or likelihood from the ease with which they can retrieve relevant information regarding their own behavior. To illustrate this, Aarts and Dijksterhuis (2000) asked participants to generate three (easy retrieval task) or eight (difficult retrieval task) instances of past bicycle use. Participants reported higher frequency of their own behavior after they had generated three examples, rather than eight examples. Eight instances of behaviors are difficult to retrieve and, consequently, individuals assume they seldom do that behavior.

As habits are formed to minimize cognitive effort, it makes sense to manipulate and measure them with ease of cognitive demand. This method is favored because unlike SRHI it does not rely on self-reports of the frequency of past behavior. In addition, it does not conflate consequences of habitual behavior such as post-action feelings. Therefore, as a step in methodological improvement in media use literature and in the light of the evidence presented above, this study will adapt ease of retrieval as a measure for habit strength.

2.2.2. Media Behaviors and Habits

Until recently, scholars have implicitly talked about habits but not treated their functional role in determining media behaviors as separate predictor. New evidence suggests that several media behaviors have a habitual component including but not limited to WWW usage (Limayem, Hirt, & Cheung, 2007), video game playing (Wohn, 2012; Hartmann et al., 2012), social networking (LaRose, Kim, & Peng, 2010), and participating in an online production community (Wohn, Velasquez, Bjornrud, & Lampe, 2012). Despite the fact that much correlational evidence was found that can be used to support habitual media use (Hartmann et al., 2012; Lankton, Wilson, & Mao, 2010; LaRose, Lin, & Eastin, 2003; Limayem et al., 2007; Wohn, 2012; Wohn et al., 2012) there is dearth of experimental data. Recently, scholars

developed experimental manipulations of the frequency of past behavior (Verplanken, 2006), of habit strength (Quinn, Pascoe, & Wood, 2010), and conscious influences on habits (Quinn, Pascoe, Wood, & Neal, 2010; Tam, Bagozzi, & Spanjol, 2010). As a unique contribution to literature, this study will experimentally examine role of habits together with deficient emotional self-regulation (will be discussed in the following section) in media use. Moreover, prior studies regarded media use as a uniform experience, such as viewing television, and the potential influence of content genres has been overlooked. This study also aims to clarify the relationship between habits, mood and media content.

2.3. Self-regulation, Emotional Regulation, and Ego-Depletion

In this section, the role of habits in media use in relation to self-regulation will be discussed. MMT proposes that media consumption decisions are a function of emotional self-regulation. In addition to sensing their emotions, people often make judgments about their emotions, evaluate them against inner standards and in some cases engage in acts to change them, which altogether is referred to as emotional regulation. Self-regulation can be regarded as an evolutionary skill that liberates one from becoming slave of impulses and enhances living harmoniously with others in a social life. Emotional regulation is conceptualized as a heterogeneous set of cognitive processes by which emotions are self-regulated, that is to say, the way in which individuals influence how they experience and express emotions (Gross, 1998). Emotional regulation has received increased interest in mass media research over the past twenty years. In the emerging field of media psychology, most research centers on questions regarding the role of emotions in media uses, processes and effects.

Social Cognitive Theory has been proposed as a means of understanding self-regulation of media consumption that poses an alternative to UG and TPB in instances where self-

regulation is deficient (LaRose, 2010). On determining behavior, the concept of self-regulation acts as the mediator of the progress from people's current state to their desired end state (Baumeister & Heatherton, 1996). Self-regulation is a multifaceted phenomenon operating through a number of subsidiary cognitive processes including self-monitoring, standard setting, evaluative judgment, self-appraisal, and self-reaction (Bandura, 1991). Self-monitoring is observing one's own behaviors and their influences on the self and environment. Being aware of behaviors and the cognitions that accompany them enables people to make evaluations of fit to their existing standards, and hence create overall judgments or immediate affective states and attitudes toward their actions. Self-regulation is therefore, an important determinant of goal-directed behavior, which helps individuals control their impulses through the self-alteration of inner states, delaying gratification, and controlling behaviors, feelings, and thoughts (Baumeister, Schmeichel, & Vohs, 2007).

Numerous studies has supported the assumption that self-regulation is a limited resource by showing that prior engagement with activities that require effortful self-regulation leads to impaired subsequent self-regulation performance (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister & Heatherton, 1996), a state known as *ego-depletion*. According to the limited capacity perspective of self-regulation, capacity to regulate the self and overcoming the impulses and drives draws on a common inner resource. This reservoir of regulatory resources however, is finite and prone to temporary fatigue from situational self-control demands. Inspired by this approach, Baumeister and colleagues developed the strength model of self-control. In the model, self-control is viewed as analogous to a muscle. Just as a muscle requires strength and energy to exert force over a period, acts that have high self-control demands also require strength and energy to perform (Hagger, Wood, Stiff, & Chatzisarantis, 2010).

This phenomenon has been empirically explored typically in two steps: First, people have been asked to work on a self-regulation task, such as controlling impulses, actively focusing attention, or resisting temptations. In the second step, same subjects were measured by their performances on another task demanding self-regulation (task persistence, controlling temptations, intellectual performance). Consistent findings of studies that employed the dual task paradigm showed that the performance of the second self-regulation task was reduced because of prior self-regulation (Baumeister et al., 1998; Muraven, Tice, & Baumeister, 1998; Vohs & Heatherton, 2000).

In a pivotal experiment by Baumeister et al. (1998), it was shown that people who resisted the temptation of eating chocolates in the first stage of the experiment were subsequently less able to persist on a difficult and frustrating puzzle task in the second stage. They attributed this effect to ego depletion, which resulted from the prior use of self-regulatory powers. In the same study, they also showed that when people voluntarily gave a speech that included beliefs contrary to their own, they were again less able to persist on the difficult puzzle, indicating a state of ego depletion. On the other hand, participants who were not given a choice or were not asked to write speeches that contradict their attitudes did not show same effects. Baumeister et al. (1998) concluded that both the act of choice and counter-attitudinal behaviors draw upon the same pool of limited resources. Meta-analytic review of the limited resource model of self-regulation revealed significant effect of ego depletion on self-control task performance (Hagger et al., 2010).

Another consistent finding in the strength model of self regulation literature was that suppressing emotions decreased regulation of performance over subsequent behaviors demanding regulation (Muraven et al., 1998; Schemeichel, 2007). In an experimental study,

Muraven et al., 1998 (study 3) asked participants to try not to show and not to feel any emotions while watching a 10-minute video tape a comedy movie clip (a comedy movie featuring Robin Williams) or dramatic (an excerpt from the film *Terms of Endearment*, portraying a young mother dying from cancer) movie clip. The experimenter told the participants that they would be videotaped, so it was essential to try to conceal and suppress any emotional reaction. Participants in the suppress-emotion condition reported higher difficulties in a self-regulatory task that they were asked to perform following the treatment. Schemeichel (2007, experiment 3) replicated this study with using different emotion-evoking movie clips and confirmed that the subjects who were initially asked to suppress their emotions were ego-depleted subsequently. Therefore, emotional self-regulation also emerged as a significant determinant of ego-depletion.

The concept of self-regulation has attracted attention in media research to explain media habits, flow states, and problematic usage (Hartmann et al. 2011; LaRose, 2010; Lee & LaRose, 2007; Seay & Kraut, 2007). Prior research applied deficient self-regulation mechanism as an explanation of excessive or problematic media behaviors (LaRose et al., 2003; LaRose, 2010; LaRose et al., 2010). Deficient self-regulation is also attributed to further the formation of habits (Diddi & LaRose, 2006). As behavior is repeated, people economize on the acts of self-monitoring and self-reaction, facilitating development and activation of habits by relying on cues to activate accessible behavioral routines. The correlational studies that tested hypotheses about media habits and ego depletion does not enlighten the direction of the causation. These findings need further examination and indicate a necessity of replication with clarified concepts or methods. To this aim, current study puts both concepts on a test and by making habit a manipulated variable rather than a measured one, it avoids previous measurement complications and potential confounds.

2.4. The Present Study

The purpose of this study is to investigate whether acts of emotional self-regulation can provide an explanation for selective exposure to media entertainment. In previous sections, it has been discussed that MMT falls short of explaining psychological processes in media selection behavior, in the sense that the question why people find negative content appealing remains unanswered. It has also been argued that emotional self-regulation and habits provide rival explanations of media behaviors. Living harmoniously with others in a society requires exerting emotional self-regulation in the course of daily life quite frequently, and as a result, people may spend large portions of their days in an ego-depleted state. In ego-depleted states, people tend to exert less control than they might prefer, hence, economizing on cognitive processes and acting on habitual, automatic behaviors. If one were in the habit of watching dramatic, sorrowful movies, then when ego-depleted, turning to habitual behavior would avoid further exhaustion of this limited resource. A seemingly self-defeating behavior of watching tearjerker movies when feeling sad therefore can be explained simply in terms of emotional self-regulation failures. By adapting this perspective, current study aims to test the intertwined relationships among habit, emotional self-regulation and moods on entertainment media behavior.

It is also aim of this study to address some of the methodical issues that were addressed in the previous sections. For example, to overcome the potential confounds of habit construct this study manipulates cognitive accessibility rather than rely on self-reports of the frequency of past behavior in its operational definition of habits. To avoid the possibility that a reactive treatment might have been responsible for some MMT results, the mood induction procedure employed in this study does not include showing emotion-evoking video clips or stressful puzzle/question solving procedures. The extreme forms of affect-provoking manipulations used in some previous

studies (Bryant & Zillmann, 1994; De Wied et al., 1995; Knobloch & Alter, 2006; Zillmann et al., 1980) could intensify ego depletion by forcing individuals to struggle with their own emotions. For example, in one of the most cited experimental studies of MMT, Bryant and Zillmann (1994) put subjects into negative mood by using GRE questions, a method commonly used in experimental psychology for manipulating ego-depletion (Fennis, Janssen, & Vohs, 2009, Study 2; Gailliot et al., 2006, Study 7; Schmeichel, Vohs, & Baumeister, 2003). Such tests are regarded very complex and demanding on the executive functioning, requiring multiple cognitive processes such as encoding, memory maintenance and updating as well as multiple arithmetic operations. Going through such tests exhausts self-regulatory resources. Thus, ego depletion emerges as a potential determinant for the results of mood management research. Rather than selecting content to regulate their mood, individuals could instead be attempting to revive themselves from states of ego depletion.

