THE EVERYDAYNESS OF LATE-NIGHT MEDIA USE: A QUANTITATIVE STUDY

Karly Keysor

Karly Keysor is a second-year student majoring in Psychology with a double minor in Mathematics and Statistics at Florida State University. She is from Melbourne, FL and is a member of the Honors Program. Her research focuses on the effects/implications of late-night media usage on college students.

Abstract

The increasing prevalence of technology in society has been paralleled by the public's eagerness to become more immersed in media. It is evident that varying forms of media surround people at most times of the day. However, there has been little research about the usage of media in the evening, specifically late-night media usage. Through a quantitative study, this paper explores the effects late-night media usage has on college students' everyday lives. The results indicate 91% of the participants studied engaged in late-night media usage at least five nights a week. Furthermore, the results reveal that 99% of the college students studied have a cell phone in their bedroom within one hour of going to sleep and have more than one social media platform. There was a significant positive correlation between media features and addictive behavior in college students. However, the majority of the college students did not experience major disruptions in sleep quality or daytime functioning. This elicits the growing commonality of people engaging in late-night media and possible implications and reasons of this engagement. This study promotes further research focusing on late-night media usage in relation to the metropolis, power, space, and rhythms of daily life.

In 2010, American adolescents ranging from ages 8-18 years spent an average of 7 ½ hours a day using media, and these numbers are continuing to climb (Rideout 2010). Media is a means of communication that is used to store information or data. For my study, I will define media as outlets and or sites from which people retain information. Examples include Twitter, Snapchat, TikTok, Facebook, Instagram, and YouTube. In this post-industrial society, new forms of media, such as social media outlets, have been created for people to indulge in. People are able to experience new and continuous stimuli through devices such as mobile phones, tablets, and computers. However, there has been little research on the role late-night media usage has in people's everyday lives. Late-night media usage (LNMU) can be defined as using media one hour before intended time to go to sleep (Appleton et al., 2019; Pieters et al., 2014). Analyzing the impact LMNU has on college students' everyday lives may help guide prevention efforts to curb media addiction. Through a quantitative study, I hypothesize that the majority of college students will partake in LNMU and will experience disruptions in sleep quality and daytime functioning. Regarding blasé attitudes and addictive features, I think the majority of the participants will state they utilize media as a pastime, and are satisfied with the addictive features in media.

Power Relations Between Media Platforms, the State, and the People

As a product of capitalism, media emphasizes the state's power over people. Foucault (1982) defined power as a relationship between people, and their indirect modes of action imposed on each other. Freedom and power are considered mutually exclusive, meaning, one cannot occur without the presence of the other (Foucault 1982). Many media outlets have designed to keep people engaged and craving for more. One example of this is infinite scrolling. This feature continuously loads content as the user scrolls down the page (Loranger, 2014). A single continuous page keeps the mind engaged by endlessly introducing new stimuli. Therefore, the mind becomes overstimulated and passively retains all information. The feature of infinite scrolling makes media usage a time-consuming activity, developing an addictive behavior in people.

Moreover, the use of algorithms is another feature to keep people engrossed in media. Algorithms enable media sites to present the user with information catered to that user. They give content preeminence over others while simultaneously excluding certain information. (Cetina & Martínez, 2019). This feature can be exemplified in the "For you" page on TikTok, the home page on YouTube, and the "Suggested for You" section on Twitter. These sites analyze the user's profile and their past history of watched/liked posts.

Then, they present the user with new stimuli that aligns with the information collected about that user.

An Enhancement to the Metropolis

LNMU has become more frequent among all ages. In a cross-sectional study, Pieters et al. (2014) analyzed the influence of media use in daytime functioning and sleep/wake patterns in 1,926 adolescents ranging in age from 13 to 20 years. Pieters et al. (2014) found 45% of adolescents watch television, 34% use the computer, 48% use their cell phone, 23% listen to music, and 13% play video games every night during the week in the hour before going to sleep. Likewise, in another study analyzing technology-use among Australian adults from age 18-90 years, 76% of the adults watch television, 66% are on the internet, and 49% are on social media three or more times per week in the hour before sleep (Appleton et al., 2019). Regardless of age, people consume evening media multiple times per week. These studies convey how LNMU is a recurring event in people's evening routine.

