# UNIVERSITY OF TWENTE.

## The Relationship Between Video on Demand (VoD) Watching Behavior and Satisfaction with Life

## An Experience Sampling Study

In Partial Fulfillment of the Requirement for the Degree of the Master of Science

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**Abstract**

**Background.** The growth of video-on-demand platforms has brought the emerging phenomenon of video-on-demand watching into research focus. However, video-on-demand watching behavior has typically been examined in cross-sectional studies using retrospective surveys. Recently, the experience sampling method (ESM) has gained appreciation as it measures variables as fluctuating behaviors or states to gain insight into the dynamic nature of emotions and behaviors as they unfold over time. This study uses intensive longitudinal measurement to examine the relationship between the amount of VoD-watching that individuals engage in and life satisfaction over time.

**Objective.** The current study examined the association between the amount of daily VoD-watching and levels of life satisfaction over time in a previously collected sample of 35 individuals, including 22 college students.

**Method.** A longitudinal online experiential study was conducted with a sample of 35 individuals ($M_{Age}$ = 23.7) within a two-week time frame in April 2020. The Satisfaction with Life Scale (SWLS) was assessed each evening, - and a behavioral assessment was used each morning to measure VoD-watching behavior from the previous day. Participants were prompted to complete the surveys on their smartphones using the *Ethica* application.

**Results.** Multilevel linear analysis illustrated that there was neither a significant overall association between participants' experienced life satisfaction and their VoD-watching behavior the next day ($\beta$= -0.002, F= 0.001, p= 0.974), nor on the same day ($\beta$= 0.000, F= 0.001, p= 0.979) nor a significant disaggregated between-person ($\beta$= -0.15, SE= 0.12, p = 0.23) or a within-person ($\beta$= 0.00, SE= 0.02, p= 0.88) association. Furthermore, individual case studies confirmed these findings by showing that there were also no apparent associations between the above variables at the individual level.

**Conclusion.** This study provides unique insights into the relationship between life satisfaction and VoD-watching behaviors as they occur in real life. It complements cross-sectional research in this area and extends previous research by showing that VoD-watching does not necessarily result in negative consequences for individuals. It therefore raises awareness of the often-negative connotations of the phenomenon of VoD-watching behavior. Based on these findings, further research could focus on (1) including a heterogeneous sample from different socioeconomic status groups (2) extending the measurement period to explore long term impacts (3) including the motivation of watching, context of watching, the genre and self-control as moderators.

# 1. Introduction

*"Entertainment is fast becoming an all-you-can-eat buffet. Call it the Netflix effect." – Raju Mudhar, Toronto Star*

This quote illustrates the change in media consumption during the last years. Video on Demand platforms (VoD) such as Netflix, Amazon Prime and Disney Plus have become a prominent alternative to watching cable television at fixed times. The rapid development of technology enabled the possibility to release an entire season of a series at once instead of the traditional week-by-week episode format. As a side effect of the unlimited possibility to watch series back-to-back, marathon-watching, commonly known as binge-watching, became a more conspicuous behavior, especially among adolescents (Flayelle, Maurage, Di Lorenzo, Vögele, Gainsbury & Billieux, 2020).

*1.1 Video on Demand Watching*

Video on demand (VoD) is defined as content provided on different platforms on the internet which can be categorized into three models: (1) video streaming (2) video downloads (3) pay-per-view. Most of the VoD users are monthly subscribers who pay a fee to view unlimited content (Shaulova & Biagi, 2020). The development of VoD streaming platforms such as Netflix and Amazon Prime gives viewers the freedom to watch content whenever and wherever they want. Users now have the possibility to watch content on their laptops, smart TV's, smartphones, or tablets and are not bound to a specific location while watching content anymore. In 2019, 87% of the Dutch population who use Netflix, watched content on their TV's, 24% of them used their smartphone and, respectively, 19% used their laptop and tablet to watch content (Best, 2020). The use of these platforms offers viewers access to a large quantity of movies and series and thus autonomy in terms of content selection and consumption intensity (Granow, Reinecke & Ziegele, 2018).

In 2007 Netflix was one of the first companies to recognize the benefits of VoD platforms and transitioned into one. During the last decade, the number of subscribers has drastically multiplied. While the company had 22 million monthly subscribers worldwide in 2011, the number rose to 150 million subscribers in 2019. The regions with the most subscribers are the USA and Canada with 72.9%, followed by Europe & the Middle East with 61.48 %. Netflix, as the most used VoD platform, offers its users between 5070 and 5932 movies and series depending on the region of the subscriber. The platform is prominent as an estimate of 37% of the world's internet users are using it (Watson, 2020).

*1.2 Video on Demand – A Persuasion Phenomenon*

The development of VoD platforms did not only enable the user to watch content whenever and wherever they wanted but also included persuasive systems to make the viewers use the platforms regularly. The overall goal was to create platforms that would be compelling and would let its users spend a lot of time using them. One key aspect of the persuasion in VoD platforms is the way that series are conceived. Most episodes end with the introduction of a cliffhanger and begin with resolving it, this

functions as an addictive component for the users – they want to know what will happen next and continue watching (Alter, 2017). Additionally, these platforms use different algorithms to provide a more convenient viewing experience compared to regular cable TV. Recommender Systems (RSs) help to search through the wide range of databases to identify the content which is most likely to be appreciated by the user. RSs function as a persuasion system in platforms such as Netflix, as they can influence the user's decision (Cremonesi, Garzotto & Turrin, 2012). In addition, VoD platforms use an autoplay feature by default, which allows the next episode of a series to appear on the screen without any user interaction. Netflix for instance has preset the function, so that the next episode begins automatically within ten seconds without the user having to take action. On the contrary, active user interaction is required to stop the next episode of a series from beginning (McDonald & Smith-Rowsey, 2016). Furthermore, since VoD platforms started to produce their own series, exclusivity began to influence user behavior. Users wanted to be able to participate (McDonald & Smith-Rowsey, 2016). Since VoD platforms would allow users to watch content whenever they wanted, social viewing and scheduling were a consequence. The original Netflix series such as *House of Cards* and *Orange is the New Black* were not only seen as TV shows, but rather as social media events - themes that would become conversational topics. These series were advertised in the press and on cable television, even the then president of the USA Barack Obama tweeted about the release: *"Tomorrow: House of Cards. No spoilers, please!".* This tweet illustrates the potentially rapid consumption of VoD series as opposed to cable TV and proved to be correct, as two percent of all Netflix users indeed watched the entire *House of Cards* season on the weekend of its release (McDonald & Smith-Rowsey, 2016). Next to the fast consumption of VoD series, Steinert and Xu (2020) illustrate that binge-watching is perceived as liberating, which requires a positive attitude towards this behavior. Taking this stance into account, it is possible that VoD-watching behavior can have a positive effect on the satisfaction with life by functioning as a possible escape behavior. The fact that it functions as an escape behavior is presented in the study of Starosta, Izydorczyk and Lizynczk (2019) which found that individuals who engage in binge-watching behavior the most, tend to have escape motivation and a motivation to cope with loneliness.

*1.3 Binge-watching Behavior*

The prior illustrated newly gained autonomy has shifted the watching behavior of viewers and made binge-watching more prevalent (Pittman & Sheehan, 2015). Furthermore, the constant availability of content stimulates the risk of binge-watching (De Feijter, Khan & van Gisbergen, 2016). Binge-watching is a phenomenon that is known in the current zeitgeist, but has not yet been holistically conceptualized (Rubenking, Bracken, Sandoval & Rister, 2018) nor sufficiently academically researched (Pena, 2015). Definitions range from a behavior which involves intensive, consecutive viewing of content (De Feijter, Khan & van Gisbergen, 2016 & Granow, Reinecke & Ziegele, 2018) to watching multiple episodes of a TV series back-to-back (Flayelle, Maurage, Di Lorenzo, Vögele, Gainsbury & Billieux, 2020) to self-determined viewing of series (Horeck, Jenner & Kendall, 2018) to

more specifically, watching two to six episodes of a series (Silverman & Ryalls, 2016). Researchers in the field of binge-watching agree upon the fact that the phenomenon lacks a universal definition (Pierce-Grove, 2017). Nevertheless, the newly won trend has brought the topic of binge-watching into the focus of researchers.

The breakdown of the term *binge-watching* first draws attention to the term *binge/binging*. A literature review shows that the terminology itself is mostly negatively connotated (Erker, 2020) and is associated with mental disorders such as eating disorders (e.g. binge-eating) and thus to a lack of self-control (Pla-Sanjuanelo, Ferrer-García, Gutiérrez-Maldonado, Riva, Andreu-Gracia, Dakanalis & Rus-Calafell, 2015). In contrast to this negative attitude towards binging in general, VoD streaming platforms like Amazon Prime do advertise their platform with categories like "binge worthy series" (Burroughs, 2019). The way in which society deals negatively with the terminology on the one hand and VoD platforms constitute it as a desirable behavior on the other, illustrates the paradoxical nature and undefined character of this phenomenon.