In the light of the previous literature, it is also evident that habitual responses increase in ego-depleted states. Thus, ego depletion and habit strength may be expected to act together, such that habitual media choices are more likely to occur in depleted states than non-depleted ones. In two distinct studies, these hypotheses will be put to empirical investigation. In this study, MMT and SCT are pitted against in determining entertainment content under the influence of sad moods. Putting all subjects in a sad mood, and manipulating habit strengths for comedic and dramatic content, it is predicted that subjects whose emotional self-regulation is depleted will select more habitual entertainment video options than those whose emotional self-regulation is not depleted. By holding the mood constant across subjects, it tests the hypothesis that when emotional self-regulation is depleted habitual preferences interfere with hedonic choices such that dramatic content may triumph against comedy contrary to MMT expectations.

MMT posits that interest in hedonic affect regulation is always stronger when people are in either negative (Gendolla, 2012; Taylor, 1991; Zillmann, 1988) or positive (Wegener & Petty, 1994) moods. It also suggests that negative mood leads to stronger preferences for elating materials than positive or neutral moods (Zillmann, 1988). However, the mood-management account does not highlight the role of ego-depletion as a critical variable in affect regulation and has consequently not provided predictions comparing the impact of depleted or non-depleted states, as compared to positive or negative moods, on affect regulation. As Baumeister (2003) assumed, positive emotions may lead to restoring limited self-regulation capacities. In other words, there is likely a bidirectional association between positive affect and self-regulation such that after an initial act of self-regulation, inducing positive emotion can counteract the effect of ego depletion. For example, in one study, Tice, Baumeister, Schmueli, and Muraven (2007) showed comedy videos to their participants to induce a positive mood and observed that those who watched comedy clips performed better on self-regulation demanding tasks than those who watched neutral videos and control group who were not ego-depleted. Thus, their experiment showed that it is possible to replenish self-regulation by influencing mood in a positive way. If MMT expectations are right, there should be no difference whatsoever between those who are ego-depleted and those who are not, and all subjects should prefer comedy over drama uniformly due to the hedonic valence of comedy (Zillmann, 2000). However, it is predicted that in order to repair depleted self-regulation people will prefer comedic content. Therefore:

H1: Subjects whose emotional self-regulation has been depleted will choose comedy over drama more often than non-depleted subjects will, following the induction of a sad mood.

Habits have been observed to determine wide range of media including but not limited to specific types of Internet use (LaRose et al., 2008; Wohn et al., 2012) and video game play (Hartman et al., 2012). However, there is dearth of data in the realm of entertainment media, especially in entertainment video use. The repetitive nature of most entertainment media exposure (e.g., television) makes it an important research subject. Understanding entertainment media use may serve in future studies by shedding light on excessive media use as well. Repetition may well contribute to formation of strong media habits. Also, in accordance with the strength model of ego-depletion, making habitual choices is not only a result of depleted self-control but also a strategy to conserve scarce reserves or even to restore them (Baumeister & Vohs, 2007; Muraven, Tice & Baumeister, 2000). As previously mentioned, when substituting active media selections with automatic, non-consciously selected alternatives; people conserve their limited resources for cognitive or emotional regulation. Moreover, habit activation emerges as a rival explanation since instead of consciously evaluating every option most real world media selections are habitual (Wood et al., 2002).

To investigate the relation between self-regulation capacity and habit inhibition, Vohs, Baumeister, and Ciarocco (2005) employed the dual task paradigm with variations in overriding habits. Participants who first engaged in a resource-depleting task, such as a Stroop color-naming task, subsequently were less able to inhibit habitual self-presentations in interactions with others (Studies 1-4). They also demonstrated that overriding habitual self-presentations, such as presenting oneself as having gender-inconsistent attributes, reduced the ability to self-regulate in subsequent tasks that require self-control, such as physical stamina in maintaining a hand grip (Studies 5-8). Their findings showed that depletion of self-control resources impairs the inhibition of habits, and conversely, the inhibition of habits depletes self-regulation. Applying

this perspective into media content preferences it is expected that regardless of the nature of the content, hedonic or a non-hedonic, as long as the media alternative is habitual and people are ego-depleted, people with strong habits are more likely to give in to the force of their habits when compared to those with weak habits. Therefore, when already self-depleted people are expected to prefer habitual content to non-habitual content.

H2: Following the induction of a sad mood, those with high levels of habit strength for comedic content will choose content consistent with their genre habits (i.e., comedy over drama) more often than those with drama habits while those with drama habits will choose content consistent with theirs (i.e., drama over comedy).

It can be asked why would habits form around genres. The concept of "entertainment media selection" in the realm of television carries multiple meanings, covering programs, distribution platforms, channels, and genre choices. Making generalizations regarding channels presents some difficulties as they vary in types of programming their schedules gravitate around. As some channels portray wide range of programs and genres, others are less fragmented, focusing on a single type of programming (travel, news, etc.). Alternatively, genre may be meaningful and useful marker for viewers. Despite the fact that program selections provide information about habit formation at a more specific level, as Wober and Gunter (1986) pointed out, preferences for specific shows and particular episodes may vary, but preferences for genre remain relatively stable. Similarly, Webster and Wakshlag (1983) maintained that "conventional, 'common sense' program types (such as drama, situation comedy, and so on) present some systematic relationship to program preference" (p. 436). Results of a study by Hawkins et al. (2001) further confirmed Webster and Wakshlag's assertion and showed that those who regarded

themselves as experts in situation comedies (in other words habitual viewers) watched significantly more situation comedy than would be expected based on their total amount of viewing. In sum, genres provide a useful framework for interpreting media messages, and media habits surrounding them.

Until now, no one has examined the interaction effects of emotional self-regulation and habits on media selection. In addition to the mood management literature (Zillmann & Bryant, 1985; 1994), self-regulation studies also show that hedonic motivations seem to serve people in ego-depleted states (Tice et al., 2007). It can be expected that when emotional self-regulation is depleted, habitual content will be people's first choice, to either restore or else avoid further diminishing of self-regulatory powers. Pre-existing habits might explain why respondents often fail to select the "right" choice that would logically regulate their moods. Future research might benefit from controlling pre-existing habits or manipulating them. The paradox of watching dysphoric content then may be expected to happen as a failure of emotional regulation in low habit conditions. The following hypothesis will be tested in current study to examine interaction effects:

H3: There will be an interaction between emotional depletion and habit strength such that choices that are consistent with habits will be more frequent when emotional depletion is present than when it is absent following the induction of a sad mood.

3. METHOD

3.1. Participants

Participants for this study were recruited from a large Western university in the United States in return for a partial course credit. A total of $N=144$ undergraduates participated in the 2(emotional regulation state: depleted vs. non-depleted) X 2(habit state: high comedic habit strength vs. high dramatic habit strength) between subjects design experiment for extra course credit. The state of emotional self-regulation and habitual preference states were independent variables and number of comedic selections out of 10 choices was the dependent variable. Of these participants, 61 (42.36%) were men and 83 (57.63%) were women. The mean age was 23.42 ($SD=5.69$) and the median was 22, ranging from 18 to 52. Mood management (Knobloch & Alter, 2006) and media enjoyment researchers (Sparks, Sherry & Lubsen, 2005) report moderate effect sizes of .23. Cell size in a 2x2 factorial design with an estimated power of .80 and an alpha level of .05 is 38 (Cohen, 1977).

3.2. Procedure

Figure 1 presents the procedure sequence in detail. Procedures applied in this study were designed according to APA ethical standards and were IRB approved. Data was collected over a 1-month period beginning at November 2012. Invitation letters were sent to the respondents by e-mail and they were offered extra credit in return of participating in the study.

The experiment sessions were conducted in four steps: an initial session in which subjects were informed about the study and consents for participation were acquired, a series of interventions including ease of memory retrieval regarding media use, mood and emotional self-regulation manipulations, a selection step in which participants were asked to queue-up video clips to view using the interface created for the study and a follow-up step, in which participants

provided additional information on the enjoyment of the interaction experience with the video selection interface.

Subjects were randomly assigned to the conditions upon arrival at the lab. All questionnaires and instructions were presented online and participants were asked to complete them at a computer lab with individual stations. Each computer was set to one of the four conditions: ease of retrieval; drama easy or comedy easy, and emotional self-regulation; depleted or non-depleted. Randomization of seating was ensured by using Latin squares rotation of the seating. Participants of the experiment sessions ranged from four to eight.

