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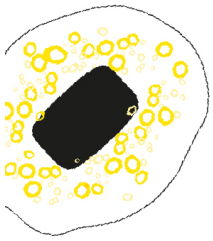
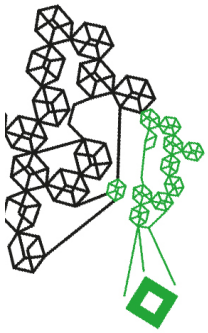


The relation between bedtime procrastination and online streaming frequency in adults



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Abstract

Background: The relationship between streaming frequency and sleep quantity has been researched by a few studies. However, less research has been performed in the relation between the streaming frequency and an aspect of sleep quantity: Bedtime procrastination.

Aim: The present study aimed to study the relationship between bedtime procrastination and streaming frequency in adults.

Methods: A cross-sectional online survey was conducted. The sample consisted of 209 participants of whom the majority came from Germany. Most of the participants were students and female. All participants answered demographic questions, questions about their streaming frequency, and questions about bedtime procrastination. Bedtime procrastination was assessed with the nine-item bedtime procrastination scale. To reveal the level of bedtime procrastination, a closer look was taken at the descriptive statistics and frequencies. To investigate the relationship between bedtime procrastination and streaming frequency, a Pearson correlation and a Linear Regression were performed.

Results: The results of the study showed that bedtime procrastination is experienced in the study population to some extent. The mean score was in the lower half of the total range of scores. Besides, bedtime procrastination was weakly and positively associated with the streaming hours per day [r (208) = 0.17 p=.02] and the episodes watched in a row [r (208) = 0.17 p=.02]. Moreover, the results revealed that bedtime procrastination may be predicted by the streaming hours per day (F (1, 208) = 6.063, $p< .05$) and the episodes watched in a row (F (1, 208) = 6.020, $p< .001$). There was no association/relation found between bedtime procrastination and the streaming days per week (p=.25).

Conclusion: From the conducted study, it can be concluded that two of three streaming frequency variables (hours per day, episodes watched in a row) are a predictor for bedtime procrastination. However, the days per week are not determining. It is recommended to future researchers to incorporate additional variables into the analysis because the relations

between the variables have been only weak. Additionally, the study could be supplemented via a longitudinal design and a study sample that is evenly spread when it comes to age, occupation and lifestyle.

Keywords: Bedtime procrastination, online streaming, sleep

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Introduction

In today's society, sleep loss becomes a common problem (Harrington, 2017). With our around-the clock-lifestyle, demands from work, and psychological stressors, our society often disregards sleep (Harrington, 2017). In a study by Kroese, De Ridder, and Adriaanse, (2014), about 84% of the general Dutch population reported having slept too little at least once during the past week. To get the whole schedule into one day and to have some equality in the work-life balance, people go to bed late, they procrastinate (Harrington, 2017). They finally enjoy some 'me time' and getting up from the couch seems like an insuperable obstacle at the end of the day (Nauts et al., 2016). Because streaming services become more popular, this study questions whether streaming services such as 'Netflix' support procrastinating behaviours before going to bed, more specifically, the streaming frequency will be investigated in relation to bedtime procrastination. The participants in this study are adults over 18 years because especially those who work or study have found to engage the most in bedtime procrastination (Herzog-Krzywoszanska & Krzywoszanski, 2019).

It is no secret that online streaming has become a big part of our everyday life. For instance, 60% of the Dutch internet users make use of online streaming services (CBS, 2015). TV schedules do not have to be considered anymore and an immense number of documentaries, series, and movies are available on streaming websites (Oberschmidt, 2017). To give an imagination of the number of titles that are available; Netflix offered a total of 5619 titles in 2016 (Lovely, 2016).

Recent studies revealed several consequences that online streaming can have on our health and lifestyle. For instance, it was found that too much online streaming can result in depression, chronic illness, weight gain, sleep disorders, and a suffering sex life (Groshek, Krongard, & Zhang, 2018). Losch (2015) stressed that looking at a screen before bedtime can cause sleeping problems and tiredness during the day.