The duality of binge-watching is also reflected by research findings which show that this new way of media consumption can have both negative and positive effects on individuals. While the well-being of individuals can be positively affected by the perceived autonomy (Granow, Reinecke & Ziegele, 2018), binge-watching is perceived as less enjoyable than the daily or weekly viewing conditions that users have while watching television (Horvath, Horton, Lodge & Hattie, 2017). Additionally, the phenomenon can have rewarding and pleasurable effects on the viewers but can also be seen as an excessive behavior which can offer a wide range of risk factors related to the dysfunctional use of media such as impulsivity, addiction and coping problems (Flayelle et al., 2020).

As the use of VoD platforms and engaging in binge-watching can have several effects on individuals, it is important to investigate whether it impacts women differently than men regarding the association with satisfaction with life. The prior conducted study by Starosta et al. (2019) has investigated the motivation and characteristics of users who engage in binge-watching behavior and has revealed a significant association between binge-watching behavior and escape motivation. Besides, it has found that women show a higher tendency to make use of VoD platforms as an entertainment tool and to cope with loneliness. It is therefore questionable whether VoD-watching affects women differently than men regarding their perceived life satisfaction. Therefore, the current study will take the research in another direction by investigating the association between the VoD consumption, gender, and satisfaction with life.

*1.4 Satisfaction with Life*

The focus of this research is VoD-watching behavior in terms of satisfaction with life. Dissatisfaction with one's own life is associated with a lower quality of life (Farquhar, 1995). A central concern of research is quality of life, and the most desirable outcome of health care institutions is an improvement in it (Farquhar, 1995). Research has found that the individual organization of one's leisure activities can have an impact on life satisfaction. Free, or leisure time fulfills various basic human needs

such as the need for regeneration, relationships, physical activity, and autonomy (Heichinger, 2019). The use of media is a central component during the organization of an individual's leisure activities. Research illustrates that almost 50% of the daily leisure time is invested in media consumption by individuals in Germany (Statistisches Bundesamt, 2020). According to the Dutch Bureau for Statistics (Centraal Bureau voor Statistiek, CBS) the percentage of adolescents who are using VoD platforms is continuously growing (CBS, 2019). The amount of time spent on media consumption shows the importance for this research to explore the potential impact of VoD-watching behavior on the satisfaction with life of individuals over time.

*1.5 Experience Sampling Method (ESM)*

Until recently, most research in the field of VoD has been based on cross-sectional surveys which can have the disadvantage of investigating the data rather on an average than an individual level. As a result of this, misinterpretations and overgeneralizations on an individual level can occur as findings on a group level can mask potential relationships on an individual level. Besides, they mostly rely on recalling states (e.g. *How have you been feeling during the past week?*) and this can result in recollection bias, contrary to the ESM (Mann, 2003 & Fisher, Medaglia & Jeronimus, 2018). Since the research area of VoD-watching behavior is still in its early stages, it is crucial to study this area in more detail to examine the effects on individuals. Given the undefined character and lack of a uniform definition of binge-watching behavior, the current research will focus on the amount of VoD- watching behavior that individuals engage in. The experience sampling method (ESM) aims to provide a more detailed understanding of how people feel, what they do or what they think on multiple occasions over a specific time frame. During the ESM, participants are asked to wear or use an electronic device, such as a smartwatch or -phone, and randomly receive signals that prompt them to complete a systematic self-report (Erker, 2020). The ESM tries to illustrate variations in self-reports of mental processes and typically involves the investigations of the frequency, intensity, and patterns of the following variables: (1) daily activity, (2) psychological states incl. variations, and (3) thoughts (Csikszentmihalyi & Larson, 2014). The collected data from the self-reports can be used as a repository of files about the daily experiences and fluctuations in momentary behaviors and states of individuals (Larson & Csikszentmihalyi, 2014). Measuring this, the ESM enables researchers to create an authentic image of how individuals perceive a situation or behavior in each time frame and to gain a deeper insight into the situational behavior and psychological states of individuals. Since ESM asks individuals to fill in how they feel in that moment, it reduces memory biases compared to retrospective reports and supports the ecological validity of the study. This enables the study of individuals general feelings and thoughts related to a specific situation and time frame. It also allows the researcher to study the direction of associations between situational contexts, behaviors and feelings, and its exploratory nature makes it an indispensable method for this research. Therefore, the ESM method is a crucial tool which will enable this study to understand the association between satisfaction with life and VoD-watching behavior on an individual level to enrichen the field of studies. Besides, ESM is rooted in ecological psychology and

states that behavior can only be seen in association with the context in which it evokes. The method will enable this study to understand the actual experience of the respondents as it is captured daily rather than retrospectively (Myin-Germeys, Kasanova, Vaessen, Vachon, Kirtley, Viechtbauer & Reininghaus, 2018).

*1.6 The Current Study*

This exploratory study aims to investigate the association between VoD-watching behavior and the satisfaction with life over time. More specifically, it aims to examine the number of hours watched in relation to the satisfaction with life. As mentioned above, previous research has not yet specifically focused on investigating the relationship between VoD-watching behavior and satisfaction with life over time by applying the ESM method, and by that, focusing on associations within individuals over time. Besides, it is important to investigate whether this behavior is negatively associated with living a satisfied life. Resulting from this, the following research questions are composed:

1. To what extent is VoD-watching behavior of individuals related to satisfaction with life over time?
2. To what extent is the association between VoD-watching behavior and satisfaction with life different for men and women over time?

The research questions will be investigated using ESM, since this method may provide more realistic insights into individual's daily behaviors and states including the fluctuations. Furthermore, this study will examine VoD-watching behavior as both a potential predictor and outcome of satisfaction with life and by that, investigate whether it can possibly function as an escape behavior.

## 2. Method

The current study concerns a post-hoc analysis of data collected by four Psychology bachelor's students at the University of Twente. The longitudinal study to collect the data was approved by the Ethics Committee of the Faculty of Behavioral Science at the University of Twente (Request-Nr: 200366) and functioned as the basis for the current study (Erker, 2020). The data collection took place in April 2020 (Figure 1).

*2.1 Design*

A two-week ESM design was applied for the current study to measure the daily use of VoD platforms and the potentially related satisfaction with life of participants over time (Figure 1). Data was collected in April 2020, using the application *Ethica* on the participants' smartphone devices (Erker, 2020). The participants took part voluntarily and gave their informed consent within the app. The notification function of *Ethica*, functioned as a regular reminder for the participants to fill in the three daily measurements. The daily assessments were prompted by making use of an interval contingent sampling design, which ensured the participants received the daily assessments at predetermined times and intervals (Myin-Germeys et al., 2018). To lower the burden to participate in the study, researchers chose to send three short surveys to the participants daily over a period of two weeks. The participants received the *Morning State Assessment* and the *Evening state assessment* (Appendix 3) to measure the fluctuations in their momentary moods and an additional *Behavior Assessment* (Appendix 2) to investigate their watching behavior the previous day. The first and last surveys were exceptions as they contained extra questions (Baseline Measurement, Appendix 1).
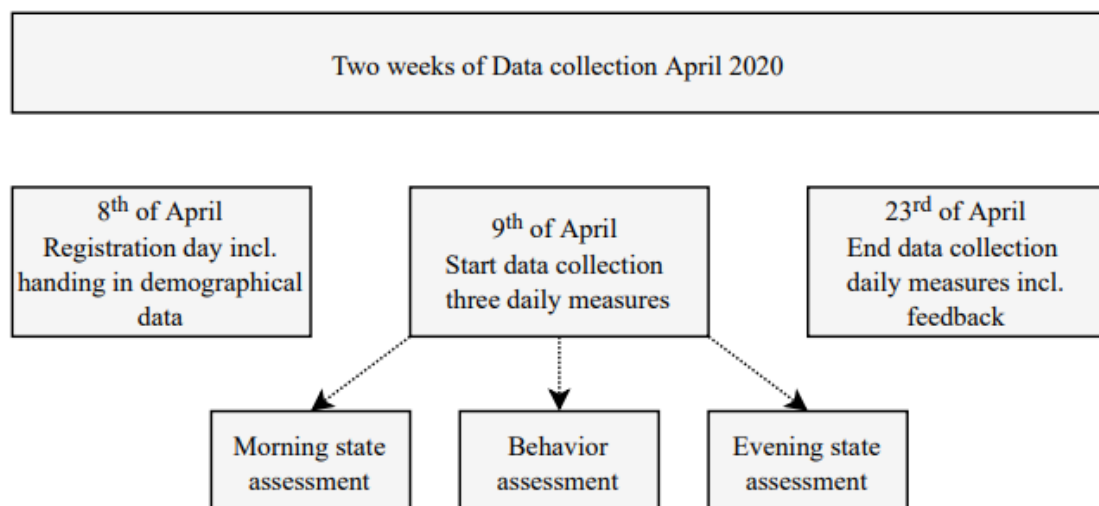


*Figure 1*. Timeframe and components of data collection.

*2.2 Suitability of the Data for the Current Study*

The previously collected data functioned as a solid fundament for this study as it was recently collected in April 2020. Furthermore, it measured all variables which were of interest for the current

study, namely the experienced satisfaction with life of the participants and the amount of their VoD-watching behavior and therefore appropriately fit the research questions (Chaleunvong, 2009). Moreover, the amount of missing data was uncritical as only four participants had to be excluded due to missing data and noncompliance (Kang, 2013). Finally, the research period of two weeks was sufficient for an ESM study, which also enabled the data to function as a solid fundament for the current study (Vares, Haddock & Palmier-Claus, 2019).