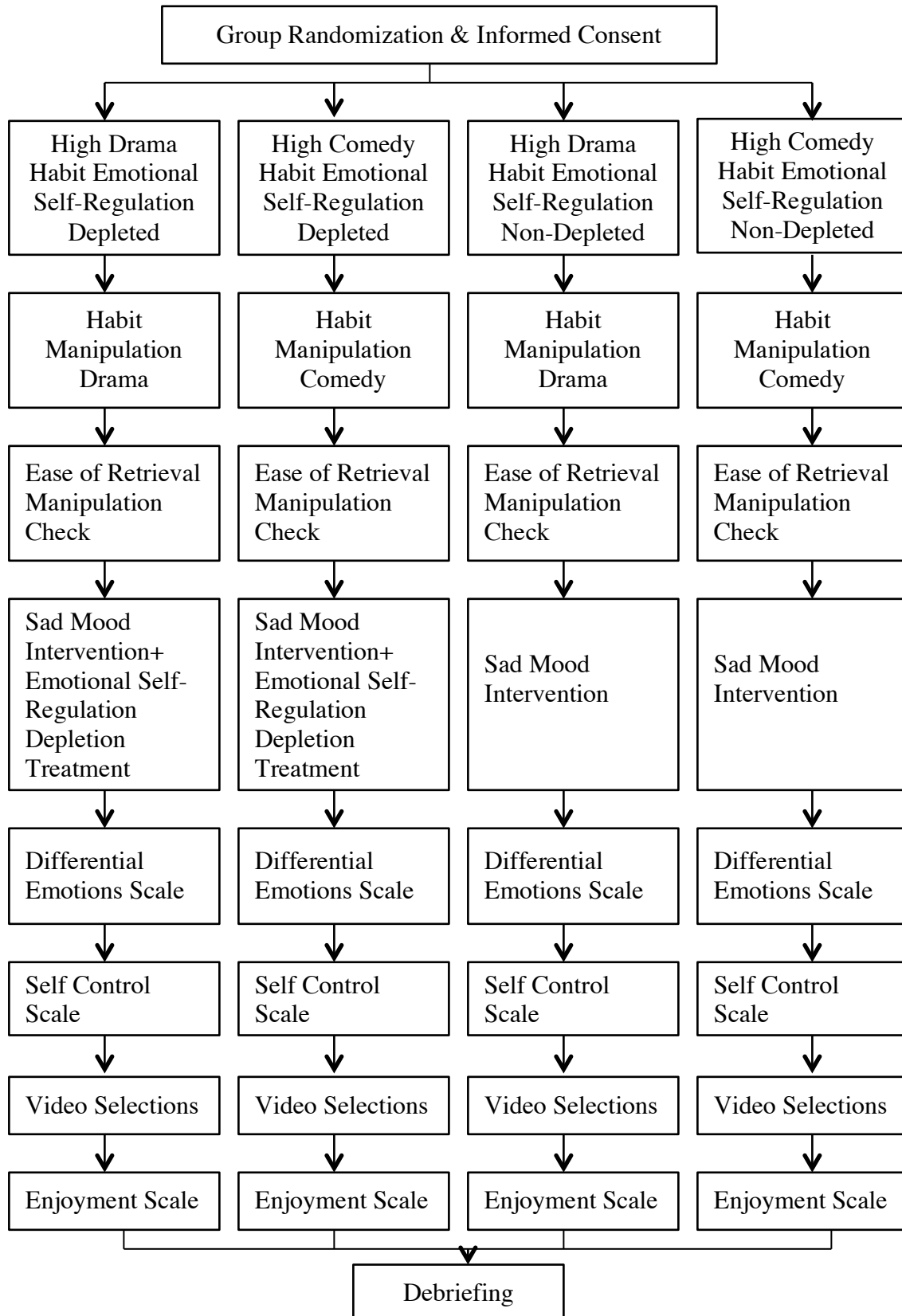
All experimental sessions of the Study 1 were held at the same lab. Computer stations were spaced to provide maximum induction. Participants were unable to see each other's monitors during the sessions and there were empty seats and wooden separators between the subjects. There were 20 computer stations in the lab with webcams attached to the monitors. Distractions were considered minimal.

To eliminate subjective bias on the part of experimental subjects, hence to assure internal validity, subjects were told that the study was about testing an online entertainment video website. Subjects were let to believe that they were going to evaluate the interface that was a beta version of a new video portal. In addition, as a part of the emotional self-regulation manipulation, participants in the emotional self-regulation depleted group were told that they were being videotaped; in fact, no recording was made. All subjects were debriefed after the completion of the experiment via e-mail.

According to the limited resource model of self-regulation, people are better at self-regulating themselves when they first wake up (Baumeister & Vohs, 2007). After the tear and wear of everyday life, the executive capacity decreases as their day to reaches an end. Therefore,

in order to avoid confounding effect of time of day on state emotional self-regulation, sessions were held between 10 am and 5 pm.

Figure 1 Graphical representation of experimental procedure



3.3. Manipulations

3.3.1. Habit manipulation

Strength of habitual media content preference was manipulated by inducing ease of retrieval (Armitage, 2007) on comedic and dramatic genres. In the high comedy habit condition, subjects were asked to generate and type in three examples of comedic videos and then eight examples of dramatic videos they had watched recently. In the high drama habit condition, they were asked to generate three examples of dramatic videos and then eight examples of comedic videos.

3.3.2. Mood manipulation

In the extensive literature of mood and behavior relationship, the most commonly used negative mood induction method is exposing subjects with mood-evoking movie clips (Westerman, Spies, Stahl & Hesse, 1996). As successful as this method has been, it was not preferred for the purposes of this study due to the potential confounding effects on the dependent variable. That is, viewing a sad film clip might prime some individuals to pick a sad video by making the association between mood and media choice more accessible. Instead, participants were asked to remember past unpleasant events from their life experiences. Several studies have shown autobiographical recollection procedure to be effective in changing mood states of individuals (Baker & Guttfreund, 1993; Brewer, Doughtie, & Lubin, 1980; Mosak & Dreikurs, 1973; Schwarz & Clore, 1983). Moreover, they are personal and involve the recalling of feelings from naturally occurring events, while viewing video clips is somewhat impersonal and involve developing feelings from contrived movie parts. Therefore, to test the role of self-regulation in case of negative mood states, firstly all participants were put through the Autobiographical Recollections Induction (Mosak & Dreikurs, 1973). This manipulation included asking

participants to think about the two saddest events in their lives and take written notes with the following instructions:

“We would now like to ask you to take a few minutes to look into your past and think about what have been the two saddest events in your life.

Take ten minutes to think of these events. We would like you to try and think of all the details of what was happening at the time, to the point that you could imagine this happening to you right now. You may take notes if you like. Think about how old you were, who were the people or events involved, and what your feelings were. When the time is over, we will ask you to answer a few questions related to the images you thought of.

It is very important that you take this reflection exercise seriously. Think of those events that made you feel unhappy, lonely, rejected, defeated, or hurt. Please sit back, close your eyes, put your head down or get into a position that will best allow you to get in touch with your feelings. Take your time and think about these sad events.

Start now and the "next" button will be activated when the time is over”

Upon completion of the imagination task, several unrelated questions were asked about the recollection in order to prevent suspicion about the mood manipulation. These questions were: “ Approximately how old were you at the time of the first/second event?” “In what city did this happen?” “Which event was the sadder of the two, first or second?” This was followed by an assessment of participants’ perceived difficulty of concentrating on their pasts. The responses ranged from very *easy* (1) to very *difficult* (7).

3.3.3. Emotional Self-Regulation Manipulation

In the light of prior research, manipulation for emotional self-regulation included instructions to hold facial expressions while concentrating on the pasts (Muraven et al., 1998;

Schemeichel, 2007). Participants in this condition were let to believe that their facial expressions were being videotaped but actually, no video recording was made. In the emotional regulation non-depletion condition, participants were not required to repress their emotions. The instructions for the emotional self-regulation depletion group during the negative mood induction was as follows:

*Your task for this part of the experiment is to experience no emotional reaction whatsoever while concentrating on those sad events. **Our experimenters will start recording your facial expressions with camcorders.** Thus, make sure that you control both your face and your body language, and keep thinking about the saddest events in your life.*

To ensure holding facial expressions, webcams were placed on top of each monitor. Progress of each student was monitored with a central computer and when subjects reached this step in the experiment, experimenters approached the computer station and plugged in the web cam to the monitors. By doing so, the green light on the webcams was activated and hence, gave the participants the pretense of recording. In reality, no recordings were captured. To eliminate distractions computers were set not to run automatic new hardware recognition processes. When the experimenter plugged in behind the monitors, another experimenter at the central computer gave a confirming signal (thumbs-up) pretending the visual connection was established. Experimenters pretended to adjust getting the face in the frame by moving webcam slightly up and down. During the time of the self-regulation, manipulation the green light was on. When they completed the question, the experimenters turned off the webcams. Subjects in the non-depletion condition also had the webcams attached to their computers, but the lights were off and were not plugged in by the experimenters. To ensure minimum distraction, subjects in the self-

regulation non-depletion condition were seated to turn their backs to the subjects in the depletion condition, so they were unaware of the fake recording processes.

3.4. Measures

Ease of retrieval was measured with the item: “How difficult did you find it to generate eight examples of you watching (comedic or dramatic, depending on the condition) media programs?” Participants responded on a 7-point scale ranging from *easy (1)* to *difficult (7)*. The purpose of using ease of retrieval, as a measure for habit strength is that individuals make judgments of the likelihood of their own behaviors from the ease with which they can retrieve relevant information from their memory. Using such meta-memory beliefs as a manipulation for self-related judgments has previously been validated in the literature as a measure of habit strength (Aarts & Dijksterhuis, 1999).

The manipulation check for emotional self-regulation depletion was the Self-control Scale by Ciarrocca, Twenge, Muraven and Tice (unpublished manuscript). The scale had six items and responses ranged from *strongly disagree (1)* to *strongly agree (7)*, higher scores indicating less emotional self-regulation. Items included “I feel drained,” “I can feel like my willpower is gone,” “I would want to quit any difficult task I was given,” “If I were tempted by something right now, it would be difficult to resist” and a reverse item “I feel calm and rational”.

Mood induction procedure included autobiographical recollection method. Several studies have shown autobiographical recollection procedure to be effective in changing mood states of individuals (Baker & Guttfreund, 1993; Brewer, Doughtie, & Lubin, 1980; Mosak & Dreikurs, 1973; Schwarz & Clore, 1983). It asks subjects to reflect on their memories of two of the saddest events in their lives. Subjects were told to expect questions regarding these events after they concentrated on their pasts for ten minutes. To measure the effectiveness of mood

induction procedure, happiness and sadness sub-scales of the Differential Emotional Scale (Boyle, 1984; Izard, 1972) was used. This scale lists 30 emotions and asks the rater to indicate the intensity of the feelings on a 7-point scale ranging from *not true at all (1)* to *very true (7)*, in this case as of the time of the experiment. Negative mood was measured with an additive index of items listing “sad,” “discouraged,” “downhearted,” and “discouraged” while positive mood was measured with the summary scores on the items “happy,” “joyful,” “delighted,”.

As part of the cover story, completing the video selection task subjects were asked to evaluate their experiences with the interface by responding to enjoyment/interest sub-scale of the Intrinsic Motivation Inventory (Tamborini et al., 2010). The 7-item scale included statements such as “I enjoyed doing this activity”, “I would describe this activity very interesting” and “While doing this activity, I was thinking about how much I enjoyed it”. There were two reversely stated items in the scale: “This activity was boring” and “This activity didn’t hold my attention at all”. Responses range from *not true at all (1)* to *very true (7)*.

3.5. Dependent Variable

The dependent variable for this study was media selection behaviors and measured by the number of comedic or dramatic shows ranging from 0 to 10. A similar measure of entertainment media selection behavior was used in most MMT studies (Zillmann, 1984). For example, Zillmann (1984) used six pre-recorded TV program clips that were simultaneously available. Choice of the programs and exposure time in seconds were treated as dependent variable. In another study Bryant and Zillmann (1984), selected six 15-minute segments of television programs as selection pool for their subjects. Each of the three representative entertainment materials (relaxing vs. exciting) were pretested and withdrawn from 32 segments, 18 exciting and 18 relaxing.

