UNIVERSIDADE CATÓLICA PORTUGUESA

TESTING A BALANCED SOCIAL NETWORKING SITE DIET: ITS IMPACT ON ANXIETY AND STRESS

Dissertation submitted to Universidade Católica Portuguesa to obtain a Master's Degree in Communication Studies - Internet and New Media

By

Robin Knuth (132220079)

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Under the supervision of Jessica Roberts (and Patrícia Dias)

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RESUMO

Título: Teste de uma Dieta Equilibrada de Redes Sociais: O seu Impacto na Ansiedade e no Estresse
Autor: Robin Knuth

A investigação atual sobre os efeitos da utilização dos SNS fornece resultados mistos, apontando para resultados positivos e negativos, e ao mesmo tempo para a falta de uma perspetiva integrada. Isto indica a necessidade de investigar holísticamente os efeitos da utilização dos SNS para identificar um nível saudável de utilização. O presente estudo considerou as consequências do uso dos SNS de uma forma holística, examinando como uma dieta de SNS afecta a ansiedade, o estresse e o bem-estar. As variáveis foram medidas antes, durante e após uma experiência de duas semanas com uma amostra de 18 participantes através de questionários online. Os resultados mostram que a adesão à dieta dos SNS recentemente recentemente sugerida na experiência realizada teve um efeito mensurável e significativo na redução da ansiedade, nas comparações sociais e na inveja benigna. Não foi encontrado qualquer efeito significativo na percepção de estresse, inveja maliciosa nem ansiedade social, e o estudo não conseguiu determinar melhorias significativas no bem-estar subjetivo e psicológico. Várias hipóteses não foram confirmadas devido à pequena amostra e à falta de distribuição normal.
No entanto, a avaliação do feedback qualitativo dos participantes proporcionou uma percepção das melhorias individuais no bem-estar, revelando o potencial do processamento consciente e da auto-conscientização na mitigação dos efeitos desfavoráveis da utilização de SNS. São necessários estudos futuros para replicar e validar os resultados numa escala maior e para superar as limitações. Em geral, os resultados implicam fortemente que a adesão à dieta de SNS pode ser uma ferramenta eficaz para contrariar e mesmo reduzir os efeitos negativos que o uso de SNS pode aumentar.

Palavras-chave: *Sites de Redes Sociais, Dieta dos Meios de Comunicação Social, Ansiedade, Estresse, Comparações Sociais, Inveja, Bem-Estar*

ABSTRACT

Title: Testing a Balanced Social-Networking-Site Diet: Its Impact on Anxiety and Stress
Author: Robin Knuth

Current research on the effects of SNS usage provides mixed evidence, pointing to positive or negative outcomes while neglecting an integrated perspective. This points to the need to holistically investigate the effects of SNS use to identify a healthy level of SNS use. The present study considered the consequences of SNS use holistically, examining how an SNS diet affects anxiety, stress, and well-being. The variables were measured using an online questionnaire before, during and after a two-week experiment with a sample of 18 participants. Results showed that adherence to the newly developed SNS diet had a measurable, significant effect on reducing anxiety, social comparisons and benign envy. No significant effect was found on perceived stress, malicious envy or social anxiety, and the study failed to find significant improvements in subjective and psychological well-being. Several hypotheses remained unsupported due to the small sample size and lack of assumption of normal distribution.

However, assessing the participants' qualitative feedback provided insights into individual improvements in well-being, revealing the potential of conscious processing and self-awareness in mitigating the unfavourable outcomes of SNS usage. Future studies are needed to replicate and validate the findings on a larger scale and to overcome its limitations. Overall, the findings strongly imply that adhering to the SNS diet proved to be an effective tool for counteracting and even reducing the negative effects that the use of SNSs may heighten.

Keywords: *Social Networking Sites, Media Diet, Anxiety, Stress, Social Comparions, Envy Well-Being*

ACKNOWLEDGEMENTS

I would like to take this opportunity to thank my supervisor Jessica Roberts and her substitute supervisor Patrícia Dias for their continuous support. Due to their help, this dissertation became possible in the first place. Therefore, I would like to thank you for guiding me last year, always giving me advice and enhancing this dissertation with your valuable feedback. Thank you for supporting me in reaching my next academic career stage!

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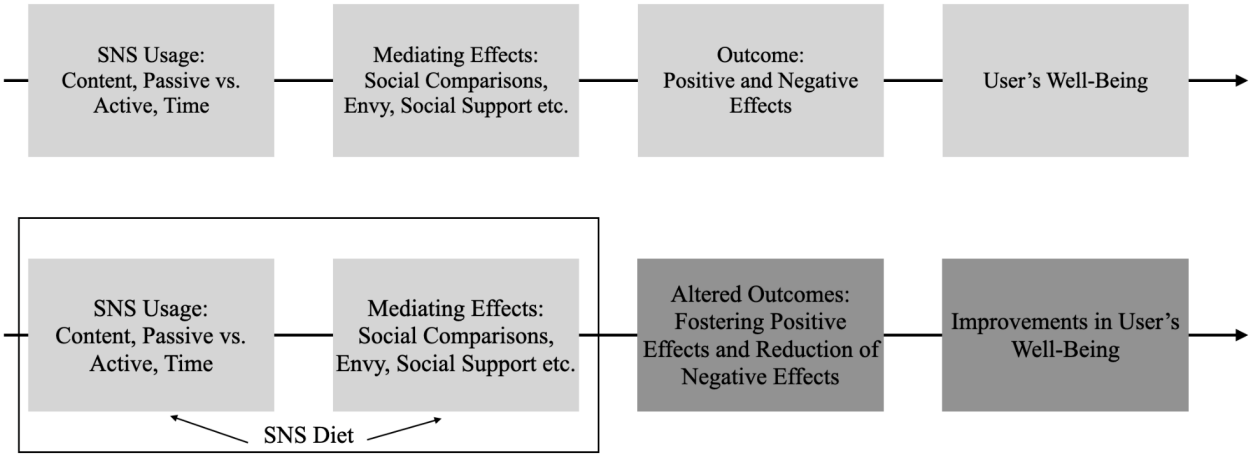
LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
F	F-value
M	Mean
i.e	That is
I-G	Mean Difference (I-G)
SAS-SMU	Social Anxiety Scale for Social Media Use
SAS-SNSU	Social Anxiety Scale for Social Networking Site Use
SD	Standard Deviation
SDT	Self-Determination-Theory
SMC	Social Media Consumption
SNSs	Social Networking Sites
PSS	Perceived Stress Scale
PS-SNSU	Perceived Stress Social Networking Site Usage
UGC	User Generated Content

LIST OF FIGURES

CONCEPTUAL MAP



1 - INTRODUCTION

Social media and its respective social networking sites (SNSs) have become an integral part of the daily lives of many people (Liu & Ma, 2018, p. 1883) and have permanently changed the way people communicate and interact socially with each other (Kross et al., 2013, p. 1; Manago et al., 2012, p. 377). Researchers from various fields, from the communication sciences to marketing and psychology, have been studying SNSs to better "understand the practices, implications, culture, and meaning of the sites, as well as users' engagement with them" (Boyd & Ellison, 2007, p. 211). Worldwide internet usage continues to grow each year: more than 5 billion people are using the internet regularly; among those people, 4.7 billion were active social media users as of July 2022. The most commonly used SNSs include Facebook, YouTube, Instagram, WeChat and TikTok (We Are Social et al., 2022b). Not only has the number of SNS users increased in recent years, but the amount of time spent on them has also risen steadily: the average duration of use increased from 1 hour, 37 minutes in 2013 to 2 hours, 27 minutes in 2021 (We Are Social et al., 2022a).

SNSs are rapidly changing and evolving domains, which makes it complex to capture and pin down their dynamics (Kaplan & Haenlein, 2010, pp. 64-65). For instance, TikTok was able to build up such strong momentum in recent years that it now influences social trends and shapes the social environment of its users — and it did not even exist before 2016 (Vázquez-Herrero et al., 2020, pp. 1721-1722). Therefore, one must acknowledge that the fast-moving nature of SNSs impacts the longevity of scientific papers on the topic. For this reason, it remains of utmost relevance to understand and further explore how SNSs affect us as human beings. The possible consequences of SNS usage on various aspects of mental health have attracted multidisciplinary attention in academia (Frost & Rickwood, 2017, p. 576).

So far, current research attempting to capture the impact of SNS use provides mixed evidence (Best et al., 2014, pp. 31-32). On the one hand, some studies offer empirical findings that SNSs can positively affect well-being, such as improving self-esteem (Vogel et al., 2014, p. 213) and increasing inspiration manifested through passive SNS usage (Meier et al., 2020, p. 737). On the other hand, other studies identified considerable negative consequences of SNS usage, and one can observe that an increasing amount of

people, especially adolescents, are getting hooked on SNSs (Koc & Gulyagci, 2013, p. 282). Those studies also found negative implications of SNS usage on well-being, ranging from negative mood and emotions (Appel et al., 2016, p. 46; Blomfield Neira & Barber, 2013, p. 61; Brown & Tiggemann, 2016, p. 42; de Vries et al., 2017, p. 240) to psychological distress (Fabris et al., 2020, p. 4; Marino et al., 2018, p. 277), anxiety and depression (Brailovskaia et al., 2020a, p. 5; Nesi & Prinstein, 2015, p. 14; Vannucci et al., 2017, p. 165), and even addiction (Andreassen et al., 2016, p. 257) and burnout (Liu & Ma, 2018, p. 1887). These platforms' attention economy-driven business model with its adaptive algorithms are a catalyst for these negative effects, as they have been optimised to keep people on the respective SNS as long as possible (Harris, 2019). Adaptive algorithms can foster the addictive and harmful consequences of SNS usage for its users (Bhargava & Velasquez, 2020, p. 13). So far, it is unclear if the positive effects identified by some researchers can outweigh the negative implications (Meier et al., 2020, p. 739).

The findings reveal a need to address SNS usage from a new perspective. Since daily SNS usage can have a crucial impact on users' identity development, behaviour and attitudes (Eleuteri et al., 2017, pp. 357-358), the need for a healthier balance of SNS has become more evident (Liu & Ma, 2018, p. 1889). Previous studies have mostly analysed the impact of SNS usage on well-being separately, in terms of positive or negative effects. This dissertation aims to establish a new understanding of the effects of SNS usage, which tries to examine the impact of SNS use holistically, responding to the call from several researchers (Luqman et al., 2017, p. 553; Odgers & Jensen, 2020, pp. 10-11; Sriwilai & Charoensukmongkol, 2015, p. 433). Further, previous studies examining the effects of SNS use were based on correlations (Odgers & Jensen, 2020, p. 336). Only a handful of studies, such as those by Hunt et al. (2018) and Brailovskaia et al. (2020b), have examined the impact of SNS use through experimental research to establish causal relationships. The initial findings of these studies indicate that reducing SNS usage enhances people's well-being while decreasing symptoms of psychological disorders such as anxiety or depression (Brailovskaia et al., 2020b, p. 8).

The present dissertation falls in the area of communication sciences with a particular 3focus on the internet and new media. It is concerned with the impact of online communication on people, particularly the daily usage of SNSs can have on its users. This dissertation aims to support previous findings from cross-sectional studies through

experimental research. Research on the effects of SNS use on anxiety and stress is not as advanced, and thus, little is known about their association with SNS usage (Brailovskaia et al., 2019b, p. 167; Chen & Lee, 2013, p. 1; Vannucci et al., 2017, p. 164). Therefore, it aims to continue to refine the understanding of the impact of SNS use on anxiety and stress.

Moreover, this dissertation aims to identify several levers to counterbalance the negative effects. To do so, an SNS diet has been designed to promote positive impacts and reduce negative consequences. The present study tests the SNS diet to see if it can help people to develop a more mindful and healthy relationship with their SNS use. The researcher considers the term SNS diet a set of guidelines consisting of static and variable instructions generated based on previous research. Like a regular diet, the researcher evaluates this concept (such as limiting and restricting) as applicable to establish a balanced and healthier level of SNS usage. The dissertation seeks to determine whether adhering to the SNS diet can reduce stress and anxiety and thus improve users' well-being. The aim is to answer the following research question: *To what extent does the configuration of an SNS diet affect people's anxiety, stress and well-being*?

This dissertation follows a multilevel research approach to answer the research question and objectives. First, in chapter two, the dissertation focuses on an extensive literature review to better understand the effects of SNS use. The first part of the literature review deals with the definitions of social media and SNSs. It establishes a general understanding of these terms as used in this dissertation. Also, this part aims to explain why people use SNSs and what features and functions characterise the platforms. The second part of the literature review examines Festinger's (1954) social comparison theory (SCT) and presents it as a central theoretical perspective in communication studies. Then, envy is introduced as an emotional response to social comparisons, and the extent to which SCT can be applied to the SNS research is addressed. The third part of the literature review explores the impact of SNS use on well-being. First, the positive effects of SNS use are elaborated on and explained. Then the negative effects are offered, including a dedicated emphasis on anxiety, stress and addiction concerning SNS usage. The fourth and final part of the literature review presents findings and recommendations from previous studies to mitigate the adverse outcomes of SNS usage.

Building on this theoretical foundation, chapter three presents the study's methodological approach and rationale. It states the hypotheses formulated based on the literature review. The process for designing the SNS diet for this dissertation is explained. The chapter also outlines the research design and the techniques of data collection and analysis. The research approach adopts experimental research with a repeated measures design, testing the SNS diet for its applicability and effectiveness in a field experiment. Chapter four presents the study's quantitative and qualitative results and reports whether or not the study's findings could support the hypotheses raised. Chapter five discusses the study's results, critically examining them and integrating them into the theoretical framework. The different facets of the individual hypotheses are discussed, followed by a general discussion of the study. The study's limitations and theoretical implications for future researchers are also addressed. Ultimately, chapter six is devoted to a summary of the dissertation and the findings and conclusions of the study to answer the research question.

2 - LITERATURE REVIEW

2.1 Defining Social Media, Social Networking Sites and Understanding SNS Usage

The following section aims to define and highlight the essential components of social media and SNSs. Moreover, as SNSs are of considerable importance for the present study, it seeks to understand their forms and functions while distinguishing them from the more comprehensive social media construct.

Social media is regarded as the most noteworthy embodiment of Web 2.0. Accordingly, Web 2.0, first coined by O'Reilly (2005), refers to the progression from the traditional World Wide Web as a provider of information to the World Wide Web as an interactive environment. A core aspect of Web 2.0 is the networking properties that raise additional advantages - compared to Web 1.0 - through peer-to-peer interaction and collaboration. Thus, Web 2.0 relates to collaborative internet-based applications that build on user-generated content (UGC) that continuously grow and innovate the media landscape (O'Reilly, 2005). Web 2.0 is also often described as the social web, as those tools simplify the creation and dissemination of UGC (Stefanone et al., 2012, p. 451).

In the course of the last decades of social media research, various emerging definitions have been proposed in communication studies (Carr & Hayes, 2015, p. 47). Russo et al. (2008) provided a quite broad definition of *social media* as technologies "that facilitate online communication, networking, and/or collaboration" (p. 22). Akin to Russo's definition, Kent (2010) perceives social media on the baseline as "any interactive communication channel that allows for two-way interaction and feedback" (p. 645). Kent (2010) specifies the components of social media, which encompass "real-time interaction, reduced anonymity (…), a sense of propinquity (…), short response times (…), and the ability to 'time-shift', or engage the social network whenever suits each particular member" (p. 645). In the same way, the probably most widely accepted definition stems from Kaplan and Haenlein (2010), which defined *social media* as a "group of internet-based applications that build on the (...) technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (p. 61). Alternatively, Howard and Parks (2012) attempted to provide a more sophisticated definition. They identified three vital parts of social media: "(a) the information infrastructure and tools used to produce and distribute content; (b) the content that takes the digital form of personal messages, news, ideas, and cultural products; and (c) the people, organisations, and industries that

produce and consume digital content" (p. 362). However, the present study primarily focuses on SNSs, which are tools that enable their users to cooperate, connect, communicate, and collaborate by sharing pictures, videos, and texts (Cook & Tapscott, 2008, p. 43). It is essential to emphasise that SNSs are only one part of social media and that the various types of social media require differentiation. Kaplan and Haenlein (2010, p. 62), for example, differentiate between six forms of social media such as collaborative projects (e.g., Wikipedia), blogs, content communities (e.g., YouTube), social networking sites (e.g., Facebook), virtual game worlds (e.g., World of Warcraft) and social worlds (e.g., Second Life).

Thus, Kaplan and Haenlein (2010) understand SNSs as "applications that enable users to connect by creating personal information profiles, inviting friends and colleagues to have access to those profiles, and sending e-mails and instant messages between each other" (p. 63). These personal profiles may contain all kinds of information, such as pictures, videos, sounds and comments. Nonetheless, a widely recognised and often quoted definition of SNSs was developed by Boyd and Ellison (2007). They understand SNSs as websites that "allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (p. 211). Equally, Kim et al. (2010) agreed that SNS are websites which "make it possible for people to form online communities, and share user-created contents" (p. 216). However, it is essential to add to this definition that most social network sites today are accessed via an app on a smartphone (We Are Social Ltd & Hootsuite Media Inc, 2021).

Moreover, SNSs enable users to keep in touch with their peers in online communities (Kim et al., 2010, p. 217). SNSs are characteristically a part of social media by definition, although not all social media platforms necessarily can be classified as SNSs. Despite this context, their definition has often been mistakenly used as an overarching definition of social media. As a result, misapplying and improperly ascribing social media may have hindered the development of more comprehensive academic frameworks of social media (Carr & Hayes, 2015, p. 49). Following an extensive literature review, Carr and Hayes (2015) critiqued preexisting definitions as being too narrowly concentrated and too vague while lacking "unique technological and social affordances that distinguish social media" (p. 48) from its various forms. They argue that three significant shortcomings impaired

previous definitions: (a) previous studies have been too focused and thereby constraining its timely feasibility (b) simultaneously, they were sufficiently widely defined that they can with ease be extended to other communication technologies, such as e-mail (c) they were too technical that their contribution to the development of theory was somewhat restricted (p. 52). For this reason, they sought to remedy the previously identified shortcomings and established a more precise definition. Carr and Hayes (2015) see *social media* as "internet-based channels that allow users to interact opportunistically and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others" (p. 50). Given the above, the present study will refer to Carr and Hayes's definition of social media since it was created to be inferential, descriptive and resilient to endure changes in the social media landscapes within the following years.

After establishing a general understanding of social media, it is necessary to develop an in-depth understanding of the features of SNSs and grasp why and how people use them. It is expected that, based on these insights, one can alter them to develop a more sustainable social media diet.

SNSs continue to influence and shape people's lives, and the spectrum of SNSs users today spans almost all age groups. Consequently, daily SNS usage and social media have become integral to people's lives (Hunt et al., 2018, p. 751). With this in mind, it is essential to note that the primary focus of the research is on the impact and consequences of SNSs usage. Although no direct link can be assumed between social media consumption (SMC) and SNS usage, as it can also encompass other types of platforms, it is still considered beneficial for the present study to discuss the impact of SMC, as SNSs are a part of social media. Therefore, this section will discuss and consider studies of the effects of SMC as a homogenous proxy for SNS usage. It is expected to apprehend the impact on SNS consumption better.

Younger generations predominantly use various social media, enabling them to discover and cultivate their identity and culture unhindered by parents or authority figures (Andreassen, 2015, p. 178). Besides, reasons for SMC entail keeping in contact with friends, spending spare time or alleviating boredom (Lampe et al., 2008). However, it is crucial to acknowledge that daily SMC has grown indispensable for some users (Brailovskaia et al., 2018, p. 199). By now, SMC has been linked to psychological needs

satisfaction (Manago et al., 2012). Intrinsic need satisfaction is an influential driver of online entertainment consumption. Facebook use is considered a gratifying activity that satisfies basic psychological needs. In addition, extrinsic motivators for SNS usage negatively correlate with autonomy, social stress and gratification of needs (Reinecke et al., 2014, pp. 13-14). Those findings explain why social media has become vital for many of its users (Andreassen, 2015, p. 178). Karahanna et al. (2018) developed a needs-affordances perspective of SMC. The researchers identified that self-determination and psychological ownership are crucial drivers of social media usage. For this reason, heightened SMC is motivated by various SNSs as they offer conspicuous opportunities to meet people's psychological needs. In particular, they identified that SMC can meet the need for autonomy, relatedness, competence, having a place, and self-identity (pp. 748-750).

As mentioned above, one of the essential components of SNSs is creating a personal profile, which can be either a public or semi-public profile. This unique profile allows users to build a network. Other users of the SNS, such as friends, acquaintances or other people, can follow them, resulting in SNSs facilitating the connection and expansion of the user's network (Tiggemann & Zaccardo, 2015, p. 61). The community aspect is undoubtedly nothing new for SNSs since humans have always been involved in social groups. Nevertheless, these groups are nowadays formed more quickly by utilising SNSs' communication technologies (Stefanone et al., 2012, p. 451). Moreover, UGC is indeed one of the main drivers for the dynamisation and growth of SNSs. Therefore, SNSs offer a platform for individuals of shared interests to gather, exchange ideas, and interact regardless of geographical restrictions. For instance, users can share photos, videos or comments with their network and followers (Nesi & Prinstein, 2015, p. 1428). It can be observed that through those features of SNSs, users often share a rich collection of information about themselves, such as daily habits, achievements, relationship status, attitudes, personalities and routines (Vogel et al., 2015, p. 249). Another crucial aspect of SNSs is the variable kind of communication since SNSs allow instantaneous and deferred communicative exchanges between two people or groups (Best et al., 2014, p. 27).

Research from Manago et al. (2012) has found that the user's online network of friends and acquaintances is more extensive than in real life in most cases. The networks of friends and acquaintances can be misleading since there are various reasons why people

connect online (Boyd & Ellison, 2007, p. 213). The network size can have a pivotal impact on the user's online behaviour as every image, comment, or information shared online provides more details about the user (Nesi & Prinstein, 2015, p. 1428). SNSs enable users to accumulate vast online networks, which expand disproportionately due to widely diversified types of relationships—simultaneously increasing the number of intimate relationships with friends and family and relations with strangers (Manago et al., 2012, p. 369). SNSs changed where individuals draw the boundaries of privacy, as Manago et al. (2012) identified a "transformation of the nature of intimacy in the environment of a social network site" (p. 369).

Through creating and consuming content online, users of SNS receive permanent feedback and evaluation online from other users, resulting in the conduction of social comparisons with each other (Manago et al., 2008, p. 452; Vogel et al., 2015, p. 254). Nevertheless, Allen et al. (2014) encountered that SNSs create "a paradox for social connectedness" (p. 18) as, on the one hand, SNSs make it easier for people to build social groups and collaborate online, while simultaneously, SNSs can be the cause for condemnation and solitude.

The innovations of SNSs have revolutionised our social lives and how we socialise. Worldwide innovations amended how individuals communicate, share information, interact, and influence an optimised online self-representation (Sriwilai & Charoensukmongkol, 2015, p. 427). Accordingly, SNSs seem fundamentally different in information sharing than other social media. On SNSs, users tend to share personal information with their network, particularly concerning other social media websites. People share information with people they consider close to them (Osatuyi, 2013, pp. 2626-2627). The users often spend significant time curating an optimum online presence to show the most positive facets of their lives and personalities on SNSs (de Vries et al., 2017, p. 223). They meticulously select images shown online and put great detail into editing their text and video-based messages to highlight positive traits and present an idealised version of themselves (Ellison et al., 2006, pp. 428-429). For receivers and consumers of such self-optimised and cherry-picked content, computer-mediated communication "eliminates many of the subtle cues that people use to form their impressions of others" (Chou & Edge, 2012, p. 117).

Quan-Haase and Young (2010, p. 359) established that satisfaction from social information and leisure activities significantly predetermine extensive Facebook use. In addition, self-portrayal and self-expression are robust determinants of people's consumption of Facebook (Tandoc et al., 2015, p. 140). Another aspect of why users share personal information on SNSs can be found in many networks' design features. SNSs implemented social rewards schemes such as the like button on Facebook or Instagram. Those social reward systems are "designed to take advantage of our desire for social validation and reciprocity, among other psychological tendencies and needs" (Bhargava & Velasquez, 2020, p. 7).