*2.3 Participants*

A total number of 42 participants were recruited in the study through convenience sampling, in which the researchers approached acquaintances, family members and friends (Erker, 2020). After filtering out participants who had not completed at least 50% of the daily behavioral assessments, which corresponds to seven out of the fourteen questions, participants who indicated that they were not regular watchers, participants who did not complete the sociodemographic questionnaire, and participants who did not fill in the SWLS, 35 participants remained and were selected for the data analyses (Figure 2). Connor and Lehman (2012) illustrate that in ESM studies it is conventional to have a cut off score for participants who have not at least completed 50% of the assessments. This cut off score was also used in the current study as answer rate less than 50% would not be meaningful in terms of an assertion regarding the association between the VoD-watching behavior and satisfaction with life.
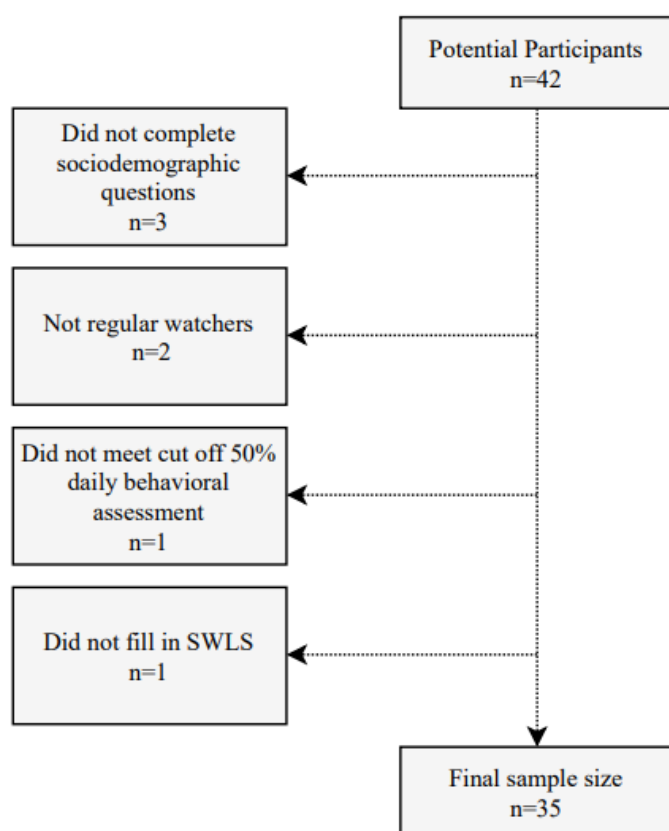


*Figure 2.* Participant flow diagram containing the exclusion criteria

*2.4 Material and Measures*

The original research contained more measures than those which are necessary for the current study. This study aimed to investigate individuals' VoD-watching behavior and the satisfaction with life, therefore only the following measures were considered for the current study.

*Sociodemographic Questionnaire*

The gender, age, nationality, and occupation of the respondents were requested by the sociodemographic questionnaire (Appendix 1). Additionally, general information about the respondents' VoD-watching behavior and situational context was prompted in questions about which streaming platform they use and whether they use the platform at least once a week (Erker, 2020).

*Daily Measures*

The daily measures were divided into the *Morning State Assessment* and the *Evening State Assessment* combined with the *Behavioral Assessment*. Only the last two of the mentioned assessments have been used for the current analyses as the *Evening State Assessment* included the Satisfaction with Life Scale (SWLS) and the *Behavioral Assessment* measured the watching behavior of the respondents. The Morning State Assessment was excluded from the current study as it measured variables as stress, guilt, depression, and anxiety, which are not relevant for the current study.

*Behavior Assessment*

This survey (Appendix 2) was used to explore the watching behavior of the participants, including the number of hours of the watching behavior, the number of episodes and the reason for watching. The number of items in this survey depended on the participants' answer to the first question (*Did you watch a series on a video-on-demand platform such as Netflix or Amazon Prime yesterday?*). A negation to this selection question would indicate the end of the survey and by that exclude the participants from further analyses, whereas an affirmation would let the participant fill in eight to eleven more questions. For the current analyses, 6 out of 10 items from the Behavior Assessment were used as only these comprised the intensity of the watching behavior to analyze the association with the satisfaction with life of an individual over time. Also, a variable which contained the total amount of hours that each participant had invested in VoD-watching was computed.

*Evening State Assessment*

The Evening State Assessment (Appendix 3) was used to explore several momentary states of participants. It contained 14 items in total, including 5 items identical to the Morning State Assessment. The additional nine items covered the following topics: feelings of anxiety (item 6), worry (item 7), depression or hopelessness (item 8), pleasure in activities (item 9), ideal life (item 10), conditions of life (item 11), satisfaction with life (item 12), reaching important things in life (item 13), and changing life (item 14). Items 9 to 14 compounded the Satisfaction with Life Scale (SWLS) and therefore were the

only items used for the current analyses. Further, a total score of the SWLS was created for each participant by computing a new variable, adding up the five items of the scale.

*2.5 Analysis*

The datasets of the morning behavioral assessments, evening state assessments and sociodemographic questionnaire were extracted from the application *Ethica* and first adjusted and prepared in Excel. The three datasets were then merged into one containing the VoD-watching behavior and Satisfaction with Life Scale (SWLS) and exported and modified into a long data format using SPSS, Statistical Package for the Social Sciences, version 26, in which the data analyses were conducted.

First, descriptive statistics on the sociodemographics of the participants including their age, gender, and nationality were analyzed. Moreover, the distribution, mean score and standard deviation of the SWLS was computed. Also, to obtain standardized regression estimates, both dependent (satisfaction with life) and independent (numbers of hours watched) variables were z-transformed.

Then the variation of VoD-watching behavior was explored across individuals over time by using the graph function in SPSS creating a bar chart setting the participant ID as independent variable on the x-axis and the total number of hours watched on the y-axis.

Next, the within-person variability for the variable number of hours watched was illustrated by using boxplots, setting the user ID as independent variable on the x-axis and the number of hours watched as dependent on the y-axis.

To then examine the association between VoD-watching behavior and satisfaction with life, a series of Linear mixed models (LMMs) with an autoregressive covariance structure (AR1) was run. LMMs consider the longitudinal and nested nature of the data and the often-occurring missing data, which are mostly present in ESM studies as a result of the intensive nature. They handle missing data by creating an estimate of the maximum probability that an answer will occur based on previous answers of the participant (Scollon, Prieto & Diener, 2009). For the LMM analyses the time point of the assessment was put as the repeated measure and the user ID as the subject.

The first LMM in which the user ID was put as a fixed factor was run to obtain estimated marginal means across persons.

To further explore satisfaction with life as both a potential outcome and predictor of the VoD-watching behavior, a lagged analysis was performed. Prior to the analysis, a lagged variable of number of hours watched was computed using the Lag (1) function, as the variable needed to shift from the prior day to the current day. Then a new LMM analysis was executed using satisfaction with life as a dependent variable and the lagged VoD variable as a covariate.

Furthermore, two additional LMM's were run to explore whether the association between VoD-watching behavior and satisfaction with life the next day was a momentary (within-person) or a general (between-person) phenomenon, using satisfaction with life as a dependent variable and the PM and PM-centered scores of the VoD-watching behavior variable as fixed covariates. SPSS enables the researcher to split the between-person and within-person effects efficiently and unambiguously within the

multilevel modelling by using the technique of person-mean centering of the time-varying covariate (Curran & Bauer, 2011). To achieve this, a daily mean score, the person-mean (PM) score which illustrates the between-person association was computed for each participant. To enable the illustration of the within-person associations, the person mean centered (PMC) score was computed by subtracting the person mean score from each respondent's time-specific total score.

Second, to investigate the moderating role of the gender on the overall (both between and within person) association on VoD-watching behavior and satisfaction with life, an additional LMM analysis was performed using satisfaction with life as a dependent variable, the number of hours watched as a fixed covariate, the gender as a fixed factor and their interaction term as fixed effect.

To then explore associations at the individual level, individual case studies were examined. First, the graph function in SPSS version 26 was used to create line graphs to depict the numbers of hours that participants used VoD platforms and experienced satisfaction with life. Participants with both high and low fluctuations in the above-mentioned variables were chosen to investigate patterns. Then it was explored whether there was an association between the numbers of hours watched and satisfaction with life by illustrating both variables in line graphs for each participant.

To visually support the results, several figures and tables were composed by using the graph function in SPSS version 26.

# 3. Results

*3.1 Descriptive Statistics*

The 35 participants in the current study were aged 18 to 51 years, with a mean age of 23.9 years old ($SD_{Age}$ = 5.52). In total, 91.3% of the respondents were of German nationality, 2.9% of Dutch and 5.8% another European nationality and 54% of them were male and 46% were female. 22 out of the 35 participants were students (Table 1). During the study, a total of 471 assessments were completed by the 35 respondents. Table 1 illustrates an overview of minimum and maximum scores of the SWLS and VoD-watching behavior, including the means and standard deviations. The overall mean (M=24.74) of the respondents regarding the SWLS indicates that the participants were generally rather satisfied with their lives over the two weeks.