The increased commonality of people using media at night is in part due to the transformation of everyday life into the "metropolis (Simmel 1961)." Simmel (1961) refers to modern life as the "metropolis," where qualitative values become reduced to their quantitative aspects. For instance, the sound of crosswalks is meant to alert people that it's time to cross; however, in the "metropolis", the noise is rarely noticed. The rapidly changing environment overstimulates people's minds, so people tend to gloss over the subjective value of objects. By enhancing the blasé attitudes in people, late-night media use maintains the mechanics of modern life and society.

Invasion of Technology and Media in Sleep-Designated Spaces

Regarding the usage of media during the night, endless media can lead to longer use times which creates disturbances in sleep-designated spaces. Late-night media usage is supported by the presence of technology in sleep-designated spaces. Studies have shown people generally have technology located in their bedrooms (Appleton et a., 2019; Jiwoo Lee et al., 2018; Pieters et al., 2014). Examining the effect of pre-sleep media on sleep patterns and daytime functioning, Pieters et. al (2014) found about 45% among the adolescents studied had a television, 53% had a computer, 86% had a cell phone, 70% had a mp3 player, and 30% had a video game console in their bedroom. Similarly, Jiwoo Lee et al. (2018) found 61% of children and 92% of parents had at least one media device located in their bedroom.

From these results of the presence of media in bedrooms, sleep-designated spaces are being conquered by technology. As a result, the bedroom is redefined as a space to continuously engage with others with no concrete end, potentially

disrupting a person's daily routines. According to Lefebvre (2016), "space is a social product" or a complex social construction (based on values, and the social production of meanings) which affects spatial practices and perceptions. The technology in people's bedrooms enables people to personalize time and space.

Disruption of Sleep Quality and Daytime Functioning

Lefebvre (2017) explores the different dichotomies of rhythms composed in everyday life. This includes organic v. mechanical, continuous v. discontinuous, and cyclical v. linear rhythms (Lefebvre, 2017, p.8). In each contrasting pair, media can be categorized as one type of rhythm that intrudes upon the other type. Sleep is a biological activity that generally occurs at night; however, the constantly active media cycle impedes on the body's sleep patterns. Consequently, media creates discontinuities in the continuous routines during the day. The invasion of sleep cycles disorients the body, potentially causing daytime sleepiness or more frequent naps throughout the day. LNMU forces people's circadian rhythms to adapt to its linear rhythms. People's learned desire to use media in the evening interrupts their cyclical sleep pattern, resulting in bad sleep quality and shorter duration of sleep. Analyzing the impact of technology use before sleep on daytime function, Johansson et al. (2016) surveyed adolescents' sleep habits, use of technology in the hour before bedtime, and daytime sleepiness. The results revealed participants who reported having "inadequate" sleep had "shorter sleep duration, greater frequency of technology use before bedtime, feeling unrefreshed on waking, and greater daytime sleepiness" than those reporting "adequate" sleep (Johansson et al., 2016). Since people cannot get sufficient sleep, the body's need to sleep causes people to become weaker, producing daytime sleepiness and frequent naps throughout the day. In everyday life, the dichotomies of rhythms are present in a dialectical relationship. Each type of rhythm enforces the other by interfering with them. The disruption of sleep duration and quality by late-night media usage imposes bodily organic rhythms to compensate for the loss of sleep in the evening.