In keeping up with the convergence of media outlets and popularization of online entertainment networks, a special media interface was created for the experiment to simulate media choices made in services such as Hulu and Netflix. Figure 1 and Figure 2 are screenshots from the “My Video Chooser”, which presented 30 thumbnails and hyperlinks to three-minute clips of popular shows categorized under comedy and drama genres. Respondents were told that their task was to evaluate a new design for an online video interface, which allows users to “queue up” a series of shows for viewing. They were asked to choose ten shows from the interface and click on the “add” button under those they would like to watch at that moment. After the tenth selection, the interface was programmed to open a media player. The comedic options in the list were coded with 1 and dramatic options were coded as 0. The additive index for 10 choices was created with higher values reflecting higher preferences for comedic content.

A diary study by Hill, LaRose, Hartmann and Ozkaya (2010) revealed a list of shows that were rated as pleasant and happy, or unpleasant and sad. This list was incorporated with the Nielsen’s top rated 25 TV shows for populations aged 18 to 34 during March 2011 (Gorman, 2011), reported monthly at the TV by the Numbers Website (tvbythenumbers.com). The thumbnails for the shows were downloaded from the Internet Movies Database (IMDB.com), a website where users can find detailed information about TV shows, movies and artists. For each title, three-minute clips were recorded from the last episode aired in the first week of March. Comedic content consisted of 15 feel-good or humorous TV programs such as “*Two and a Half Men*,” “*The Office*,” “*Family Guy*,” etc. Dramatic content included programs such as “*Law and Order*,” “*Criminal Minds*” “*Fringe*”, etc. Participants were led to believe that the study was about testing a new online video interface that would help people select videos more efficiently. Subjects were asked to pick 10 shows that they would like to watch. To avoid ceiling effects due

to presentation of the videos, the order of the dramatic and comedic shows were shifted at every fourth subject.

Figure 2 Screenshot of the interface for entertainment video clip selection showing dramatic alternatives. For interpretation of the references to color in this and all other figures, the reader is referred to the electronic version of this dissertation.

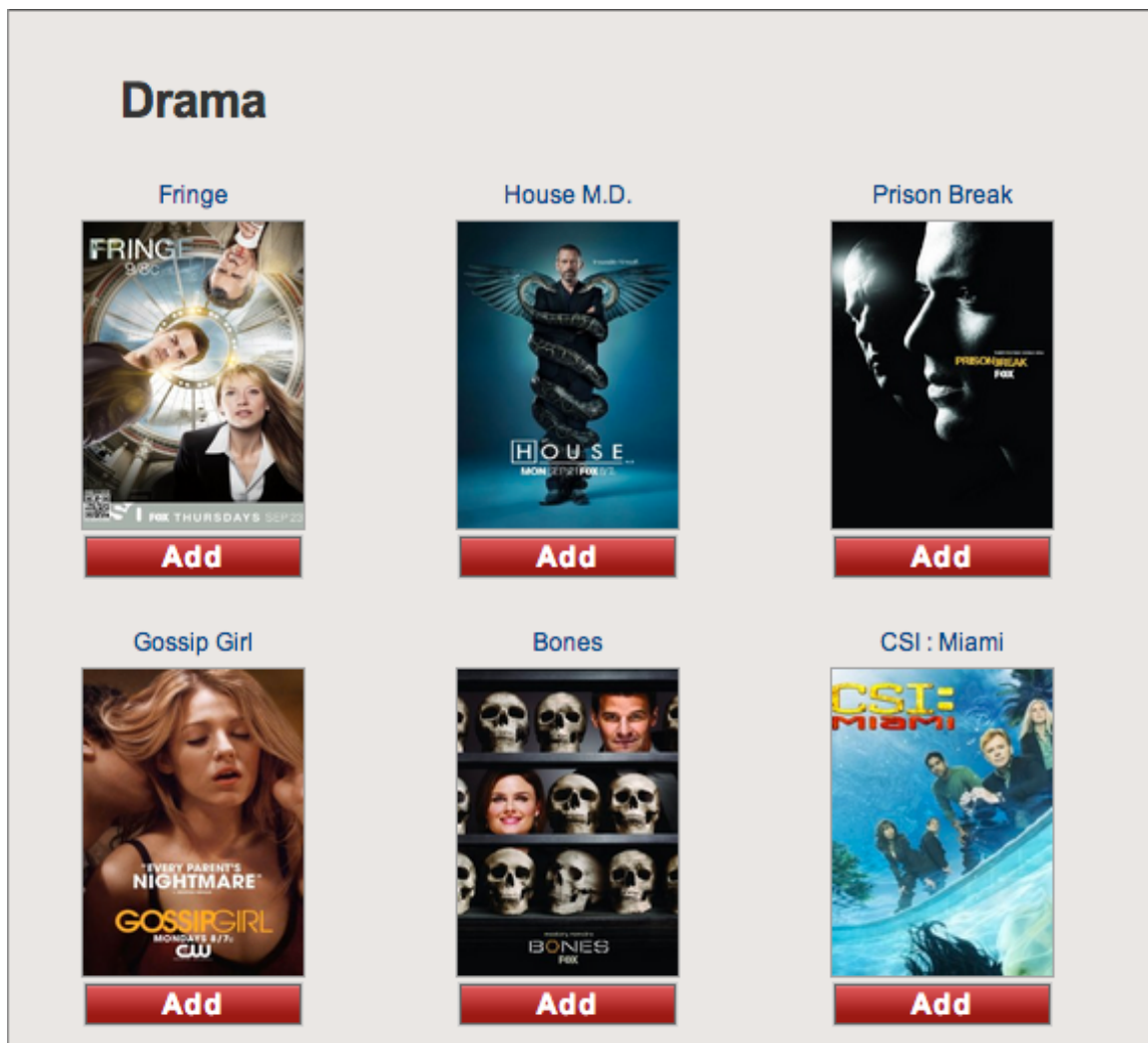
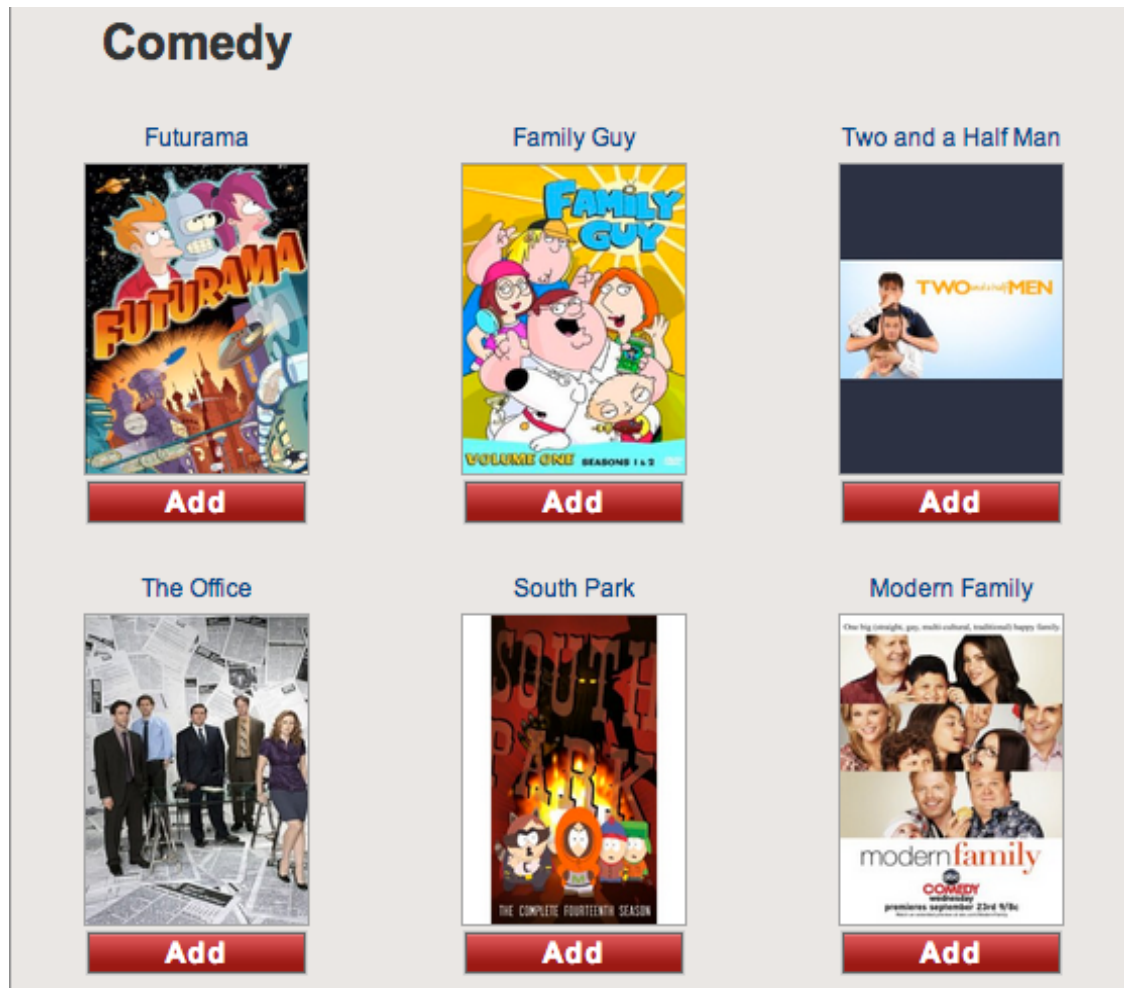


Figure 3 Screenshot of the interface for entertainment video clip selection showing comedic alternatives.



4. RESULTS

The final sample that underwent statistical analysis comprised of 144 undergraduate students. Data analyses were done using the Statistical Package for the Social Sciences version 19. Table 3 shows socio-demographic variables.