In other words, users get rewarded and encouraged by sharing personal information, photos and videos with other users. In this regard, it is essential to draw attention to the evolution of SNSs. Initially, SNSs were organic platforms which chronologically displayed what their network had posted to a user. In recent years SNSs have evolved into adaptive algorithmic platforms that gain increasing control over the actions and interactions of users by determining and adjusting the content each particular user views and consumes (Rader & Gray, 2015, p. 173).

The adaptive algorithms are engineered to constantly refine the content a user sees to make users stay longer on the platform, thereby becoming more addictive for each user (Bhargava & Velasquez, 2020, p. 13). The algorithms monitor how long certain content types keep users engaged on the SNS and persistently tweak the kind of content they display to keep the user increasingly spending more time on the site. This engagement with the SNS creates an "addictive feedback loop" (Bhargava & Velasquez, 2020, p. 14) for the user. The longer a user spends on a given SNS, the richer the data becomes about the users' interests and preferences. By harnessing the respective data, the adaptive algorithm can serve the user more content that captivates them. Consequently, the user gets a bit more hooked on the SNS (Schou & Farkas, 2016, pp. 41-43; see also Bhargava & Velasquez, 2020, pp. 13-14).

2.2 Social Comparison Theory and Social Networking Sites

Investigating the effects of excessive SNS usage, previous research has assumed that social comparisons significantly influence the well-being of users (Appel et al., 2016, p. 46). Based on Festinger's (1954) social comparison theory (SCT), several studies have

identified that social comparisons have a crucial impact on the outcomes of SNS usage (Appel et al., 2016; Brown & Tiggemann, 2016; Lee, 2014; Meier et al., 2020; Nesi & Prinstein, 2015; Seabrook et al., 2016; Tiggemann & Polivy, 2010; Tiggemann & Zaccardo, 2015; de Vries & Kühne, 2015; de Vries et al., 2017). Nonetheless, while researchers uniformly agree that social comparisons occur on SNSs, differences exist in their findings. There is an ongoing debate between different groups of researchers on whether these changes are associated with positive or negative outcomes on the well-being of SNS users. Therefore, the following chapter aims to elaborate and illustrate what social comparisons are and assess how they work. This chapter highlights the importance of envy and establishes its position as an essential mediator of social comparisons. Ultimately, the chapter will discuss the importance of social comparisons on SNSs and their implications for the well-being of their users.

2.2.1 Social Comparisons and Social Comparison Theory

Social comparisons are a fundamental and key dimension of people's social coexistence (Buunk & Gibbons, 2007, p. 3). Indeed, *social comparisons* are "a primary influence on how people define, see, and evaluate themselves" (Mussweiler et al., 2004, p. 843). Festinger (1954) first coined social comparisons and proposed the social comparison theory. SCT attempts to explain the fundamental psychological process of comparing oneself with others.

In recent decades, SCT has become a central theoretical instrument used in communication studies. It is especially effective in understanding the relationship between users' involvement with different forms of media, self-awareness and individual well-being (Meier et al., 2020, p. 723). For this reason, SCT will be assessed in more depth in the present dissertation. Based on SCT, social comparisons can be defined as "the process of thinking about one or more other people in relation to the self" (Wood, 1996, pp. 520–521). Buunk et al. (2000) remark that SCT contains "any process in which individuals relate their own characteristics to those of others" (p. 491), which is why it comprises social comparisons in a wide range of aspects. According to Festinger (1954), the individual is driven by the desire for self-assessment. In other words, it is an effort to assure oneself that one's opinion is accurate and exactly knowing what one is in a position to do (Buunk & Gibbons, 2007, p. 4). Thus, individuals utilise social information to understand their

situation. In this regard, they compare their lives, attitudes, opinions, and skills to others based on the information they obtain about them. Three key underlying processes are involved in social comparisons: receiving, reflecting on, and responding to social information (Wood, 1996, p. 521). These attributes suggest that social comparisons are triggered by minimal or supposedly insignificant social information and occur automatically, pervasively, spontaneously and frequently unintentionally - often without being fully conscious of them (Buunk & Gibbons, 2007, p. 12; Buunk et al., 1990).

To be more precise, Festinger (1954, p. 120) highlights that evaluating one's opinions and abilities is often only feasible through comparison with others. As Gilbert et al. (1995, p. 149) point out, the drive to compare oneself to others has emerged as a highly adaptive mechanism to assess one's peers, which can be found in numerous other species. However, since the people they choose to compare themselves with have a decisive influence on their self-perception, identifying with whom they are evaluating themselves is crucial (Mussweiler et al., 2004, p. 843). For this reason, Festinger (1954) uncovered that social comparisons are commonly made with individuals similar to oneself regarding skill or opinion (p. 124). People do not typically assess their opinion/abilities against others who differ too much from them (p. 120). Thus, if another person's capabilities are too distant from one's own, either too high or too low, it becomes not feasible to assess one's capabilities or beliefs correctly (Dijkstra et al., 2010, p. 196).

Festinger (1954) further highlights a specific selectivity for when social comparisons occur - and the primary determinant of its selectivity is the size of the discrepancy between two people. He concludes that individuals mainly compare themselves with somebody close to themselves (p. 134). As an outcome of this comparison, individuals will attempt "to reduce discrepancies which exist between himself and others with whom he compares himself" (Festinger, 1954, p. 124). An individual will look for "the company of others similar to themselves and will try to persuade others who are dissimilar" (Buunk & Gibbons, 2007, p. 4). Festinger (1954, pp. 130-131) emphasises that the greater the importance of a belief or skill is to an individual, the stronger the drive for evaluation is likely to be.

Given that the urge for uniformity intensifies, it also leads to a tendency to no longer compare oneself with other individuals who are too dissimilar. It should be acknowledged that social comparisons are a pervasive social endeavour as the act of self-evaluation is

only possible through comparison with others (Festinger, 1954, p. 135). Social comparisons can serve essential functions, such as giving individuals helpful feedback on where they stand in their social world. They make individuals feel more comfortable with themselves and help individuals learn how to adjust to challenging circumstances (Buunk & Gibbons, 2007, p. 16). The urge to self-evaluate is a force that works on individuals to be part of groups and to connect with others (Festinger, 1954, p. 135). Buunk et al. (1990) highlight that social comparisons can "simultaneously provide useful information and . . . maintain their positive self-perceptions" (p. 1248). Moreover, Buunk and Gibbons (2007, p. 13) address significant personal variations in how individuals evaluate and compare themselves to others and interpret the information they use to compare. Therefore, social comparisons can result in upward and downward comparisons. Upward comparisons are triggered by a superior other, which is slightly better concerning a specific comparison criterion, such as opinion or abilities. Conversely, downward comparisons are triggered by an inferior counterpart (Festinger, 1954, p. 126).

Both types differ in their comparison orientation, but SCT suggests that both social comparisons can generate positive or negative outcomes (Buunk & Gibbons, 2007, p. 7). Upward and downward social comparisons are inherently prone to elicit positive or adverse affective reactions, depending on which particular feature of the comparison one focuses on (Buunk et al., 1990, p. 1246). Generally, when self-improvement is the primary driving force, individuals will engage in upward comparisons. Hence, a person tends to compare themselves with those superior to them. In this context, witnessing another person doing a particular task well can inspire and feed insights for oneself into becoming better at it. This self-improvement can enhance an individual's self-confidence and self-efficacy. People conduct downward comparisons if the enhancement of the self is the prevailing motivation. For this reason, a person commonly favours comparing themselves to other individuals who are in a worse situation (Suls & Wheeler, 2000, p. 13). In this regard, comparing oneself to others has implications for adverse and positive affect (Dijkstra et al., 2010, pp. 196-197). Negative affect is the extent to which a person feels distressing emotions, such as resentment or anxiety. In contrast, positive affect is the extent to which a person feels excited, inspired and attentive (Watson et al., 1988, p. 1063).

If a person conducts and engages in social comparison, that person determines whether and to what extent they are worse or better off than their counterpart. Suppose the

comparison outcome is that one is worse off than the comparison target. In that case, this conclusion can trigger feelings of frustration, anger and a reduction of self-image, thus reinforcing the adverse affect (Dijkstra et al., 2010, p. 196) and causing a poorer self-perception (Festinger, 1954, pp. 121-122). However, when individuals determine that they are better off than the comparison target, the outcome can produce a sense of pride and relief and boost self-esteem while reducing anxiety. Thus, a favourable social comparison result can enhance positive affect (Dijkstra et al., 2010, p. 196). Individuals can pursue one among four comparative techniques: upward identification, upward contrast, downward identification, and downward contrast (Buunk et al., 2005, p. 235).

Indeed, Buunk et al. (1990, pp. 1426-1427) reason that the impact of social comparisons relies on how the individual deals with the comparative pieces of social information and not only depends upon the orientation of the comparison. Mussweiler (2003, p. 484) hypothesised that it is not the orientation of a social direction but the cognitive emphasis on resemblances with the subject (assimilation) or on dissimilarities (contrast) that affects the results of social comparisons. Therefore, it seems that social comparisons' consequences are governed by a selective mechanism of information retrieval: assimilation versus contrast (Mussweiler et al., 2004, p. 843). According to Mussweiler et al. (2004), "assimilative social comparisons are accompanied by a general informational focus on similarities, whereas contrastive comparisons are accompanied by a focus on differences" (p. 832). In other words, the latter form of comparison draws attention to a given individual's contrasting aspects and differences. The former state of comparison seeks to assimilate with the individual. Assimilation means the individual wants to become akin to the other individual concerning a specific element of comparison (Meier & Schäfer, 2018, pp. 411-412).

In this regard, Tennen et al. (2000, p. 479) found empirical evidence that the assimilative evaluation of oneself compared to other people generally results in affirmative conformity. Further, social comparison research by Buunk and Gibbons (2007, p. 11) reveals that contrastive comparisons with upward-oriented targets and assimilative comparisons with downward-oriented targets reduce and diminish the individual's well-being. On the contrary, contrastive comparison with downward targets and assimilation with upward targets enhance well-being. Want (2009, pp. 264-265) discovered that even though social comparisons occur automatically and often unintentionally,

conscious processing can alter the consequences on the well-being of an individual. In other words, deliberately focusing on a social comparison criterion will reduce the adverse effects that the social comparison process would trigger.

2.2.2 The Mediating Role of Envy

Based on the SCT (Festinger, 1954), unfavourable social comparisons are related to the concept of envy (Smith & Kim, 2007, p. 53). The emotion of envy can be understood as "the painful emotion caused by the good fortune of others" (Van de Ven et al., 2009, p. 419). Similarly, envy is understood by Smith and Kim (2007) as an "unpleasant, often painful emotion characterised by feelings of inferiority, hostility, and resentment produced by an awareness of another person or group of persons who enjoy a desired possession" (p. 47). Envy is frequently wrongly interpreted as something more harmless, such as jealousy, appreciation or longing. That is why envy and jealousy are often considered the same emotion. However, it is essential to differentiate between the two emotions; envy arises when an individual possesses something they desire but cannot acquire, whereas jealousy stems from losing something of value to a competitor (Smith & Kim, 2007, pp. 47-49).

When considering the concept of envy and its mediating role in the outcome of social comparisons, it is crucial to acknowledge that various cultures recognise two distinct kinds of envy: malicious and benign envy. While they "both share the core of painful frustration about the realisation that a superior other is better off than oneself" (Meier et al., 2020, p. 726), they deviate in their field of attention (Crusius & Lange, 2014, p. 9) and their motives and implications (Van de Ven et al., 2009, p. 425). Benevolent envy drives and motivates individuals who engage in social comparison to get closer to the comparative benchmark and strive toward self-improvement. In contrast, malicious envy is a destructive drive to degrade the other person who is superior in a point of comparison (Crusius & Lange, 2014, p. 9). In other words, malicious envy signifies actual envy and is associated with contrastive social comparisons. Benign envy denotes a more favourable emotional response attributed to assimilative social comparisons (Van de Ven et al., 2009, p. 425).

Benevolent envy leads to a concentration on the envied subject and provides means for self-improvement. It increases the probability of perceiving evocative features of the object and serves as a motivation to move closer to the target (Crusius & Lange, 2014, pp. 9-10). This type of envy is associated with striving to match the person who is better than

oneself, which is expressed with feelings of admiration, not animosity (Appel et al., 2016, p. 47). Then again, malicious envy triggers an elevated concentration on the object of comparison itself, thus reducing the likelihood of recognising evocative traits in the target object (Crusius & Lange, 2014, pp. 9-10). As a result, a person will react with an urge to avoid the target and express hostility, weak self-control and the perception of wrongness (Appel et al., 2016, p. 47). Given the above, Lange and Crusius (2015, p. 292) identified that malicious envy is linked with decreased motivation to do well and is associated with a lack of control.

Envy can occur while engaging in SNS usage and is related to multiple concomitant risks to users' well-being (Van de Ven et al., 2009, p. 427). SNS envy can be defined as "a negative emotion resulting from OSN [online social network] use in which a user covets the possessions or life experiences of another person who belongs to the same social network, regardless of whether the user knows him or her personally" (James et al., 2017, p. 571). Previous researchers have used envy to explain unfavourable social comparisons and identified it as one of the primary causes of SNS usage's harmful effects and reduced well-being (Lee, 2014, p. 254). Upward social comparisons on SNS can negatively affect well-being and envy. Krasnova et al. (2013, p. 1) discovered that using Facebook induces envy, translating into adverse life satisfaction for college students. Tandoc et al. (2015, p. 144) highlighted that the amount of time spent on SNSs such as Facebook is strongly related to envy. Extensive Facebook users demonstrate a more significant incidence of envy related to the SNS than casual Facebook users. James et al. (2017, p. 561) found that a sense of belonging on SNS was associated with reduced levels of SNS envy and anxiety. Taylor (2020, p. 71) found correlational evidence between increased SNS usage and elevated levels of envy and narcissism.

Krasnova et al. (2015, p. 599) found that envy acts as a mediating factor in the linkage between social comparisons and their harmful effects on the user's affective well-being. While envy triggers self-improvement on SNS, it may not improve well-being. Instead, self-enhancement may foster an abundance of affirmative feedback about other SNS users who appear to be better in specific areas. This positive information can trigger a perception of envy in other people and was coined the "self-enhancement envy spiral" (p. 599). To overcome feelings of envy, SNS users use three behavioural strategies: levelling up oneself (self-enhancement), levelling down the other (gossiping about others) and

avoidance (temporarily limiting their use of an SNS). The cultural aspect of individualism and collectivism moderates the association between self-enhancement and envy. Individualistic SNS users are more inclined to promote themselves through envious behaviour than collectivistic SNS users (Wenninger et al., 2019, pp. 17-18).

Wenninger et al. (2021) concluded in their systematic literature review that the majority of studies examining the effects of SNS envy found "a detrimental relationship between SNS-induced envy and users' well-being" (p. 13). Those psychological reactions to SNS envy mirror the severe reactions triggered by envy in traditional face-to-face environments (p. 13).

On the contrary, Lin and Utz's (2015, p. 35) research addresses the unravelling of envy into malicious and benign envy. Their results suggest that postings on Facebook evoke stronger feelings of benign envy than malicious envy. Subsequently, Appel et al. (2016, pp. 46-47) gave the concept special consideration as an affective reaction to engaging in social comparisons on SNSs. Facebook usage stimulates adverse social comparisons and envy. However, Appel (2016) also addresses the importance of disentangling envy into malicious and benign envy, as this disentangling may clarify possible conflicting findings concerning SNS usage. In this regard, Meier and Schäfer (2018, p. 413) argue that, while SNSs indeed can induce malicious envy, benign envy, on the other hand, represents the far more common emotional response to postings by friends on SNSs. Benign envy was found the be a mediator for social comparisons and inspiration, illustrating the necessity of adopting a more holistic approach to assessing psychological processes (p. 415). Meier et al. (2020) confirm that benign envy is the more common outcome of upward comparisons on SNSs related to travel and nature content, leading to inspiration and thus positively influencing well-being (pp. 737-738).

To conclude, it is necessary to acknowledge that most of these studies investigating envy have been investigated exclusively in correlative research designs. Thus, it still lacks sufficient research that establishes causal relationships. Nevertheless, the distinction of envy seems to be a critical factor since benevolent envy as a consequence of social comparison may also positively affect an individual's well-being. Therefore, the present section illustrated that the mediating role of envy needs to be considered when developing a social media diet.

2.2.3 Social Comparisons on SNSs and their Implications for User's Well-Being

Research in communication studies has demonstrated that social comparison processes occur via media consumption. Steele and Brown (1995, p. 572) indicated that media consumption can influence the development of its users and can alter their identity when users begin to embed the media content within themselves. On SNSs, Dorethy et al. (2014, p. 111) found that users generally portray themselves and their lives positively. This positive facet can be achieved, among other things, by posting pictures and videos in which one appears good-looking or represents oneself positively (Manago et al., 2008, pp. 454-455). Many SNS users pass their time looking at other people's idealised social media profiles, images and social status updates (Pempek et al., 2009, p. 236). Accordingly, on SNSs, social comparisons are ever-present as information for comparisons, such as likes, followers, and views, are more prominent than in the offline scenario (Appel et al., 2016, p. 44). The vast amount of information posted on SNSs renders them ideal places for social comparison (Liu & Ma, 2018, p. 1884). For instance, SNSs such as Instagram offer vast information about other people, including what they do and how they feel. Applying SCT (Festinger, 1954) and considering the immense quantities of social information provided by SNSs, it is not surprising that social comparisons occur on SNSs (Krasnova et al., 2015, p. 588; de Vries et al., 2017, pp. 225-226).

Lee (2014, p. 259) has presented evidence that more intensive and excessive Facebook usage is linked with a higher frequency of social comparisons among young adults and that the social comparison occurring on SNSs such as Facebook seems predominantly negative. In particular, students with characteristics demonstrating "low self-esteem, high self-uncertainty, and high self-consciousness are more likely to expect their friends to respond to their postings and feel sad if not" (p. 259). Similarly, research from de Vries and Kühne (2015, p. 217) provided empirical evidence that Facebook usage was significantly associated with higher levels of unfavourable social comparison. Users browsing passively on SNSs come across various social information fragments that elicit contrastive or assimilative comparisons (Meier et al., 2020, p. 723). According to current scientific evidence, upward comparisons on SNSs stem as a result of at least two streams of social information: positive skewed self-promotional content (Kleemans et al., 2018, p. 93) and popularity cues such as likes, which yield the most detailed social information for evaluating one's social rank on SNSs (Blease, 2015, p. 8).

More extensive SNS usage (for example, Instagram use) negatively relates to social comparisons and depressive symptoms in people who follow more strangers. However, it is positively associated with people who follow fewer strangers. In both cases, social comparisons were identified as mediators of the effect (Lup et al., 2015, pp. 250-251). Tiggemann and Polivy (2010, p. 356) determined empirical support for the notion that social comparisons are the underlying driver for adverse results on well-being. In particular, viewing thin idealised images of other women seems to be translated into discontentment with their bodies for many women by social comparisons.

Appel et al. (2016, p. 46) suggest that SNS usage intensifies the feeling that other people are better off than oneself. Hence, this leads to an intensification of negative affect and a decline in positive affect. In this regard, Chou and Edge (2012, p. 119) found empirical evidence that SNS usage positively correlated with the conviction that other SNS users of SNSs are better off and, therefore, assume that they have better lives. Moreover, Feinstein et al. (2013, p. 161) identified evidence that the conviction on SNSs that other people are better off negatively affected emotional well-being and increased depressive symptoms.

Research from Vogel et al. (2015, p. 254) established that SNS users possessing an increased social comparison orientation are likelier to become extensive Facebook users than individuals with a lower social comparison orientation. In addition, they identified that "social media use has deleterious consequences" (p. 254) for psychological well-being. Additionally, SNS usage can reduce levels of self-esteem (Vogel et al., 2014, p. 216) and lead to inadequate self-assessment (Haferkamp & Krämer, 2011, p. 313). Findings from Cramer et al. (2016, p. 739) support this relationship that users of Facebook frequently engage in social comparisons. Especially users with low levels of self-esteem tend to indulge more often in social comparisons to evaluate themselves, improve themselves or even degrade themselves. Nesi and Prinstein (2015, p. 1427) confirmed that social comparisons on SNSs and feedback-seeking were linked to more depressive symptoms among adolescents. In addition, the researchers identified popularity and gender as moderators of the fact. The association of increased depressive symptoms is influential among female adolescents and adolescents in popularity. Brailovskaia et al. (2020a, p. 7) demonstrated that if the cause for social media consumption is reasoned in the desire to

avoid negative emotions, this behaviour promotes the formation of an addictive attachment to SNS.

Frison and Eggermont (2015, pp. 11-12) showcased that impact depends on the particular activities a user undertakes on SNSs. In other words, if the users primarily use SNSs actively or passively. Based on their findings, one can derive the necessity to distinguish gender when assessing the impact of social comparisons on SNSs. Similarly, de Vries et al. (2017, p. 239) indicate that the tendency of SNS users to become involved in social comparisons can determine if the outcomes of social comparisons are either positive or negative. They demonstrated that viewing random SNS users' positive Instagram content can decrease or strengthen the positive emotional reaction, depending on the viewer's tendency to make social comparisons.

In the same way, Verduyn et al. (2017, p. 274) have also found in their critical review that passive use of SNSs elicits social comparisons and envy, which harms individuals' well-being. Conversely, active use of SNSs affects emotional well-being by providing social capital and fostering a sense of being socially connected. Fikkers et al. (2016, p. 542) confirm this notion outside the SNSs landscape. Their media effects research provided empirical evidence that personal differences are a significant factor in processing messages and, thus, impact the viewers differently. Therefore, the consequences of too extensive SNS usage also depend on the users' characteristics.

However, Meier and Schäfer (2018, p. 412) reason that concerning SNSs, research has put a too thorough focus on contrastive social comparisons. Hence, research in this area has predominantly identified adverse outcomes. Lin and Utz (2015, p. 37) demonstrated that users on SNSs tend to report more assimilative than contrasting experiences. Their research determined that positive feelings were more prominent than negative feelings after seeing someone's posts on Facebook. Thus, the overall impact of social comparisons, particularly upward comparisons, may elicit an overall positive affect on well-being. Gerson et al. (2016, p. 813) revealed that social comparisons on SNSs such as Facebook are related to eudaimonic well-being. Subsequently, they validated that specific personality traits can mitigate the link between social comparisons on SNSs and well-being.

In their systematic literature review, Frost and Rickwood (2017) found that social comparisons, rumination, and comparison of appearance were frequently identified as

facilitators of bad psychological health. Facebook is encouraging its users to establish "their own 'virtual identity' via pictures and textual descriptions about themselves and, in turn, Facebook friends' use this virtual identity to draw conclusions about the user" (p. 595). Meier and Schäfer (2018, p. 411) established that the strength of social comparisons occurring on Instagram was associated with inspiration in a positive relation. This positive association was facilitated entirely by benign envy. Besides that, they discovered that inspiration elicited from Instagram usage was linked to an uptick in positive affect. Building on these findings, Meier et al. (2020, pp. 737-738) demonstrate that users who view posts on Instagram can facilitate the energising and motivating properties of inspiration, thus contributing to an enhancement of well-being. They provide evidence that upward comparisons on SNSs lead to assimilative affective responses.

Consequently, Meier et al. (2020) conclude "that the effects of upward comparisons on SNS may not be as uniformly negative as commonly assumed" (p. 737). The positive effects of SNS usage can be identified as SNS enable its users to maintain social relationships and be in contact with their relatives and friends. SNS may facilitate social interactions, which can elevate social capital and reduce anxiety symptoms (Bessière et al., 2010, p. 21). Using SNS might help build relationships with people suffering from similar health conditions (Merolli et al., 2014). Therefore, Meier et al. (2020, p. 738) have urged future research applying the SCT to differentiate the different outcomes of upward and downward comparisons and outline limiting factors when both comparisons on SNS emerge. They emphasised that it is crucial to understand that a given medium may affect upward and downward comparisons.

After establishing a detailed understanding of social comparisons and envy and demonstrating the extent to which social comparisons take place on SNSs, the next chapter explores in greater detail the various consequences of SNS usage on well-being.