Previous studies have shown LNMU can cause disturbances in sleep, academic performance, and daytime functioning. The usage of media in the evening can alter people's sleep quality and or duration (Appleton et al., 2019; Johansson et al., 2016; Piero-Velert et al., 2014; Pieters et al., 2014). As a result, a person's academic performance and daytime functioning could be hindered as well. In a study examining screen media usage, sleep time, and academic performance, Peiro-Velert et al. (2014) found that adolescents with the highest academic performance were younger individuals who slept more and spent less

time using screen media in the evening. Peiro-Velert et al. (2014) concluded academic performance is inversely related to sedentary screen media usage. This shows that LNMU can negatively impact not only users' sleep, but their wakefulness during the day as well, potentially impacting their performance in school or on the job.

Methods

I conducted a quantitative study on LNMU among college-aged students. Through a quantitative study, I created a survey through Qualtrics that focused on four different aspects on LNMU's influence on people's daily lives: blasé attitudes, addictive behaviors, sleep quality, and daytime functioning.

Participants

Participants were college students between the ages of 18-24 years. Due to accessibility limitations, I implemented nonprobability sampling to gather my sample size.

Materials

For my study, I conducted an online survey. The survey was created through Qualtrics and was composed of four different sections along with a consent agreement at the start of the survey. The first section inquired about the participant's age and academic classification to ensure the participant was between the ages of 18-24 years. The next section focused on the quantity and usage of social media platforms by the participant. To determine the quantity of social media platforms, the participant was asked to check off all the accounts s/he uses on a daily basis. For this study, I included six social media platforms: Twitter, Snapchat, TikTok, Facebook, Instagram, and YouTube. In regards to the usage of social media, the participant was given a matrix of eight statements where s/he were able to respond to the statement with one of five different scale points (See Appendix A for complete survey). Four statements related to common signs of addictive behavior and four statements related to the influence of features designed to keep people engaged in the social media platform longer. The following section asked about the participants' sleep experiences and the presence of technology in their bedroom. In this section, the participants were given a matrix of six statements relating to their sleep quality with five scale points. Also, the participants were asked to check off all devices s/he keeps in s/he bedroom within one hour of intended time to go to bed. Paralleling previous studies, I included five devices (phone, tablet/iPad, computer, video game system, television) along with an "Other" option where the participant can type any additional devices. The final section focused on the participant's LNMU. In this section, the participant was asked how frequent they participate in LNMU and if the participant's LNMU interrupts her/his

daytime activities. If s/he answered yes, the participant was given the option to write a brief response describing an example of how LNMU interrupts her/his daytime activities. To ensure the participants clearly understand certain terms in context of this study, I defined any specific terms at the beginning of the section the terms were presented the participants (See bolded terms in Appendix). I maintained anonymity by not asking the participant's any identifiable questions besides their school year classification and age.

Procedure

Participant recruitment was done by sharing the survey URL to my social media platforms (Instagram, Snapchat, and Facebook groups) during a 48-hour time period. To limit confounding variables, I typed identical scripts on my post including the URL on all media platforms that I shared. Interested participants were able to click on the link and begin immediately on any media device. Before starting on the first section of the survey, all participants were required to read a brief description of the study and click "I Agree" button. The brief description included the objective of the study, voluntary participation, the confidentiality of the study, and my contact information if participants had any questions throughout the survey. The online survey took no longer than ten minutes to finish.

After the 48-hour time block, I deactivated the survey. Once all collected, the data was examined and analyzed. The responses were coded through Qualtrics and exported into an excel spreadsheet. The responses were recorded in five sections: demographics, blasé attitudes, power relations, invasions of space, and disruption of rhythms. All responses that were fully incomplete were omitted, leaving 102 responses representing the sample size. However, partial responses were recorded if the response completed all questions necessary for a single section, resulting in different sample sizes for each section. For the matrixes, I created four composite scores to measure the satisfaction of addictive features, addictive behavior, sleep quality, and daytime functioning. Data analysis was then performed using descriptive statistics (count, percentage, and frequency) and bivariate correlations. Frequency distribution was recorded for each section.