Table 3 Socio-demographic variables about participants ($N=144$)

Variable category		<i>N</i>	%
<i>Age</i>			
	18-26	122	84.7
	27-35	15	10.4
	35-43	5	3.5
	44-52	2	1.4
Years (<i>M, SD</i>)			23.42, 5.69
<i>Gender</i>			
	Female	83	57.63
	Male	61	42.36
<i>Ethnicity</i>			
	Asian	57	39.6
	Caucasian	27	18.8
	Hispanic/Latino	40	27.8
	African American	2	1.4
	Other	18	12.5

4.1. Manipulation checks and randomization

To ensure that the emotional self-regulation treatment was not influenced by the time of the day subjects participated in the study, an independent samples t-test between self-control scale scores and time of the experiment participation was computed. According to the limited resource model of self-regulation (Muraven & Baumeister, 2000) self-regulatory resources are impaired by acts of self-control. In line with this hypothesis, studies consistently found that subjects were better in controlling self when they were well rested (e.g., in the morning) than

when they were tired (e.g., late in the day) (Baumeister, Heatherton, & Tice, 1994). Time of the sessions in this study ranged from 10:15 am to 5:00 pm, with a median of 13:40. The independent t-test results showed no significant differences on emotional self-regulation scale between the groups that participated in the study between 10 am to 13:30 pm ($M=2.94$, $SD=1.20$, $N=66$) and 13:30 pm to 5:00 pm ($M=3.35$, $SD=1.28$, $N=78$), $t(142)=-1.72$, $p>.05$ (two-tailed). In addition, the potential confounding effects of the order with which the video options were presented was tested with an independent samples t-test. Results showed that the order of the presentation of video clips; comedy options first ($M=6.06$, $SD=.96$, $N=74$) or drama options first ($M=5.61$, $SD=1.62$, $N=70$), did not produce a statistically significant effect on the number of video selections, $t(142)=-1.50$, $p>.05$ (two-tailed).

Armitage (2007) used ease of retrieval as a measure for the manipulation of judgments regarding past behaviors. This phenomenon regards self-judgments, including those related to habits, being subject to the ease with which relevant information is accessed from memory, such that people believe that they are more likely to have done certain behaviors more frequently if they remember them easily. In line with this argument, ease of retrieval task was used to manipulate habit strength. As expected, subjects in the high comedy habit condition reported greater ease ($M=3.04$, $SD=1.94$, $N=72$), with listing three instances of past comedic content watching than those were in the high drama habit condition ($M=3.76$, $SD=2.04$, $N=72$), $t(142)=2.15$, $p<.05$ (one-tailed) in which they were asked to list eight instances. Similarly, an independent samples t-test was conducted on the responses to the difficulty with listing eight comedic content examples. Results showed that participants who were asked to create eight instances of past behavior of watching comedic content (those in the high drama habit condition) found the task significantly more difficult ($M=4.94$, $SD=1.60$) than participants who were asked

to create three instances of watching comedic content (those in the high comedy habit condition) ($M=4.42$, $SD=1.86$), $t(143)=-1.80$, $p<.05$ (one-tailed).

Emotional self-regulation was manipulated in a negative manner in depleted group as intended. The Self Control Scale which had five items showed an acceptable reliability score (Cronbach's $\alpha=.77$, $M=15.78$, $SD=6.30$, $N=144$). Higher scores on the scale meant more emotional self-regulation depletion. The independent samples t-test showed that participants in the emotional self-regulation depleted condition scored higher on the emotional self-regulation scale ($M=3.55$, $SD=1.25$, $N=72$) than participants in the non-depleted condition ($M=2.98$, $SD=1.25$, $N=72$), $t(142)=1.63$, $p<.05$ (one-tailed), indicating that the manipulation for self-regulation depletion was effective. The manipulation check for emotional self-regulation also included the question “how difficult did you find it to concentrate on your past?” The scale had seven responses ranging from very easy to very difficult, and had a median score of 3.00. As expected subjects in the emotional self-regulation depletion group reported significantly higher difficulty in concentrating on their past ($M=3.65$, $SD=1.54$, $N=72$) than those who were in the non-depleted group ($M=3.07$, $SD=1.69$, $N=72$), $t(142)=2.16$, $p<0.05$ (one-tailed), $\eta^2=.03$.

To measure the effectiveness of the mood induction procedure, happiness and sadness sub-scales of the Differential Emotional Scale (DES)-IV were used (Izard, 1972; Boyle, 1984). This measure was designed to assess an individual's subjective experience of emotions and had 10 fundamental emotion categories including sadness and happiness. The sadness subscale included the items sad, downhearted, and discouraged as negative mood indicators. The happiness subscale consisted of the items happy, delighted and joyful as positive mood indicators. Responses ranged from *not true at all* to *very true* on a 7-item Likert scale. Reported evidence of internal consistency alphas ranged from .51 to .88, and test re-test reliability of .70

and .77. Boyle (1984) and Akande (2002) have provided evidence supporting the reliability and validity of the DES. Reliability score of the scale was $\alpha = .80$ ($M=4.20$, $N=144$, 7 items). An additive index of the items “sad,” “downhearted,” “discouraged,” had a mean score of 3.03 with a standard deviation of 1.63. An additive index of the happiness subscale consisted of the items “happy,” “joyful,” and “delighted” had a mean of 3.68 ($SD=1.74$). The sadness subscale had a mean score of 3.56 ($SD=1.00$). The responses on the negative mood measurement items and positive mood measurement items were negatively correlated ($r = -.51$), and the correlation was significant at the .01 level (1-tailed). This result is consistent with earlier studies that used DES as a manipulation check for mood treatment (Gross & Levenson, 1995; Salovey & Birnbaum, 1989). A one sample t-test was conducted on the negative and positive mood scores to evaluate whether their mean was significantly different from 4, the midpoint of the scale. As the the mean score for negative mood was lower than the midpoint significantly $t(143) = -7.07$ $p < .05$ (one-tailed), manipulation check showed that the mood manipulation did not put subjects in a negative mood.

Enjoyment was measured with the enjoyment/interest sub-scale of the Intrinsic Motivation Inventory (Tamborini et al., 2010). Cronbach’s alpha for the enjoyment scale was .75 ($M=29.21$, $SD=7.95$).

4.2. Descriptive Data

Participants in this study made an average of 5.84 ($SD=0.15$) comedic choices out of 10 selections. All the participants made exactly 10 selections, no missing data was reported on the dependent variable. Table 4 shows the descriptive statistics of the variables and Table 5 presents the zero order correlations among all variables. The number of comedic video choices was significantly negatively correlated to habit strength.

Table 4 Means and standard deviations of the variables, N=144

	<i>Mean</i>	<i>Std. Dev.</i>
<i>Negative mood items (sad, downhearted, discouraged)</i>	3.56	1.00
<i>Positive mood items (happy, delighted, joyful)</i>	3.69	1.74
<i>Self-control scale</i>	3.16	1.26
<i>Enjoyment</i>	4.17	1.05
<i>Difficulty concentrating on past</i>	3.36	1.64
<i>Ease of retrieval 8 comedies</i>	4.68	1.77
<i>Ease of retrieval 3 comedies</i>	3.40	2.04
<i>Age</i>	23.42	5.69
<i>Number of comedic content selections out of 10</i>	5.85	1.81

Table 5 Zero order correlations among variables

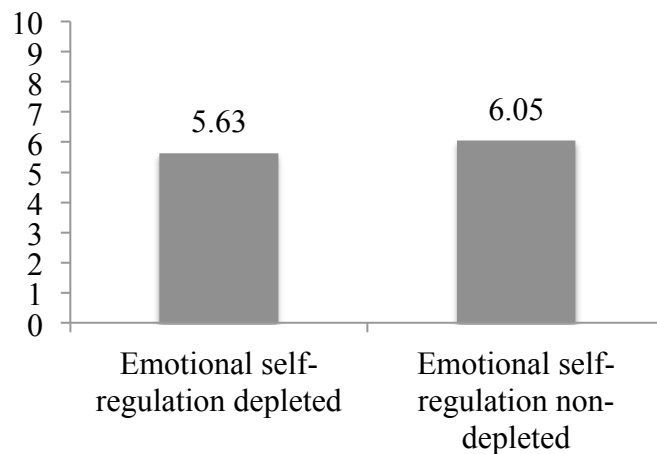
		1	2	3	4	5	6	7	8	9	10	11	12
1	<i>Negative mood items (sad, downhearted, discouraged)</i>	1											
2	<i>Positive mood items (happy, delighted, joyful)</i>	-.51**											
3	<i>Self-control scale</i>	.44**	-.32**										
4	<i>Enjoyment</i>	-.03	.16	-.06									
5	<i>Difficulty concentrating on past</i>	.04	-.13	.18*	.04								
6	<i>Gender (male=1 or female=2)</i>	.17*	.01	.15	.04	.05							
7	<i>Age</i>	-.20*	.13	-.11	.07	.21*	.01						
8	<i>Time of participation (morning or afternoon)</i>	.01	-.08	.16	-.08	.13	.03	.09					
9	<i>Ease of retrieval, 3 comedies</i>	-.09	.03	.15	-.03	.00	.10	.17*	-.02				
10	<i>Ease of retrieval, 8 comedies</i>	.35**	-.24**	.16*	-.09	.13	.04	-.07	-.10	-.34**			
11	<i>Number of comedic selections out of 10</i>	-.04	-.04	-.09	-.01	-.02	-.14	-.07	-.02	-.11	-.09		
12	<i>Number of comedic selections out of 3</i>	.02	-.04	-.11	-.02	-.04	-.16	-.08	-.03	.08	.00	.56**	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

4.3 Hypothesis Testing

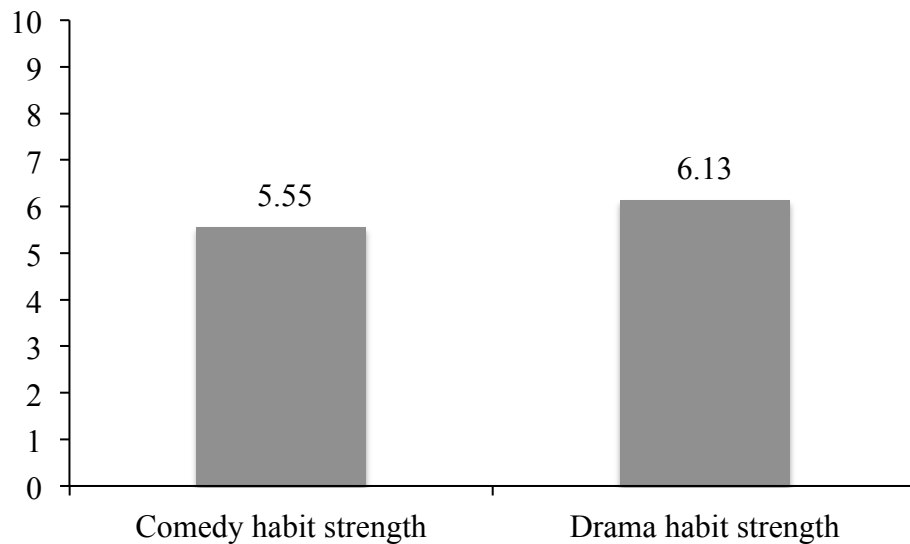
The first hypothesis predicted that subjects whose emotional self-regulation had been depleted would choose comedy over drama more often than non-depleted subjects would, following the induction of a sad mood. The number of comedic preferences observed was analyzed as a function of emotional self-regulation state (depleted vs. non-depleted) in a one way between subjects analysis of variance (ANOVA). Opposing with H1 predictions, results of this test indicated marginally significant preference for comedic entertainment videos among those whose emotional self-regulation was not depleted, compared to the emotional self-regulation depleted group. The emotional self-regulation depleted group had an average selection of 5.63 comedy videos ($SD=1.75$, $N=72$) whereas the non-depleted group had an average of 6.05 ($SD=1.86$, $N=72$) $F(1,143)=1.93$, $p=.08$, $\eta^2=.01$. Figure 4 shows the mean comedic content selections by emotional self-regulation treatment.