**Table 1**

*Occupations of the sample & Minimum and Maximum Scores, means (M) and Standard Deviations (SD) of the SWLS and the Daily VoD-watching Behavior.*

| Variable | Frequency |
|---|---|
| **Occupation, n (%)** | |
| Apprentice | 2 (5.71) |
| Full time employee | 8 (22.85) |
| Part time employee | 1 (2.85) |
| Other | 1 (2.85) |
| Pupil | 1 (2.85) |
| Student | 22 (62.85) |
| | |
| **Measurement, M (SD)** | |
| Satisfaction with life Scale (SWLS) | 24.74, (6.12) |
| VoD-watching behavior | 1.42, (1.93) |

*Note.* n= number of respondents

*3.2 VoD-watching Behaviors Across Individuals and Variations Over Time*

In general, the participants showed substantial variability concerning the number of hours they spent on VoD-watching. Figure 3 illustrates the total amount of hours that each individual spent on VoD-watching during the research period of two weeks. The daily amount of VoD-watching ranged from 0.25 to 14 hours a day (Table 1) with an average of 1.42 hours of watching. As can be seen, there

were substantial differences in the VoD-watching time between the participants. Participant 25954 (min = 0.75, max= 12 hours per day, total= 69 hours) and 25964 (min = 0, max= 14 hours per day, total= 79 hours) who resemble outliners spend between 69 and 79 hours on VoD-watching during the research period of two weeks, illustrating a high degree of within-person variability in the sample.
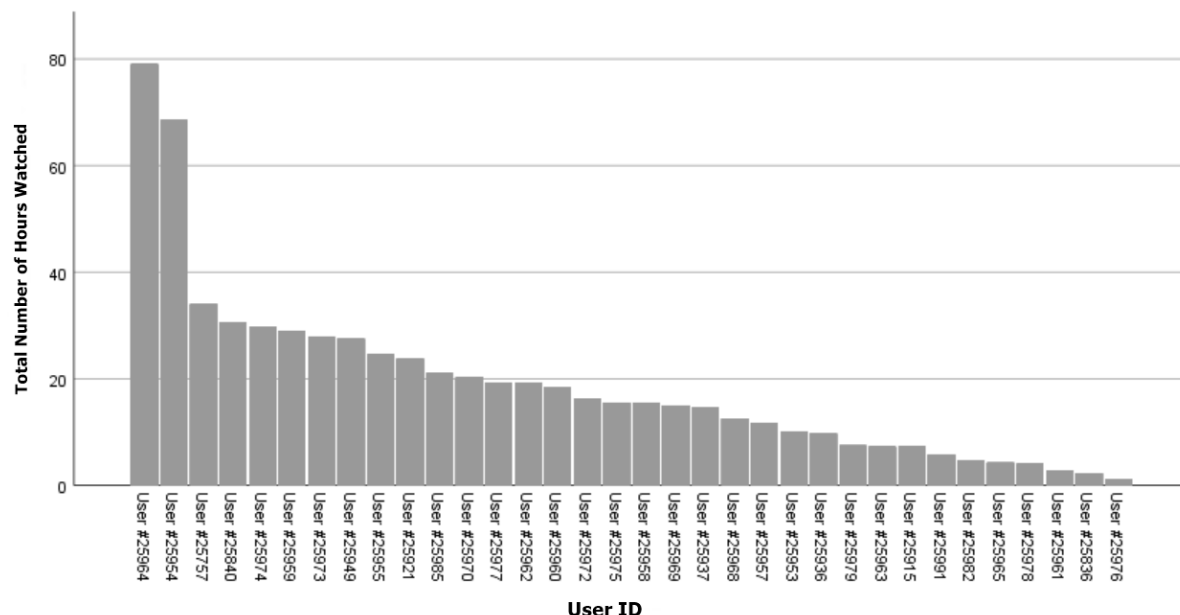


*Figure 3.* Bar Chart of between-person associations in total amount of VoD-watching.

Substantial variation in the amount that participants spend on VoD-watching behavior was also found within individual participants over the different assessments. However, VoD-watching behavior seems to be a less dynamic variable for most individuals in the within-person variability (Figure 4). The variability in VoD-watching behavior seems to be limited according to the boxplots. However, participant 25964 and 25954 seem to be exceptions as they do vary a lot in their VoD-watching behavior.
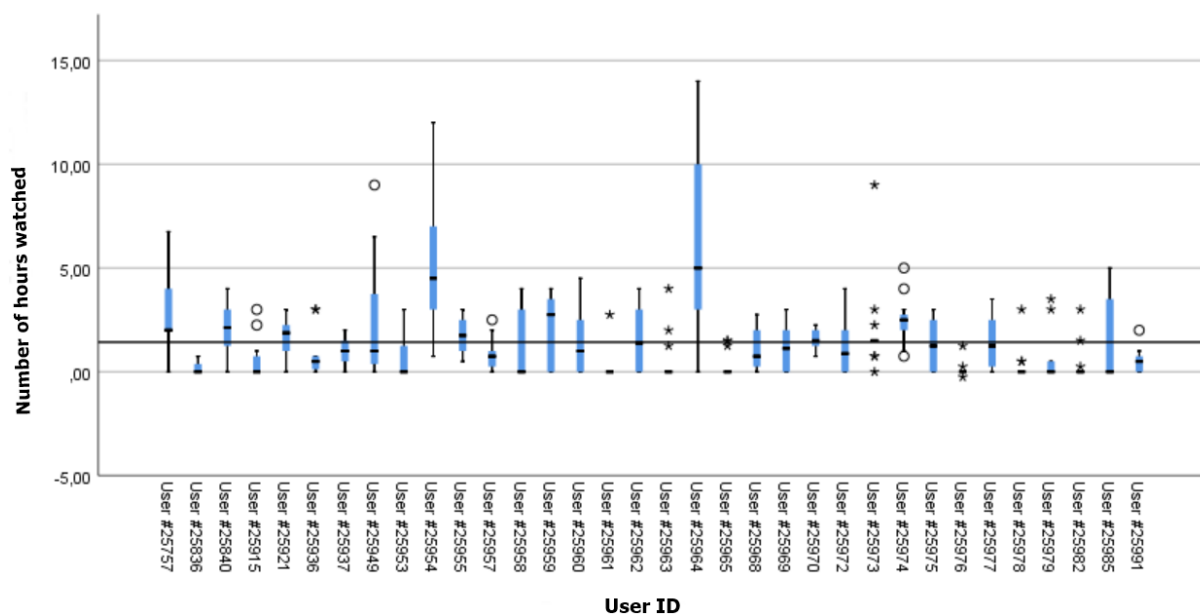
*Figure 4.* Boxplot illustrating the variation in the amount of watching behavior per individual with a reference line set at the group mean (M= 1.42).

*3.3 Association Between VoD-watching and Satisfaction with Life the Next Day*

To firstly explore satisfaction with life as an outcome of VoD-watching behavior the association between VoD-watching time and the experienced degree in satisfaction with life the next day was analyzed by performing a LMM analysis. The number of hours watched was found to have a nonsignificant association (F= 0.001, p= 0.974, β= -0.002), indicating that the experienced satisfaction with life and VoD-watching on the previous day were not associated on the total group level.

*3.4 Association Between VoD-watching and Satisfaction with Life the Same Day*

To then explore satisfaction with life as a predictor of the association with VoD-watching behavior, the association between VoD-watching and the experienced degree in satisfaction with life the same day was explored by performing a LMM analysis. It was conducted to examine whether the perceived satisfaction with life and the consumption of VoD platforms on the same day were associated. The results also showed a statistically nonsignificant association between satisfaction with life and VoD-watching on the same day on the total group level (F= 0.001, p= 0.979, β= 0.000).

*3.5 Between and Within Person Association*

Next it was investigated whether there was a momentary (within person) or trait like (between person) association between the VoD-watching behavior and the experienced satisfaction with life. Results showed that there was neither a statistically significant association at the between person nor on the within person level (Table 2). At the between person level (PM) a slightly negative direction of the association was found, which suggests that individuals who watch on average more than others experience less satisfaction with life. However, this finding was not statistically significant.

**Table 2**

Person-mean and Person Mean Centered Scores and Fixed Effects

| Parameter | β (SE) | df | t | p |
|-----------|--------|-----|--------|------|
| PM | -0.15 (0.12) | 39.64 | -1.208 | 0.23 |
| PMC | 0.00 (0.02) | 312.49 | 0.141 | 0.88 |

*Note.* β = beta, type II error rate, df= degrees of freedom, t= t-value, p= p-value, PM = Person-mean score, PMC = person-mean centered score

*3.6 Differences in the Association of VoD-watching Behavior and Satisfaction with Life in Men and Women*

A moderation analysis was run to determine whether the gender of the participants significantly moderates the association between the SWLS and VoD-watching behavior. The interaction term was

not significant ($\beta$= - 0.149, F = 0.684, p= 0.409). This outcome illustrates that there is no difference in association for both genders.