Results

Table 1 illustrates the demographic characteristics of the sample size. The majority of the participants were second-year students, with 9% being first-year students, 64% being second-year, 21% being third-year, 5% being fourth-year, and 2% being "Other." In regards to age, 10% of the participants were 18 years, 66% were 19 years, 18% were 20 years, 5% were 21 years, and 1% were 22 years.

Table 1

Demographic Characteristics of Sample Size (N = 102)

School-year		
First-year	9	9
Second-year	65	64
Third-year	21	21
Fourth-year	5	5
Other	2	2
Age		
18 years	10	10
19 years	65	66
20 years	18	18
21 years	5	5
22 years	1	1
23 years	0	0
24 years	0	0

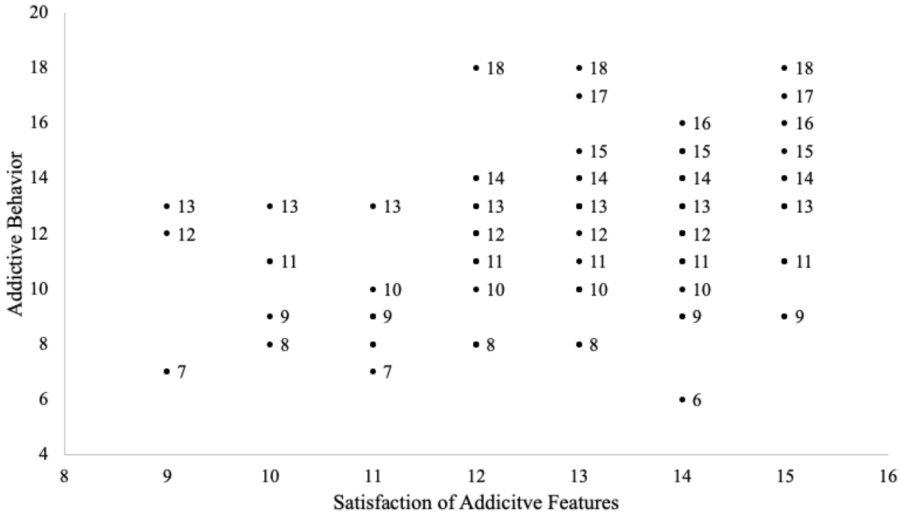
For the blasé attitude section I conducted descriptive statistics on the frequency of *LNMU.* 70% of all participants recorded participating in LNMU seven days a week for the past month as well as 69% of all participants selected "Strongly Disagree" or "Disagree" to the statement "I interact (like, comment, and or share) with every post/video that I receive when I am using social media." All, except for one, of the 102 participants selected more than 1 social media platform that they use on a daily basis. According to the percentage of participants engaging in LNMU in the past month, 70% of the participants took a part in LNMU seven nights a week, 21% participate five to six nights of the week, 4% participate three to four nights a week, 3% participate one to two nights a week, and 1% participate zero nights a week. Of the participants that replied "Yes" to the question "Does late-night media usage interrupt your daytime activities?", 39% of the participants used words such as "tired" and "groggy" when describing how late-night media usage interrupt their daytime

activities.

In the addictive features section, I calculated a Pearson product-moment correlation to examine the relation between the satisfaction of the addictive features implemented in social media outlets and media addiction. I found a slightly positive correlation between addictive features and media addiction, $r(92) = .37$, $p < 0.001$. Figure 1 illustrates the positive correlation between satisfaction level of media features and addictive behaviors.

Figure 1

Correlation of Media Feature Satisfaction and Addictive Behaviors



A Pearson product-moment correlation was calculated to examine the relation between sleep quality and LNMU. I found no correlation between sleep quality and LNMU, $r(91) = -.07$, $p = .50$. Concerning media devices in the bedroom space, 99% of the participants have a phone in the bedroom within 1 hour of going to sleep, 21% have a tablet/iPad, 23% have a TV, 4% have a video game system, and 67% have a computer in their bedroom.