One prominent factor that has been frequently researched and associated with online streaming is sleep quantity (Chan, 2014). The modern generation reports more sleep loss, thus a lack of sleep quantity (Horne, 2016). The sleep-wake schedules become more irregular which makes many people sleep-deprived (Horne, 2016). It was found in a survey among adolescents that, especially time spent using technology predicts lower sleep quantity and vice versa (Mazzer, Bauducco, Linton, & Boersma, 2018). A study in the US revealed that more than half of the participants in the general population experienced 2-3 hours of sleep loss in that night loss due to watching Netflix for too long (Chan, 2014). Another 20% reported having lost 4-5 hours of sleep that night due to binge-watching before going to bed (Chan, 2014). Therefore, the number of episodes watched in a row also seems to be determining for sleep loss.

Although important discoveries have been made between online streaming and sleep, the phenomenon 'bedtime procrastination' has been less regarded in the research. Bedtime procrastination has been defined as "needlessly and voluntarily delaying going to bed, despite foreseeably being worse off as a result" (Nauts, Kamphorst, Sutu, Poortvliet, & Anderson, 2016, p.1). In a Dutch sample, 74% of the community reported that they would unnecessarily go to bed late at least once a week. Resulting, they feel more fatigued during the day (Siroid, Nauts, & Molnar, 2019).

This study

There is a lack of research about the relationship between the streaming frequency and bedtime procrastination. It is important to research whether they are related to be able to enlighten the society about the consequences that online streaming can have on our sleep behaviour. Additionally, investigating which sub-factors of online steaming have the biggest impact on bedtime procrastination can help to eliminate it. Therefore, this study will investigate the following research question: '*To what extent is watching frequency (hours per day, days per week, episodes in a row) related to bedtime procrastination in adults?'* This

question will be answered by taking into account three sub-questions. First: '*To what extent do people experience bedtime procrastination?'*. Second: '*To what extent is the watching frequency per day/week related to bedtime procrastination?'*. Third: *'To what extent are the episodes watched in a row related to bedtime procrastination?'*.

Methods

Design

For this study, a correlational survey design was provided via Qualtrics combined of several questionnaires. Because the study is a joint project of five Bachelor students with different core areas, multiple scales about online streaming, mental health and procrastinating behaviours have been included. This report will only focus on aspects related to bedtime procrastination and streaming frequency. The Ethics committee of the Faculty of Behavioural Science (ECBMS) at the University of Twente approved the research and allocated the request number 2200352.

Participants

All participants that wanted to take part in the study had to be in the age group 18+ and had to have a sufficient understanding of the English language. The period of recruitment took from the 8th of April 2020 to the 20th of April 2020. The participants were recruited via the snowball sampling method. Social contacts of the researchers such as family members or friends were contacted via WhatsApp or e-mail and these, in turn, recruited additional participants. Therefore, only those who received a link from one of the researchers or their acquaintances were included in the sample.

Materials

All questionnaires that are included in this study have been reviewed and validated prior to the research and were selected via relevant literature. The questionnaire consisted of three parts: Demographics, questions about participants' streaming behaviour and bedtime procrastination (Kroese, Evers, Adriaanse, & de Ridder, 2016). Because the questionnaire was published during the Corona crisis, reminders were given during the questionnaire that the participants should also regard their behaviour before the crisis.

Questions on demographics and online streaming behaviour

At the beginning of the questionnaire, the participants answered questions on demographics (age, gender, country, occupation, level of education). Additionally, they were asked three questions about their streaming frequency. They indicated how many hours a day and days per week they use streaming services and how many episodes they usually watch in a row (Appendix 2). A free space was left for the participants' answers so that they could make a numeric indication for each streaming frequency question.

Bedtime procrastination questionnaire

To be able to measure the participant's level of bedtime procrastination, the bedtime procrastination scale invented by Kroese et al. (2016) was used (Appendix 3). The scale was published in English and intends to measure the participants' susceptibility to unnecessarily delay their bedtimes. The scale consists of nine items and all of them can be answered on a Likert-Scale from 1 to 5 (never, rarely, sometimes, often, always). Therefore, the highest score one could achieve was 45 and the lowest score was 9. The participants answered statements like "I go to bed early if I have to get up early in the morning." (item 2) or "I go to bed later than I intended" (item 1). As recognizable, some items have been worded positively while others were worded negatively. In order to generate a bedtime procrastination score, negatively worded items (2, 3, 7, 9) had to be reversed (e.g., 1 (never) = 5 (always)). A total score was calculated for each participant by adding the scores of each item. Higher scores are an indicator of a higher level of bedtime procrastination. For this study, a very good internal consistency was found (Cronbach's alpha = .87).