Since VoD-watching and satisfaction with life as both, a predictor and outcome were not associated on the group level, it was decided to further analyze the data on an individual level to explore possible differences in associations within individuals in more detail in selected individual cases.

*3.7 Individual Case Studies*

To explore the data on an individual level, several individual participants were selected to investigate the patterns associated with perceived satisfaction with life and the number of hours that they used VoD platforms during a period of two weeks. Due to the exploratory nature of this research, not all cases could be selected. Therefore, participants with the most meaningful and conspicuous patterns in their VoD-watching behavior and experiencing satisfaction with life were selected. The aim was to ensure a thorough analysis of individual patterns and their impact on the association between satisfaction with life and VoD-watching behavior.

*Participant 25964.* This participant does not show high fluctuations in experiencing satisfaction with life within the timeframe of two weeks. His scores range from 24 to 25 (slightly satisfied). Contrary to experiencing satisfaction with life, his VoD-watching behavior is highly fluctuating with a range of 0 to 14 hours a day and an average of 5.64 hours a day (Figure 5). Still, satisfaction with life and VoD-watching behavior do not seem associated.
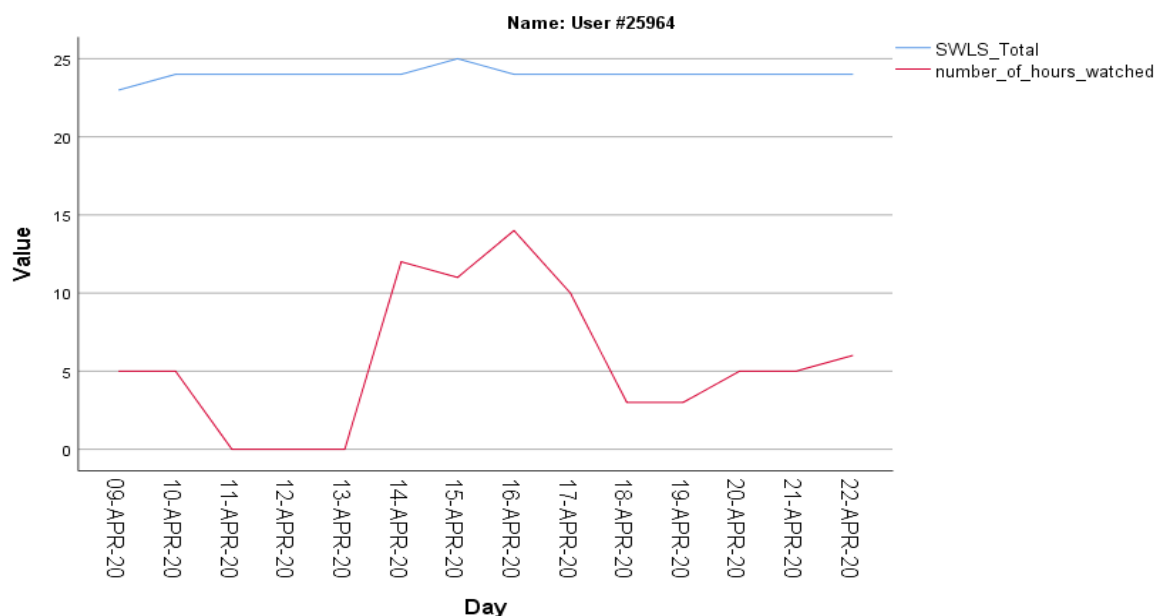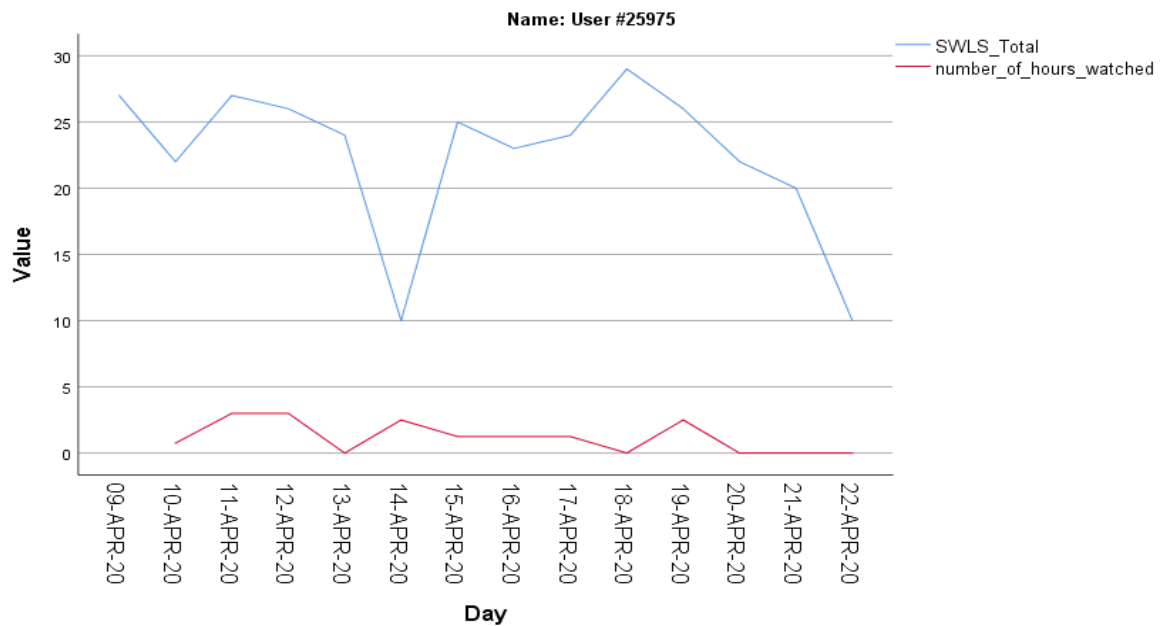


*Figure 5.* Line graph illustrating satisfaction with life and watching behavior scores per time point of participant 25964.

*Participant 25975.* This participant shows high fluctuations in experiencing satisfaction with life within the timeframe of two weeks. His scores range from 10 (dissatisfied) to 29 (satisfied) with an average of

22.50 (slightly satisfied). Contrary to experiencing satisfaction with life, his VoD-watching behavior is poorly fluctuating with a range of 0 to 3 hours a day and an average 1.19 hours a day (Figure 6). Still, satisfaction with life and VoD-watching behavior do not seem associated.



*Figure 6.* Line graph illustrating satisfaction with life and watching behavior scores per time point of participant 25975.

The examples illustrated above suggest that the results retrieved from the statistical analyses on a group level are in line with the results on an individual level no matter what kind of individual pattern is chosen. Both the analysis on a group level and on an individual level did not indicate any association between the number of hours that the participants spent on using VoD platforms and the satisfaction with life. Therefore, satisfaction with life can neither be seen as an outcome nor a predictor of the amount of VoD consumption. Two additional individual case studies can be found in Appendix 4.

## 4. Discussion

Since VoD-watching is an emerging phenomenon in the current zeitgeist and approximately 37% of the world's internet users utilizes Netflix (Watson, 2020), it is important to investigate whether VoD consumption influences the perceived satisfaction with life.

The current study aimed to analyze the momentary experience of life satisfaction in everyday life in relation to VoD-watching using the ESM. It also examined whether gender had a moderating effect on the relationship between VoD-watching and life satisfaction over time. Finally, it examined whether VoD-watching behavior was associated with life satisfaction on the current day or predictive of the next day. To this end, life satisfaction levels were surveyed daily for two weeks in relation to watching behavior on participants' smartphones. Group-level results showed both high between- and within-person variation in the experience of life satisfaction and consumption of VoD platforms. Nevertheless, at the group level, no significant relationship was found between VoD consumption and life satisfaction over time neither on the current nor on the next day. This suggests that life satisfaction is not related to the amount of VoD consumption an individual engages in. The results at the individual level were consistent with those at the group level. This illustrates that the non-association at the group level did not mask possible individual associations. In addition, it was found that participant gender was not a moderator, meaning that it did not affect the association between VoD-watching behavior and life satisfaction over time.

This study is one of the few studies that has examined well-being in the context of VoD-watching behavior. Previous studies have mainly found negative effects of watching behavior on individuals (Erker, 2020). The negative consequences of watching behavior were composed of experiencing feelings of guilt, regret after neglecting responsibilities, a change in sleep patterns due to altered sleep-wake rhythms, dependence on watching behavior (Fayelle et al., 2020), and a lack of self-control (Pla-Sanjuanelo, Ferrer-García, Gutiérrez-Maldonado, Riva, Andreu-Gracia, Dakanalis & Rus-Calafell, 2015). The current study differs from previous ones in that it used the ESM to investigate the emerging phenomenon of VoD-watching behavior, focusing on individual experiences over time. As a result, it may have provided different results than previous research, as no relationship was found between the number of hours watched and the life satisfaction individuals experienced over a two-week period.