2.3 Social Networking Site Usage and its Effect on Well-Being

According to Best et al. (2014, p. 28), the definition of well-being has constantly been changing, resulting in difficulties grasping and measuring it. Research investigating the concept has classified well-being into two domains: (1) hedonic and (2) eudaimonic well-being. From the hedonic perspective, well-being is considered a condition that consists of happiness and pleasure (Ryan & Deci, 2000, p. 144). The focus lies on subjective well-being that desires to enhance positive feelings, reduce negative emotions

and increase life satisfaction (Diener, 1984, p. 543). *Subjective well-being* refers to how individuals assess their life. It can be defined as "people's appraisals of their lives and entails both cognitive judgements of satisfaction and affective evaluations of mood and emotions" (Diener et al., 2009, p. 147; see also Diener, 1984, p. 542). On the contrary, the eudaimonic perspective assumes that well-being comprises not only happiness. Instead, well-being stems from fulfilling human potentials and particular needs such as autonomy, purpose and self-acceptance (Ryff & Keyes, 1995, p. 719; see also Diener et al., 2009, p. 148). Here, the focus is on psychological well-being as a more comprehensive concept of a fully functioning individual. For instance, Ryff (1989, p. 1077) operationalised *psychological well-being* into six dimensions: affect balance, life satisfaction, self-esteem, morale, locus of control, and depression. The concept of psychological well-being further evolved into Ryan and Deci's (2000) self-determination theory (SDT), an approach to human motivation and character. SDT assumes that three fundamental human needs are integral to psychological well-being: the need for autonomy, the need for competence, and the need for relatedness (Ryan & Deci, 2000, p. 68). Huta and Ryan (2009, p. 735) found that hedonic and eudaimonic well-being have complementary and divergent aspects within the broader well-being framework. Therefore, their combination suggests a significant association with the highest levels of well-being.

The present dissertation aims to increase the positive influences of SNS use, reduce adverse impacts and enhance the user's well-being by developing a healthier SNS diet. For this reason, the following review will discuss the cognitive and affective outcomes of SNS usage. This chapter is dedicated to assessing the positive and negative effects of SNS consumption on users' well-being. Research objectives from previous studies are often divided into two camps: either demonstrating positive outcomes or adverse effects of SNSs usage. Considering only positive or negative impacts fails to recognise the benefits or shortcomings of opposite camps. It is essential to consider the implications of SNS consumption holistically, examining both sides of the equation to consider the consequences of SNS usage.

2.3.1 The Positive Outcomes of Social Networking Site Usage on Users' Well-Being

It is essential to consider how the use of SNSs can benefit users' well-being to gain a more holistic understanding of SNS use. This understanding will enable the development of a

balanced and sustainable SNS diet. Indeed, it is anticipated that by evaluating the extent to which SNSs can positively impact well-being, it becomes feasible to counteract and balance the harmful effects of SNS usage. Therefore, the following section addresses and discusses the positive influences of SNS use on well-being.

Early studies examining the impact of SNS use found that it incorporates factors that can be instrumental in protecting its users' mental health (Brailovskaia & Margraf, 2016, p. 12). They enable people to stay in touch with family and friends and strengthen social interactions (Boyd & Ellison, 2007), provide emotional relief (expressing feelings and emotions) (Dolev-Cohen & Barak, 2013), and allow them to experiment and voice their identity (Back et al., 2010). Thus, SNS usage is related to decreased feelings of loneliness (Baek et al., 2013; Lee et al., 2013), higher levels of self-esteem (Merolli et al., 2014), reduced depressive symptoms (Bessière et al., 2010), an increased sense of social connectedness (Quinn & Oldmeadow, 2012), elevated social capital (Ellison et al., 2007), access to social support (Ellison et al., 2011; Kim & Lee, 2011; Nabi et al., 2013; Oh et al., 2014; de la Peña & Quintanilla, 2015), and improved overall satisfaction with life (Brailovskaia & Margraf, 2016; Gerson et al., 2016; Guo et al., 2014; Manago et al., 2012; Steinfield et al., 2008).

Ellison et al. (2007, p. 1161) encountered a strong relationship between Facebook usage and the ability to form and maintain social capital. *Social capital* can be understood as the "sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition" (Bourdieu & Wacquant, 1992, p. 14). In other words, social capital can be understood as social ties formed through the relationships between different individuals (Coleman, 1988, pp. 97-98). In the context of SNSs, receiving social capital has been linked to satisfying the need for belonging and enhancing the life satisfaction of SNS users (Steinfield et al., 2008, p. 444). Steinfield et al. (2008, p. 443) identified that several affordances of the SNS Facebook bear the potential for users to maintain long-distance friendships better. Ellison et al. (2007, p. 1163) identified a positive relationship between Facebook usage and subjective well-being. Users with low self-esteem can better overcome the hurdle of real-life social interactions when first contact is made via an SNS. Thus, SNSs make it easier for people to foster connections. For instance, it allows them to quickly form new acquaintances and engage with communities

based on shared activities and interests while increasing the number of close relationships (Ellison et al., 2007, p. 1162).

Valenzuela et al. (2009, p. 893) found positive yet small correlations between Facebook usage, civic involvement, political activism, social trust and life satisfaction, providing scientific proof that users can achieve social capital on SNSs. Users who can participate on SNSs in active and continuous social interaction tend to obtain social capital from their peers through social support (Ellison et al., 2011, pp. 886-887). For this reason, Manago et al. (2012, p. 378) demonstrated that having more extensive networks on Facebook significantly predicted increased life satisfaction and perceptions of social support. SNSs are related to friendship benefits and a stronger sense of belonging among young people (Quinn & Oldmeadow, 2012, p. 140). These findings gave the first indications that "emerging adults are adapting psychologically to the affordances of social network site[s]" (Manago et al., 2012, p. 378). Merolli et al. (2014, p. 11) found that using SNSs can empower users to build relationships with others suffering from similar health conditions. In this sense, positive feedback on SNSs can increase users' self-esteem and well-being. In contrast, receiving inadequate feedback results in reverse and reduces self-esteem and well-being (Valkenburg et al., 2006, p. 589). Thus, SNS usage - if active - can be a catalyst and not a substitute for offline interaction (Ellison et al., 2011, p. 889). Hence, examining whether a person uses a particular SNS and what they do with it is essential.

Zooming out a little by examining studies on the impacts of general internet use on well-being, Kraut et al. (2002, p. 67) identified that regular internet use did not exacerbate depression over time. Instead, people experienced benefits from internet usage regarding communication, social inclusion, and well-being. Interestingly, internet use appears to positively impact extroverts and people with more social support (p. 69). Communicating on the internet via instant messaging reduces depressive symptoms. In contrast, using the internet for research, shopping, and playing games increased depressive symptoms (Morgan & Cotten, 2004, p. 140). Among young people who used the internet to cultivate existing social contacts, use was connected to increased social connectedness and a higher sense of well-being (Valkenburg & Peter, 2007, p. 275). Frequent technology usage can be accompanied by favourable adaptation, including improved self-disclosure and better friendship quality (Valkenburg & Peter, 2009, p. 92). Internet use facilitates interactions

with social contacts, enhancing social capital and lessening feelings of anxiety (Bessière et al., 2010, p. 21). More precisely, increased internet use for health-related purposes leads to a small but significant increase in depressive symptoms. However, internet communication with friends and family was correlated to a small yet significant decrease in symptoms of depression (Bessière et al., 2010, pp. 27-28). As associated with need satisfaction, the consumption of entertainment media positively affects the user's well-being by facilitating recovery from stress through the replenishment of depleted mental capacity (Reinecke et al., 2011, p. 209).

Kim and Lee (2011, p. 362) studied the effects on the number of Facebook friends, and their results indicated a significant relationship with subjective well-being. However, perceived social support did not mitigate this correlation. Drawing on the research of Kim and Lee (2011), Nabi et al. (2013, p. 4) emphasise that the number of friends on Facebook produces a more pronounced perception of social support. Social support, in turn, was found to be correlated with the experience of less stress and, consequently, less physical illness and an increased sense of well-being. In other words, for people who experience many stressors in their daily lives, the number of Facebook friends is a more severe predictor of perceived social support than those with fewer stress sources. Dolev-Cohen and Barak (2013, p. 61) proved that SNSs provide emotional relief. In particular, the function of instant messaging on SNSs was associated with improved well-being among young adults due to emotional relief.

In contrast to previous findings, research from Oh et al. (2014, p. 76) concluded that the number of friends or other predictors of overall SNS usage were not notably related to either positive or negative affect after using an SNS. A positive correlation was found between social support received on SNSs and a beneficial effect on subjective well-being after the encounter. Thus, the number of SNS friends only produced positive outcomes on the subjective well-being if followed by a supportive interaction and positive affect afterwards. These findings confirm that the type of activities people engage in on social networks is a better predictor of the psychological consequences of SNS use than general measures such as Facebook intensity.

Guo et al. (2014, p. 52) confirm that the intensity of SNS usage is an insufficient predictor of an individual's perceived social capital and subjective well-being. Instead, the consequences of SNS usage are related to its use. Using SNSs for interpersonal and

informational activities boosted perceived bridging social capital and life satisfaction, whereas using SNSs for entertaining leisure activities did not predict perceived social capital. In contrast, it did augment the magnitude of individuals' loneliness (pp. 55-56). Lee et al. (2013, p. 416) found that loneliness directly influences SNS users' well-being while positively impacting self-expression. Thus, self-expression was found to influence social support with improved well-being positively. In other words, lonely individuals experience improved well-being through using SNSs, especially if they receive social support from their friends.

The implications of SNS usage also depend on the relationships users form on social networks. A greater dependence on parasocial SNS relationships (following a celebrity or influencer) is positively related to loneliness and mistrust (Baek et al., 2013, p. 4). Conversely, reliance on interpersonal relationships (following friends) was negatively linked to loneliness. Nevertheless, both forms of relationships have been associated with the addictive usage of SNSs. Therefore, it is crucial to consider if SNS-related connections are reciprocal or parasocial from the standpoint of psychological well-being. Subsequently, depending on the nature of the relationship, SNS usage can either improve or negatively affect the psychological well-being of SNS users (Baek et al., 2013, pp. 4-5). The experience of social connectedness, for instance, on Facebook, includes the subjective sense of belonging and connectedness to a person's online network. Also, Grieve et al. (2013, p. 604) found that using SNSs, such as Facebook, offered the possibility of creating and sustaining social connectedness. They found that increased social connectedness on Facebook was correlated with decreased symptoms of anxiety and depression while elevating users' subjective well-being and life satisfaction.

SNSs enable users to experiment and express their identities (Spies Shapiro & Margolin, 2014, p. 9). Back et al. (2010, p. 374) found that people do not use their SNS accounts to promote an idealised virtual identity. Instead, the authors believe SNSs are an efficient channel to reflect and communicate one's real-life identity. Moreover, a nethnographic analysis of SNSs established that SNSs empower people to achieve health-related goals. The community aspect of SNSs can assist many people in becoming part of a virtual community where they can exchange ideas, encourage each other and get answers to specific questions from peers. Through sharing experiences, people can get

motivated by sharing their successes while inspiring others to achieve similar goals (de la Peña & Quintanilla, 2015, pp. 500-501).

Concerning this aspect, Kramer et al. (2014, p. 8789) found experimental evidence for large-scale contagion of emotions occurring via SNSs such as Facebook, offering support for the idea that feelings and emotions voiced by people on Facebook influence the sentiments of other users. Therefore, the type of content displayed to an SNS user in their feed seems to be of central importance and thus affects subjective well-being differently. How people interact with SNSs also affects whether positive or negative effects on well-being are present. Therefore, Frison and Eggermont (2015, pp. 12-13) demonstrate that active and passive use of SNSs and gender are associated differently with depression. They found that not every user is affected in the same way by SNS usage and that the damaging effects of Facebook usage emerged solely in teenage girls who use the platform passively and in teenage boys who use it in a public context. However, this effect was mediated by online social support. Pittman and Reich (2016, p. 164) identified a difference in impact on well-being between image-based and text-based SNSs. Namely, the more image-based platforms a user uses, the happier, more satisfied with life, and less lonely.

In this regard, positive experiences on SNSs improve an individual's mental well-being (Brailovskaia & Margraf, 2016; Gerson et al., 2016; Lin & Utz, 2015; Meier & Schäfer, 2018; Meier et al., 2020; Rieger & Klimmt, 2018). Participation in social interactions on SNSs, such as a high number of connections and frequent posting, was positively associated with happiness and perceived social support. Hence, positive feelings are more pronounced than negative when surfing SNSs and are positively associated with happiness (Lin & Utz, 2015, p. 35). Gerson et al. (2016, p. 820) found that excessive Facebook usage is related to greater life satisfaction. Brailovskaia and Margraf (2016, pp. 9-10) identified that Facebook users reported the experience of more social support, increased self-esteem, feeling happier, and being more satisfied with their lives while being significantly less depressed compared to non-Facebook users.

Passive exposure to SNS postings by other users can inspire visual SNSs like Instagram. The strength of social comparisons on Instagram was positively associated with the emotional state of inspiration. Inspiration on Instagram was connected to an enhanced positive effect on the subjective well-being of its users (Meier & Schäfer, 2018, p. 415). Eudaimonic entertainment is widespread on SNSs. Users of SNSs reported that

eudaemonic content on social media evoked thoughtfulness and a sense of meaningful affect. Hence, exposure to SNSs is associated with the experience of contentment and purposefulness, inspiration and self-reflection (Rieger & Klimmt, 2018, p. 112). Meier et al. (2020, p. 737) demonstrated that SNS users could experience the emotional outcome of inspiration while surfing SNSs, resulting in a slight improvement in their well-being. Instagram users in their study who consumed mostly positive, optimised content responded with more vigorous upward comparison, eliciting inspiration through benign envy.

The mixed effects of SNSs on well-being are reflected in the systematic narrative review from Best et al. (2014, p. 33), who found contradictory evidence in most studies investigating the impact of SNS usage on well-being. Indeed, there are relationships between SNS usage and positive outcomes on subjective well-being, such as enhanced self-esteem, perceived social support, social capital and opportunities for self-disclosure. However, SNS usage has adverse and harmful consequences, such as social isolation, depression and cyberbullying. The systematic literature review from Seabrook et al. (2016, pp. 9-10) confirms this notion, as they also revealed mixed results concerning the impact of SNS usage. Their review confirmed that using SNSs correlates to mental disorders and well-being. Whether the outcome of SNS usage affects well-being positively or negatively also hinges on the quality of the social determinants in the setting of the SNS. The review also states that many studies encountered evidence to support a negative relationship between subjective well-being and the quality of interactions on SNS. Their determinations summarised that adverse interactions on SNSs and social comparisons were strongly correlated with elevated scores of anxiety and depression, whereas "positive quality interactions, social support, and social connectedness most consistently related to lower levels of depression and anxiety" (p. 9).

Ultimately, based on this comprehensive review, the benefits of SNSs can be briefly summarised as enhancing communication. SNSs have enabled people worldwide to connect, interact, and communicate in various advantageous ways. Users of SNSs might build new connections or rekindle relationships with distant relatives and acquaintances. People can keep themselves informed about world events, share their knowledge and skills with others, help organise social movements and interact in times of crisis (Bhargava & Velasquez, 2020, pp. 12-13). Therefore, it could be reasoned that the benefits of SNSs may outweigh the harms, such as addiction. However, according to Bhargava and Velasquez

(2020, p. 13), this reasoning overlooks that these benefits are generally associated with the internet. Thus, businesses owning SNSs do not necessitate utilising the tools that make them addictive and harmful. Also, Bhargava and Velasquez (2020) argue that "much of the communicative and social interaction benefits social media websites deliver can be produced even if social media companies did not introduce the addictive mechanisms" (p. 13).

2.3.2 The Negative Outcomes of Social Networking Site Usage on Users' Well-Being

The association between SNS use and its detrimental impact on well-being seems more nuanced. It is influenced by several factors, such as the size of the network (followers), depressive symptoms, self-esteem, loneliness and perceived support from one's online network (Seabrook et al., 2016, pp. 9-10). Examining the negative impact of SNS use on the well-being of its users, the picture is gloomy, as daily SNS use can lead to a decline in life satisfaction (Hinsch & Sheldon, 2013, p. 503). Therefore, it is essential to consider the harmful effects of SNSs after presenting and discussing a comprehensive review of the positive impacts of SNSs.

In several studies, it was demonstrated that Facebook use is not conducive to well-being. Kross et al. (2013, p. 4) identified through experience sampling that Facebook use adversely affects cognitive and affective well-being. Higher usage of Facebook predicted decreased mood after usage and lower life satisfaction over time. Sagioglou and Greitemeyer (2014, p. 362) established a correlation between time spent on Facebook and negative mood immediately after. This decline in mood occurred because people felt they had squandered their time, as they devoted time to something that had little meaning. Shakya and Christakis (2017, pp. 208-211) demonstrated with a longitudinal research design that real-world social networks are positively linked to the well-being of their users. Facebook use, in contrast, is negatively related to the well-being of its users as predominantly young people are unhappier the more time they spend on social media, especially Facebook. The findings from previous cross-sectional studies reviewed in section 2.3.1 (such as Kim & Lee, 2011; Nabi et al., 2013), which exhibited a positive correlation with well-being, did not show any significance in the longitudinal data (Shakya & Christakis, 2017, p. 210).

Prolonged usage of SNSs has been associated with adverse effects on well-being. For instance, the longer a person uses Facebook, the more they become convinced that other people are happier than they are, and the more they believe that life is not fair (Chou & Edge, 2012, p. 119). Moreover, SNS users who spend a significant amount of time daily on SNSs are significantly less likely to receive and experience emotional support (Shensa et al., 2015, p. 546). Increased usage of Facebook has been negatively related to self-esteem (Kalpidou et al., 2011, p. 187) and increased loneliness (Song et al., 2014, p. 450) on a cross-sectional basis. Similarly, Mikami et al. (2010, p. 53) identified that poorer self-esteem and quality of relationships tend to be more prone to demonstrate problematic behaviours when using SNSs. These inappropriate behaviours encompass posting adverse or offensive content and using SNSs predominantly to engage in content consumption instead of communicating with peers online.

Twenge et al. (2019b, p. 1892) discovered with a large-scale study that since the growth of digital media usage in recent decades, face-to-face social interactions have become rarer. Since 2011, a strong surge in loneliness can be observed. Subsequently, adolescents with limited face-to-face social interactions and extensive SNS usage were most likely to report loneliness. In this context, Twenge and Campbell (2019) demonstrated that users "who spent more time on digital media reported lower well-being" (p. 325). The highest levels of well-being were related to less than an hour per day of digital media use, including SNSs. The lowest levels of well-being were exhibited by users who spent more than five hours daily on digital media. The likelihood of impairment of the user's well-being was twice as high for users who used digital media extensively than for users using it lightly (Twenge & Campbell, 2019, pp. 325-326). Thus, based on these findings, it can be concluded that heavy SNS usage appears to be particularly problematic for well-being and the difference in the impact of effects lies between moderate and extensive consumption. For this reason, extensive and troublesome use of SNSs is "characterised by either addictive-like symptoms and/or scarce self-regulation related to [using SNSs] (..) reflecting in social and personal problems" (Marino et al., 2018, p. 274).

With this in mind, it is essential to note that the Covid-19 pandemic and the measures taken to combat it resulted in a decrease in social interactions, resulting in people engaging more on SNSs, in turn driving up the time spent on them, as well as increasing the adverse effects on well-being (Chakraborty et al., 2021, pp. 435-436). Especially the general social

distancing measures and the lockdown significantly contributed to a substantial increase in SNS use frequency for platforms like Instagram, TikTok, YouTube, Twitter and Facebook (Vall-Roqué et al., 2021, p. 4). For example, the average daily time spent on SNSs by users in the U.S. increased from 54 minutes in 2018 and 56 minutes in 2019 to 65 minutes per day in 2020 (eMarketer, 2021). Subsequently, increased use of SNSs and daily exposure to disaster news concerning the pandemic on SNSs has been linked to worsening users' mental health (Zhao & Zhou, 2020, pp. 13-14).

It has been established that students use Facebook to procrastinate, which raises academic stress levels of students and adds to the harmful effects of Facebook use on well-being, even beyond the educational context. In particular, low self-control, checking Facebook habitually and high enjoyment of Facebook use predicted that SNS users use a platform to procrastinate (Meier et al., 2016, pp. 72-73). Ego exhaustion increases the risk that users will negatively evaluate procrastination caused by SNS usage. The resulting feelings of guilt reduce the possible positive effects of media consumption for recovery. Instead, feelings of guilt impair well-being (Reinecke et al., 2014, pp. 11-12).

Based on the insight that SNS usage can affect well-being adversely, various determinants need further investigation. In particular, Facebook usage was related to "six key mental health domains: Facebook addiction, anxiety, depression, body image and disordered eating, drinking cognitions and alcohol use, and other mental health problems" (Frost & Rickwood, 2017, p. 576). SNS use can deteriorate the mood and lead to a loss of the user's self-esteem. For example, Clerkin et al. (2013, p. 528) established significant evidence that seeking validation through Facebook negatively impacts users' self-esteem and decreases well-being. Increased internet use is connected to body image problems (Tiggemann & Slater, 2013, p. 632). In particular, viewing fitness-related content causes negative mood, unhappiness with one's body, and lower self-esteem (Tiggemann & Zaccardo, 2015, p. 65). Confirming the adverse impact on body image and satisfaction, Brown and Tiggemann (2016) found that "exposure to thin and attractive female celebrity images has an immediate negative effect on women's mood and body image" (p. 42) with similar effects concerning unknown peers. The study from Kleemans et al. (2018, p. 103) pinpointed that a widespread practice of Instagram users manipulating and enhancing their appearance in images results in lower body satisfaction of other users, adversely affecting their well-being. The effect size was moderated by social comparisons, which was most

substantial for girls with a high predisposition to social comparison. Frequency of Instagram use was associated with body dissatisfaction, the urge to be thin and low self-esteem in girls aged 14 to 24, and only with the urge to be thin in adult women aged 25 to 35 (Vall-Roqué et al., 2021, pp. 4-5).

How social information is processed on SNSs is governed by unique individual differences. De Vries and Kühne (2015, p. 220) indicated that SNS usage is associated with more negative self-perceptions due to unfavourable social comparisons. These effects were more substantial among unhappy adolescents than other adolescents. Verduyn et al. (2015) demonstrated that "passive Facebook usage undermines affective well-being" (p. 480) as it evokes feelings of envy. Building on this finding, Verduyn et al. (2017, pp. 295-296) confirmed that the effects of SNS usage depend on how a user uses it. They found that, while SNSs can enhance subjective well-being, providing users with the opportunity to raise their social capital and sense of connectedness when used actively, SNSs can be a significant source of stress, usage through social comparisons and envy if used passively. Valkenburg et al. (2021, pp. 70-71) demonstrated that there are person-specific effect sizes and asserted that the effect of using SNSs is unique to each user. Contrasting previous studies, the researchers highlighted that the impact of SNS use on self-esteem was low or nonexistent for most adolescents. Young adults with higher self-esteem experienced a modest intra-person effect from using SNSs on their self-esteem. Young adults with lower mean self-esteem will experience a more significant positive consequence (Valkenburg et al., 2021, p. 72). However, all young people "may occasionally experience a social media-induced drop in self-esteem" (p. 73).

Furthermore, it is crucial to mention that most studies investigating the impact of SNSs on well-being have focused on Facebook (Masciantonio et al., 2021, p. 2). A recent study has revealed SNS platform-specific effects and highlighted that those would have different effects on well-being. For instance, the researchers demonstrated that passive Facebook usage was correlated with social comparisons, resulting in decreased well-being in alignment with previous studies. Active use of Instagram and Twitter was linked to social support, leading to increased life satisfaction. At the same time, passive use of both platforms was also associated with negative affect and found to be influenced by social comparisons. Interestingly, the new SNS TikTok was not related to well-being. Nevertheless, these recent findings indicate the need for a detailed assessment of

platform-specific uses and the insufficiency of generalised verdicts about SNSs (Masciantonio et al., 2021, p. 11).