Figure 4 Mean comedic content selections by emotional self-regulation state



The second hypothesis concerned with the effect of ease of retrieval and predicted that subjects with manipulated habit strength for comedic content will choose content consistent with their experimentally induced genre habits (i.e., comedy over drama) more often than those with drama habits, while those with drama habits will choose content consistent with theirs (i.e., drama over comedy). The data were consistent with this hypothesis. Subjects in the drama habit strength group preferred significantly fewer comedic videos ($M=5.55$, $SD=1.86$) than subjects in the comedy habit strength group ($M=6.13$, $SD=1.73$), $F(1, 142)=3.79$ $p < .05$, $\eta^2=.02$

Figure 5 Mean comedic content selections by habit manipulation



The third hypothesis of this thesis predicted the interaction effects between habit strength and emotional self-regulation state. To test this hypothesis, data were analyzed with a two-factor between subjects ANOVA. Contrary to H3 predictions however, interactions effects did not approach statistical significance $F(1, 143)=.08$ $p>.05$. Figure 5 shows the result of two way between subjects ANOVA and Table 5 summarizes the significances for the main and interaction effects.

Table 6 Significances for the main and interaction effects for number of comedic choices out of ten selections $N=144$.

	<i>M (SD)</i>	<i>F</i>	<i>Sig of F (two-tailed)</i>
<i>Emotional self-regulation state (depleted vs. non-depleted)</i>	5.63 (1.75) 6.05 (1.86)	1.93	0.16
<i>Habit strength (comedy vs. drama)</i>	5.55 (1.86) 6.13 (1.73)	3.8	0.05*
<i>Interaction of emotional self-regulation state by habit strength</i>		0.08	0.78
* $p < .05$			

To ensure that those who did not get into the sad mood after the treatment did not bias the results, an additional analysis was performed on the number of comedic selections (out of 10). Specifically, those who were not in negative mood were excluded from the analysis. An additive index of negative mood items and reversely coded positive mood items was created. Subjects who scored lower than or equal to four on that index were excluded from the analysis. The results of the two-factor between subjects ANOVA test revealed significant findings only for the habit effects when number of selections were out of 10. Subjects in the drama habit strength group preferred significantly fewer comedic videos ($M=5.38$, $SD=1.94$) than subjects in the comedy habit strength group ($M=6.15$, $SD=1.73$), $F(1, 82)=3.22$ $p < .05$ (one-tailed), $\eta^2=.03$

Table 7 Means, standard deviations and significances for the main and interaction effects for number of comedic choices out of ten selections N=83.

	<i>M(SD)</i>	<i>F</i>	<i>Sig of F (two-tailed)</i>
<i>Emotional self-regulation state (depleted vs. non-depleted)</i>	5.45 (1.62) 6.00 (1.98)	1.39	0.24
<i>Habit strength (drama vs. comedy)</i>	5.38 (1.94) 6.15 (1.73)	3.22	0.05*
<i>Interaction of emotional self-regulation state by habit strength</i>		0.15	0.90
* $p < .05$			

However, two hypotheses of the study tended to receive support when the dependent variable was limited to the first three selections of the participants. MMT studies that used entertainment selection behavior as their dependent variables limited the number of selections to a few choices such as one choice (Strizhakova, & Krcmar, 2007), six choices (Zillmann, 1984; Meadowcroft & Zillmann, 1987) or eight choices at most (Helregel, 1989). An ordinal logistic regression analysis was conducted to predict number of comedic selections out of first three choices using emotional self-regulation state and habit strength state as predictors. The statistical significance of individual regression coefficients was tested using the Wald Chi-square statistic by the SPSS (Version 20) Ordinal Logistic Regression procedure. The first hypothesis predicted more comedic choices among subjects whose emotional self-regulation had been depleted following the induction of a sad mood, however, as shown in Table 8, Wald's chi-square statistics did not reveal significant results supporting this hypothesis ($p > .05$). Second, it was predicted that the subjects with high comedic habit strength would make more comedic choices ($M=2.90$, $SD=1.20$, $N=33$) than those with high dramatic habit strength ($M=2.57$ $SD=1.54$,

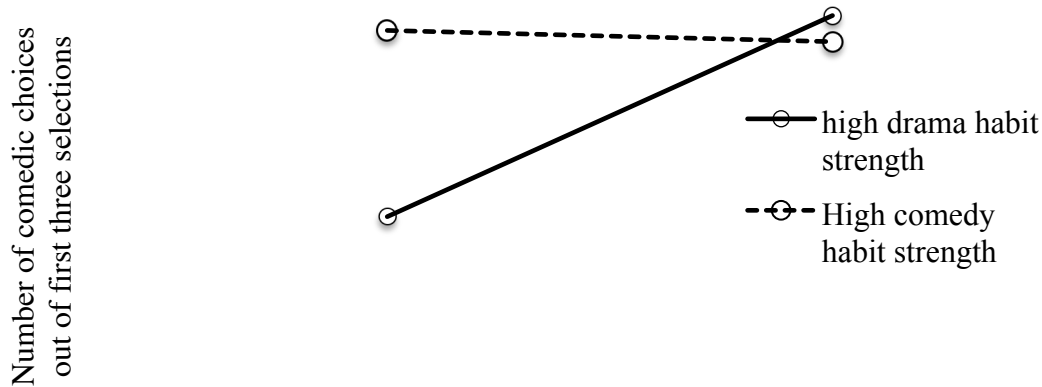
$N=28$). This hypothesis was supported, Wald's $\chi^2=3.80, p< .05$. Finally, the interaction hypothesis approached significance, such that ordinal logistic regression test revealed that choices that were consistent with habits were more frequent when emotional depletion was present than when it was absent following the induction of a sad mood Wald's $\chi^2=2.87, p=.09$. Further analysis was conducted to test the role of enjoyment in the model. A test of the full model against a constant only model was not statistically significant, (Wald's $\chi^2=4.13, p> .05$ with $df=3$).

Table 8 Logistic regression analysis of number of comedic choices out of first three selections by emotional self-regulation state and habit strength state $N=61$.

Predictor	β	$SE \beta$	Wald's χ^2	df	p
<i>Emotional self-regulation state (depleted vs. non-depleted)</i>	- 0.45	0.70	0.78	1	0.38
<i>Habit strength (drama vs. comedy)</i>	- 1.74	0.89	3.80	1	0.05*
<i>Interaction of emotional self-regulation state by habit strength</i>	- 1.83	0.28	2.87	1	0.09

$p<.05$

Figure 6 Number of comedic choices out of three selections as a function of high comedy and high drama habit contexts for emotional self-regulation depleted and non-depleted subjects.



Also an ANOVA test with emotional self-regulation state and habit strength state as two fixed factors and enjoyment as a covariate was conducted. However, enjoyment did not produce significant effect, $F(1,74) = 0.42$ $p > .05$.

Further analysis also showed that there were gender effects on the entertainment video selections. An independent samples t test results revealed that female subjects reported higher scores on the DES sadness subscale ($M = 3.2$, $SD = 1.61$) than male subjects ($M = 2.69$, $SD = 1.61$) did, $t(142) = -2.15$ $p < .05$ (one-tailed). Following the induction of a sad mood, female subjects selected ($M = 6.14$, $SD = 1.87$), on average, 0.52 fewer comedy videos than male subjects ($M = 5.62$, $SD = 1.74$), $F(1,143) = 2.94$, $p < .04$ (one-tailed), $\eta^2 = .02$.

5. DISCUSSION

The goal of this study was to identify relationship between habit strength and emotional self-regulation on selective entertainment video behavior as an alternative to the conventional mood management hypothesis. Habit strength for entertainment video genre and self-regulation states were manipulated under sad mood conditions.

Findings of this study suggest that habit strength has an effect on the entertainment video selection mechanism. Also, the selection behavior predicted by MMT model did not hold when habit strength is controlled. Unlike conventional MMT predictions (Zillmann, 1980), the induction of a sad mood, however weak, did not produce a preference for comedic content ($r(142) = -.03, p > .05$ two-tailed). Also, *post hoc* analyses among the subjects who reported higher scores on the negative mood scale than the midpoint (i.e., who reported being sad) revealed no significant relationships between number of comedic selections out of 10 choices, being in a sad mood ($r(81) = .06, p > .05$ two-tailed), or being in a happy mood ($r(81) = .02, p > .05$ two-tailed). Since habit strength had a significant effect on the video selections, this may further support the conclusion that habit strength may be an alternative explanation for inconsistent and insignificant findings of the MMT. Specifically, the findings regarding preference for non-hedonic content such as tragedies or dramas might be explained by habits.

Drawing from the limited resource model of self-regulation, this study predicted that in order to restore depleted sources of emotional self-regulation subjects would prefer more comedic alternatives instead of dramatic options. However, subjects whose emotional self-regulation was depleted tended to make comedic selections less often than their non-depleted counterparts did. Therefore, instead of reviving from the depleted state, the choices they made acted in a way that supposedly prolongs those states. Variation in preference for dysphoric

content can be explained by emotional self-regulation state. So regardless of the sad mood manipulation, subjects preferred negative content if they were in the ego-depleted group, but preferred comedies or positively-valenced content if they were in the non-depleted group. Another explanation can be moderating effects of self-efficacy. Studies applying moderated mediation analysis to predict self-regulation of demanding tasks indicated that self-efficacy is among the key determinants of the interplay between cognitions and subsequent behaviors (Wiedemann, Schuz, Sniehotta, Scholz, & Schwarzer, 2009). If positive emotions lead to decreased preference for dramatic content, such effects may be observed among those who have positive perceptions regarding their self-regulation repair strategies.