The results regarding life satisfaction are conclusive as to the relationship with VoD-watching behavior. Although the individuals in the sample covered the full range of the SWLS, the average was at a general level of "slightly satisfied." This underlines the stance that there is no relationship between VoD consumption and the perceived life satisfaction. Still, individuals in this study showed a high degree of variation in terms of experiencing life satisfaction. The variation in both within- and between-person scores regarding life satisfaction and disengagement with VoD-watching behavior suggests that there may be more significant constructs that have an impact on students' experiences of life satisfaction that were not included in this study. Bailey, Roger, Miller, and Christy (1998) showed in their study that

an important reinforcing factor for students' life satisfaction is the ability to have fulfilling interpersonal relationships. Considering this setting, it could be argued that students who are satisfied with their lives in general are less likely to be affected by their VoD consumption behavior in terms of their well-being. This illustration of interpersonal relationships enhancing life satisfaction in college students could be used as a fundament for a follow-up study, considering aspects that make students more resilient by examining the relationship between VoD-watching behavior and life satisfaction. A practical consideration would be for studies to incorporate a more detailed sociodemographic questionnaire by adding questions about interpersonal relationships to examine environmental influences that may stabilize individuals, making them less likely to be impacted by the consequences of VoD-watching. Still, it must be taken into account that interpersonal relationships function as a reinforcing factor for life satisfaction in general not only in relation with VoD-watching behavior (Bailey, Roger, Miller & Christy,1998). Therefore, it is plausible that there is simply no relationship between VoD-watching behavior and satisfaction with life which was also illustrated by the current study.

Moreover, the fact that there was no associability between perceived life satisfaction and VoD-watching behavior can be explained by the study of Oberle, Schonert-Reichl & Zumbo (2011), who argued that a strong sense of belonging to school and supportive peer relationships are positively related to life satisfaction in adolescence. It is possible that the individuals in the sample had various social resources that strengthened them and thereby neutralized the effects of VoD-watching behavior. However, it could also be possible that for this group of individuals there were no consequences at all that had to be neutralized as the current study shows no associations between VoD-watching behavior and perceived satisfaction with life.

Furthermore, most of the individuals in the current study were students and did not consume VoD platforms excessively. Therefore, it could be distinguished from binge-watching behavior, which differentiates this research from previous research which has mainly examined the relationship between binge-watching behavior and well-being. However, even in its excessive form, Winland's (2015) research found that there was no correlation between binge-watching and academic engagement. In light of this, it could be argued that college students are a well-controlled and reflective group of individuals. Therefore, it is possible that this reflective nature makes them more resistant to the negative consequences of VoD-watching behavior, which has been shown in several studies (Erker,2020). Additionally, the non-excessive consumption of VoD platforms indicates that the individuals in the sample have high levels of self-control. Resulting from this it is possible that there is simply no relationship between VoD consumption and satisfaction with life for individuals who have high levels of self-control. Therefore, follow-up studies could investigate self-control as a possible moderator to explore whether individuals with low levels of self-control are more likely to be influenced by VoD-watching behavior or if there is simply no relationship between the two variables.

Additionally, the current study also investigated gender as a moderator in the association between VoD-watching behavior and satisfaction with life. The results regarding gender as a moderator

revealed no statistically significant effects. This means that the gender of the subjects in the current study was not predictive of experiencing a different level of life satisfaction in association with VoD-watching behavior. This does not mean that there are no other possible moderating factors in the relationship between VoD-watching and experiencing life satisfaction. Shim & Kim (2018) for instance illustrated that individuals use watching behavior to satisfy their need for pleasure, efficiency, control, and fandom; these factors could lead individuals to experience higher levels of life satisfaction as a result of VoD-watching. It follows that the motivation behind VoD-watching could act as a possible moderator, as this is consistent with the need for pleasure. Stating this, a follow-up study could therefore examine motivation and genre of VoD-watching as moderators in the relationship between life satisfaction and VoD-watching behavior. Different genres have the potential to arouse curiosity, generate attitudes and emotions, and influence individuals' state of mind (Bernardino, Ferreira & Chambel, 2016).

Another factor with regard to the motivation is to consider VoD-watching as a social event that can increase life satisfaction by facilitating the formation of new friendships due to the commonality (Vaterlaus, Spruance, Frantz & Kruger, 2019). Social goals such as co-watching, discussing content with others, and identifying with characters have been found to be primary motivators for watching behavior (Rubenking, Bracken, Sandoval & Rister, 2018). The CoViD 19 pandemic, during which this study took place, may have had an impact on the non-associability findings. Prior to the CoViD 19 pandemic, social watching was a common activity among students. It is possible that the pandemic influenced individuals' watching behavior and thus had an indirect effect on the non-associability of this study. The opportunity to engage in social watching behavior may have led to a positive association between life satisfaction and VoD-watching. As the study was conducted during the global CoViD-19 pandemic in 2020, in which individuals suffered from various stressors and limitations in their daily lives (Shanahan, Steinhoff, Bechtiger, Murray, Nicette, Hepp & Eisner, 2020) it is recommended to replicate this study under normal circumstances. Since one of the key variables in this study was satisfaction with life, it is possible that the results were influenced by the individuals' current state impacted by the pandemic. Therefore, it is questionable whether the results would be the same under normal circumstances. Another argument for a replication study would be that this study is one of the first to examine the relationship between the above variables longitudinally, it is recommended that this study be replicated to confirm the findings.

As stated before, previous research in the association of VoD-watching behavior with life satisfaction found mainly negative consequences such as neglecting responsibilities during VoD-watching behavior, which decreases experienced life satisfaction (Vaterlaus et al., 2018). The current study puts these findings into perspective by finding no association between VoD-watching and well-being, neither as a predictor or outcome, nor between or within individuals. Thus, the present study could not confirm previous findings in a sample consisting mostly of college students. Individuals in the current study did not appear to experience negative consequences regarding their well-being. The results

for this sample raise the question of whether the concept of VoD-watching is actually as bad as it is often connoted in the literature. The negative connotation regarding VoD-watching and the differences in outcomes could be due to different definitions of VoD-watching behavior. Research has shown that there is no universal definition for this emerging phenomenon and no validated cut-off values to classify the behavior (Rubenking, Bracken, Sandoval & Rister, 2018 & Pena, 2015). This suggests doubt that VoD-watching or binge-watching is as harmful as the term binge behavior would imply. *Binging* is a terminology used in clinical psychology settings and manuals such as the DSM-IV to diagnose an excessive and harmful behavior, related to an eating or drinking disorder (Trace, Thornton, Root, Mazzeo, Lichtenstein, Pedersen & Bulik, 2012). The fact that popular media platforms such as Netflix use the terminology for a behavior worth striving for, illustrates the undefined understanding of this concept. Regarding the matter of binge-watching behavior, the terminology seems to be over pathologizing. This stance is supported by Da Coste (2019) who illustrates the paradox that recreational appetitive activities such as binge-watching behavior are stigmatized as harmful behavior but are still being practiced as leisure time activities worldwide. This illustration shows a tendency to over pathologize healthy behavior and go as far as individuals engaging in the behavior expect themselves to experience negative consequences even though watching behavior in general can also be seen as normal and healthy behavior. Flayelle, Maurage and Billieux (2017) confirm this perspective by raising awareness for the fact that even though research has started to investigate binge-watching behavior, little is known about underlying psychological processes. This basis makes it questionable to handle binge-watching behavior as a psychological health matter and an addiction. The current study is also in line with the above-mentioned findings as it could not detect negative consequences of VoD-watching behavior on the well-being of the participants in the study. The results therefore illustrate that the phenomenon of binge-watching cannot be seen as a psychological problem for the current sample, it is therefore advised to handle the term carefully and disavow it with regard to clinical psychology and disorders.

Other factors to be considered carefully are related to the methodology of the study, the sample distribution, as it mainly encompassed highly educated individuals, the narrow age range, and the fact that the study predominantly investigated individuals from a higher socioeconomic status. The fact that this study mainly investigated students and therefore highly educated individuals from a limited age range can be seen as both an advantage and a limitation of the study. Young people, especially students, are the target group of VoD-watching behavior (CBS, 2019). Therefore, this study stayed close to investigating individuals who make use of VoD platforms the most. At the same time, the limited involvement of individuals from other educational backgrounds and age ranges limits the generalizability of the current study.

Furthermore, the ESM nature of the study has the disadvantage of not having general guidelines on how to analyze and report the data and results. Moreover, the current study was based on the data (collections) of other researchers and therefore could not make different decisions regarding design,

measurements and inclusion and exclusion criteria. This influenced the decision to work with the current sample, which was quite homogeneous. As the students who collected the data used convenient sampling, the current study was mainly composed of a sample of college students. Therefore, the results are not generalizable to the general population. However, ESM studies are more concerned with individual-level mechanisms of action over time than generalizability in any case (Larson & Csikszentmihalyi, 2014). Still, the previously collected data enabled this research to have a solid fundament in terms of using data which has already been tested in the context of exploring VoD-watching behavior.