A critical review from Odgers and Jensen (2020, p. 336; see also Orben & Przybylski, 2019) discovered that the majority of research concerning the usage of SNSs to date has relied on correlations, concentrated on both adults and young people, respectively, and has generated a mixture of often contradictory minor positive, adverse, and insignificant outcomes on well-being. Besides, the researchers identified that these studies, which found small yet significant correlations between technology use and well-being, did not appropriately distinguish between cause and effect. Orben and Przybylski (2019, p. 173) found a negative relationship between the use of digital technologies and the well-being of young people. This effect is so tiny that it explains at most 0.4% of the variation in well-being. The relationships between different types of screen time usage and emotional disorders, such as depression, anxiety and panic disorders, and social phobia, are not monotonic and, in some cases, are reciprocal (Zink et al., 2019, p. 286). Hence, one can assume the possibility that the causality of the effects of SNS on well-being is also bidirectional.

2.3.2.1 SNS Usage and Anxiety

Anxiety itself is a well-researched subject. *Anxiety* can be defined as a negative emotion experienced by individuals, characterised by an out-of-control tendency to "worry about one's welfare and that of one's immediate [relatives]" (Akiskal, 1998, p. 66). According to the American Psychological Association, individuals with anxiety disorders experience repetitive, intrusive thoughts and worries. An anxious person can also experience physical symptoms such as a faster heart rate, shaking, vertigo, or sweating (American Psychological Association, n.d.). Anxiety can be a shared element of anxiety and depressive disorders. However, it contrasts with fear and panic, which refer to actual encounters with danger and not only the anticipation of the threat. Fear is conceived of as an activation of the fight-or-flight system and is indicated by increased autonomic arousal and the corresponding tendencies to act, such as flight, active avoidance, or protective aggressiveness (Chorpita & Barlow, 1998, p. 3). Among all mental diseases, anxiety disorders rank as the second most common cause of impairment, with the peak of anxiety among adolescents (Whiteford et al., 2013, p. 1582). People's fear of interacting with

others or being unfairly assessed in social situations is one of the leading causes of anxiety (Liu & Ma, 2018, p. 1885). Evidence suggests that affective disorders such as anxiety and depression exhibit bidirectional associations with the surrounding social environment that impact the disorder's beginning and retention (Marroquín, 2011, p. 1287).

Even if SNSs have been around for some time, research concerning the impact of SNSs on anxiety is still relatively new, and so far, "little is known about the relationship between social media use and anxiety" (Vannucci et al., 2017, p. 164). However, a handful of studies have assessed the effects of anxiety and SNS usage. SNS addiction and troublesome SNS usage are associated with anxiety and depression (Hong et al., 2014, pp. 603-604; see also Lee-Won et al., 2015, p. 5). Social anxiety, as well as the need for assurance, are significantly associated with problematic Facebook use. In contrast, the positive relationship between social anxiety and troublesome Facebook use appeared only to be stable among Facebook users with a moderate to high need for social validation (Lee-Won et al., 2015, p. 1). Moreau et al. (2015, p. 67) demonstrated that troublesome use of Facebook is most widespread among individuals with features of borderline disorders and individuals exhibiting social anxiety and symptoms of depression. Wegmann et al. (2015, pp. 159-160) investigated internet addiction and found that psychological symptoms indicated a significant influence of depression and social anxiety on the development of SNS addiction. Expectations of internet use and self-regulation mediated these correlations. If users anticipate that using the internet will be a beneficial instrument for reducing adverse emotions or experiencing pleasure, it will raise the likelihood of developing SNS-specific internet addiction. At the same time, users with higher self-regulation skills are less prone to developing SNS-specific internet addiction (Wegmann et al., 2015, pp. 159-160).

Further research indicated a link between SNS usage and increased anxiety symptoms and a reduction in personal well-being (Block et al., 2014; Primack et al., 2017; Seabrook et al., 2016; Vannucci et al., 2017; Woods & Scott, 2016). The findings emphasise that just using SNSs by themselves can be a trigger to experience symptoms of anxiety (Liu & Ma, 2018, p. 1885; Marino et al., 2018, p. 279) and even cause the development of "a probable anxiety disorder" (Vannucci et al., 2017, p. 165). Individuals with higher depressive symptoms are more likely to experience negative interactions with SNSs and report increased detrimental effects on their well-being (Seabrook et al., 2016,

pp. 9-10). To measure anxiety in the social media setting, Alkis et al. (2017, p. 301) developed a scale mainly designed to measure anxiety through SNS consumption; their study confirmed the notion that SNS usage can trigger anxiety.

Reasons for SNS users experiencing anxiety can be attributed to several sources: (1) Social comparisons and envy of SNS can promote adverse affective effects such as anxiety or depression (Appel et al., 2016, p. 46) (2) Getting adverse feedback or cyber-bullying (Fabris et al., 2020, p. 5) (3) Maladaptive SNS usage is used as a compensation for low self-esteem and lacking communication skills (Marino et al., 2018, p. 275) (4) Exposure to more stressful events of other users (Vannucci et al., 2017, p. 165) (5) Pressure to be up to date (Beyens et al., 2016, p. 5)

Another study by McCord et al. (2014) identified that the most significant predictors of social Facebook use are social anxiety and anxiety. Individuals with high social anxiety used Facebook more often than those experiencing mild social anxiety. However, the researchers encountered a suppression effect: anxiety on Facebook is a direct predictor of social anxiety, whereas social use of Facebook is not (pp. 25-26). A further factor influencing the experience of anxiety symptoms might be that users are exposed to SNSs simultaneously to a multitude of people. Consequently, public evaluation by others can also increase worries and anxiety (Alkis et al., 2017, p. 301). These findings bring up an intriguing argument about whether anxiety is a cause of increased Facebook use or comes from increased use.

The above indicates strong evidence for the claim that experiencing significant social anxiety symptoms was related to increased time on Facebook. In this context, brooding was recognised as a powerful mediator through which Facebook can induce anxiety (Shaw et al., 2015, p. 579). Jose and Weir (2012, p. 1219) demonstrated a relationship between brooding and depressive symptoms and a correlation between brooding and anxiety. Casale and Fioravanti (2015, p. 36) demonstrated a significant impact of social anxiety on problematic internet use. Socially anxious men and women alike tended to use SNSs to present themselves and feel more confident. The desire for self-presentation mediated the relationship between social anxiety and troublesome internet use only in men. The failure to satisfy unmet social needs in person-to-person interactions, such as the need for belonging, a perception of social competence, and communication assertiveness, can foster the risk of problematic SNS usage. For this reason, approval and meeting social needs are

pivotal drivers for becoming addicted to Instagram as users return to the platform to fulfil their needs for approval and social connection (Ponnusamy et al., 2020, p. 7).

Woods and Scott (2016, p. 45) found that heavy SNS usage, specifically night-time use and emotional attachment to SNSs, are all significantly associated with increased anxiety levels, elevated symptoms of depression, and poorer sleep quality. Increased day-to-day use of SNSs has been linked to the experience of more severe anxiety symptoms and a more substantial probability of developing an anxiety disorder (Vannucci et al., 2017, p. 165). Furthermore, researchers have demonstrated that using multiple SNS had significant effects on experiencing anxiety symptoms more than the overall time spent on social media. Users who heavily used multiple SNS—defined as seven to eleven platforms—were considered more at risk of experiencing anxiety symptoms than users who only used a maximum of two platforms. These findings suggest that the time spent on SNSs and the number of platforms used can impact anxiety and the well-being of people (Primack et al., 2017, pp. 4-7).

Moreover, other studies emphasised the crucial role of gender in the context of SNS usage and anxiety. For example, Blomfield Neira and Barber (2013) found that female users can be more negatively affected by SNS usage than male peers and spending time on SNS was strongly linked to reduced self-esteem and depressed mood (p. 62). Seabrook et al. (2016) concluded in their systematic literature review that key risk determinants for anxiety and depression involved "frequent SNS social comparison, negative perceived interaction quality, addictive or problematic SNS use, and rumination (or brooding)" (p. 10). In their literature review, Frost and Rickwood (2017) confirmed that SNS usage has a complex relationship with anxiety. The "sheer use (or lack thereof) may trigger anxiety among some users, exacerbate or maintain anxiety for those with preexisting anxiety, or reduce anxiety when social connectedness benefits are realised" (p. 592).

Liu and Ma (2018, p. 1888) identified that a response to the anxiety experienced on SNS is the individual's distancing from those platforms. They found that being addicted to SNS significantly accounts for social media burnout - a concept discussed in detail in section 2.3.2.2. Envy moderates the relationship between SNS addiction and social media burnout. Thus, Liu and Ma (2018) established that "the higher level of social media addiction, the higher level of anxiety the individual may experience, and finally they may feel an elevated level of burnout" (p. 1888). Ultimately, the present review concerning the

relationship between SNS usage and anxiety concludes that the environment of SNSs can trigger anxiety, just like the environment of the real world. Regardless, these triggers may be more widespread on SNSs due to the frequency of use and daily exposure.

2.3.2.2 SNS Usage and Stress

Most people experience daily stress (DeLongis et al., 1988, p. 492), which can be triggered by daily hassles related to school, university, work, or domestic settings (Kanner et al., 1981, pp. 20-21). The experience of *stress* can be understood as "the nonspecific response of the body to any demand made upon it" (Selye, 1976, p. 137). Hence, stress is a condition created by "a specific syndrome which consists of all the non-specially induced changes within a biologic system" (Selye, 1956, p. 54). Chronic daily stress in different areas of life negatively affects mental health. For instance, stress can increase anxiety symptoms and depression, thus reducing levels of subjective well-being (Parrish et al., 2011, p. 288; Schönfeld et al., 2016, p. 7). In their meta-analytical review, Herbert and Cohen (1993, p. 364) identified that psychological stress is negatively linked to physical health and well-being. Psychological stress involves the imbalance that occurs when individuals feel that they do not have the adequate resources to cope effectively with the demands imposed on them by their environment (Lazarus, 1966). The function of social stress can be considered a cluster of three broad dimensions: the causes of stress, the mediators of stress, and the symptoms of stress (Pearlin et al., 1981, p. 337). Miller (1956, p. 95) used the information processing theory (IPT) to explain how and to what extent individuals can deal with volumes of information. Miller argues that individuals can only process information to a certain extent in this context. When the inflowing information becomes too large, the capacity to process the information is quickly tapped out. Consequently, when the volume of information surpasses the individual's processing capacity, the individual will start to suffer from overload (Liu & Ma, 2018, p. 1884). Via cognitive appraisal processes, which often occur unconsciously, individuals assess the significance of events for their well-being (Lazarus & Folkman, 1984, p. 53).

Further, Lazarus and Folkman (1984, p. 21) employed the person-environment model to define stress as the result of a discrepancy between environmental requirements and a person's felt aptitude to deal with the requirements. A person's inability to cope with these requirements can cause an overload. Thus, psychological stress describes an undesirable

person-environment relationship regarding personal capabilities and environmental constraints (Lazarus, 1993, p. 8). Neither the objective environmental circumstances nor the individual's capacity to handle challenging situations determines the magnitude of psychological stress. Instead, it is the perceived potential of stressors concerning objective appraisals, such as the importance of the event or available resources (Lazarus & Folkman, 1984, pp. 51-53). Thus, the adverse effects of perceived stressful stimuli seem to be associated with their interpretation and the individual's ability to manage these stimuli. If the triggers can be controlled, the challenges of the surrounding environment and the stress related to them can ease the ability to adapt over time (Chorpita & Barlow, 1998, pp. 14-15). Given the above, the person-environment model offers a framework to assess stress and has been frequently used in stress research (Lee et al., 2016, p. 52).

Lazarus and Folkman (1984, pp. 153-154) describe coping as an individual's reaction to stressful life events with significant, sometimes detrimental, outcomes. Their theory implies that people under stress usually choose between emotion-oriented and problem-oriented coping strategies to reduce and relieve psychological stress. Whereas both coping strategies seek to decrease a person's sense of stress, research suggests that problem-oriented coping strategies yield better results by enabling individuals to fully eradicate the cause of stress (Scheier et al., 1986, p. 1262). Conversely, the emotion-oriented coping strategy empowers a person to shift their focus from stress temporarily. However, in the long run, it may result in the problem causing even greater stress when it reoccurs (Chang, 2012, p. 638). Thus, emotion-oriented coping appears to be the less desirable strategy.

Following an initial assessment of stress, it is essential to examine how SNSs can contribute to the development of stress. Being overly active on SNSs such as Facebook can cause considerable stress as users of SNS are exposed to a constant stream of information and content, all competing for their attention (Bhargava & Velasquez, 2020, pp. 1-2). Moreover, attributes of SNS use that may directly contribute to stress responses are: (1) greater awareness of stressful episodes in other people's lives; (2) becoming accustomed to keeping one's profile on SNSs alive with status updates; and (3) increased exposure to adverse feedback or cyberbullying (Vannucci et al., 2017, p. 165). Campisi et al. (2012, p. 675) have verified that most SNS users, such as those on Facebook, are exposed to stress via their usage. The researchers established a significant relationship between the use of

Facebook, psychological stress, and the overall health of the users. Chen and Lee (2013, p. 4) observed that repeated Facebook use is directly associated with increased stress levels and indirectly through increased communication overload and decreased self-esteem. Research from Bevan et al. (2014, p. 251) shows that the amount of time spent on SNSs per day was associated with elevated stress levels and reduced life quality for SNS users. Their findings also suggest that using Facebook can cause psychological stress. Twenge et al. (2019a, pp. 194-196) revealed that the increase in internet activities, notably among teenagers and young adults, is associated with an overall intensification of psychological stress, symptoms of depression and even suicide-related consequences (see also Twenge & Campbell, 2019, p. 311).

Brailovskaia et al. (2018, p. 201) emphasise the relationship between SNSs usage and the experience of daily stress. SNS users who experience high-stress levels daily are more likely to risk developing addictive behaviours with SNS. This development can be explained by the tendency of users to compensate and escape daily stress through excessive SNS usage. Therefore, psychological stress might be not only the outcome of excessive SNS use but also a catalyst. Besides, daily stress was adversely related to physical activity and negatively associated with addiction to SNSs. These findings point to the potential prophylactic influence of physical activity, suggesting that it may help to reduce the harmful effects of SNSs. Thus, excessive SNSs usage is rooted in compensation, mood regulation and stress avoidance.

Users who face symptoms of depression are inclined to use SNS more frequently to escape their negative moods. Users who experience social anxiety are prone to use SNS to offset their low self-esteem and inadequate abilities to communicate face-to-face via excessive usage of SNSs (Hong et al., 2014, p. 604). Excessive social, hedonistic and cognitive use are motivators that increase SNS use (Luqman et al., 2017, p. 550). All three of these stimuli are positively associated with stress and SNS fatigue. Thus, sources of stress and exhaustion depend on technological, informational, and social aspects. Interestingly, the high use of Facebook is a predictor of reduced consumption in the future (p. 550-551).

It is not uncommon for users of SNS to report the experience of stress and overload due to the abundance of information and content on SNS. Lee et al. (2016, p. 58) found that information overload, communication overload, and system overload on SNSs are

critical stressors for users, which significantly contribute to SNS fatigue. For this reason, more time dedicated to engaging on SNSs raises the likelihood that users will be confronted with information overload. SNS use has been shown to correlate positively with information overload, leading to social media fatigue (Zhang et al., 2016, p. 910). When SNS users are exposed to prolonged stress, they will experience symptoms of burnout (Dhir et al., 2018; Han, 2018; Liu & Ma, 2018) - a condition of mental, emotional and physical exhaustion (Maslach & Jackson, 1981, pp. 100-1002; see also Maslach & Leiter, 2008, pp. 498-499). Social media burnout, a feeling of fatigue and exhaustion from social media, is related to negative mental health due to its relation to anxiety and depression (Dhir et al., 2018, p. 148). In this sense, *social media burnout* is understood as "the degree to which the user feels exhausted when using social media" (Han, 2018, p. 123), which is characterised by a diminished interest in engaging in social media (Liu & Ma, 2018, p. 1883). Burnout can be initiated through SNSs and can be diverged into three dimensions: emotional exhaustion, depersonalisation, and ambivalence, which have a significant negative impact on the continuity of SNS usage. These findings suggest that while in the beginning, the abundance of information and social connection can elicit feelings of pleasure and excitement, over time, these sensations diminish. The information and social overload then translate into stress and liabilities for the user, culminating in discontinuance and escape from stress (Han, 2018, p. 128).

The more often users use SNSs, the more often they are exposed to the abundance of information and popularity cues (comments, likes or followers), and the more likely they will experience stress (Chen & Lee, 2013, p. 731; Fabris et al., 2020, p. 5; Liu & Ma, 2018, p. 1887). Therefore, a clear relationship can be drawn between a user's excessive SNSs usage and exhaustion of their cognitive capacity to process the information and the experience of overload (Liu & Ma, 2018, p. 1885). Supporting this perspective are the findings from Marino et al. (2018, p. 279), which present significant evidence of a correlation between excessive use of SNS by adolescents and their experience of stress and, to a lesser extent, the negative impact on well-being. Therefore, the authors assume that users of SNS with excessive consumption habits are more likely to experience adverse effects than those who can use SNS in a more limited and controlled manner.

In addition, the fear of missing out (FOMO) has been identified by researchers as another significant factor influencing stress levels concerning the use of SNSs. *FOMO* can

be defined as the "pervasive apprehension that others might be having rewarding experiences from which one is absent" (Przybylski et al., 2013, p. 1841). Beyens et al. (2016) found a significant correlation between a "strong need to belong and need for popularity" (p. 5) with elevated use of SNSs. Their findings suggest that high levels of self-perceived stress result from a lack of sense of belonging and the perception of not being famous on SNS (p. 6). In the context of SNS usage, Fabris et al. (2020, p. 4) have established the association between FOMO and a reduction in well-being, as it seems to drive addiction to SNSs. Their research found that FOMO on SNS caused higher stress levels linked to an absence of feedback from their peers on SNS. The experience of stress can also be intensified if users perceive that not engaging in SNS communication might harm their offline relationships with peers. As a result, SNS use becomes a stressful task, increasing the feeling of exhaustion (Han, 2018, p. 123).

However, several studies identified social support as a protective mechanism for dealing with stress. *Social support* can be defined as "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations" (Cobb, 1976, p. 300). For this reason, it could be argued that people with higher levels of social support are healthier and more comfortable during stressful life events or under more stressful conditions than people with relatively lower levels of social support (Cobb, 1976, pp. 310-311). Social support might also directly bear on overall health outcomes. A lack of social support functions as a stressor that negatively affects health, while increased social support benefits health and well-being by minimising stress (Cohen et al., 2000, pp. 11-12). Nabi et al. (2013, p. 4) determined that higher perceptions of social support, due to a bigger size of the personal network on an SNS, were related to reduced stress and better health and increased well-being. Social support has been proven to mitigate the link between anxiety and depression. In particular, higher levels of social support were found to be a buffer against symptoms of depression (Wang et al., 2014, p. 3). Indeed, daily stress was associated positively with the amount of time spent on Facebook and its potential to cause addiction. Extensive Facebook usage concerning daily stress was negatively moderated by perceived offline social support and positively moderated by online social support. For this reason, individuals who receive poor levels of offline support are likely to intensify their usage of SNSs due to elevated stress levels (Brailovskaia et al., 2019b, pp. 170-171).

Individuals are seeking refuge in the online world with the hope of finding relief and coping with daily stress (Ryan et al., 2014, p. 145). For instance, in a sample of students, high levels of psychological stress were also correlated with internet addiction (Al-Gamal et al., 2015, p. 56). Likewise, Sriwilai and Charoensukmongkol (2015, pp. 432-433) identified that SNS users showcasing SNS addiction are more prone to emotion-oriented coping strategies to address stressful situations instead of problem-oriented coping strategies. Blachnio et al. (2017, p. 36) established that coping strategies focused on emotions and avoiding problems in stressful circumstances are predictors of Facebook intrusion and intensity. SNS users who cannot manage their everyday challenges will likely become excessive SNS users. They tend to experience negative affect, focus on emotions, and avoid high-stress situations (pp. 36-37). Excessive SNS usage has been positively linked to late bedtimes and wake-up times, negatively affecting circadian cycles. Lack of sleep, thus, might contribute to increased levels of anxiety and stress (Andreassen et al., 2012, p. 511).

The experience of stress can, to some extent, be linked to the experience of anxiety. Chorpita and Barlow (1998, p. 8) indicated that the experience of anxiety is influenced to some degree by assessing individuals concerning stressful situations as either manageable or unmanageable. Hence, a respective sense of control is considered a mediator between stressful situations and the experience of anxiety. For this reason, the experience of stress due to SNSs use is regarded as a relevant component that influences the triggering of anxiety.

2.3.2.3 SNS Usage, Addiction and Depression

A crucial part concerning the detrimental consequences of SNS use is the risk of developing an addiction to SNS (Frost & Rickwood, 2017, p. 578). Subsequently, SNS addiction strongly leverages the previously identified adverse effects associated with (increased) SNS usage. For this reason, the addiction to SNS has received considerable attention from academia, as outlined below.

SNS addiction can be defined as "being overly concerned about SNSs, driven by a strong motivation to log on to or use SNSs, and to devote so much time and effort to SNSs that it impairs other social activities, studies/job, interpersonal relationships, and/or psychological health and well-being" (Andreassen & Pallesen, 2014, p. 4054). SNS

addiction is determined by multiple determinants, consisting of behavioural, dispositional and sociocultural amplification and is associated with detrimental health and well-being (Andreassen, 2015, p. 175; see also Andreassen & Pallesen, 2014, p. 4053). In the literature review, Andreassen (2015, p. 175) illustrates that SNS addiction exhibits many traits similar to other addictions, which can be constitutionalised into six core components that all addictions have in common: salience, mood modification, tolerance, withdrawal symptoms, conflict and relapse (Griffiths, 2005, p. 191). Regarding SNSs, the six components of addiction were interpreted by Griffiths et al. (2014, p. 121) as the following:

- Salience (the SNS user is wholly preoccupied with the platform, has cravings and constantly thinks about using the SNSs again)
- Mood modification (subjective experiences SNS users encounter through usage as a means of coping that may induce a change of mood, like receiving likes)
- Tolerance (users gradually increase the time they spend on SNSs per day)
- Withdrawal symptoms (users suffer from unpleasant emotional states and physical effects such as trembling, moodiness, and irritability if they do not have access to SNSs for a more extended period)
- Conflict (resulting from the usage, the user encounters clashes with their social environment, with hobbies and interests and with within the person)
- Relapse (tendency to frequently relapse into previous behaviour patterns of excessive SNS usage)

Moreover, a detrimental impact was noted between self-esteem and addictive use of social media and depression. Increased general media use is directly correlated with more self-reports of depression (Block et al., 2014, pp. 5-6). The excessive usage of SNSs and the subsequent addiction to SNSs can be understood “as affective and cognitive responses aimed at restoring gratification or compensation with respect to perceived needs” (Fabris et al., 2020, p. 4). The feeling of inferiority predicts the use of SNSs such as Facebook. The depressed personality of a user and usage of Facebook are predictors of Facebook addiction (Hong et al., 2014, p. 604). SNS use has been consistently demonstrated to be positively associated with symptoms of depression (Andreassen, 2015; Andreassen et al.,

2016; Andreassen et al., 2017; Donnelly & Kuss, 2016; Lin et al., 2016; Lup et al., 2015; Tandoc et al., 2015; Twenge et al., 2018).

Instagram use is likewise positively associated with SNS addiction, and both usage and addiction are correlated with depression (Donnelly & Kuss, 2016, p. 5). Besides, Lup et al. (2015, p. 250) found small yet statistically significant evidence that Instagram is related to depression via social comparisons. However, Lup et al. (2015) also found that the number of friends moderates the correlation between social comparison and depressive symptoms. For SNS users following more strangers, Instagram use is linked with increased symptoms of depression yet reduced for those following fewer strangers. The findings suggest that engaging with strangers' updates on SNS impacts well-being differently from engaging with friends' posts (Lup et al., 2015, pp. 250-251). Hence, the usage of SNS has various effects on users' well-being. Depression predicts excessive use of Facebook that affects daily routines and interpersonal relationships, resulting in that over-attachment to Facebook could lead to a severe psychological condition (Blachnio et al., 2015, pp. 1316-1317). However, Tandoc et al. (2015, pp. 143-144) identified that Facebook usage in itself does not cause depression directly. Instead, engaging with posts from other users was only associated with increased depressive symptoms if users exhibited unfavourable social comparisons and feelings of envy—heavy users of Facebook showcased more enhanced levels of envy in contrast to light users.