In regards to daytime functioning, I calculated a Pearson product-moment correlation to examine the relation between daytime functioning and LNMU. I found no correlation between daytime functioning, $r(91) = -.09$, $p = .39$.

Discussion

My study produced three notable findings. First, there was a unanimous amount of college students that participate in LNMU every night of the week. Second, media features of infinite scrolling and algorithms was associated with behaviors linked with addiction. Lastly, there were no significant correlations between sleep quality and LNMU and daytime functioning and LNMU.

Simmel (1961) describes a blasé person as someone who radiates an "evenly flat and gray tone" (p. 414). Blasé people can no longer differentiate objects or things by their intrinsic value, but rather their external values of money and time. Media has made this condition even more acute. With the majority of the sample size self-reporting they do not interact with every post, it suggests that media usage contributes to the blasé attitudes of people in the "metropolis." A plethora of media outlets can be accessible in a single device, automating the ways in which people are stimulated. Media can thus be seen as an extension of the "metropolis," giving people an endless stream of novelty and taxing the limits of their attention span. It strips away individualization and keeps people distracted. Social media platforms, such as Facebook and Instagram, give people a false sense of individualization by allowing them to create a profile of themselves. People can then recognize and create an identity amidst the chaos while simultaneously being blasé to the outside world. Media is not only a product, but an extension of the "metropolis."

In regards to power relations, it can be seen that college students exhibit potential signs of addictive behavior towards social media use. This implies a positive influence media features have on usage times of people. The use of algorithms and infinite scrolling features makes media a conduit of influence, with the design of the media outlets inducing a certain response from the users. Media usage encourages the authoritative power of the state, and aids in maintaining the state's power. This can be illustrative of Michel Foucault's focus on power relations. Media is the mode of action that is indirectly imposed by the state to maintain power over the people. People have the choice to use media outlets, and creating digital profiles grants people autonomy; however, the use of algorithms limits the user's choice over what they consume. The relationship between media outlets and the state becomes an indirect system in order to contain its hierarchical status over the people. Consequently, endless media, where feed continually updates with new content specially catered to the user, makes it very difficult for people to disengage with.

Paralleling Lefebvre's concept of space as a social product, people are able to disengage from the physical sleep designated space, and enter a virtual social space. Of the 102 participants, 101 reported having a cellphone in their bedroom when they go to sleep. This digitalized media space establishes a labyrinth connecting individuals in an extensive, boundless communication web. Although no significant correlation was found between sleep quality and LNMU and daytime functioning and LNMU, the sleep-designated space transforms into a limitless social space for people to interact with others virtually which can then potentially result in disruptions in sleep quality and daytime functioning.

No significant relationship was found between sleep quality and LNMU. Likewise, no significant correlation was found between daytime functioning and LNMU. This countered my initial hypothesis that the presence of media devices and LNMU would result in a negative effect on sleep quality and or daytime functioning. However, more extensive research can be done to examine LNMU, sleep quality, and daytime functioning.

Given the frequent use of media in the evening, it's important to explore the role media has in everyday life. LNMU has become not only an inclusion, but also a disruption in people's daily lives. The usage of media is the product of today's neoliberal society, and enhances the grip capitalism has over people in a capitalist state. Companies have designed media outlets to be addictive, making LNMU a prevalent activity. Late-night media usage invades private space and interrupts people's daily rhythms. While this approach considers the complex impact late-night media usage has in everyday life, this study had a few limitations. The study was based on subjective interpretations about the analysis between scholarly articles about late-night media use and theoretical concepts regarding everyday life. Furthermore, my study does not provide a concrete answer/solution to the different aspects of daily life late-night media usage inserts itself in. Rather, this study offers a new insight about the influence late-night media usage has in people's everyday lives. This study was meant to be a preliminary analysis about late-night media use in college students. Future research can be done focusing on preventive measures to curb late-night media addictions as well on focusing on demographic differences with LNMU (gender, age, school year). I hope this study will promote further research in the role late-night media usage has in everyday life.

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