Further analysis showed that there tended to be a significant negative relationship between number of comedic choices and SCS scores among those who were in negative mood states, indicating that as the resources for emotional self-regulation diminished, the preference for comedic selections increased regardless of treatment condition. This was consistent with initial predictions and suggests that the effect of depleted emotional self-regulation may be limited to those who are in a sad mood. Emotional regulation and habit strength has never been controlled in MMT studies. However, results of this study favor a habit-congruence hypothesis. Therefore, it is possible that individuals were acting on pre-existing habits than moods in previous research. This alternative explanation might be especially useful in understanding gender related behavioral differences regarding entertainment preferences. Females showed higher likelihood of getting into negative moods and an increased preference for dramas in a sad mood compared to men. Pre-existing habits in female gender for dramatic content might be stronger and hence, in sad mood may manifest themselves as preference for habit-congruent media.

The third hypothesis of this study was that there would be interaction effects between ego state and habit state so that people would select negative content when they were in an ego-depleted state and their perceived habitual genre strength was manipulated for drama. Analysis of the data did not bring support for this hypothesis for 10 video selections. However, when the subjects who remained in a positive mood despite the sad mood induction were excluded from the analysis, the hypotheses tended to be confirmed for the first three selections. The rationale for the first three selections being influenced by emotional self-regulation state, habit strength state and the interaction of both could be due the falling back to habitual selections more in emotional regulation depleted states, instead of making hedonistic selections. For example, even though comedic alternatives have a stronger likelihood to cheer up, and lighten the sad mood effects, if one is in the habit of watching dramatic entertainment, in other words if it is accessed in one's memory more easily than any other alternatives, then it is less demanding on the self-regulation. Therefore, an automatic strategy activates itself when triggered by entering the sad mood and or passing the conservation threshold for self-regulatory resources. This process might account for the so-called paradox of sad films.

One explanation for both preferences for negative content when in a state of depleted emotional self-regulation, as well as the null interaction with habit strength, might be mood intensity. The strength with which mood is felt has been shown to have a non-linear relationship with media use (Knight, et al. 2002) such that if the mood is intense enough, it can block media use completely. And if it is low it may be ignored. The literature suggests that gender differences are unlikely to occur in response to negative stimuli that are at high levels or low levels of arousal. Post hoc analysis results were in support of this view. An independent samples t test with among the subjects who scored higher than the midpoint on the arousal and sadness

subscales of DES simultaneously did not reveal significant gender differences on number of comedic entertainment choices, $t(30)=1.16, p>.05$ (two-tailed). It is possible that observed results could be linked to differing levels of sad mood intensity among the subjects.

Another explanation could be previous success with mood management strategy in the past that formed media habits. This mechanism can be moderated by the past successes of such strategies that leave “traces” in the subconscious mechanisms responsible for habit formation (Zillmann, 1988a). For example, if drama helped to restore depleted states better than comedies in the past, individuals may find it more appealing as a strategy to repair diminished self-regulatory resources with tuning into that genre instead of comedies. Also, some dramas may possess restorative properties, such as the excitement of the chase in certain police dramas (e.g., *Hawaii Five-Oh*) or the sexual excitement of another type of chase in romantic drama (e.g., *Gossip Girl*). Others (e.g., *Bones*, *House*) have comedic moments of their own. The calming effects of more sedate dramatic fare might also restore self-regulatory resources.

Results of this study should be treated with caution though, not only because only sad mood and two genre options were tested but also because the methods of regulating negative emotions are several and may vary between persons and situations. Zillmann (1988a) suggested that arousing stimuli, even if they are absorbing and pleasant, are not as effective at reducing anger as are calming or at least nonarousing stimuli. A fan of exciting action movies may find, for example, that watching such a movie will fail to cure an angry mood although it may have worked well to cure a sad mood in the past.

Also, correlational analyses revealed that there is a substantial correlation between self-control and mood states. Self-control deficiency was negatively correlated with positive states ($r(142) = -.32$, see Table 5) and positively correlated with positive mood states ($r(142) = .44$).

Thus, negative mood states diminish emotional self-regulation. Analyses of this study showed that there tended to be a significant negative relationship between number of comedic choices and SCS scores among those who were in negative mood states, indicating that as the resources for emotional self-regulation diminished, the preference for comedic selections increased regardless of treatment condition. This poses a rival explanation to MMT findings such that not mood, but state of self-control, explains entertainment video preferences. In emotional self-control depleted states individuals are likely to fail to perform mood-congruent behavior. They are likely to make habit-congruent selections.

In understanding entertainment video choices, online streaming videos poses a different context from the traditional televised entertainment with less audience autonomy. Considering the technological developments in recording devices, together with the Internet's ever-existing repositories, it is possible that online video is a different context than conventional MMT studies. For example, if the subjects did not choose the televised entertainment then it would not be possible for them to make the same selection again. Contrasting in online videos in most of the

6. LIMITATIONS AND FUTURE STUDY

Although this study offers a model of program choice that integrates a great deal of theory and existing research, it is limited to two genres of entertainment videos. It is clear that available entertainment alternatives are far more diverse. For example, action-oriented dramas may restore depletion through exciting aspects such as car chases. In that light, it was interesting that results of this study revealed strong correlations between alert and attentive with sad moods. In order to be able to make generalizable claims further studies should integrate various different genres.

One important methodological limitation of this study was the strength of the mood and emotional self-regulation manipulations. Despite the fact that earlier studies reported success with Autobiographical Recollections Induction technique, with the participant population of this study, the impact of the treatment was not as strong as it was intended. This might have had a negative impact on the findings. In fact, when further analysis was conducted with the subjects who reported being in negative mood states after the mood induction, the findings were in line with the hypotheses of this study. So replication of the study with stronger mood induction procedures is needed. Studies examining mood induction procedures indicates the effectiveness of using mix methods, such as autobiographical recollection combined with sad music exposure (Martin, 1990). Future studies can use more than one method to induce sad moods.

Other methodological limitations to the internal validity of the study include history effects from group administrations and using reactive treatments. To eliminate the possibility of the history effects future studies should have a control group or apply individual administration. Reactive effects of experimental arrangement might have had a biasing impact. The fact that participants were aware that they were participating in an experiment and some of them were

told they were being recorded with a camera. The fact that they had no access to the visual, i.e. how they appeared in the recording might have felt strange, and might have had deviating impact on the selection behavior.

The effect sizes observed in this study were relatively low ($\eta^2=.03$) in relation to TPB research so do not permit to general conclusions. The estimated size of the relation between frequency of past behavior and intention is $r=.21$, 95% confidence interval (Oullette & Wood, 1998), and future behavior is $r=.26$, 95% confidence interval (Armitage & Conner, 2001).

This study recruited participants from among college students and it should be noted that college students might differ in their media diet and mood regulating strategies from non-college populations. However, the current findings contradict prior MMT studies, given the fact that most of them also used college populations for sampling. As mentioned before, this study attributed the variation to habit and emotional self-regulation states. Therefore, replication of this study is necessary with more college students as well as diverse populations. One reason for that is in current sample young adults were dominant. Age appears however, as an important factor in determining mood specific entertainment behavior. The variation in age in this sample did not allow for meaningful age comparisons. The self-regulation literature suggests detrimental effects of age (Rodin & Langer, 1980), such that elderly people feel lowered self-esteem and control (both self-control and towards environmental factors). Some psychosocial well-being variables such as depression or loneliness may be influenced by that and hence the coping strategies. For example, a study (Mares & Cantor, 1992) found that elderly viewers' preferences for negative or positive content varied according to how lonely they were, with lonely viewers showing greater interest in negative content rather than positive, whereas non-lonely subjects exhibited the

opposite preference. Analysis of different age groups, therefore, may provide more in depth explanation.

It can also be argued that the ease of retrieval method may not be a valid manipulation of habit. It has been discussed that it manipulates perceived frequency of past behavior, which is highly correlated to, but not the same as habit strength, a controversial topic in habit research (Verplanken, 2006; Ajzen, 2002). Frequency of past behavior is part of the habit concept but it does not capture the mental construct of habit, especially the automaticity dimension (Verplanken, 2006) or efficiency. However, retrospective inquiries regarding frequency of our own actions are valuable sources of information when guidance for future behavior is needed (Aarts & Dijksterhuis, 1999). Self-related judgments, such as which program types we like and dislike, rely on such meta-cognitions (Rubin, 1996). Moreover, habit is a psychological construct that guides future behavior using such self-judgments as its basis (Bargh, 1994; Verplanken & Orbell, 2003). Habits are learned behaviors, such that through repetition (Wood & Neal, 2007) the mental representation of the habit gets increasingly accessible (Aarts & Dijksterhuis, 1999), and therefore easy to recall. It is also necessary to further explicate the alternative ways of measuring and manipulating habit strength. For example, alternatively response frequency measure developed by Aarts, van Knippenberg, and Moonen, (1988) can be used to measure habitual entertainment selections. This instrument measures habits by presenting participants with choice situations and, while under time pressure, asks them to choose behavioral options. The degree of choice invariance across situations is used as a measure of habit strength.

With respect to future research, studies should incorporate the concept of self-efficacy. By determining the beliefs a person holds regarding his or her power to affect mood, self-efficacy poses a strong influence on the choices a person is likely to make. People may have

adequate outcome expectancies regarding self-control tasks, but their perceived capacity to exert the necessary effort to attain task goals is diminished when in an ego-depleted state. Prior studies showed that self-efficacy is a moderator in the success of self-regulation related tasks (Wallace & Baumeister, 2002; Wiederman et al., 2009; Turner, Luszczynska, Warner, & Schwarzer, 2010). Similar effects may be observed in the realm of controlling media behaviors.

This study, as well as most of the previous studies, examined one medium in isolation. However, technologies such as Internet, radio, or TV can be used simultaneously, and media attention can be shared with other media use or daily activities (while rendering music on the background, texting a friend and cooking at the same time). An interesting line of research may emerge from the analysis of multi-media consumption patterns. Diary-based longitudinal methodologies may also be useful for capturing emerging interactions between emotional regulation tendencies and media use and impact over time (vs. in the short term). Second, differences in cognitive processes by medium should also be taken into consideration as they may have different influences of mood and selection. Third, in this study, manipulation of habit strength was applied across subjects but pre-existing habits were not measured. Future studies may benefit from using SRHI to assess pre-existing media related habits and compare them with manipulated ones for further genre habit analyses.