Moreover, they demonstrated that demographic variables could predict excessive Facebook use, particularly daily usage (in minutes), gender, and age. Also, Koc and Gulyagci (2013, p. 282) demonstrated that the time spent weekly on SNSs, social motivations, depression, anxiety, and lack of sleep were predictors of developing addictive tendencies with SNSs such as Facebook. Yet, these addictive developments seem not to be influenced by demographic variables. Lin et al. (2016, p. 327) found in a representative sample of adolescents in the U.S. a pronounced and significant relationship between the use of SNSs and depression. Besides, heightened usage of SNSs was also related to (personal) demographic variables such as female sex, younger age, and lower education level. Rosen et al. (2013, p. 1250) reported that regular and intense use of Facebook is connected to the clinical symptoms of mental disorders. Andreassen et al. (2016, p. 258) found that symptoms of psychiatric disorders were associated with addiction to social networking and video games. The addictive use of SNSs was directly and positively

associated “with being female and single, lower age, ADHD, OCD, anxiety, and lower levels of depression” (p. 258). Twenge et al. (2018, p. 13) encountered that more time spent with new media such as SNS is significantly associated with increased depressive symptoms and suicide-related risks, even if specific associations were relatively low and significant only for female users. On the other hand, people that devoted more time to off-screen activities reported fewer mental health problems. A large-scale study by Andreassen et al. (2017, p. 291) established again that demographic, personal, and individual features were related to the addictive use of SNSs. They demonstrated robust evidence that age, sex, relationship status, narcissism, and self-esteem contribute significantly to addictive SNS usage. In particular, addictive SNSs use is associated with “lower age, being a woman, not being in a relationship, lower education, being a student, lower income, having narcissistic traits, and negative self-esteem” (p. 293).

In cases where the root of SNS usage is the desire to avoid negative emotions, such behaviour supports the development of an addictive attachment to SNSs (Brailovskaia et al., 2020a, p. 7). Similarly, another study identified that Facebook users showed substantially higher levels of depression, social stress and sleeplessness while having lower levels of positive subjective well-being than non-Facebook users. Length of daily Facebook use was adversely correlated with a positive effect on well-being and positively related to an adverse effect on well-being (Brailovskaia et al., 2019b, pp. 378-379). Yet, existing research indicates that the correlation between well-being and SNS usage is not a binary relationship but rather a quadratic structure (Brailovskaia et al., 2020a, p. 2). While extensive SNS usage is correlated to a decline in well-being, on the other hand, a limited amount of time spent on SNS is considered less harmful. As demonstrated in section 2.3.1, users can benefit from reduced daily SNS usage through social interaction and networking (Przybylski & Weinstein, 2017, p. 210).

It is important to mention again what was already mentioned in section 2.1: SNSs are designed to be addictive, which is strongly encouraged by their attention economy business model pursued by companies like Meta, which owns Facebook and Instagram (Harris, 2019). Bhargava and Velasquez (2020) highlight that further research should treat addiction to SNSs similarly to other addictions. SNSs companies “unjustifiably harm users in a way that is both demeaning and objectionably exploitative” (p. 25). The authors argue that the damage inherent in both common and specific internet addiction can be traced to a

single cause: “the amount of time the addict spends with the technology” (p. 8). By devoting more time to social media and spending more time on SNSs, the addicted person inevitably spends less time on everyday activities such as attending school, working, sleeping, self-care, interacting with family, and meeting friends in person. The more frequently the addict uses the internet, the more anxious and depressed the person becomes (pp. 8-9).

This review on the various effects of SNS usage on well-being has demonstrated that SNSs can elicit and foster positive and negative outcomes. The positive effects of SNS usage can often be attributed to the internet and are not limited to SNSs. Many of the adverse effects can be related to the business model of the companies owning SNSs. SNSs, like many other social interactions, can induce stress and anxiety. Nevertheless, SNSs should be perceived as catalysts, as users are simultaneously exposed to all sorts of stressors on a day-to-day basis. Ultimately, based on this in-depth literature review, it can be concluded that SNSs do not have definite effects on well-being, but rather it is the way people use them and what is happening on the SNSs. Research has pointed to the importance of content-, person- and platform-specific characteristics that can strongly influence whether and how usage affects well-being.

2.4 The Influencing Determinants for the Development of an SNS Diet

Given the omnipresence and pervasiveness of SNSs, with billions of users, and the wide range of positive and negative outcomes for their users, the need to find a healthier, more balanced and more sustainable approach to SNS use emerges. However, this approach must consider the different impacts of SNS use on well-being (Odgers & Jensen, 2020, pp. 10-11).

Indeed, there is the crucial consideration that it is essential to assess how events or actions in real life affect or mitigate the consequences of SNSs usage. For instance, Chou and Edge (2012, p. 119) found that people were less affected by SNS usage if they could maintain offline relationships and interact more in the real world. Brailovskaia et al. (2018, p. 201) demonstrated that physical activity could reduce symptoms of stress and addiction in SNSs. It is also essential to acknowledge that the companies that run the SNSs possess a major lever in balancing well-being since they significantly impact the extent to which they design features that are used to keep their users addicted or to what degree adaptive

algorithms have control over the users. Therefore, those companies must drive this change (Bhargava & Velasquez, 2020, pp. 23-24). Yet, many of the adverse effects (for example, mental-health-related issues due to Instagram use) have long been known within these companies and were kept secret, played down in public or disregarded as they were detrimental to the company's operations (Wells et al., 2021).

For this reason, the SNS diet proposed in this study will not concentrate on the ability of external measures, company or legal actions that will lead to improvements in well-being; instead, it will aim to examine how a modification of the use of SNSs affects well-being, as it is anticipated that these measures could be adopted immediately. Hence, it is assumed in line with other researchers such as Vannucci et al. (2017) that, by addressing and combining the detrimental and positive dimensions of SNS use, one can identify and yield new approaches for a more healthy and sustainable SNS diet. Subsequently, these new approaches shall "promote the use of more positive features of [SNSs](...) while discouraging those behaviours that tend to be most maladaptive" (p. 166). Odgers and Jensen (2020) also anticipate an immediate need as more people spend more time on SNSs "to both understand effects of this usage and leverage new technologies in ways that support versus harm their mental health and well-being" (p. 10). Luqman et al. (2017, p. 553) see SNSs as a double-edged sword that necessitates a well-balanced approach. This approach should consider and balance the usage advantages and disadvantages of SNSs (Sriwilai & Charoensukmongkol, 2015, p. 433).

After creating an assessment of the underlying processes of SNS usage and their positive and negative effects on the well-being of SNS users, this final section focuses on the influencing determinants suggested by previous research based on their findings for the development of an SNS diet that is sustainable, provides positive results, and decreases the negative effects. Whereas many studies discuss their findings in the context of theoretical implications, relatively few provide specific guidance for users to improve their well-being, which the vast amount of cross-sectional studies may explain, yet the limited number of experimental studies.

Davila et al. (2012, p. 84), among the first studies that examined the impact of the duration of SNS use, ultimately concluded that it is not the use itself that leads to positive or negative effects in the long run but rather what kind of interactions with peers occur on the platforms. However, based on the insights gained in the previous chapter, there is

sufficient reason to believe that a reduction in time spent on SNS will result in users being exposed to fewer stressors and negative stimuli, which will then be accompanied by the minimisation of adverse effects on well-being. Hinsch and Sheldon's (2013, p. 502) research confirms this assumption. A temporary reduction or cessation of social internet use demonstrated beneficial outcomes for users by generating greater life satisfaction and less procrastination.

Similarly, Tiggemann and Zaccardo (2015, p. 66) recommend that users reduce their SNS consumption to counteract negative adverse effects. Shakya and Christakis (2017, p. 210) agree with previous suggestions and recommend that users of SNSs would benefit by limiting their use of SNS and concentrating on genuine social interactions instead. According to the findings that SNS consumption can lead to social media fatigue, Dhir et al. (2018) recommend that SNS users develop an understanding "that compulsive social media use results in social media fatigue, which can later result in depression and anxiety" (p. 149). Hence they advocate for moderate use of SNSs. Woods and Scott (2016, pp. 46-47) recommend limiting SNS use before bedtime, as they have found a significant relationship between night-time use of SNSs, later sleep times, poorer sleep quality, and anxiety and depression. Twenge and Campbell (2019) found "that time spent on digital media, not just quality of interaction online, is linked to psychological well-being" (p. 327). Liu and Ma (2018, p. 1889) recommend that individuals reduce and limit SNS usage to improve their well-being. Thus, research strongly suggests that adjusting one's behaviour and interaction with SNSs can enhance well-being.

Given the above, Tromholt (2016) conducted an experiment where participants were required to quit Facebook for one week and established a causal relationship between the use of Facebook and the impairment of subjective well-being. However, by leaving Facebook, users attained "higher levels of both cognitive and affective well-being" (p. 665). Complete absence for only one week was sufficient to produce positive effects that manifest themselves in two aspects of well-being: Improving life satisfaction and increasing positive emotions. However, the researcher argues that it may not be essential to quit using SNSs to enhance one's well-being permanently; instead, changing usage behaviour might be enough to change (p. 665).

According to Hunt et al. (2018, p. 753), many SNS users have become habituated to SNSs to such an extent that a long-term intervention that necessitates a total cessation of

SNSs would be impractical. However, limiting SNS usage appears to be more feasible and sustainable. Building on this insight, Hunt et al. (2018) identified empirical evidence in an experimental study that reducing SNS use to 30 minutes per day reduces loneliness and depression and thus significantly improves well-being (pp. 766-767). During their study, anxiety and fear of missing out (FOMO) decreased significantly in both control and experimental groups compared to baseline, indicating a benefit of greater self-monitoring (p. 751). Users who passively surf through Facebook afterwards feel more envious and less happy, demonstrating that SNSs usage affects mental health while also establishing that it matters how users interact with them (p. 753). Therefore, their findings strongly suggest that limiting overall SNS usage to 30 minutes per day can generate positive effects on the user's well-being (p. 751) without the negative effects that come from excessive use.

Brailovskaia et al. (2020b, pp. 5-6) conducted a similar study. They provided evidence that a reduction of 20 minutes in SNS usage can significantly increase life satisfaction, improving users' well-being and resulting in a healthier lifestyle. In their study, participants were divided into test and control groups, with participants in the test group only allowed to use Facebook 20 minutes less than usual per day for a two-week test period. This limitation was sufficient to significantly increase life satisfaction, reduce depressive symptoms and enhance the frequency of physical activity. However, the SNS diet should consider more than just the time spent on SNSs. For instance, Blomfield Neira and Barber (2013, p. 63) recommend that the emphasis should not only be on the frequency of use of SNSs but rather on how heavily users are entangled in specific SNSs. According to their findings, this is where the underlying issue of SNS usage lies. Based on the finding that a high number of SNSs is worse for well-being as the likelihood of experiencing depressive and anxiety symptoms increases, Primack et al. (2017, p. 7) advocated that users should reduce the number of platforms they use. Luqman et al. (2017, p. 553) recommended that users should be conscious of social overload and, to reduce stress and strain, they should not accept everyone to become part of their online social network.

Best et al. (2014, p. 34) identified with their extensive literature review that, in particular, SNS activities that foster communication between people possess the most significant beneficial effects on well-being. Moreover, the researchers recommend focusing on three dimensions to improve well-being (particularly for young users): (1) the

particular SNSs used. (2) the communicative and non-communicative practices occurring on SNSs (3) the social capital users have at their disposal to deal with the range of potential adverse incidents that can occur on SNS. Lee et al. (2016, p. 59) suggest that SNS users monitor their SNS usage more carefully or employ filters on topics to reduce the number of incoming messages and prevent the experience of activity overload. Based on the finding that active and passive usage affects well-being differently, Frison and Eggermont (2015, p. 11) recommend that future studies differentiate between the different types of SNS use.

Frost and Rickwood (2017, p. 598) recommend a set of practices to reduce the adverse effects of SNS use: deactivating notifications alerts, abstaining from SNS use before bedtime and establishing patterns of healthier SNS usage by switching off the phone or logging out the SNSs during a specific study or work period. Overall, they recommended reducing the time spent with SNSs. Lin and Utz (2015, p. 36) strongly recommend that SNSs users who suffer from high levels of envy or low self-esteem not compulsively use SNSs passively. Conversely, people should focus on viewing more posts from their friends using SNSs, which can boost their happiness. Krasnova et al. (2015, p. 600) point out that consuming social information on SNSs can lead users to experience envy. Therefore, there should be a range of envy management strategies to alleviate the unpleasant emotional state.

Lee-Won et al. (2015, p. 6), based on their findings that social anxiety and the need for safety are predictors of heavy SNS use, suggest that individuals who exhibit these characteristics should be supported in their SNS use, as they need to be more attentive to avoid becoming addicted. Based on their systematic review, Seabrook et al. (2016, p. 9) suggest that the type of content consumed on SNSs and the quality of interactions on SNSs constitute the main drivers influencing increases in mental health and well-being from SNS usage. Besides, they highlight social factors such as positive interaction quality, social connectedness and social support that result from SNS use. The structure of SNS networks also plays an impactful part, as some platforms tend to be more supportive of mental health than others due to social factors (p. 10). Frison and Eggermont (2015, p. 14) recommend that SNS users focus on communicating with other users with whom they have strong ties in a private, safe environment, thereby achieving beneficial outcomes for their well-being.

On the other hand, what should be avoided is communicating with people with weak ties in a public, less confidential environment, as this can be more detrimental to their well-being.

Gerson et al. (2016, p. 820) recommend that users should strive to use SNSs to participate in social actions and engage with other users instead of using the SNS to browse the feed and consume passively. However, since Meier et al. (2020, p. 738) identified that small doses of passive use of SNSs can—through benign envy—evoke inspiration and result in an enhancement of well-being, they recommend that SNS users be more selective in their content exposure, for example, by (un)following specific accounts, to achieve beneficial effects for their well-being. They also urge SNS companies to give users greater control over the content they find on the platform rather than letting an algorithm dictate what is best. Similarly, Brown and Tiggemann (2016, p. 42) recommend selective exposure to specific content. In particular, they advise female SNS users to limit their exposure to images of prominent people and their peers. In addition, many people could benefit from a straightforward elucidation of the effects of SNSs, as the effect sizes can be diminished through conscious processing (see also Want, 2009, p. 257). De Vries et al. (2017) argue that by making people aware of social comparison processes, these can be mitigated and therefore recommend an easy and simultaneously challenging recommendation: “Do not let social comparison be the thief of joy” (p. 240). Also, Kleemans et al. (2018, p. 103) call for disclosures that remind users to be more aware when using SNSs such as Instagram that they are encountering retouched, manipulated images that are not representative of the real world and may have negative effects on users’ well-being.

Tandoc et al. (2015, p. 144) call for more education about the possible risks of using SNSs. Thus, if users, in particular adolescents, become conscious of the potential dangers of using SNSs, they could learn to react in time through self-control and adjust and restrict their consumption. For example, they could understand the negative feeling of envy and apply tactics to deal with it better. Blachnio et al. (2017, pp. 36-37) suggest that specific workshops should be developed to provide vulnerable users acquiring a Facebook addiction with strategies to cope more effectively. Also, Valkenburg et al. (2021, p. 73) call for prevention mechanisms by educating SNS users. In their view, parents and educators have an empowering influence in strengthening the positive impacts of SNS usage and counteracting the adverse ones. For instance, they could support young adults in dealing

with negative feedback and educate them that the world of social media is not as glamorous as it might seem. An intriguing observation is raised by Bhargava and Velasquez (2020, pp. 23-24) of a contractionary picture: while many teenagers are spending several hours a day with technology, screens, and SNSs, the founders and executives of SNSs are choosing to enrol their children to low-tech schools and strictly limit or prohibit the use of SNSs, as they are aware of the harmful side effects.

Based on the emerging evidence from the literature review on research-based recommendations to improve the well-being of SNS users, the next section 3.1 of the methodology introduces the SNS diet and explains how the measures and interventions proposed by researchers have been implemented in a holistic SNS diet.

3 - METHODOLOGY

The following section explains the methodological approach of the present study. First, it introduces and discusses the fundamentals and rationale for the methodical procedure of the present study. Then, the concept used to create the SNS diet for this dissertation is presented. Next, the research hypotheses formulated based on the previous literature review will be stated. Finally, this section describes the research design, the data collection and analysis techniques, and how the primary data was gathered.

3.1 The Present Research

The literature review provided a theoretical background that produced insights into the most critical levers of regulating the consequences of SNS usage. Section 2.4 provided insights and recommendations from previous researchers that need to be considered while developing an SNS diet. The present study aims to combine and synthesise the notable findings and recommendations of earlier studies and implement them holistically in a diet that seeks to promote the positive effects of SNS usage and reduce adverse outcomes. Exploring the positive and negative effects of SNS use in one study follows the call from Meier and Schäfer (2018, p. 415). Meier and Schäfer (2018) requested that future research considers the psychological processes of SNS usage more holistically. Therefore, the positive side of SNS usage should be acknowledged when evaluating the harmful outcomes of SNS usage on users' well-being. Building on Meier et al. (2020, p. 737) findings regarding the positive effects of SNS use, the eudaimonic side of well-being and the differentiation between the two types of envy will be included in the present study.

Moreover, the present study aims to support previous results of cross-sectional studies by applying experimental research with a repeated measure design by conducting a social field experiment, which is still relatively rare in the field, as most previous studies relied on correlations (Odgers & Jensen, 2020, p. 336). Thus, the new SNS diet is intended to be a social field experiment to obtain primary data. It is expected to yield relevant findings that may establish an indicative pattern and causal relationships. While Tromholt (2016) and Hunt et al. (2018) were among the first studies to explore time-limited SNS use, the present study intends to respond to the call of Twenge and Campbell (2019, p. 327). They indicated the continued necessity to conduct experiments to investigate whether limiting the amount of time spent on SNSs translates into enhanced levels of psychological

well-being. Thus, the present study will help narrow the remaining gap between identified correlations and possible causal effects of SNS use. These findings would help to contribute to existing academic research in social studies by further developing a more nuanced understanding of the psychological effects of SNSs usage on users' well-being. Based on the findings, the study seeks to generate a framework that facilitates a more healthy and sustainable approach to the well-being of SNSs users. This dissertation aspires to identify an optimal level of SNS use. While many of the earlier studies exclusively addressed a single SNS, such as Facebook or Instagram, this study responds to the call of Hunt et al. (2018, p. 766) to replicate a part of their experiment with a more prominent inclusion of other SNSs (see also Brailovskaia et al., 2020b, p. 8; Tromholt, 2016, p. 665). By utilising SNS real-time data, as suggested by Seabrook et al. (2016, p. 12); and Hunt et al. (2018, pp. 756-757), the current research will also provide more meaningful insights compared to previous studies that relied on self-reports. It also facilitates the assessment of adherence to the SNS diet.

Based on the researcher's positivist perspective, a cause-effect pattern is assumed for the impact of social networking consumption on well-being (for a better understanding, please refer to the Conceptual Map). In other words, it is assumed that the consumption of specific SNSs results in mediating effects triggered by SNS usage of SNSs. These mediating effects then generate either beneficial or detrimental outcomes that may affect the well-being of the users. For this reason, the SNS diet developed in this dissertation attempts to intervene directly in consumption per se and to influence the mediating effects of consumption so that an improvement in well-being becomes noticeable.

The following eight measures and intervention criteria were identified, which should be considered for the development of an SNS diet:

1. Daily limitation of time spent on SNSs (30 minutes per day) (Hunt et al., 2018; see also Brailovskaia et al., 2020b).
2. Cutting down the number of SNSs used (Primack et al., 2017) & switching off push notifications (Frost & Rickwood, 2017).
3. Seizing and mitigating the effects of social comparisons through conscious processing and reconnaissance (Want, 2009; see also De Vries et al., 2017; Tandoc et al., 2015).

4. Selective exposure to more inspiring content (Brown & Tiggemann, 2016; Meier et al., 2020).
5. Unfollowing influencers and strangers (Baek et al., 2013; Brown & Tiggemann, 2016).
6. Reducing the size of the user's network (Luqman et al., 2017).
7. Moving from passive consumption to active usage (Frison & Eggermont, 2015; Gerson et al., 2016; Lin & Utz, 2015).
8. Focusing on interpersonal relationships (Best et al., 2014; Frison & Eggermont, 2015; Seabrook et al., 2016).

Concrete measures were developed based on the findings of previous researchers and used to create the SNS diet for the study participants. The respective elements were translated into specific instructions and guidelines the participants should implement during the study. Please refer to Appendix A for a comprehensive overview of the SNS diet crafted for this dissertation. Based on the review of the positive and negative effects of SNS consumption on well-being and its underlying determinants, and the research-based recommendations to improve the well-being of SNS users, it is hypothesised that a balanced SNS diet can improve users' well-being by reducing anxiety symptoms well as stress levels. Restricting and adapting SNS consumption will ensure that users encounter fewer uncontrollable situations that trigger anxiety and stress, thereby improving their well-being. The following hypotheses are put forward:

H1: SNS users adopting the SNS diet will experience a significant decrease in (a) their perceived stress and (b) their perceived stress related to SNS usage.
H2: SNS users adopting the SNS diet will experience a significant decline in (a) their general anxiety symptoms and (b) their social anxiety symptoms related to SNS usage.
H3: SNS users adopting the SNS diet will experience a robust improvement in their subjective well-being by exhibiting a significant (a) improvement in their positive affect, (b) decrease in negative affect and (c) improvement in their life satisfaction.
H4: SNS users adopting the SNS diet will experience a robust improvement in their psychological well-being by exhibiting a significant (a) reduction in their meaning experience when using SNSs and (b) reduction in their self-realisation during SNS usage.

H5: SNS users who adopt the SNS diet experience a significant (a) decrease in involvement in social comparisons on SNSs and thus a (b) decrease in benign envy and (c) decrease in malicious envy.

3.2 Research Design and Procedure

In this dissertation, a quantitative research approach was used to investigate and determine the SNS diet's effects and test hypotheses H1- H5 during a field experiment. The study used a repeated measures within-subjects design, a research approach commonly found in psychology, neuroscience, medicine, and the social sciences (Oberfeld & Franke, 2012, p. 792).

This study aimed to test the hypotheses and the feasibility of the various propositions and findings in the real world. Therefore, a two-week field experiment was conducted with repeated measures that required subjects to adjust their SNS use. The field experiment was designed so that each subject was studied across three-time points with one experimental condition to test these five hypotheses. Based on the field experiment results, the SNS diet can be optimised to be more suitable for real-world applications to support and guide SNS users to adopt more sustainable practices in the future. Before the study was conducted, interested participants were identified through a secure Qualtrics pre-registration form (5-minute online survey) shared by the researcher on various SNSs and university groups. Within this form, interested subjects were briefly informed about what they were enrolling for. In addition, demographic data were collected to determine the diversity of the study sample. A pretest of the main questionnaire used in the study was conducted with 7 participants who did not participate in the study.

Four days before the study, all participants who signed up to participate in the experiment received an email. The email informed them about the study period and gave them general information about the procedure. As the initial set-up for the SNS diet required some time, it was essential for them to arrange some time on that day to read through the provided information, fill out the baseline survey, and implement the study's instructions accordingly. They were informed that they would need to follow specific instructions during the two-week study period and complete three questionnaires on the three upcoming Sundays. The participants were instructed to continue to use SNSs as usual until they were informed otherwise with the following email at the start of the study. The

two-week study period began on a Sunday at the end of April 2022 and ended on a Sunday two weeks later.

When the study started, participants received an email containing a link to an external Notion Briefing. The briefing was designed to give the participants detailed but easy-to-understand step-by-step instructions for what they were required to do. Participants first had to consent to participate in the study in the questionnaire that measured the extent of SNS use on participants' well-being. They were told that their participation was voluntary and could stop. There were no questionnaire variations. All participants received the same questionnaire. To measure the participants' progress, they were asked to give a fake pseudonym name, which they will use for all three questionnaires to guarantee anonymity. Participants were asked to enter a random three-digit number combination with the fake name (for example, Peter Douglas 437) to ensure that two participants did not use the same fake name by chance. The fake pseudonym enabled anonymous participation in the study while allowing the researcher to track the participants' survey back to individual anonymous participants throughout the study.