Procedure

The questionnaire was published on the qualitative Research Software Qualtrics and participants got there by clicking on the link they received by the researchers. On the website, they first were informed about the aim of the research and their right to withdraw from it at any time. By clicking "accept", the participants agreed to the informed consent (Appendix 1)

and proceeded with the first questions. The questionnaire started with demographic questions and questions about their online streaming behaviour. Afterward, the participants filled out eight standardized questionnaires in total. The total questionnaire took the participants approximately 20 minutes. At the end of the questionnaire, a 'thank you' sign popped up next to the emails of the researchers in case any further questions come up.

Data Analysis

All obtained data were analysed with the statistical software SPSS version 24.0.0.1 (IBM Corp., 2017) and have been imported from Qualtrics. Before the analysis could be performed, the dataset was cleared. In the beginning, there were 263 participants. 50 participants were deleted due to missing values, 2 because they were under 18 years old and 2 because they indicated not to use streaming services. This resulted in 209 participants in total. Additionally, all items that were not relevant to the research question have been excluded from the data set.

To begin with, descriptive statistics were calculated for frequencies and percentages or means and standard deviations of the participants demographics, their streaming behaviour and bedtime procrastination.

To answer the research question "'*To what extent is watching frequency (hours per day, days per week, episodes in a row) related to bedtime procrastination in adults?"*, a Pearson correlation analysis and a linear regression analysis were used. The assumptions for a Pearson correlation were checked. Because all variables were continuous (sum-scores calculated) and the other assumptions were also met, Pearson correlation coefficients were calculated to investigate the relationship between all variables. The total bedtime procrastination score per individual was correlated with the variables 'hours per day', 'days per week', and 'episodes in a row'. After the correlational analysis, a linear regression analysis was performed to check whether bedtime procrastination is predicted by online streaming behaviour. In order to know which sub-factors of streaming behaviour might be

most or least related to bedtime procrastination, analyses were run with the three different items mentioned above.

Results

Descriptive statistics of the sample

209 participants were included in the final data set. The mean age was 23.9 and most participants were females from Germany. The other participants came from 21 different countries across the globe (Table 1). Most of the participants were students, followed by those who are employed full-time or part-time and pupils. Of the participants, most had the highest educational level of High school followed by the Bachelor's degree (Table 1).

Table 1.

Demographics of the Sample 1 (N=209)

Characteristics	**Frequency**	**%**
Males	62	29.7
Females	147	70.3
Age (in years)		
Mean	23.9	
Range	18-54	
Origin		
German	124	59.3
Dutch	39	18.7
Others	46	22
Occupation		
Student	113	54.3
Pupil	5	2.4
Employed full-time	51	24.4
Employed part-time	18	8.6
Unemployed	5	2.4
Others	10	4.8
Highest Educational Level		
Primary School	4	1.9
High School	130	62.2
Bachelor	43	20.6
Master	20	9.6
Doctorate	2	1
Others	10	4.8

Descriptive Statistics of Online Streaming Behaviour

In table 2, the streaming behaviour of the participants is described. On average, the participants indicated to use online streaming services for 5.35 days a week and 2.76 hours a day. Besides, on average, participants indicated to watch 3.56 episodes in a row (SD=1.27).

Table 2.

Descriptive Statistics for hours per day, days per week, and the average number of episodes using online streaming services (N=209)

	Minimum	Maximum	M	SD
Days per week	0.00	7.00	5.36	1.78
Hours per day	1.00	10.00	2.76	1.53
Episodes in a row	1.00	8.00	3.56	1.27

Descriptive Statistics of Bedtime Procrastination

Regarding the first research question, the descriptive statistics of the sum-score of bedtime procrastination reveal that on average, the participants scored with 26.57 out of 45 (SD=6.66) on bedtime procrastination, which is lower than the half of the score one could maximally achieve. This indicates that bedtime procrastination is experienced to some extent. As the histogram (Figure 2) displays, the minimum score was 11 while the maximum score was 44.