Further, another asset of this study is rooted in its methodology. Experience sampling generally increases the ecological-, construct-, and external validity of a study by directly capturing participants in their daily lives and states (Fisher, Medaglia & Jeronimus, 2018). Real life and time measurement also ensures that there is less recall bias. Second, unlike cross-sectional research, the ESM nature of this study allowed for the examination of associations both between and within individuals, allowing the data to be understood on an individual rather than a general level (Mann, 2003 & Fisher, Medaglia & Jeronimus, 2018). This enabled the researcher to understand behavior and its predictors in daily life and thus micro-level processes (Myin-Germeys, Kasanova, Vaessen, Vachon, Kirtley, Viechtbauer & Reininghaus, 2018). Still, an ESM study especially in the context of an unresearched matter should not be seen as the only way of investigating the phenomenon as it measures actual behavior and experiences in the moment (Myin-Germeys, Kasanova, Vaessen, Vachon, Kirtley, Viechtbauer & Reininghaus, 2018). Since surveys measure what individuals remember about their behavior and experiences after having processed the moment cognitively, the behavior tends to be more strongly correlated with the variables of interest. Therefore, an ESM study can be used to generate a different and additional perspective on the matter of interest by enriching the findings of cross-sectional surveys (Myin-Germeys, Kasanova, Vaessen, Vachon, Kirtley, Viechtbauer & Reininghaus, 2018). However, in this context, the ESM nature of this study allowed the researcher to examine individual patterns associated with satisfaction with life and VoD-watching over time. The method allowed the researcher to examine the data at multiple levels, thereby gaining an understanding of both group-level similarities and individual patterns (Csikszentmihalyi & Larson, 2014). Since the issue of VoD-watching behavior has been examined primarily through cross-sectional studies, this study enriches the field of research by putting the findings in perspective due to the longitudinal nature of the method used. Another strength of this study is the high reliability and validity of the SWLS questionnaire used in this study, which acted as a solid foundation (Hinz, Conrad, Schroeter, Glaesmer, Brähler, Zenger & Herzberg, 2018).

Nevertheless, regarding the methodology of the study, it is on the one hand questionable whether a sample from a population with a lower socioeconomic status could have participated in the study and on the other hand if the study may have yielded different results involving that sample. The intensive ESM nature of this study does however limit the participants who can or are willing to participate as the longitudinal nature may be perceived as intensive. ESM studies require engagement over an extended

period of time, unlike cross-sectional surveys (Larson & Csikszentmihalyi, 2014). It may be more difficult for individuals of low socioeconomic status to participate in ESM studies due to the need for technical equipment and skills. This raises questions about the ethical acceptability of ESM studies, as they may exclude individuals of low socioeconomic status by requiring participants to use various technical devices, thus creating a biased perspective on the research topic. Therefore, a more ideal research design would include a broader range of individuals from different socioeconomic statuses. As mentioned earlier, the study was limited to a sample of primarily college students, so it is advisable to focus on a more diverse group of individuals in a replication study and include individuals from different socioeconomic statuses and age groups to promote generalizability and to understand the problem more profoundly.

Another factor to be considered is that this study was conducted by only one student and could lead to a biased view of the results, as only one person selected the participants who were then analyzed during the individual case studies. Therefore, a practical consideration in conducting an ESM study would be to involve two researchers to select participants for the individual case studies, which would positively affect the interrater reliability of the study.

A final aspect to consider is the measurement period of the study. ESM studies are typically longitudinal studies. The fact that this study collected data within a two-week period may have masked long-term relationships between life satisfaction and VoD-watching behavior. It would therefore be advisable to extend the measurement period to examine underlying patterns and associations more deeply over time. ESM allows the researcher to study a phenomenon over a period of several years (Hektner, Schmidt & Csikszentmihalyi, 2007). Therefore, the topic of life satisfaction as it relates to VoD-watching-behavior could be studied over a longer term by extending the measurement period to explore long term impacts.

*4.1 Conclusion*

This study is one of the first to examine the relationship between VoD-watching behavior and life satisfaction, more specifically subjective well-being longitudinally (Erker, 2020). In summary, the current study showed that life satisfaction is not related to VoD-watching behavior over time. Nevertheless, some aspects need to be considered for future research. Retrospectively, this study can be seen as a first step in understanding individual processes related to the relationship between VoD-watching behavior and experienced life satisfaction in real life associations. Nevertheless, follow-up studies could take this understanding a step further by not only replicating the study but also by including other variables. These would include variables such as context of viewing, genre, motivation and self-control to generate a better understanding of what makes the emerging phenomenon of VoD and binge-watching risky for individuals' experienced life satisfaction and to further explore whether the phenomenon is as risky as the clinical psychological name suggests.

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**Demographic & General Information**

# Demographics & General Information

Collect basic information about the participants.

## Questions

1
(Q#2):    Welcome to our study about VoD watching behaviour! Thank you for your time and
support!
Before the daily questionnaires start, we would like to get some basic information about
you.

2 (Q#3):   Please indicate your gender.

    1) ◯ Male

    2) ◯ Female

    3) ◯ Other (or do not wish to answer)

3 (Q#4):   How old are you?

4 (Q#6):   What is your nationality?

    1) ◯ Dutch

    2) ◯ German

    3) ◯ Other, European

    -1) ◯ Other, non-European

5 (Q#11):  Please indicate your current occupation.

    1) ☐ Pupil

    2) ☐ Student

    3) ☐ Apprentice

    4) ☐ Employed full-time

    5) ☐ Employed part-time

    6) ☐ Unemployed

    7) ☐ Other

6 (Q#7): As you were informed beforehand, we would like to investigate your video-on-demand (VoD) watching behaviour. This does not mean linear television, but streaming platforms such as, for example, Netflix. The following questions are meant to explore your usage of these services to watch series, shows or/and movies.

7 (Q#8): Please mark the VoD streaming services that you usually use to watch series, shows, or/ and movies. Multiple answers are possible.

1) ☐ Netflix

2) ☐ Amazon Prime Video

3) ☐ Hulu

4) ☐ Disney+

5) ☐ Maxdome

6) ☐ Sky Home

8) ☐ YouTube

7) ☐ Other

8 (Q#9): Do you use one of these services at least once a week?

1) ○ Yes

2) ○ No

# Behaviour Assessment

When and how much VoD.

## Questions

1
(Q#22):
Hey there! Now we'd like you to answer some questions concerning your video-on-demand watching behaviour.

2
(Q#13):
Did you watch a series on a video-on-demand platform such as Netflix or Amazon Prime Video **yesterday**?

    1) ○ Yes

    2) ○ No

3
(Q#2):
At what time of the day did you watch the series? Multiple answers are possible. For example: You watched from 6 p.m. until 11 p.m., mark evening <u>and</u> night.
But: The times only serve approximate orientation. If you started watching at 5:55 p.m., for example, you <u>do not</u> have to mark *afternoon*.

    1) ☐ Morning (6 a.m. - 12 p.m.)

    3) ☐ Afternoon (12 p.m. - 6 p.m.)

    4) ☐ Evening (6 p.m. - 11 p.m.)

    6) ☐ Night (11 p.m. - 5 a.m.)

4 (Q#12): Did you watch for more than 1 hour?

    1) ○ Yes

    2) ○ No

5 (Q#26): Please indicate the number of hours you watched.

6
(Q#15):
Please indicate how many episodes you watched. If you watched more than 20 episodes, choose *21*.

7 (Q#27): What type of content did you watch?

1) ☐ Comedy
2) ☐ Thriller
3) ☐ Documentary
4) ☐ Horror
5) ☐ Action
6) ☐ Drama
7) ☐ Romance
8) ☐ Adventure
9) ☐ Animation
10) ☐ Mystery
11) ☐ Science-Fiction
12) ☐ Fantasy
13) ☐ Other

8 (Q#20): What was your reason for watching?

1) ☐ Entertainment
2) ☐ Boredom/nothing else to do
3) ☐ Stress
4) ☐ Interest/Curiosity
-1) ☐ Escape from reality/distraction
11) ☐ Procrastination/Avoidance of other responsiblities
12) ☐ Information seeking
13) ☐ Peer activity (watching with friends/family)
14) ☐ Relaxation/taking a break

9 (Q#28): In what kind of context did you watch?

1) ☐ Alone
2) ☐ With friends
3) ☐ With family
4) ☐ With partner

**10 (Q#23):** After that, did you feel guilty about watching?

    1) ○ Yes

    2) ○ Not at all.

**11 (Q#29):** To what extent did you feel guilty?

    1) ○ Slightly guilty

    2) ○ Moderately guilty

    3) ○ Very guilty

    4) ○ Extremely guilty

**12 (Q#24):** Please mark the reason for your guilty feeling.

    1) ☐ I watched more episodes or for a longer time than I wanted / planned to.

    2) ☐ I neglected other obligations that I should have fulfilled.

    3) ☐ I neglected other free-time activities that I wanted to pursue.

    4) ☐ I neglected bodily needs, for example sleep.

    5) ☐ I think that I wasted time or could have spent that time more wisely/ useful.

    6) ☐ Other

**13 (Q#30):** Other:

Please explain why you felt guilty.

**14 (Q#17):** Thank you for answering the questions. See you later!

# Evening State Assessment

Wellbeing, Stress, Guilt, Depression, Anxiety

## Questions

1
(Q#7):
Hey! We'd again like you to answer a few questions concerning your current moods and feelings. Thank you!

2
(Q#6):
On a scale of 0 to 10, with 0 being no stress and 10 being the worst stress possible, what number best describes your level of stress **right now**?

3
(Q#8):
Please indicate to what extent you experienced the following feelings within the **past hour**.