Second, subjects were asked to upload screenshots of their SNS usage to a secure server to measure baseline usage. They were asked for their fake names when submitting the screenshots. The briefing included step-by-step instructions and video recordings to demonstrate and guide the subjects on how to take screenshots on Android and iOS, as well as detailed instructions on uploading the screenshots to the server. Third, after uploading the screenshots, subjects were asked to complete the baseline questionnaire (15-minute online questionnaire), in which they were asked to identify themselves with their fake pseudonym. The precise structure and the questionnaire measures are presented and discussed in section 3.4. In the fourth and final step on the day the study was launched, participants were required to read the instructions of their new SNS diet thoroughly. They were told to follow the instructions for the next two weeks as closely as possible. According to the SNS diet guidelines, they had to set daily time limits for the individual platforms. Ultimately, the briefing informed them they would receive two further surveys the following two Sundays. The subjects were not remunerated for participating in the field experiment. However, they were told that their participation was beneficial for themselves and that their involvement could significantly support the researcher with the master's dissertation.

Participants received a reminder email on the evening of the same day to follow the briefing steps and complete the questionnaire. During the first week, participants were sent two short motivational emails to encourage them to continue the experiment. One week after the participants completed the baseline survey, they received another email with a briefing explaining the importance of participants completing the survey using their chosen fake names from the previous week. Then, it instructed participants to upload screenshots of their SNS usage from the preceding week to the server. Subjects were also required to complete a second survey, almost identical to the previous one, except that the block of the questionnaire assessing demographic data was excluded, and an assessment block concerning the impact of the SNS diet was added. That block was intended to measure the SNS diets' effectiveness and feasibility. The assessment block also included open-ended questions, which allowed participants to comment and report on their experiences with the SNS diet. It also allowed them to report any changes in their lives that may have influenced the project.

The procedure described above was repeated for another week. At the end of week two, the participants received a wrap-up email containing a link to access their final briefing, which was also their debriefing. They had to upload screenshots from the past week and complete another questionnaire one last time. After completing the questionnaire, participants were thanked for their participation. Participants were informed that the study period was over, and they were no longer required to follow the instructions of the SNS diet. However, if they experienced the past two weeks as beneficial for their well-being, they were invited to continue to follow the new SNS diet.

3.3 Sample

3.3.1 Sampling Technique

Considering the time and financial limitations of the master's thesis, a convenience sample was chosen as, with this technique, the research subjects were the most accessible to the researcher. Convenience sampling is a non-probability or non-random selection of subjects of a targeted population. In this sense, these subjects fulfil specific practical and convenient criteria, such as being easily attainable, geographically proximate, obtainable at a given time, or willing to be involved in the study (Etikan et al., 2016, p. 2).

3.3.2 Participants of the Preregistration Survey

Based on the approach described in section 3.3.1, a pre-registration survey was designed to identify participants willing to alter their SNS diet during the two-week field experiment. The researcher distributed this pre-registration survey to various social networks and university groups. With the help of the survey, subjects were identified who expressed willingness to change their SNS use for two weeks and follow the guidelines for sustainable SNS use developed as part of this dissertation. Subjects had to use at least one SNS daily and own a smartphone to qualify for participation. Participants who did not meet these criteria were not able to register. Registration was non-binding, and participants could withdraw at any time or decide not to participate in the study. Through the recruitment process, a sample of n=37 participants (77.5% = age 18-24; 50% female, 45% male, 5% non-binary; 67,5% students; from nine nationalities, 43% German) was identified who met the criteria and were willing to participate in the two-week study.

3.3.3 Participants in the Exploratory Study

Before starting the actual study, participants received information about the study period and the info that they should please deregister with the researcher if they no longer wished to participate. Four of the 37 participants unsubscribed before the start of the study. Eleven participants did not opt-in at all or participate in the surveys. Thus, a total of n = 22 (77.3% = age 18-24; 50% female, 45% male; 68% students; from nine nationalities, 41% German) participants took part in the two-week experiment. However, participation decreased slightly over the two weeks, resulting in only 18 subjects completing the two-week study, yielding a completion rate of 82%. Subjects who withdrew from the field experiment during the study period failed to inform the researcher.

3.4 Measures

The following section deals with the structure of the questionnaire and the measures, scales, and items used for data collection. To overview the items of the questionnaire as well as the criteria used, please refer to Appendix B.

Demographic Data

The demographic data was only collected in the first questionnaire. Four further questions were asked to identify the gender identity, age, profession, and nationality of the subjects. The only element gathered to identify the participants was the fake name and three-digit number combination.

Objective Measure of SNS Usage

Most previous studies have relied on participants' self-reports to track SNS usage and assess their SNS behaviour. This approach may have caused significant retrospective bias (Seabrook et al., 2016, p. 12). The current study employed a method described by Hunt et al. (2018, pp. 756-757) to counteract this bias and assess SNS usage objectively. The participants were asked to upload screenshots within the questionnaire of their weekly phone/battery usage of the specific SNSs. Many mobile phones can monitor the cumulative minutes each application is active on the screen. The user can view the consumption of the last 24 hours or seven days from the battery screen. Participants in the study were given instructions for obtaining the required information with every questionnaire they were required to answer. It must be noted that the researcher could only review the screen time of the participants' smartphones and could not ensure that they spent more time on social networks on other devices.

Use of multiple SNS platforms

Following Primack et al.'s (2017, p. 3) approach to measuring multiple SNS platform use, participants were requested to indicate their usage of the most commonly used SNSs, including Facebook, Instagram, YouTube, TikTok, Snapchat, and Twitter. However, with the adjustment made for platforms that are not common in Europe, SNSs such as WeChat or QQ have been excluded (We Are Social et al., 2022a). Then, the total number of SNSs used by the participants was counted and added to operationalise the variable.

Self-Evaluation of SNS usage

Two items were created to assess the SNS usage from the user's perspective. The first item asked to what extent the participants considered themselves extensive SNS users. Participants were asked to rank their use on a seven-point Likert scale ranging from 1

(does not apply at all) to 7 (fully applies). Users were then asked to complete the following statement, "I consider the daily usage of social networking sites....for my well-being", rating their SNS use as beneficial or harmful on a seven-point Likert scale ranging from 1 (extremely harmful) to 7 (extremely beneficial).

Subjective Well-Being

Based on the understanding of subjective well-being, affective well-being was measured with the 10-item PANAS (Positive And Negative Affect Schedule) validated by Mackinnon et al. (1999, p. 408). Subsequently, on a five-point Likert scale from 1 (not at all) to 5 (extremely), participants were asked to indicate to what extent they had felt a specific emotion in the past seven days. The participant's positive affect was measured by the first five emotional states: excited, inspired, enthusiastic, alert, and determined. The last five emotional states–distressed, scared, upset, nervous and afraid–gauged the negative affect.

Life satisfaction was measured by a single validated item from Cheung and Lucas (2014, p. 2817) to assess subjective well-being more comprehensively. The item asked participants to assess their life satisfaction by responding on a seven-point Likert scale to the question, "all things considered, how satisfied are you with your life at the moment?".

Psychological Well-Being

Based on Huta and Ryan's (2009, p. 735) finding that a combination of hedonic and eudaimonic well-being is likely to reflect the highest level of well-being, it was considered essential to assess both forms of well-being in terms of the impact of SNS use on well-being. For this reason, in addition to subjective well-being, the psychological well-being of the participants was measured and questioned using two scales. First, the meaning experience of participants was conducted with an adapted and shortened four-item version of the initial twelve-item meaning experience scale developed by Huta and Ryan (2009, p. 742). Participants were asked to rate how they experienced their daily SNS usage using the items: "meaningful," "valuable," "precious," and "full of significance." Second, the self-realisation of the participants was assessed with an adapted and shortened four-item version of the Personally Expressive Activities Questionnaire developed by Waterman (2008, p. 236). The items asked participants to indicate how they felt about

using SNSs: “I feel the sensation of being really being alive”, “I feel that it helps me to become who I really am”, “I feel more complete and fulfilled”, “I feel more intensely engaged than I do when engaged in most other activities”. The items of both scales measuring aspects of psychological well-being were rated by participants on seven-point Likert scales ranging from 1 (does not apply at all) to 7 (fully applies).

Social Comparisons

A four-item scale developed by Meier et al. (2020, pp. 734-735) has been loosely adapted for this study to measure the social comparison processes occurring on SNS. The adjusted items from the scale asked the participants to answer to what extent they engage in social comparisons on SNS: “I sometimes feel inferior in comparison to other users”, “I sometimes compare my content with the content of other users”, “I sometimes have the feeling that other users experience more amazing things than me”, “I sometimes compare myself with the content of other users”. The items were rated by participants on a seven-point Likert scale ranging from 1 (does not apply at all) to 7 (fully applies).

Envy

As suggested by the literature review, envy was separated into benign and malicious envy. Envy was measured using a 10-item scale, consisting of five items for benign envy and five for malicious envy, adapted from Crusius and Lange (2014, p. 4). Like the other scales, the participants rated the items on a seven-point Likert scale ranging from 1 (does not apply at all) to 7 (fully applies). Questions asked how much benign and malicious envy the participants felt from using SNSs in the last seven days. The items for benign envy were: “I felt benign envy toward other people’s content on social networking sites”, “I admired the content of others on social networking sites”, “I wanted to create similar content on social networking sites”, “I wanted to have similar experiences shared by other people on social networking sites”, “I felt benign envy toward other people’s experiences shared on social networking sites”. Malicious envy was likewise measured with similar items: “I felt malicious envy towards other people’s content on social networking sites”,” I would have liked to bad-mouthed the content from other people”, “I had hostile thoughts about other people’s content on social networking sites”, “I wished that the other people’s

content would no longer exist", "I felt malicious envy toward other people's experiences shared on social networking sites".

Anxiety

To measure the impact of SNS usage on anxiety, first general anxiety was measured with a shortened 4-item version of the established PROMIS Anxiety scale created by Pilkonis et al. (2011, p. 273), which has been previously positively correlated and validated with the PANAS (Schalet et al., 2014, pp. 93-94). Participants were assessed on the PROMIS Anxiety Scale on how they had felt anxious emotions in the last seven days. The items were "I felt uneasy", "I felt worried", "I felt anxious", and "I felt fearful". These items were scored on a five-point Likert scale ranging from 1 (never) to 5 (always). The cumulative range of potential scores was thus between 4 and 20. Following Primack et al.'s (2017, p. 3) process to rate the severity of anxiety, the raw scores were classified into light, moderate and severe weight tertiles. In line with Primack et al.'s (2017) method, respondents who declared no anxiety were organised as part of the mild anxiety group (raw score = 4). Respondents with a raw score of 5-8 were classified as having moderate anxiety. All participants with a raw score of 9 and higher were ranked in the severe anxiety group. However, the global mean of the scale was used for statistical analyses.

Social Anxiety Scale for Social Networking Site Use (SAS-SNSU)

Additionally, an adapted and shortened version of the Social Anxiety Scale for Social Media Use (SAS-SMU) by Alkis et al. (2017, p. 302) was administered to measure social anxiety related to SNS usage (SAS-SNSU). The initial 21-item scale consisted of four subscales assessing Shared Content Anxiety, Privacy Concern Anxiety, Interaction Anxiety and Self-Evaluation Anxiety. The original phrasing of "On social media" was altered to "On social networking sites" in the present study. The subscale assessing privacy concern anxiety was not included. The remaining scales were adapted and shortened. First, Shared Content Anxiety was measured with five items: "I feel anxious about the fact that others might find my actions awkward, "I am concerned about being ridiculed by others for the content I have shared", "I am concerned about being ridiculed by others for the content I have shared", "I am afraid that my close friends will not approve of my behaviour", "I would feel uncomfortable when my friends publicly express their dislike about the content

I have shared". Second, the Interaction Anxiety of the participants was evaluated with three items: "I feel uneasy while making new friends", "I am afraid of interacting with others", "I feel nervous when I have to talk with others about myself". Third, Self-Evaluation Anxiety was measured with three items: "I feel anxious about making a negative impression on people", "I am concerned about people thinking poorly of me", "I feel anxious about not being able to meet people's expectations". All items were scored on a five-point Likert scale ranging from 1 (never) to 5 (always).

Perceived Stress Scale (PSS)

The Perceived Stress Scale (PSS) by Cohen (1988, pp. 45-46) was used to obtain a general stress measure of the overall stress experienced by participants. The PSS is one of the most commonly used psychological instruments to measure how individuals judge situations in their lives to be stressful (Lee & Jeong, 2019, p. 76). The items in the PSS ask how people perceive elements of their lives as being "unpredictable, uncontrollable and overloaded" Cohen (1988, p. 34). The participants are asked how frequently they feel every item. In the present study, the official 4-item version of the PSS was used instead of the more common 10-item version for simplification and shortening. According to Cohen (1988, p. 46), the PSS-4 exhibits continued good reliability compared to the 10-item version and is well suited for short overall stress measurement. The PSS-4 surveyed participants on a five-point Likert scale on their thoughts and feelings over the past month ranging from 1 (never) to 5 (very often). The items of the PSS-4 consisted of two negative items and two positive stated items. The negative items were: "In the last month, how often have you felt that you could not control the important things in your life?", "How often have you felt difficulties were piling up so high that you could not overcome them in the last month? "The positive items were: "In the last month, how often have you felt confident about your ability to handle your personal problems?", "In the last month, how often have you felt that things were going your way?" The PSS scores are calculated by inverting the responses (e.g. 1 = 5 and 5 = 1) for the two positively worded items (items 2 & 3) and then totalling them across all scale items. The total scores range from 4 to 20, with higher scores suggesting a heightened feeling of stress (Cohen, 1994). However, the global mean of the scale was used for statistical analyses.

Perceived Stress Related to Social Networking Site Use (PS-SNSU)

An adapted and further developed version of Fabris et al.'s (2020, p. 3) scale assessing the sensitivity to stress associated with neglect and adverse reactions by online peers was employed to measure participants' perceived stress related to their SNS usage. Five items from the original scale were adapted for this study. The respondents were asked to indicate on a five-point Likert scale how specific events while browsing SNSs would make them feel in the moment. The items were the following: "I would feel stressed if my posts did not receive comments", "I would feel stressed if my posts did not receive likes", "I would feel stressed if my posts received negative comments", "I would feel stressed if I lost friends/followers on social networking sites", "I would feel stressed if I got kicked out from a group on a social networking site". Two self-developed items further developed the adapted scale: "I would feel stressed if I had to use social networking sites regularly to keep up to date" and "I would feel stressed if I felt I had to post regularly on social networking sites".

Evaluating the SNS Diet

A self-developed assessment block was added to the questionnaire for data collection points two and three, in which the feasibility of the SNS diet was explicitly assessed. Participants in the study were asked to reflect on the last few days and how they felt about following the SNS diet. The first item rated how easily participants were able to follow the new SNS diet, using a seven-point Likert scale ranging from 1 (extremely difficult) to (extremely easy). The second item assessed their feelings about the new SNS Diet compared to the previous week, rated on a seven-point Likert scale from 1 (much worse) to 7 (much better). The questionnaire ended with four open-ended questions that allowed participants to describe their experiences with the SNS diet in more detail. This block provided another opportunity to collect qualitative data. The open-ended questions were the following: "How would you rate the SNS diet - what do you find easy to implement, and what do you find difficult to implement?", "Have you noticed any changes in your well-being with the new diet?", "Have you noticed any problems that you did not expect?", "Is there anything else you would like to say? If so, please answer in a couple of sentences."

3.5 Data Analysis

3.5.1 Compliance

It is important to note here that perfect adherence to the protocol of the SNS diet is difficult to ensure in social experiments conducted in the field. Yet, the benefits of leveraging real-world data in a natural setting were considered a tradeoff for this downside. In the present study, participants were encouraged to follow the SNS diet instructions as closely as possible. Since the SNS diet partly consists of instructions that cannot be measured objectively (e.g. more interaction with people you know), here only recommendations were made to follow these instructions. However, these instructions could only be recorded in the qualitative feedback. Participants were advised to refamiliarise themselves with the SNS diet instructions at each data collection point. Compliance with the timers that restricted the use of the SNSs andverification of restricted platforms used were reviewed via the screenshots submitted by the participants, yet sone participants extended their usage of SNSs and therefore did not directly comply with the diet's instructions. Scrutinising Figure 1, it is clear that SNS usage decreased significantly during the study, yet there were outliers among the participants.

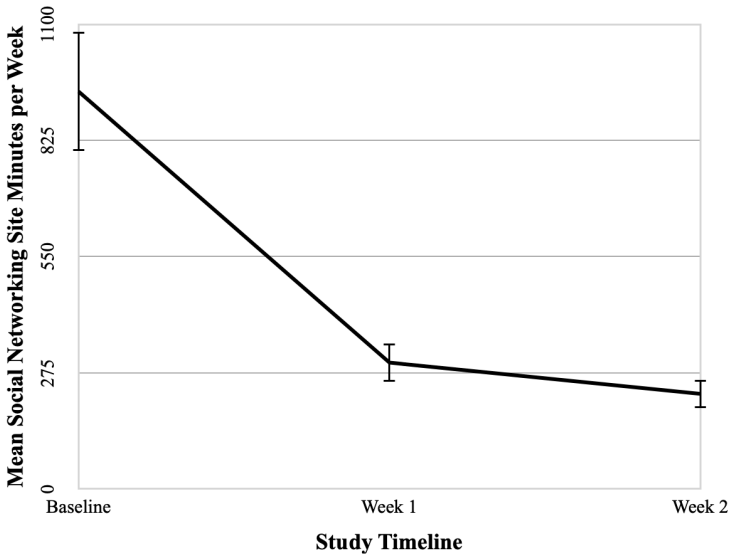


Figure 1: *Total Weekly SNS Screentime Over Time*

In general, however, it can be seen that this fluctuation became substantially smaller in the second week, which suggests that participants first had to get used to the low screen time on SNSs. It should be mentioned that the above figure is only an overview of

participants' screen time on their smartphones and cannot ensure that they spent more time on social networks on other devices. Participants were advised to use only the SNSs on their smartphones during the study period and to delete unused SNS apps for the study period to minimise the likelihood of regular visits to the SNSs. Non-compliance was not considered an exclusion criterion, similar to the approach taken by Tromholt (2016, p. 663). Instead, the participants were kept in the sample to protect the integrity of the two-week experiment. Hence, there was no requirement to perform statistical adjustments to the data to offset the non-compliance.

3.5.2 Data Analysis Techniques Quantitative Data

Statistical analyses were performed using SPSS 28.0 for MacOs (IBM SPSS Statistics). For the data analysis, all participants who completed all three questionnaires were considered.

First, the three data sets were tidied up and put in the same order the participants answered in the first week. The few participants who did not complete all three measurements were removed from the other data sets, resulting in a participant count of n=18. In the following steps, the subjects' SNS use was verified and evaluated with the help of the screenshots. After ascertaining the weekly accumulated platform consumption, totals of SNS usage were calculated for the baseline reading and week one and week two with the SNS diet. As a third step, the positively worded items of the PSS-4 scale were re-coded in all three data sets to calculate global means with the items where possible. The decision was made to use the authors' original scales to keep the survey participants as faithful as possible to the original scale. For example, the PROMIS anxiety scale measured anxiety on a 5-point Likert scale, whereas benign envy was measured on a 7-point Likert scale. This decision enabled the researcher to remain as faithful as possible to the original scale and to guarantee its reliability. However, it required that the scales be standardised prior to data analysis to ensure consistent interpretation of the data. Since most of the items were collected with a 7-point Likert scale, the values obtained on a 5-point Likert scale were re-coded with the help of linear interpolation to a 7-point Likert scale (with 1=1, 2=2.5, 3=4, 4=5.5 and 5=7) (Lewis & Sauro, 2020). This procedure enabled the consistent interpretation of the data for further analysis.

After all data sets were prepared, the reliability analysis in SPSS was run to determine and compute the scales' internal consistency scores and the constructs' validity. Cronbach's alpha was calculated for all scales that contained more than two items. Cronbach's alpha coefficient is among the most used to assess scale reliability (Peterson, 1994, p. 381). The coefficient estimates the systematic variance of a given measurement and indicates the validity of that measure (O'Leary-Kelly & Vokurka, 1998, p. 397). According to Nunnally (1978b), scales scoring under 0.70 should be rejected as they are deemed unacceptable (see also Nunnally, 1978a, p. 119). However, O'Leary-Kelly and Vokurka (1998, pp. 397-398) indicated that often in early research phases, Cronbach's alpha, as low as 0.5, could be assumed. The more commonly reported threshold value of 0.7 was used for this study. If Cronbach's alpha was above the threshold value of 0.7, it was considered that the scale constructs showcased good internal consistency.

After the reliability analysis to determine the internal consistencies of the scales, the global means of the scales were calculated in all three data sets where internal consistency was demonstrated. Due to the small number of participants in this study, which was less than 30, no normal distribution can be assumed. Therefore, whether the scales were suitable for further analysis had to be examined by statistical analysis. Using the Explore function in SPSS, the scales were tested for normality using the Shapiro-Wilk test and Kolmogorov-Smirnov tests and a visual assessment of the data distribution. Shapiro-Wilk has been identified as the more effective and robust measurement to test for normal distribution for small samples, even for $n < 20$ (Shapiro & Wilk, 1965). The prerequisite for establishing statistical significance was the p-value of 0.05, and the null hypothesis had to be rejected if the p-value was above this. If the value was less than 0.05, the null hypothesis had to be confirmed as the results statistically deviated from the normal distribution.

Due to the study's repeated measures within-subjects design, the statistical procedure used to test the hypotheses of the study was the Repeated Measures ANOVA, which is one of the most common methods used in experimental design studies (Huck & McLean, 1975, p. 511; Oberfeld & Franke, 2012, p. 792; Vasey & Thayer, 1987, p. 479). According to Park et al. (2009, p. 1), the standard ANOVA procedure, which uses group means for comparison, is unsuitable for studies with repeated measures designs. Performing a single-group repeated measures analysis requires the satisfaction of three assumptions:

interdependencies between the within-subject observations, multivariate normality and sphericity (Pituch & Stevens, 2016, p. 480; see also Vasey & Thayer, 1987, p. 479). Mauchly's Test of Sphericity is a common and rigorous approach used in research to assess the assumption of sphericity (Mauchly, 1940). However, O'Brien and Kaiser (1985, p. 318) found that Mauchley's W-test can be very sensitive to violations of normality and small sample sizes and therefore fails to recognise deviations from sphericity (Pituch & Stevens, 2016, p. 482; Vasey & Thayer, 1987, p. 481). Given the above, it is crucial to acknowledge that the p-values resulting from univariate F-tests are only correct if the constraining assumptions about the character of the sphericity assumptions are satisfied (Vasey & Thayer, 1987, p. 480). Thus, if the data does not satisfy the assumption of sphericity, "an adjustment to the degrees of freedom of the numerator and denominator can be used for a correction" (Park et al., 2009, p. 3; see also Pituch & Stevens, 2016, p. 481).

The goal of adjusting the degrees of freedom and the respective F-value is to diminish the inflated Type I error rate associated with the violation of sphericity (Pituch & Stevens, 2016, p. 481). The degree to which the covariance matrix diverges from sphericity is determined by the Greenhouse-Geisser epsilon ε (Greenhouse & Geisser, 1959) or the Huynh-Feldt epsilon ε (Huynh & Feldt, 1976). Therefore, if the assumption of sphericity is not satisfied, the df-corrected test results from Greenhouse & Geisser and Huynh & Feldt need to be reported. Both Greenhouse-Geisser and Huynh-Feldt adjusted-df univariate tests were determined as robust alternatives that consider the violation of sphericity (Keselman et al., 2001, p. 5). Maxwell et al. (2004, p. 545) indicate that the Greenhouse-Geisser is prone to underestimating epsilon ε, mainly if the epsilon ε is close to 1. In contrast, the Huynh-Feldt estimator leans to overestimating the epsilon ε. Subsequently, Maxwell et al. (2004) recommend that if a univariate approach is used, the Greenhouse-Geisser correction should be chosen as it adequately accounts for the Type I error, whereas the Huynh-Feldt correction might fail in this regard. Pituch and Stevens (2016) propose that Mauchly's test may be redundant as the Greenhouse-Geisser test accounts for the sphericity violation; therefore, Mauchly's test is unnecessary when employing the Greenhouse-Geisser adjustment method. In this regard, "minimal adjustments are made for minor violations of the sphericity assumption and greater adjustments are made when violations are more severe (as indicated by the estimate of ε)" (Pituch & Stevens, 2016, p. 482).