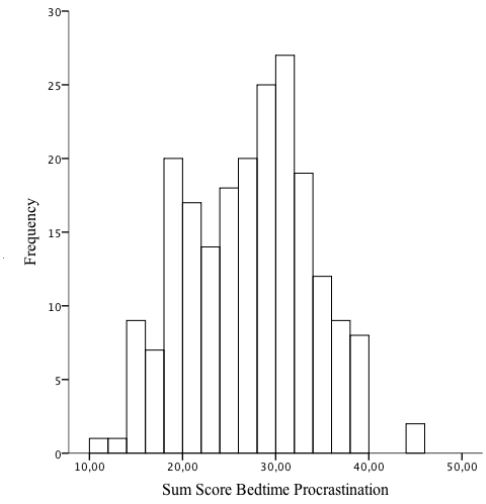

Figure 2. Histogram depicting the sum-scores of bedtime procrastination on the x-axis and their belonging frequency on the y-axis.

Relationship between Streaming Behaviour and Bedtime Procrastination

Regarding the second research question, the results of the Pearson correlation (Table 4) show a statistically significant association between bedtime procrastination and the number of hours per day that participants used online streaming services [r (208) = 0.17 p=.02]. The association is weak and positive. This means that people who use online streaming services more hours per day might also procrastinate more before going to bed. The linear regression analysis (Table 5) proves this relationship and shows a prediction by the hours per day that streaming services were used on bedtime procrastination, b=.17, t (208) =26.14, p<.05. A significant regression equation was found (F (1, 208) = 6.063, p< .05) with an R^2 of .028, indicating that 3% of the variance in the bedtime procrastination scores may be predicted by the hours per day that streaming services were used.

Besides, the second research question included the relation between bedtime procrastination and the days per week that streaming services were used. However, as Table 5 shows, there was no association found between these variables and also no prediction of the streaming variable on bedtime procrastination (p=-.25).

Regarding the third research question, the results of the Pearson correlation revealed that there is an association between bedtime procrastination and the number of episodes that the participants watched in a row [r (208) = 0.17p=.02]. This weak positive relation (Table 4) means that the more episodes are watched in a row, the more is engaged in bedtime procrastination. The linear regression analysis proves the direction in this relationship (Table 5). Therefore, bedtime procrastination is predicted by the episodes watched in a row, b=.17, t (208) =17.32, p<.001. A significant regression equation was found (F (1, 208) = 6.020, p< .001) with an R^2 of .028, indicating that 3% of the variance in the bedtime procrastination scores may be predicted by the episodes watched in a row.

Table 4.

Pearson correlations between the three streaming frequency variables and the sum score of bedtime procrastination

	1	2	3	4
1. Days per week	-			
2. Hours per day	.33**	-		
3. Episodes in a row	.35**	.35**	-	
4. Bedtime Procrastination	.08	.17*	.17*	-

Note. * indicates $p < .05$; ** indicates $p < .01$.

Table 5.

Results of univariate linear regression analysis with the sum score of the dependent variable bedtime procrastination and the different independent variables on streaming frequency (N=209)

	B	SE(B)	ß	P*
Days per week	0.30	0.26	.08	.25
Hours per day	0.74	0.30	.17	**.02**
Episodes in a row	0.88	0.36	.17	**.00**

*significant at p<.05

Discussion

The goal of this cross-sectional correlation study was to investigate the relationship between bedtime procrastination and online streaming frequency. The study revealed that bedtime procrastination is experienced to some extent and is predictable by two of three streaming variables, namely, the hours per day that streaming services are used and the episodes watched in a row. The days per week were not determining.