4 (Q#17):  Low/sad mood

    1) ○ Not at all

    2) ○ Slightly

    3) ○ Moderately

    4) ○ Strongly

    5) ○ Extremely

5 (Q#18):  Low energy/fatigue

    1) ○ Not at all

    2) ○ Slightly

    3) ○ Moderately

    4) ○ Strongly

    5) ○ Extremely

6 (Q#19):  Feelings of guilt

    1) ○ Not at all

    2) ○ Slightly

    3) ○ Moderately

    4) ○ Strongly

    5) ○ Extremely

7 (Q#20): Problems with concentration

    1) ○ Not at all

    2) ○ Slightly

    3) ○ Moderately

    4) ○ Strongly

    5) ○ Extremely

8 (Q#16): Next, there are some statements about feelings and thoughts. Please tick the box that best describes your experience of each **during the day**.

9 (Q#12): Today, how often have you felt nervous, anxious or on edge?

    1) ○ Not at all

    2) ○ Several times

    3) ○ More than half of the day

    4) ○ Nearly all day

10 (Q#13): Today, how often have you not been able to stop or control worrying?

    1) ○ Not at all

    2) ○ Several times

    3) ○ More than half of the day

    4) ○ Nearly all day

11 (Q#14): Today, how often have you felt down, depressed or hopeless?

    1) ○ Not at all

    2) ○ Several times

    3) ○ More than half of the day

    4) ○ Nearly all day

12 (Q#15): Today, how often did you have little interest or pleasure in doing things?

    1) ○ Not at all

    2) ○ Several times

    3) ○ More than half of the day

    4) ○ Nearly all day

13
(Q#22):   Next, there are five statements that you may agree or disagree with. Please indicate your agreement with each item by choosing the answer that suits your agreement on the statement based on your **momentary feeling** the most. That means your answer should reflect how you feel about a particular statement **right now**. Please be open and honest.

14 (Q#23):   In most ways my life is close to my ideal.

1) ○ Strongly disagree

2) ○ Disagree

3) ○ Slightly disagree

4) ○ Neither agree nor disagree

5) ○ Slightly agree

6) ○ Agree

7) ○ Strongly agree

15 (Q#27):   The conditions of my life are excellent.

1) ○ Strongly disagree

2) ○ Disagree

3) ○ Slightly disagree

4) ○ Neither agree nor disagree

5) ○ Slightly agree

6) ○ Agree

7) ○ Strongly agree

16 (Q#26):   I am satisfied with my life.

1) ○ Strongly disagree

2) ○ Disagree

3) ○ Slightly disagree

4) ○ Neither agree nor disagree

5) ○ Slightly agree

6) ○ Agree

7) ○ Strongly agree

17 (Q#25):  So far I have gotten the important things I want in life.

1) ○ Strongly disagree

2) ○ Disagree

3) ○ Slightly disagree

4) ○ Neither agree nor disagree

5) ○ Slightly agree

6) ○ Agree

7) ○ Strongly agree

18 (Q#24):  If I could live my life over, I would change almost nothing.

1) ○ Strongly disagree

2) ○ Disagree

3) ○ Slightly disagree

4) ○ Neither agree nor disagree

5) ○ Slightly agree

6) ○ Agree

7) ○ Strongly agree

# Appendix 4

## Additional Individual Case Studies

*Participant 25957.* The participant has an overall low level of satisfaction with life. His mean level (PM=5.23) of SWLS indicates very low satisfaction with life over the research period of two weeks. The individual experienced – in contrast to the total sample (M = 24.53) – a higher level of dissatisfaction. Additionally, this participant did not show high fluctuations in the watching behavior (Figure 7). Therefore, satisfaction with life and number of hours watched do not seem to be associated.
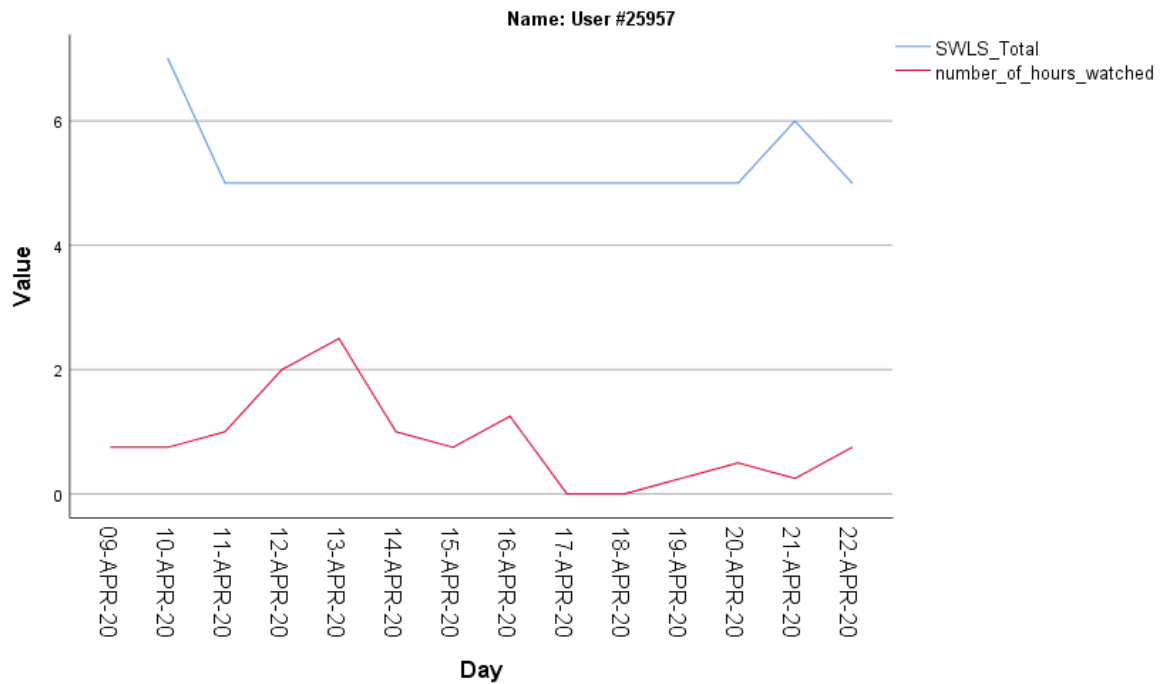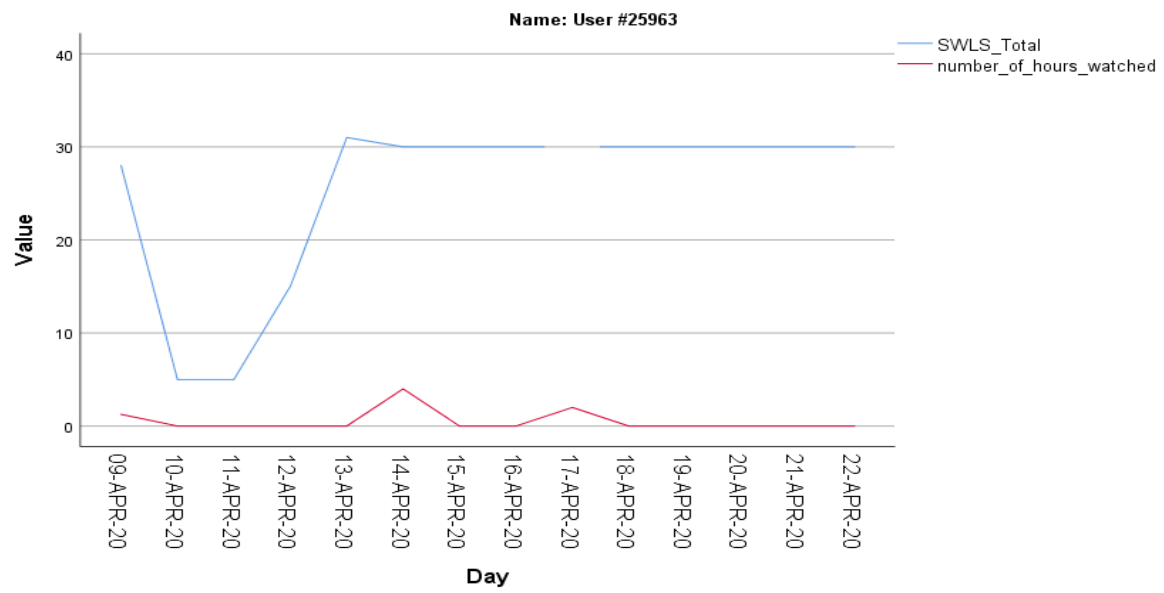


*Figure 7.* Line graph illustrating satisfaction with life and watching behavior scores per time point of participant 25957.

*Participant 25963.* This individual experienced high fluctuations in satisfaction with life within the timeframe of two weeks. Her scores ranged from 5 (extremely dissatisfied) to 31 (extremely satisfied) with an average of 24.92 (slightly satisfied). Her VoD-watching behavior was not prominent with an average of 0.52 hours a day and a total VoD-watching time of 7 hours within a timeframe of two weeks (Figure 8). Also, in this participant, satisfaction with life and VoD-watching behavior do not seem associated.

*Figure 8.* Line graph illustrating satisfaction with life and watching behavior scores per time point of participant 25963.