In contrast, Park et al. (2009, p. 9) indicate that df-adjusted corrections may be insufficient to incorporate correlation effects, resulting in erroneous conclusions in hypothesis testing. They recommend that the multivariate method be chosen if sphericity is not satisfied. The univariate approach should only be selected if the sphericity condition is satisfied. However, if sphericity is granted, "the univariate approach is more powerful" (Pituch & Stevens, 2016, p. 488).

Moreover, Park et al. (2009, p. 4) recommend that if both univariate and multivariate analyses produce divergent results, it is preferable to favour multivariate statistics as it does not require the assumption of sphericity. Also, O'Brien and Kaiser (1985, p. 331; see also Vasey & Thayer, 1987, p. 483) advocate the use of a multivariate approach for studies with repeated measures designs to counter the issues of the univariate approach, as this approach does not necessitate satisfying the requirement of sphericity of the data. According to O'Brien and Kaiser (1985, p. 331, see also Finch, 2005, p. 37; Olson, 1974, p. 906; Pituch & Stevens, 2016, p. 480), the multivariate approach is also considerably robust to violations of normal distributions and parallels the ANOVA's robustness (see Schmider et al., 2010, p. 150). Hence, the "multivariate normality can be violated to a significant degree without seriously affecting the validity of the p values or the powers of the tests" (O'Brien & Kaiser, 1985, p. 331).

Drawing on their simulation research, Algina and Keselman (1997, p. 215) endorse the multivariate approach as opposed to the univariate approach in two scenarios: first, when $\varepsilon \leq .90$ and when the count of repeated measures steps of the factor $K \leq 4$ or less, as long as $n \geq K + 15$ or second, if $5 \leq K \leq 8$, $\varepsilon \leq .85$ and $n \geq K + 30$. In the present study, both prerequisites for the multivariate approach were met with K=3 and n=18, which supported the multivariate approach if $\varepsilon \leq .90$. Similarly, Keppel and Wickens (2004, p. 379) advocate the multivariate option, recognising that is the more common option as it circumvents problems arising from the assumption of sphericity. According to Vasey and Thayer (1987, p. 483), the multivariate approach can be considered accurate for repeated measure design, while the univariate approach can only be classified as approximate due to the sphericity assumption. Oberfeld and Franke (2012, p. 809) demonstrated that the multivariate approach is also a suitable method that controls the Type I error in small sample sizes if the factor level is smaller than the n-value. A limitation of the multivariate repeated measures ANOVA is that it cannot deal with missing data in the data set (Park et

al., 2009, p. 8), but this disadvantage can be ignored as in the present study, only the n=18 participants who thoroughly followed the SNS diet over the entire test period.

For these reasons, the approach by Pituch and Stevens (2016) was used, and the multivariate approach was chosen, as the assumptions of sphericity do not need to be considered, and the "researcher sacrifices little power by using the MANOVA approach" (O'Brien & Kaiser, 1985, p. 331). However, it is recognised that this approach will likely yield the most conservative results. Subsequently, Wilks' Lamda Λ is reported since it is the most commonly noted statistic for multivariate tests (Park et al., 2009, p. 3; Pituch & Stevens, 2016, pp. 177-178). According to Johnson and Wichern (2007, p. 336), Wilks' Lamda Λ shows similar power to Pillai's and Lawley's in moderate sample sizes, although it needs to be acknowledged that in some cases, such as nonnormality of the data, Pillai's statistic may be more robust (O'Brien & Kaiser, 1985, p. 331). In the post-hoc comparison, the pairwise comparison with Bonferroni ($\alpha = .005$) adjusted p-values were analysed to determine where the differences between the means lie. The Bonferroni procedure is commonly reported as the most suitable procedure as it is robust for controlling Type I error rates (Maxwell, 1980, p. 269). Thus, it is recommended by researchers as the preferred method (Park et al., 2009, p. 7; see also Johnson & Wichern, 2007, p. 336; Keppel & Wickens, 2004, p. 379; Pituch & Stevens, 2016, p. 488).

3.5.3 Data Analysis Techniques Qualitative Data

To analyse and dissect the qualitative feedback concerning the usability and practicality of the SNS diet, the data analysis technique of thematic analysis (Boyatzis, 1998) was applied and consisted of a three-step process. In the first step, a preliminary reading was conducted to gain a rudimentary understanding of feedback given by the participants.

After the initial understanding of the feedback was established, themes were developed directly from the questions and hypotheses posed in the first coding round. The following themes emerged: Positive Experiences with the SNS Diet, Complications, and Positive and Negative Effects on the Well-Being of the Participants. Thus, participants' feedback was assessed, and all excerpts were coded that applied to one of the customary units of analysis.

In a further step of the first coding phase, the coded content was scrutinised and analysed to identify subthemes. As soon as several participants gave feedback on a particular point of their experience, a corresponding subtopic was created for both the positive and negative experiences with SNS diet. This procedure resulted in three subthemes related to the positive feedback: Ease of Reduction in Screen Time, Ease of Reduction of Network Size, and Ease of Reduction of SNS Platforms. Four subthemes were identified concerning the negative experiences of the SNS diet: Complications with Habitual Inclinations of Usage, FOMO, Difficulties with Time Restrictions and Complications with Specific Apps/Features. These subthemes led to an even deeper understanding of the participants' experiences.

In a third step, the second round of coding was carried out, in which the data was examined globally in search of new themes that emerged and stood out in the participants' responses, which had not arisen concerning the established themes in the first analysis. In this context, the following four themes emerged: Productivity Improvements, Declining Interest, Coping Strategies and Recognising the Impact of one's Use of SNSs. The findings from the thematic analysis will be discussed in chapter five, which encompasses critical discussion, as they provided conclusive results that should be considered in further studies to strengthen the development of an SNS diet.

3.6 Ethics

The data gathered in this research were collected using the Qualtrics XM platform and its questionnaire tools. All participants were informed about the study's purpose. They were required to provide their consent to participate at the beginning of each questionnaire. Moreover, the researcher informed the subjects before every data collection that their participation was voluntary and that they were free to withdraw from the study at any given time. They were asked to let the researcher know if they no longer wished to participate. In addition, to acknowledge and respect the participants' privacy, the researcher ensured that personal information was kept strictly confidential. The participants' emails were only used to send out the weekly briefings, which contained the links for the questionnaire and the file uploads. The participants were requested to upload anonymised screenshots of their SNS usage to a secure server hosted in Germany. After completing the field experiment and the dissertation, the researcher ensured that all

personal data was deleted. The questionnaires were all completed anonymously: as explained in section 3.2, a random fake name and a number combination that only the participants knew ensured that the research could not trace the results back to an individual participant. This process protected the participants' privacy while enabling the researcher to connect individual participants in an encrypted form. The study was reviewed and approved by the supervisor of this master's dissertation.

4 - RESULTS

This chapter presents the results of the study. All hypotheses were tested with the multivariate repeated measures ANOVA described in section 3.5.2 of the methods chapter. In this chapter, the individual hypotheses are presented and discussed. First, hypotheses H1-H5 are tested for validity, and the corresponding statistical findings are presented. Then the qualitative feedback of the participants is evaluated, and the emerging themes within the feedback are presented in detail. Please refer to APPENDIX C (containing Table A2-A4 and Figure A5) for an overview of the supported and unsupported hypotheses, the summary of the reported statistical results, and the themes from the thematic analysis, which will be described below.

4.1 Stress

First, hypothesis H1 was assessed: SNS users adopting the SNS diet will experience a significant decrease in (a) their perceived stress and (b) their perceived stress related to SNS usage.

4.1.1 Perceived Stress

To explore hypothesis H1a, the effect of the SNS diet on perceived stress, it was first necessary to form a global overall mean indicator. Before the field experiment began, the scale demonstrated good internal consistency with Cronbach's alpha of 0.82 for the total stress construct. However, the reliability analysis indicated that the scale had very poor internal consistency in the measurement during and after the diet, with Cronbach's alpha of 0.40 and -0.02. It should be noted that even removing various items failed to improve Cronbach's alpha sufficiently to exceed the threshold of 0.7. Due to the impossibility of forming a global mean indicator for stress, the PSS variable could not be used for further analysis, and hypothesis H1a was not supported. SNS users adopting the SNS diet did not experience a significant decrease in their perceived stress symptoms.

4.1.2 Perceived Stress Related to SNS Usage

The global mean construct had to be formed for the effect of the SNS diet on the perceived stress related to SNS usage to assess hypothesis H1b. The PS-SNSU demonstrated a good internal consistency for all three measurements, with Cronbach's

alpha of 0.76, 0.82 and 0.78. Due to the sample size of n=18, the scale had to be assessed for normal distribution. A Shapiro-Wilk test (p >.05) for the PS-SNSU factor as well as a visual assessment of the histograms, normal *Q-Q* plots and box plots revealed that the factor was approximately normally distributed, $W(18)=.942$, $p=.315$, $W(18)=.922$, $p=.139$ and $W(18)=.939$, $p=.243$. Then, a within-subjects multivariate repeated measures ANOVA was conducted to compare the effect of the SNS diet on *PS-SNSU* before, during and after the field experiment (BL-W1-W2). The analysis indicated that there was not a significant effect of the SNS diet on the *PS-SNSU* values, *Wilks' Λ*=.717, $F(2,16)=3.165$, $p=.069$, *partial η2*=.283. For this reason, hypothesis H1b was not supported: Adherence to the SNS diet did not significantly reduce participants' perceived stress related to SNS use.

4.2 Anxiety

Second, hypothesis H2 was addressed: SNS users adopting the SNS diet will experience a significant decline in (a) their general anxiety symptoms and (b) their social anxiety symptoms related to SNS usage.

4.2.1 General Anxiety

To explore hypothesis H2a, the effect of the SNS diet on anxiety, first, participants' raw scores were classified according to Primack et al. (2017, p. 3) to get an overview of the participants' anxiety classifications. The participants were classified into three terciles (light, moderate, and severe). For a visual overview, please see Figure 2 below. Before the field experiment, only one participant was classified in the mild segment, five subjects were considered to belong to the moderate anxiety group, and 12 participants were ranked in the severe anxiety group. A slight shift within the anxiety classification is observable one week into the field study. During the study, the mild group remained with only one subject. The moderate group grew from five participants to ten participants. Only seven participants remained in the severe group. This trend became even more pronounced in the last week and the end of the field experiment. After following the SNS diet for two weeks, four participants belonged to the mild anxiety group, eight remained in the moderate group, and only six stayed in the severe anxiety group.

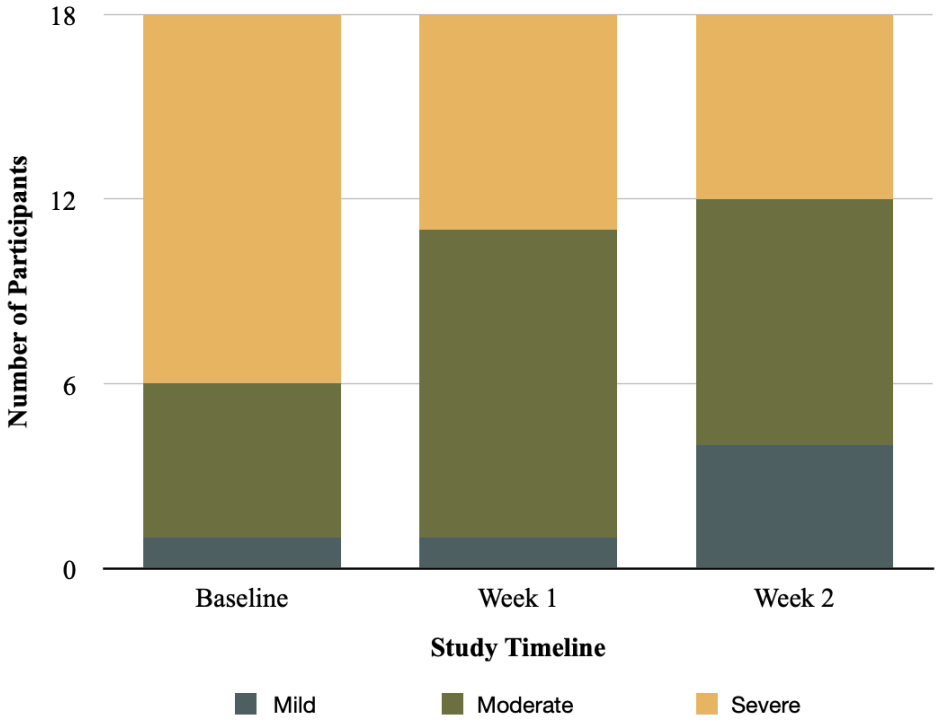


Figure 2: *Anxiety Classification of the Sample According to Primack et al. (2017)*

While the descriptive classification of the data provided the first overview, the hypothesis remained to be tested. The factor for anxiety showed good internal consistency in all three data collection periods, with Cronbach's alpha of 0.89, 0.75, and 0.81, respectively. First, the indicator for anxiety was formed. Then, the factor was again checked for its normal distribution in all three periods. A Shapiro-Wilk test ($p > .05$) for the overall anxiety factor and visual evaluation of the histograms, standard *Q-Q* plots and box plots demonstrated that the factor was roughly normally distributed before and during the field experiment, $W(18)=.952$, $p=.465$ (BL) and $W(18)=.937$, $p=.253$. However, the measurement after was slightly below the threshold value of $p=.05$, $W(18)=.895$, $p=.047$. However, the visual inspection revealed an identifiable tendency towards normal distribution. Considering the proven robustness of MANOVA for non-normally distributed data as presented in the methodological section, it was deemed appropriate to bring the data for anxiety forward for the subsequent analysis phase (Finch, 2005, p. 37; O'Brien & Kaiser, 1985, p. 331; Olson, 1974, p. 906). A within-subjects multivariate repeated measures ANOVA was performed to further compare the effects of the SNS diet on the participants' overall anxiety before, during and after the field experiment. The analysis of

variance indicated that there was a significant effect of the SNS diet on the scores for anxiety in at least one of the time points, Wilk's Λ=.472, F(2, 16)=8.947, p=.002, partial $\eta 2$=.528. The pairwise comparison with Bonferroni (α=.005) adjusted p-values revealed that the mean scores for anxiety significantly decreased from BL (M= 3.44) to W1 (M=2.60), I-J=.833, p=.009. The means also considerably changed from BL compared to W2 (M=2.33), I-J=1.104, p=.002. However, the values did not significantly change from W1 to W2, I-J=.271, p=.826. Thus, hypothesis H2a can be supported: Adherence to the SNS diet resulted in SNS users experiencing a significant decrease in their overall anxiety symptoms.

4.2.1 Social Anxiety Concerning SNS Usage

The factor for social anxiety concerning SNS use showed good internal consistency in all three measures, with Cronbach's alpha of 0.93, 0.92 and 0.95. However, the Shapiro-Wilk test (p>.05) and the visual examination of the histograms, standard Q-Q plots and box plots suggested that the factor was not normally distributed, W(18)=.891, p=.039, W(18)=.881, p=.028, W(18)=.885, p=.032. Thus, the assumptions for conducting the multivariate repeated measures ANOVA were not given. For this reason, H2b was not supported.

4.3 Subjective Well-Being

Hypothesis H3 posited: SNS users adopting the SNS diet will experience a robust improvement in their subjective well-being by exhibiting a significant (a) improvement in their positive affect, (b) decrease in negative affect, and (c) improvement in their life satisfaction. The hypothesis was divided into H3a, H3b and H3c and assessed individually.

4.3.1 Positive Affect

The positive affect scale demonstrated good internal consistency for all three measurements with 0.69, 0.83, and 0.73, respectively. Although in the baseline measurement, Cronbach's alpha was below 0.7, the internal consistency of the items was nevertheless accepted, given that in the subsequent two weeks, Cronbach's alpha showed persistently high values above 0.7. A Shapiro-Wilk test (p>.05) for positive affect and visual evaluation of the histograms, standard Q-Q plots and box plots showed a

non-significant departure from normality for all the measurements, $W(18)= .967$, $p=.733$, $W(18)=.936$, $p=.250$, $W(18)=.953$, $p=.466$. Thus, the normality assumption was given in all three data collection points. Then, a within-subjects multivariate repeated measures ANOVA was carried out to compare if the changes in positive affect were significantly different before, during and after using the SNS diet. The analysis suggested that the changes in the means for positive affect were not significant, *Wilk's* $\Lambda=.888$, $F(2, 16)=1.008$, p=.387, partial $\eta 2=.112$. Therefore, hypothesis H3a was not supported: Following the SNS diet did not significantly improve the participants' positive affect.

4.3.2 Negative Affect

The negative affect scale exhibited a high internal consistency through the reliability analysis in SPSS with Cronbach's alpha of 0.87, 0.88 and 0.88. The normal distribution analysis through the Shapiro-Wilk test ($p >.05$) for negative affect and the visual interpretation of the histograms, standard *Q-Q* plots and box plots pointed to a normal distribution for the BL and W2 measurements, $W(18)=.949$, $p =.415$, $W(18)=.905$, $p=.069$. However, the Shapiro-Wilk test revealed a significant departure from normality for the W1 measurement, $W(18)=.857$, $p=.011$. In contrast to anxiety, there was no discernible tendency towards normal distribution during the W1 measurement for negative affect. For this reason, despite the robust support of the literature, it was decided that the prerequisite of the repeated measures ANOVA was not met because W1 deviated excessively from a normal distribution. Subsequently, H3b was not supported: Following the SNS diet did not significantly reduce negative affect among participants.

4.3.3 Life Satisfaction

The single item for life satisfaction was examined for its normal distribution in the three measurements to investigate sub-hypothesis H3c. The Shapiro-Wilk test ($p>.05$) and the visual examination of the histograms, standard *Q-Q* plots and box plots suggested that the factor of life satisfaction did significantly diverge from a normal distribution during and after the SNS diet, $W(18)=.805$, $p=.002$ and $W(18)=.892$, $p=.041$. At the same time, the baseline measurement before was normally distributed, $W(18)=.923$, $p=.145$. Thus, the assumptions for running the multivariate repeated measures ANOVA were not given, and

H3c was not supported. Following the SNS diet did not significantly improve participants' life satisfaction.

4.4 Psychological Well-Being

In addition to subjective well-being, this study also took a closer look at the impact of the SNS diet on psychological well-being. Thus, hypothesis H4 were tested: SNS users adopting the SNS diet will experience a robust improvement in their psychological well-being by exhibiting a significant (a) reduction in their meaning experience when using SNSs and (b) reduction in their self-realisation during SNS usage.

4.4.1 Meaning Experience concerning SNS Usage

The meaning experience scale showed high internal consistency in the reliability analysis with Cronbach's alpha of 0.81, 0.94 and 0.90 and enabled the formation of a global overall mean indicator. Moreover, the Shapiro-Wilk test (p>.05) and the visual interpretation of the histograms, standard *Q-Q* plots and box plots specified that the results did not significantly diverge from a normal distribution in all three measurements, $W(18)=.957$, $p=.552$, $W(18)=.955$, $p=.512$, $W(18)=.934$, $p=.233$. Thus, the prerequisites for further analysis were fulfilled. A multivariate repeated measures ANOVA was performed to compare the effects of the SNS diet on meaning experience concerning the SNS usage of the users before, during and after. The repeated measures ANOVA determined that the means for meaning experience did not differ statistically significantly between the three measurement points, *Wilk's Λ*=.753, $F(2,16)=2.631$, $p=.103$, partial $\eta 2=.247$. Subsequently, hypothesis H4a was not supported: Adherence to the SNS diet did not lead to SNS users experiencing a reduction in their meaning experience.

4.4.2 Self-Realisation on SNSs

The self-realisation scale demonstrated high internal consistency in the reliability analysis with Cronbach's alpha of 0.81, 0.92, and 0.92, enabling the formation of a global overall mean indicator. The Self-Realisation scale was then tested for normal distribution. The Shapiro-Wilk test (p>.05) for self-realisation and the visual evaluation of the histograms, standard *Q-Q* plots and box plots showed no significant departure from normality for all the measurements, $W(18)=.937$, $p=.258$, $W(18)=.897$, $p=.051$,

W(18)=.944, *p* =.338. Then, a multivariate repeated measures ANOVA was conducted to compare the effects of the SNS diet on self-realisation before, during and after the field experiment. The analysis of variance revealed there were statistically significant differences between the three measurements, *Wilk's Λ*=.289, *F*(2,16)=19.694, *p*<.001, partial η2=.711. The pairwise comparison in the post hoc analysis with Bonferroni (*α*=.005) adjusted p-values suggested that mean scores for self-realisation significantly increased from BL (*M*=2.667) to W1 (*M*=4.764), *I-J*=-2.097, *p*<.001. Mean scores also changed significantly from W1 to W2 (*M*=2.847), *I-J*=1.917, *p*<.001. Mean scores did not significantly change from BL to W2. Although the changes were statistically significant, hypothesis H4b was not supported because it is a directed hypothesis. The repeated measures ANOVA and post hoc analysis did not reveal any significant reduction in the SNS diet in BL and W2. The significant increase during the SNS diet contradicts the assumption. Self-realisation increased significantly during the SNS diet. This result is taken up and discussed in the discussion of this dissertation.

4.5 Social Comparisons and Envy

Finally, hypothesis H5 was investigated: SNS users who adopt the SNS diet experience a significant (a) decrease in involvement in social comparisons on SNSs and thus a (b) decrease in benign envy and (c) decrease in malicious envy.

4.5.1 Social Comparisons

The social comparison scale exhibited good internal consistency in the reliability analysis using Cronbach's alpha of 0.80, 0.84 0.89, thus permitting the construction of an overall global mean. The Shapiro-Wilk test (*p*>.05) for social comparisons on SNSs and visual analysis of histograms, standard *Q-Q* plots and box plots demonstrated no significant departure from a normal distribution for all measured time points, *W*(18)=.962, *p*=.644, *W*(18)=.955, *p*=.516, *W*(18)=.929, *p*=.187. A multivariate ANOVA with repeated measures was conducted to compare the effects of the SNS diet on *social comparis*ons before, during and after the field experiment (BL-W1-W2). The analysis results indicated that the three measurements' mean indicators were statistically significantly different, *Wilk's Λ*=.661, *F*(2,16)=4.096, *p*=.037, partial *η2*=.339. In a post-hoc analysis, pairwise comparisons were conducted with Bonferroni (*α*=.005) adjusted p-values, which indicates

that mean scores for social comparisons decreased significantly from BL (*M*=4.38) to W1 (*M*=3.50), *I-J*=.875, *p*=.044. Mean scores also changed significantly from BL to W2 (*M*=3.35), *I-J*=1.917, *p*=.029. Mean scores did not change significantly from W1 to W2. The pairwise comparison showed that hypothesis H5a was supported: Adhering to the SNS diet significantly reduced users" engagement with social comparisons on SNSs.

4.5.2 Benign Envy on SNSs

The benign envy scale demonstrated good internal consistency in the reliability analysis with Cronbach's alpha of 0.89, 0.87 and 0.87, which enabled the formation of a global overall mean indicator. The Shapiro-Wilk test (*p*>.05) for benign envy as well as the visual examination of the histogram, standard *Q-Q* plots and box plots demonstrated no significant divergence from a normal distribution for all time points measured, *W*(18)=.973, *p*=.843, *W*(18)=.938, *p*=.267, *W*(18)=.958, *p*=.570. A multivariate repeated measures ANOVA was performed to compare the effects of the SNS diet on benign envy on all three measurements: before, during and after the field experiment (BL-W1-W2). The ANOVA indicated a statistically significant effect of the SNS diet on benign envy, *Wilk's Λ*=.366, *F*(2,16)=13.835, *p*<.001, partial *η2*=.634. In a post-hoc analysis, pairwise comparisons were made with Bonferroni (α=.005) adjusted p-values, indicating that mean scores for benign envy decreased significantly from BL (*M*=4.59) to W1 (*M*=3.23), *I-J*=1.37, *p*<.001. Mean scores have also changed significantly from BL to W2 (*M*=3.13), *I-J*=1.47, *p*<.001. In contrast, the mean scores did not significantly change from W1 to W2. Pairwise comparisons indicated that hypothesis H5 was supported: Adherence to the SNS diet led to a significant decrease in benign envy.