Fourth, the meta-emotions or emotions after consumption of the media content is very important in determining future use. Mayer and Gaschke (1988) define meta-mood as “the possible outcome of a regulatory process that monitors, evaluates, and changes mood”. Bartsch, Vorderer, Mangold, and Viehoff (2008) argued that perceptions of one’s emotions might then feed future viewing behavior. Similar evidence comes from studies by Gasper and Clore (2000), who argued that people have to attend to, or monitor, their feelings in order to rely on those

feelings as a source of information in judgment. Individuals who regularly monitor their feelings—those high in ‘emotional attention’—are more likely to rely on such feelings when making a judgment than are those who are low in emotional attention. Mood salience and mood intensity are potential factors that may inform about the complex mechanism of entertainment preference. By manipulating salience of induced moods Caruso and Shafir (2006) observed comedy was the inferior preference in the absence of mood salience, whereas, making mood – even “neutral” mood- salient shifted preference from intense dramas to light comedies. The conclusions that one draws from one’s own emotional self-regulation efforts, or in other words meta-emotions may inform future behavior. By the same token, if meta-emotions apply to certain genres and their relationship to mood states, it may be observed that meta-emotions determine the selection behavior. This view sheds light on current null and puzzling finding, in the sense that pre-existing meta-emotions about drama and comedy genres might have had an effect on the choice behavior. For example, if on several occasions one had felt positively during or after watching drama genre, such that a general positive meta-emotion had developed, one might find it as an effective strategy to tune into similar programs. Similarly, if the meta-emotions about watching comedies are generally negative, even in positive mood states, preferences for comedy options will be less likely for that person. So further studies, should examine meta-emotions.

Despite the limitations, this study presented findings that call into question basic assumptions and previous findings in the mood management literature. In the present study, negative moods did not result in hedonistic (or comedic) choices. By integrating self-regulation and habit, this study addressed the conflicting findings in preferences for sad media content. It proposes a nuanced model of mood-activated media choice that deserves further examination

APPENDICES

APPENDIX A: INFORMED CONSENT FORM

MEDIA USAGE

Students and faculty in Michigan State University's Department of Telecommunication, Information Studies, and Media are conducting a research study, "My Online Video Choices." We are especially interested about what psychological factors play role in media consumption.

You must be at least 18 years old to complete this study. You will be asked to participate in an experiment pretest that will assess how people select online videos under different conditions. Prior to and after the experiment you will be asked to complete a survey to understand how other factors such as your media habits and the kind of person you are influence your experiences. The research will take place in a computer lab in the Communication Arts Building. Each survey should take about 10 minutes to complete and the experiment itself will last about 20 minutes during which time you will be able to view short online videos, so your total time commitment will be about 30 minutes.

Your privacy will be protected to the maximum extent allowable by law. Personally identifying information will be obtained only for the purposes of scheduling your lab visit and for the award of extra credit and will be kept completely separate from your responses. They will be deleted following after your extra credit participation has been verified. The aggregate results will be published in the popular press and in scholarly journals and made available to our Institutional Review Board. The data will be kept on password-protected computers maintained by members of our research team for three years, after which it will be destroyed.

Your participation is voluntary. Some of the tasks in the experiment are cognitively demanding and may make some people feel tired or a little sad. Also some questions ask about your moods and may make some people uncomfortable. You can refuse to participate, and you do not have to respond to any questions that make you uncomfortable. If you do not wish to participate, an alternative extra credit assignment of equal length is available. If you agree to participate, your responses will be kept for up to three years.

No personal risk or harm is anticipated as a result of your participation beyond those you encounter daily as a media consumer. There are no immediate personal benefits to be gained from this study; however, your participation will add to our knowledge of media selection behavior.

If you have any questions about this research, you may contact Dr. Robert LaRose at larose@msu.edu, CAS413, 517-353-6336. If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this research study, you may contact, anonymously if you wish, the Michigan State University Human Research Protection Program at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 207 Olds Hall, MSU, East Lansing, MI 48824.

Yes, I agree

No, thanks!

APPENDIX B: SAD MOOD AND EMOTIONAL SELF-REGULATION DEPLETION TREATMENT

Instructions: We would like to ask you to take few minutes to look into your past and think about what have been the TWO SADDEST EVENTS in your life.

Take 10 minutes to think of these events. We would like you try to think of all the details of what was happening at the time, to the point that you could imagine this happening to you right now. You can take notes if you like. Think about how old you were, who were the people or events involved, and what your feelings were.

Your task for this part of the experiment is to experience no emotional reaction whatsoever while concentrating on those sad events. **Our experimenters will start recording your facial expressions with camcorders.** Thus, make sure that you control both your face and your body language, and keep thinking about the saddest events in your life.

When the time is over, we will ask you to answer a few questions related to the images you thought of. It is very important that you take this reflection exercise seriously. Think of those events that made you feel unhappy, lonely, rejected, defeated or hurt. Please sit back, close your eyes, put your head down, or get into a position that will best allow you get in touch with your feelings. Take your time and think about these sad events.

Start now and the “next” button will be activated when the time is over.

(Next page)

Now please answer the following questions	First Event	Second Event
1. Approximately how old were you at the time of this event?		
2. In what city did this happen?		
3. Which event was the sadder of the two? (If it is the first event please put "Y" under the event)		

(Next page)

In this section, we are interested in your views about the experience you have just had. Please answer the following questions by clicking the number that indicates your level of agreement/disagreement with each of the following statements.

How difficult did you find it to concentrate on your past?

Very easy	Moderately easy	Slightly easy	Neutral	Slightly difficult	Moderately difficult	Very difficult
1	2	3	4	5	6	7

APPENDIX C: SAD MOOD AND EMOTIONAL SELF-REGULATION NON-DEPLETION TREATMENT

Instructions: We would now like to ask you to take a few minutes to look into your past and think about what have been the TWO SADDEST events in your life.

Take 10 minutes to think of these events. We would like you to try and think of all the details of what was happening at the time, to the point that you could imagine this happening to you right now. You may take notes if you like. Think about how old you were, who were the people or events involved, and what your feelings were. When the time is over, we will ask you to answer a few questions related to the images you thought of.

It is very important that you take this reflection exercise seriously. Think of those events that made you feel unhappy, lonely, rejected, defeated, or hurt. Please sit back, close your eyes, put your head down or get into a position that will best allow you to get in touch with your feelings. Take your time and think about these sad events.

Start now and the "next" button will be activated when the time is over.

(Next page)

Now please answer the following questions	First Event	Second Event
1. Approximately how old were you at the time of this event?		
2. In what city did this happen?		
3. Which event was the sadder of the two? (If it is the first event please put "Y" under the event)		

(Next page)

In this section, we are interested in your views about the experience you have just had. Please answer the following questions by clicking the number that indicates your level of agreement/disagreement with each of the following statements.

How difficult did you find it to concentrate on your past?

Very easy	Moderately easy	Slightly easy	Neutral	Slightly difficult	Moderately difficult	Very difficult
1	2	3	4	5	6	7

APPENDIX D: DIFFERENTIAL EMOTIONAL SCALE (POST-MOOD INDUCTION)

Instructions: Thinking about yourself and how you feel now, to what extent, do you feel?

	Not true at all						Very True
	1	2	3	4	5	6	7
Sad							
Discouraged							
Downhearted							
Delighted							
Joyful							
Happy							
Alert							
Surprised							
Astonished							
Amazed							
Concentrating							
Attentive							
Enraged							
Angry							
Mad							

Distaste							
Contemptuous							
Scornful							
Revulsion							
Disgusted							
Disdainful							
Scared							
Fearful							
Afraid							
Sheepish							
Bashful							
Shy							
Repentant							
Guilty							
Blameworthy							

APPENDIX E: EASE OF RETRIEVAL MEASURE

Instructions: This section will ask about your past video selection behaviors. Please generate three instances on which you used your leisure time to watch drama content (drama habit group)/comedy content (comedy group).

Please type your responses in the following fields. Enter the name of the show and the medium (TV, online, etc.) you watched the show.

Drama group _____ Comedy Group _____

Drama content 1 _____ Comedy content 1 _____

Drama content 2 _____ Comedy content 2 _____

Drama content 3 _____ Comedy content 3 _____

Now please generate eight instances on which you used your leisure time to watch comedy content (drama habit condition)/ drama content (comedy habit condition).

Drama group _____ Comedy Group _____

Comedy content 1 _____ Drama content 1 _____

Comedy content 2 _____ Drama content 2 _____

Comedy content 3 _____ Drama content 3 _____

Comedy content 4 _____ Drama content 4 _____

Comedy content 5 _____ Drama content 5 _____

Comedy content 6 _____ Drama content 6 _____

Comedy content 7 _____ Drama content 7 _____

Comedy content 8 _____ Drama content 8 _____

How many times did you watch dramatic content in the last two weeks? _____

How many times did you watch comedic content in the last two weeks? _____

How difficult did you find to generate three examples of dramatic content (drama habit condition)/comedic content (comedy habit condition)?

Very easy	Moderately easy	Slightly easy	Neutral	Slightly difficult	Moderately difficult	Very difficult
1	2	3	4	5	6	7

How difficult did you find to generate eight examples of comedic content (drama habit condition)/comedic content (comedy habit condition)?

Very easy	Moderately easy	Slightly easy	Neutral	Slightly difficult	Moderately difficult	Very difficult
1	2	3	4	5	6	7

APPENDIX F: ENJOYMENT/INTEREST SUB-SCALE OF THE INTRINSIC MOTIVATION INVENTORY

Instructions: In this section we are interested in learning about your enjoyment using the My Video Chooser interface.

For each of the following statements, please indicate how true this is for you, using the following scale (Not true at all (1) – very true (7))

1. I enjoyed doing this activity.
2. This activity was fun to do.
3. I thought this was a boring activity (Reverse).
4. This activity did not hold my attention at all (Reverse).
5. I would describe this activity as very interesting.
6. I thought this activity was quite enjoyable.
7. While I was doing this activity, I was thinking about how much I enjoyed it.

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