Bedtime procrastination

Regarding the first research question, it has been revealed that bedtime procrastination is experienced to some extent in the study population. In comparison to previous studies, the mean score is rather low. Kroese et al. (2014) reported that more than half of the participants in the general population experience bedtime procrastination or that 53.1% of the Dutch population experiences it (Kroese et al., 2016) which is more than in this study. This difference might be explained by several factors. Firstly, the majority of the study population were students. It is researched that especially students do not have regular sleep-wake schedules and go to bed rather late because they might not have to get up early every morning (Orzech, Salafsky, & Hamilton, 2011). Therefore, they might not feel like they are procrastinating because they go to bed late most of the time.

Secondly, it has been investigated that the quality of life has an impact on sleep duration (Groeger, Zijlstra, & Dijk, 2004), which, in turn, might be related to the level of bedtime procrastination. For instance, Satisfaction and success in work, but also home and leisure activities seem to be determining for sleep quantity. Therefore, it can be suggested to future researchers to further investigate bedtime procrastination in relation to life quality and different life styles (e.g. student life).

Additionally, because the filling out of the questionnaire was rather a snapshot of a long period of time, it is advisable to supplement the study via a longitudinal design. For example, it would be interesting to let participants monitor their behaviour in an app every night. This

app might also be beneficial for the participants by using it as an intervention to become more aware of their online streaming-, sleeping- and procrastinating behaviour. There are already many digital detox apps out there which have been proven to downsize digital consumption (Schmuck, 2020). However, these apps mainly focus on screen times on the phone instead of online streaming frequency. Because it is also proven that sleep management apps, for example 'Sleep as Android Unlock' can have a positive impact on our sleep-wake schedules (Choi et al., 2018), it should be considered to invent an app which tracks both, sleep schedules and online streaming. When the user indicates the streaming hours and bedtimes that are desirable for him/her, procrastinating behaviours could be eliminated by sending push-notifications and reminders.

Bedtime procrastination and the watching frequency per day and week

Regarding the second research question, the results show that the hours per day are determining the level of bedtime procrastination. This is in line with previous research. It was already found that the higher the number of hours a day a person is streaming, the lower is the number of hours that a person is sleeping (Matrix, 2014; Groshek, Krongard, & Zhang, 2018). In general, it was proven by multiple studies that sleep quantity can suffer from too much online streaming (Mazzer, Bauducco, Linton, & Boersma, 2018; Chan, 2014). The streaming frequency per day (2.76 hours) in this study is in line with previous studies. For instance, a study in the United States revealed that, on average, adults use streaming services for 2.6 hours a day (Logan, 2011). Another study revealed that adolescents use online streaming services for about 2 hours a day (Matrix, 2014).

Second, the results of the second research question show that the days per week of using streaming services are not determining the level of bedtime procrastination. These results were rather surprising because previous studies showed that the days per week that individuals spent in front of the TV or other streaming devices are determining for the level of bedtime procrastination (Exelmans & Van den Bulck, 2017). A few confounders can be

named at this point that might have an impact on the relationship between watching frequency and bedtime procrastination. Taking a look in the literature, it is striking that character traits such as self-control and self-regulation are investigated a lot in connection to bedtime procrastination (Exelmans & Van den Bulck, 2017; Kroese et al., 2016). Because these traits have an impact on the amount of bedtime procrastination, it can be questioned whether they might have impacted the relationship between the days per week that streaming services were used and bedtime procrastination. Besides, the stress level can also be a confounding variable. For instance, Bernecker and Job (2020) revealed that the stress level has an impact on the level of bedtime procrastination. This means for example for a person who has an exhausting job or study load, it might be too stressful to engage in the bedtime routine and going to sleep becomes the last obstacle at the end of the day (Bernecker & Job, 2020). This is particularly interesting because the sleep at the end of the day should be something restorative and restful and not be seen as one more point on the to-do list. Coming back to the monitoring app as an intervention, push-notifications that remind the user to go to sleep might motivate those who have problems with going to bed after a long day.

Bedtime procrastination and the episodes watched in a row

The last goal of this research was to investigate whether there is a relationship between the average episodes watched in a row and bedtime procrastination. According to Oberschmidt (2017), it is engaged in binge-watching as soon as more than 2 episodes are watched in a row. Since the average in this study watched 3.56 episodes in a row, it can be reasoned that the population of this study is binge-watching quite a bit. In comparison to previous studies, the average number of episodes watched in a row is rather high (Rubenking, Bracken, Sandoval, & Rister, 2018; Walton-Pattison, Dombrowski, & Presseau, 2018). An explanation for this might be that more than half of the participants in this study were students and this group is especially prone to binge-watching in comparison to other groups (Panda & Pandey, 2017). Besides, the fact that a relationship was found between episodes watched in a

row and bedtime procrastination is in line with previous research. For instance, Nauts et al. (2016) found that binge-watching is related to going to bed late. Additionally, Kroese et al. (2016) revealed that the longer a person is in front of a TV before going to bed, the more likely it is that he/she is a bedtime procrastinator. Because this study indicates that the higher the number of episodes watched in a row, the more the person engages in bedtime procrastination, it should be further investigated in binge-watching in connection to bedtime procrastination. Additionally, since it is now known that binge-watching can trigger bedtime procrastination, this aspect could also be incorporated into the monitoring app that was mentioned above. By letting the user monitor the bedtimes but also the episodes and hours watched in a row, he/she might become more conscious about the watching and procrastinating behaviour. By becoming more conscious about the consumption, the app user might lower the hours and episodes watched in a row and therefore, might procrastinate less before bedtime.

Strengths and Limitations

Some aspects of this study can be considered as strengths. First, the sample was relatively large with a total of 209 participants and it stretches over several heritages. The participants came from 23 different counties across the globe and every continent was present. Second, the bedtime procrastination scale that has been used in this study has a strong calculated Cronbach's alpha (.87) and therefore, a good internal consistency. Finally, it can be considered as a strength that this research takes three sub-factors of streaming frequency into account. In that way, multiple analyses can reveal which factors are most determining for bedtime procrastination. This makes it easier to eliminate procrastination behaviours out of our lives and adds value to current research which so far, did not consider these sub-factors.

However, even though the study reveals interesting insights into the relationship between watching frequency and bedtime procrastination, some limitations should be considered. Although the researchers tried to eliminate the possible impact of the Corona

crisis on the results, it needs to be regarded that a topic like online streaming is to be treated with caution in a crisis like this. Did the participants consider their behaviour before the crisis or not? In fact, it is researched that streaming services like Netflix are the winners of the crisis and there are new records in the quartile numbers (Tagesschau, 2020). Therefore, the study should be repeated without exceptional circumstances to exclude the chance that the Corona crisis might have fostered the relation between bedtime procrastination and online streaming.

Besides, it can be criticized that the sample is very young (mean age 23.9). The mean age of this study is part of the so-called "Generation X" which was were young when online streaming became popular. Therefore, the sample might be more attached to online streaming than a sample with a higher mean age (Bondad-Brown, Rice, & Pearce, 2012). Consequently, future studies investigating online streaming in adults should consider controlling for a higher mean age.

Additionally, it can be criticized that the study sample is not representative for the general population because the majority were students or highly educated. Over 90% of the participants were students and less than 10% were full-time employees. Because especially students have irregular sleep-wake schedules and go to bed late (Orzech, Salafsky, & Hamilton, 2011), it can be questioned whether this high percentage of students can represent the bedtime procrastination mean score. Therefore, future researchers should focus on investigating bedtime procrastination in representative samples for the general population with different lifestyles.

Additionally, future researchers should focus on possible confounders that have been found to have an impact on bedtime procrastination (Bernecker & Job, 2020). For instance, life stressors and circumstances but also character traits such as self-control could be incorporated in future studies via e.g. multiple regression analyses.

Besides, it is suggested that a longitudinal study design is appropriate for measuring bedtime procrastination in the future because the questionnaire was rather a moment in a

period of time. A possible method for this would be the mentioned monitoring app which will reveal the long-term consequences that online streaming frequency has on bedtime procrastination. At the same time, synergy effects arise because the app user also benefits from the app by seeing it as an intervention to become more conscious of bedtimes and online streaming behaviour.

Conclusions

Overall, this study revealed further insights into the relationship between online streaming and sleep. It was established that bedtime procrastination is a phenomenon that is experienced to some extent in the participants and that it is predicted by streaming frequency. More specifically, it is predicted by the number of episodes watched in a row and the number of hours a day participants engage in online streaming. However, the explanative value of online streaming for bedtime procrastination was very low. Only 3% could be explained by each variable. The number of days per week was not deciding for the level of bedtime procrastination. This study should be supplemented by incorporating multiple variables into the research and by observing the behaviour via a longitudinal design. In that way, the effects that online streaming has on our sleep and procrastinating behaviour can be uncovered and the society can be enlightened about the consequences of online streaming but also about what we can do to eliminate them. By eliminating bedtime procrastination out of our lives, sleep will be seen as restorative and restful again and not as one more point on the to-do list.

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Appendix

Appendix 1. Informed consent

You are being invited to participate in a research study titled **How good or bad is Netflix for us?** This study is being done by **Hannah Ciroth, Anouk Kühn, Mark Roesthuis, Katja Goncalves, and Marie Duwendag** from the Faculty of Behavioural, Management and Social Sciences at the University of Twente.
The purpose of this research study is **to reveal relationships between streaming services and the consequence of binge-watching with other variables. For that purpose, we will firstly ask you questions about your sleeping behaviour. Secondly, you will read questions about association between (media-) escapism, as a coping behaviour, and self-regulation. Thirdly, you will obtain questions about a and procrastination behaviour. Fourthly, we will ask you something about your self-regulation skills on eating behaviour. Finally, the factor social relationships will be explored.** It will take you approximately ***20*** minutes to complete the whole questionnaire. The data will be used to find out the impact that streaming services have on our lives, such as on sleep or social contacts.

Your participation in this study is entirely voluntary and you can withdraw at any time. You are free to omit any question. When answering the questions, please consider that we are in a special situation with **Covid-19.** Try to take into account your behaviour before this time and try to answer the questions by considering your behaviour in general and **not only in the past weeks.**

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach is always possible. To the best of our ability, your answers in this study will remain confidential. We will minimize any risks by anonymizing all your data and storing it without any chance to identify you.

For further questions, please contact us:
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	yes	no
I have read and understood the study information.	☐	☐
I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.	☐	☐

Appendix 2. Questionnaire on Demographics and online streaming behaviour

1. What is your gender?

    - ☐Male
    - ☐Female
    - ☐Other

2. What is your age?

    - _____ years

3. What is your nationality?

    - ☐German
    - ☐Dutch
    - ☐Other, namely: _____

4. Please indicate your occupation.

    - ☐Pupil
    - ☐Student
    - ☐Employed full-time
    - ☐Employed part-time
    - ☐Unemployed
    - ☐Other, namely: _____

5. Please indicate your highest level of education you have finished.

    - ☐Primary school

- ☐High school
- ☐Bachelor's degree
- ☐Master's degree
- ☐Doctorate
- ☐Other, namely: _____

6. Which video- streaming platform(s) do you use on a weekly basis?

- ☐ Netflix
- ☐ Amazon Prime
- ☐ Hulu
- ☐ Disney Plus
- ☐ YouTube
- ☐ I do not use online streaming services
- ☐ Other: _____

7. How many days per week do you make use of online-streaming services?

8. On average, how many hours do you use online-streaming services on a daily basis?

9. On average, how many episodes in a row do you watch per day?

10. On a weekly basis, how many hours do you spend watching following content:

- ☐ Series
- ☐ Movies
- ☐ Documentaries

Appendix 3. Bedtime procrastination scale (Kroese et al., 2016)

For each of the following statements, please decide whether it applies to you using a scale from 1 (*almost*) *never* to 5 (*almost*) *always*.

1. I go to bed later than I had intended.

2. I go to bed early if I have to get up early in the morning. (reverse coded)

3. If it is time to turn off the lights at night I do it immediately. (reverse coded)

4. Often, I am still doing other things when it is time to go to bed.

5. I easily get distracted by things when I actually would like to go to bed.

6. I do not go to bed on time.

7. I have a regular bedtime which I keep to. (reverse coded)

8. I want to go to bed on time but I just do not.

9. I can easily stop with my activities when it is time to go to bed. (reverse coded)