4.5.3 Malicious Envy on SNSs

Malicious envy also demonstrated a good internal consistency in the reliability analysis with Cronbach's alpha of 0.84, 0.89 and 0.94. However, the normal distribution examination using the Shapiro-Wilk test (*p*>.05) as well as the visual inspection of the histograms, standard *Q-Q* plots and box plots, the factor for malicious envy suggested to diverge from a normal distribution for all three measurements significantly, *W*(18)=.831, *p*=.004, *W*(18)=.764, *p*<.001, *W*(18)=.640, *p*<.001. For this reason, hypothesis H5c was not supported, as the data could not be further investigated to support the hypothesis. The

findings from the quantitative analysis are discussed in detail in the next chapter, critically reflected upon and related to existing literature. Before engaging in a critical discussion, the qualitative feedback of the participants about the SNS will be reviewed and evaluated alongside the statistical findings. The insights gained from the qualitative evaluation should be considered an additional approximation to support the conclusions of the statistical hypotheses.

4.6 Feedback on the SNS Diet

This section discusses the findings that emerged from the quantitative items and the thematic analysis of the qualitative feedback.

4.6.1 Quantitative Feedback on the SNS Diet

After completing the first week of the field experiments successfully, 70% of the subjects found it challenging to comply with the diet, of which 45% considered it moderately or extremely difficult. The assessment concerning the difficulty of adhering to the SNS diet decreased slightly in the second week, as about 62% of the respondents rated the SNS diet as complex to adjust to, of which 39% rated it as moderately or extremely difficult.

Interestingly, and seemingly independent of the difficulty of getting used to the SNS diet, 50% of the participants reported feeling better while on the SNS diet after only one week. Among this 50%, the vast majority, i.e. 30 %, indicated that they felt somewhat better). The single largest segment was 35% of participants who reported feeling the same, and 15% said they felt worse following the SNS diet. This trend continued to increase after two weeks of using the SNS diet: 78% of the participants reported feeling better by following the SNS diet, of which 45% reported feeling moderately or much better. These findings align with the subjects' willingness to continue following the diet even after the experiment was completed, as 78% of participants said they would consider continuing to follow it.

4.6.2 Thematic Analysis

It is important to note that the results derived from the thematic analysis concerning the feedback on the SNS diet cannot be divided into solely positive and negative

experiences. While some participants had a consistently positive experience with following the SNS diet and some had a negative experience, most participants had both positive and negative feedback about the SNS diet. As the methodological approach elaborated, the coding was done in two phases. The first phase served to identify themes directly related to the questionnaire questions. The second coding round looked at the data globally and explored emerging findings. In the following, the themes are discussed. For an overview of the themes and the frequencies, please refer to Appendix C, Figure A5.

4.6.2.1 First Round of Coding

In the first round of coding, the themes of *Positive Experiences, Complications, and Positive and Negative Consequences related to well-being* were derived from the questions from the questionnaire. These themes sought to understand the practicability of the SNS diet and the issues the participants encountered. Then, the broad themes of positive experiences and complications with the SNSs were coded into various sub-themes. The holistic composition of *Positive Experiences* was then subdivided into three sub-themes: *Ease of Reduction in Screen Time, Ease of Reduction of the Online Network Size, and Ease of Reduction of SNS Platforms*. The holistic theme of *Complications* was coded into four sub-themes in a second step: *Complications with Habitual Inclinations, FOMO, Difficulties with Time Restrictions and Complications with Specific Apps/Features*.

Ease of Reduction in Screen Time and SNS Platforms

Setting a timer to limit and regulate SNS usage can be summarised as "smart" and "helpful". Ten participants indicated that they were able to quickly reduce their time on SNSs and adjust to the new time limit. For instance, one subject explained, "it was easy to implement the time restrictions and accept it when the time was used". Another participant said that reducing screen time on SNSs led to a significant decrease in their overall screen time; they also commented that dialling down the SNS usage "was surprisingly easier than expected". Similarly, another subject said that "it was rather easy to stop scrolling" SNSs, and a third mentioned that "it was much easier to reduce the usage of social media once we got aware of how much time we spend there". The second sub-theme that emerged, feedback on limiting the quantity of SNS platforms, goes hand in hand with the first sub-theme. With this in mind, three participants indicated that they had no problems giving

up the use of some of their SNS platforms. For instance, it was stated that "it was surprisingly easy to do without social networks at the beginning". However, it became evident that the reduction of SNS networks was more manageable with some SNSs than others. One participant stated that "it was easy to stop using some social media such as TikTok, YouTube, and I was kind of surprised" however, they experienced difficulties "to stop going on Instagram whenever I have a minute", a sub-theme of complications that will be discussed in more detail later on.

Ease of Reduction of the Online Network Size

Another essential dimension of the SNS diet was reducing the size of participants' online networks, in many cases, the people an SNS user is following. Cleaning up one's network and assessing the people one is following was considered valuable and a positive dimension of the SNS diet. In the open-ended questions, three participants particularly mentioned the ease of this instruction. For example, one participant said they could "delete or hide accounts from stars and influencers" quickly, which did not seem to add value to their personal lives. One participant agreed with this position as they mentioned, "It was easy and good for me to look at whom I follow and unfollow unnecessary accounts." Another participant summarised their overall experience with the SNS diet, that they "learned to be more aware of what content is valuable and what is unnecessary and a waste of time." In alignment with the quantitative data, the qualitative feedback shows that most people experienced difficulties adapting to the new diet during the first week, which are discussed below. However, after a short period of familiarisation, twelve participants consistently admitted that the second week had been significantly more pleasant for them and that they were becoming more accustomed to the diet's restrictions.

Complications with Habitual Inclinations of SNS usage

Five participants reported experiencing complications while adapting to the SNS diet due to their regular usage of SNSs. Before the experiment, subjects were used to spending more time on SNSs. Therefore, "it was really hard not to click on the apps," one participant reported, especially in the beginning. Another subject reported that they did not experience any issues cutting down screen time with SNSs. However, it was "challenging to stop using the phone." Four additional participants shared similar experiences. One subject

reflected that it was particularly challenging to control the reflex of constantly checking their phone in situations where they did not know what to do, while another subject stated that instead of using SNS, they started using other internet sites or games.

Fear of Missing Out (FOMO)

Three subjects experienced Fear of Missing Out during the time they were following the SNS diet. One of the participants even mentioned this explicitly when they said, "the second week, I had more FOMO and felt I was not enough informed." The others experienced FOMO as they were missing out more on the lives of their friends because they spent less time on SNSs. They said they find it hard "to follow what my friends are doing through stories and posts that I mostly miss now." Another subject reflected that even though they had a good experience following the SNS diet, reducing their time on SNSs might affect their relationships with their friends as "some friends live heavily in social media and when we do not use it anymore that often, one might miss out things that happen in some friend's life."

Difficulties with Time Restrictions

One of the most frequent complaints or problems with the SNS diet can be traced back to the theme of time limits on use. Eight participants described it as very difficult to adhere to the time restrictions and were often unable to stick to the recommended 30-minute daily limit. One participant reported that "it is hard to reduce the usage to three platforms and 30 minutes a day", and another agreed that "reducing the time on each platform was difficult." One of the reasons why the participants struggled so much is that they often drastically changed their social networking site use to follow the SNS diet. One participant also reflected on this finding: "It's challenging to change your daily social media consumption drastically; it's something that I'm used to doing when I'm bored and having a time limit made me want to use it more." In addition, one participant stated that their work demanded them to use SNSs, and therefore they could not always comply with the limit. Even participants who did not experience any issues with reducing their time on SNS reported it as "annoying to be restricted". One of the reasons for these difficulties is related to another sub-theme: complications with some specific SNSs apps and features, which is presented in the next section.

Complications with specific SNS Apps/Features

Eight subjects had problems cutting down their time on social networks due to specific features of the SNSs. It seemed it was extremely difficult for the participants who heavily used YouTube and those who frequently used the "social features" of the SNSs, such as instant messaging on Instagram or Snapchat. Thus, three participants stated that "it was particularly challenging that YouTube was classified as a social network" as they were using YouTube not as a social networking site but as a platform for their university to learn and entertain themselves. For this reason, they experienced some problems complying with the diet. Another participant reported using YouTube solely to listen to music and, thus, started to exclude it from the time restrictions so they could continue to listen to music. Five participants had problems with the time limit, as they were used to having contact with some of their friends exclusively via specific social networks. One participant said they found it "difficult to keep in touch with friends when they only answer on Instagram/Snapchat, and I still want to use these platforms normally." Another subject stated, "I use Instagram a lot as an Instant Messaging platform, so 80% of my social media time was used for messaging". Another respondent agreed that the selection of networks was challenging for them as "I only communicate with certain people via certain sites. It was also difficult for me to give up YouTube, which I personally use more as a platform for watching videos and not interacting with the people there."

Positive Changes and Negative Changes in Well-Being

The positive changes in the participants' well-being due to following the SNS diet varied from individual to individual and were experienced slightly differently by each person. 12 participants, however, expressed a positive response to adhering to the SNS diet. For instance, one of the SNS diet dimensions was engaging with more inspirational content. Given this aspect, one participant described this empowerment as having a "positive impact" on their well-being, such as feeling "lighter". Similarly, another participant found that the positive effects of the SNS diet were that their life became significantly "calmer". Furthermore, they said that "after two weeks, I can truly say that my well-being has progressed in a good way." Another participant reported that they had more free time due to the SNS diet and therefore engaged in healthy activities such as going for walks or reading a book more often. Moreover, one participant reported that they

could get more sleep since their daily limit of SNS usage was already consumed by the time they went to bed. At the same time, another subject observed that their FOMO was decreasing by the time they adjusted.

While one can classify most of the feedback on the impact on the well-being of using the SNS diet as positive, a few participants also had negative responses about the effects. Three participants reported that they experienced the time restriction as a "stressful" event. One stated that they felt stressed because "after a long day of work, I just wanted to consume content and do brainless scrolling", as if the SNS use led to a relaxation of the body, which the participant was prevented from experiencing by the SNS diet.

4.6.2.2 Emerging Insights

In the second coding phase, the participants' feedback was examined to identify the extent to which their feedback produced new insights that were not considered in assessing the practicability and effects of the developed SNS diet. Here, four additional themes were identified during the second coding phase: *Productivity Improvements, Decreasing Interest, Coping Strategies and Recognising the Impact of One's Use of SNSs*.

Productivity Improvements

A very interesting theme that emerged during the second coding round was that nine participants reported that they experienced significant increases in their productivity and a reduction in procrastination as a consequence of following the new SNS diet. For instance, one participant commented that "the new diet reduced my time on procrastination". Another participant claimed they could "get up from bed a lot quicker and did not lose and waste my time, and I didn't procrastinate". Similarly, one participant reported they were more productive due to "fewer distractions". The statement "I was much more productive" was consistently echoed by four participants. Another participant shared their improvements as being more "determined" and "confident". One participant also said they felt happier as they could "spend more time on studying" and felt "less obliged to click on a certain app on the phone as a habit".

Decreasing Interest in SNS Usage

Another emerging theme from the feedback in the second round of coding revealed that five participants reported that they started noticing less interest in using SNSs after a short period of habituation or even forgot about it. For example, one of the participants remarked in their feedback that they found themselves "being less interested in SNSs and forgetting it exists." Another participant explained that by using the SNS diet, "I feel less like I have to be on social media." As mentioned above, twelve participants experienced the second week as more pleasant and feasible. One participant said they no longer think about social networking sites as often as the following: "the second week went so much easier that I did not experience any problems. I did not even think of social media that much anymore." Similarly, another participant reported that the "urge to check Instagram randomly" decreased in the second week.

Coping Strategies

The third theme that emerged, which seems of particular importance, is that of coping strategies. Eight participants began to look for other ways to distract themselves or replace their SNS consumption with something else due to the limited time they could use SNSs. For instance, one of them said that they experienced the urge to check their phones randomly, especially in the beginning. They reported that controlling "this reflex this first week was really challenging." One subject said they experienced difficulties finding "something that keeps you busy or entertained once the daily 30 min of social media are used up." To withstand the boredom or urge to use SNSs, a participant explained that "every time I felt the need to use social media, I listened to podcasts instead."

Similarly, others described a rising desire to "use other platforms as an escape like Google or WhatsApp." Also, another participant explained that they usually use SNSs to kill time and therefore started "to watch movies/play games instead of it." Another participant stated that instead of using SNSs, they ended up "going through other websites as a replacement."

Recognising the Impact of One's Use of SNSs

The final theme that emerged is the awareness of the impact of SNS on well-being. Twelve participants reported that through the SNS diet, they developed a greater awareness

of the impact of SNS use on their well-being. Many reported that the SNS diet was the first time they actively assessed their SNS consumption. One participant reflected that the SNS diet "was a bit extreme at first sight, but it was a good way to raise awareness about the impact of social media on our daily life, and how much time we spend on them". Another participant commented on their experience with the SNS diet that it "was incredible seeing how often I used SNS and how much time I wasted on them". Another insight from a different subject was that they realised they were "spending too much time on Instagram especially and that I could use this time in a more meaningful activity". It can be observed that those participants reported their insight of spending too much time on SNSs and claimed that by adapting to the SNS diet, they learned to use the SNSs "more mindfully and a lot less than before", as described by one participant.

In summary, the qualitative feedback demonstrated positive and negative experiences with the SNS diet and different effects on the well-being of the participants during the experiment. The second coding round helped identify global themes not considered in the diet assessment. By undergoing this experiment, several participants learned more about the effects of their SNSs usage on them. They realised that the use of SNSs can produce harm for some people while it can have a positive impact on others. However, it is vital to be aware of both. These findings will be taken up in a critical discussion in the next chapter and contextualised with the existing research.

5 - DISCUSSION, LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This chapter aims to discuss and critically review the findings from the study and attempts to contextualise them within the theoretical framework. The limitations of the study are also discussed, as well as the potential implications for future researchers dealing with the effects of SNS usage on the various scopes of well-being.

5.1 Discussion of Findings

This dissertation followed the call of various researchers (Luqman et al., 2017; Meier & Schäfer, 2018; Odgers & Jensen, 2020; Sriwilai & Charoensukmongkol, 2015; Vannucci et al., 2017) to investigate the adverse and positive effects of SNS usage in one holistic study, thus contributing to bridging the remaining gap in research concerning the various effects of SNS use. Several empirical findings and insights from previous studies were combined to develop an all-encompassing SNS diet, a first attempt to balance the effects on well-being. Tromholt (2016, p. 665) found that, for example, stopping the use of Facebook improved the well-being of SNS users. While this crucial finding points to the negative impact SNSs can have on well-being, completely abstaining from SNSs is often impractical in everyday life. Thus, the main objective of the SNS diet was to identify a viable and feasible approach that supports SNS users in strengthening the positive outcomes of SNS usage. The SNS diet was also constructed to reduce the adverse effects of SNS usage identified through previous studies.

5.1.1 Stress and SNS Usage

As illustrated by the literature review, excessive SNS use has been associated with experiencing stress (Marino et al., 2018, p. 277). Hence, the SNS diet was designed to reduce the potential for excessive SNS usage by limiting the amount of time spent on SNSs and the number of platforms that could be used. Based on these findings, it was anticipated that if users adopt the SNS diet, they will experience a decrease in their overall perceived stress and perceived stress related to using SNSs. However, these assumptions could not be upheld in the present study. The scale assessing participants' perception of stress could not be aggregated into a global factor because of the poor internal consistency of the items. A

possible explanation may be found in the feedback from the participants. Some participants reported feeling “lighter and happier” and, therefore, less stressed. Others noted that reducing SNSs led to experiencing increased stress, similar to withdrawal symptoms. These withdrawal symptoms might have led to higher stress symptoms and resulted in the scale no longer showing any internal consistency in the measurement during and after the diet. For this reason, the effects of stress could not be adequately investigated with the multivariate repeated measures ANOVA. The feedback from the participants is taken into consideration below to gain a deeper understanding of their experience. As mentioned in the literature review, some studies have pointed to connections between the experience of daily stress from school, study, and work and the extensive use of SNSs such as Facebook. Analysis of the qualitative data showed that some participants felt restricted in their autonomy, as they could no longer use SNSs at any time, when and for as long as they wanted. One participant stated that they missed the “brainless scrolling” on SNSs when they had a long and stressful day at work. This finding relates to Brailovskaia et al.’s (2019b, pp. 170-171) finding that individuals who experience daily stress are more prone to become extensive SNS users. Interestingly, based on the feedback, it can be argued that participants who experience a large amount of daily stress use SNSs as an outlet to relieve their stress before the study. In this context, Reinecke et al. (2011, p. 192) have shown that media entertainment positively affects psychological well-being by supporting stress management, which strengthens this argument. In summary, since no global mean for stress has been formed, these considerations should only be seen as an approximation, but these conclusions cannot be generalised.

In contrast, the construct for perceived stress related to SNS usage could be used for multivariate repeated measures ANOVA. Although the global mean score decreased over time, the ANOVA showed that these mean differences were not statistically significant, and the hypothesis testing the association between the SNS diet and perceived stress related to SNS usage remained unsupported. The non-significant differences in the global means may be explained by individual differences regarding the impact of SNS usage, as depicted in the feedback from the participants.

The qualitative feedback and individual experiences offer a more nuanced perspective on the effectiveness of the SNS diet with respect to stress. As elaborated in the theoretical framework, FOMO has been determined by researchers as a significant factor

influencing the stress levels of users (Fabris et al., 2020, p. 4; Przybylski et al., 2013, p. 1841). The time restrictions of the SNS diet appeared to cause an increase in FOMO for three participants. Due to their limited daily exposure to SNSs, they experienced feeling like they were missing out on things their friends were doing. In contrast, one participant reported the opposite, as they stated they experienced their FOMO decreasing as the experiment continued.

Han (2018, p. 123) explained that SNS usage could become a stressful task when SNS users feel that lacking participation in SNS communication impacts their offline relationships. The experience of five participants could support this finding during the study. They reported that they depended on certain SNSs to communicate with certain friends. Respectively, they stated that they did not have enough time during the study for their daily communication on SNSs. This finding can be seen as a downside of the SNS diet, as it advocated engaging more with friends rather than consuming content from others, but it seemed that the time limit did not allow them sufficient time to talk to those people. However, the extent to which this affected their perceived stress, as Han (2018) suggested, remains inconclusive in the present study. Instead, these findings point to another complication of SNSs. The *direct messaging functions* of the SNSs seem to bind users to the individual platforms and make reducing time spent and balanced and sustainable SNS usage more difficult.

Qualitative feedback from participants indicated that they would have needed an acclimation period in which they were given time to adjust to reduced SNS use rather than a sudden, harsh change. Looking at the individual daily time spent by users on SNSs, it became apparent that the 30-minute limit imposed was a substantial cut for some participants from their previous SNS consumption behaviour. Just as with a food diet, where people may appear stressed or moody due to the decreased calorie intake, the present study found that the participants needed time to get used to the time limit of the SNS diet. It can be assumed that for some participants, the SNS diet has led to increased stress and their bodies need to be given more time to adjust to the new limit. For example, one of the participants stated that it was complicated for them to switch from high consumption of SNSs to light consumption.

In addition, a behavioural pattern of media coping strategies emerged through the thematic analysis of the qualitative data. Participants were told in the instructions not to

pursue their SNS use on other devices, but they began to compensate for their lack of daily SNS usage with other forms of media consumption, such as podcasts, films or games.

5.1.2 Anxiety and SNS Usage

This study also aimed to contribute to closing the existing research gap regarding the understanding of the relationship between anxiety and SNSs (Vannucci et al., 2017, p. 164). The theoretical framework has listed several causes for anxiety occurring on SNSs, such as the need to keep up to date, receiving adverse feedback, being exposed to stressful events, and engaging in social comparisons. The SNS diet also sought to provide a set of recommendations aimed at minimising the experience of anxiety that can be triggered by SNS usage. Among other things, it was anticipated that, like stress, users spending less time on SNSs and having fewer platforms to use might contribute to receiving less negative feedback or being exposed to fewer stressful events.

As discussed in the literature review, several studies have demonstrated a connection between excessive SNS usage and anxiety (Vannucci et al., 2017, p. 165; Woods & Scott, 2016, p. 45) and that reducing the time and number of SNS used can lead to reductions in anxiety (Hunt et al., 2018, p. 763; Primack et al., 2017, p. 7). These causes are supported by the available evidence from this study. Examining the classification of anxiety in Figure 2, presented in the previous chapter, shows that the number of participants who belonged to the severe anxiety group halved from 12 participants before the experiment to six participants after the experiment. The findings from this study demonstrate that using the SNS diet effectively reduced the participants' anxiety symptoms. It must be mentioned that the W1 (during) measurement was not normally distributed but only showed a tendency towards it. Due to the proven robustness of the multivariate repeated measures ANOVA against violations of normal distribution presented in the methodology, the analysis of variance was nevertheless carried out. Therefore, these results should be interpreted with caution.

However, if one examines previous literature, a pattern emerges to support the findings on anxiety. Primack et al. (2017, pp. 4-7) demonstrated that SNS users who use only a few SNS platforms showcase fewer anxiety symptoms. Hunt et al. (2018, pp. 763-764) indicated that limiting SNS use to 30 minutes per day can significantly reduce anxiety. In this context, the present study strengthens and reproduces its conclusions by

observing that anxiety decreased significantly once the participants were limited in the number of SNS platforms they could access and the amount of time spent on them. Unfortunately, it is unclear which of the various instructions of the SNS diet had the most substantial impact on the observed decrease in anxiety. Based on the results of Hunt et al. (2018) and Primack et al. (2017), one might assume the limitation of screen time and the number of SNSs yielded the most considerable influence on reducing anxiety symptoms.

Woods and Scott (2016, p. 45) determined that extensive SNS usage, especially at nighttime, is associated with higher anxiety levels. Based on this finding, another factor that reduced anxiety levels was the 30-minute time limit of the SNS diet, effectively preventing extensive usage. One participant reported that they got more sleep during the study period concerning nighttime use because they could no longer scroll on TikTok for an extended period as their time limit was reached at the end of the day.

The fulfilment of social needs and the pursuit of recognition are two crucial factors that promote intensive SNS use (Ponnusamy et al., 2020, p. 7) and, thus, may indirectly contribute to the development of anxiety (Vannucci et al., 2017, p. 165). As mentioned in the section on stress, some participants found themselves overly restricted as they could no longer engage in communication with their friends. These findings crystallise the dependency of users on SNSs and can thus be seen as a critical lever for why users show more anxiety symptoms when using SNSs excessively.

The qualitative feedback on the SNS diet does not offer any further insights related to social anxiety on SNSs. The results demonstrated that a successful reduction of time spent on SNSs significantly alleviates the anxiety symptoms of the users.

5.1.3 The Impact of SNSs on Subjective and Psychological Well-Being

Several studies (Brailovskaia et al., 2020b; Hunt et al., 2018; Shakya & Christakis, 2017; Tromholt, 2016; Twenge & Campbell, 2019) have supported the idea that SNS use is negatively associated with well-being and that reducing time spent with SNS improves well-being. However, the data from this study did not support this relationship in any of the three hypotheses testing this association. Reasons for no significant improvement in positive affect may be due to the SNS diet's failure to effectively impact positive affect. However, this consideration, despite the lack of support in this study, seems to be questionable, as previous studies have consistently shown that a reduction of time spent on

SNS can enhance positive affect, a key component of subjective well-being (Brailovskaia et al., 2020b; Hunt et al., 2018; Tromholt, 2016). Although an increase in the mean and median of the life satisfaction construct is visible in the results, it could not be used for the repeated measures MANOVA due to the lack of normal distribution. Thus, the small sample size and the violation of the normal distribution assumption are the primary reasons for not replicating this finding in the present study, particularly if one considers that Brailovskaia et al. (2020b, pp. 5-6) were already able to corroborate Tromholt's (2016) findings.

Considering the participants' qualitative feedback on how they perceived the effect on their well-being is worthwhile, as it revealed that most participants perceived a positive change in their well-being. This insight provides some evidence to support the assumptions unsupported by the quantitative data. A possible explanation might be found in the low number of participants, which made it difficult to achieve significance in testing the relationships between variables.

Based on the literature review, it was hypothesised that participants' psychological well-being would improve during the study, as meaning experience and self-realisation about SNS usage would decrease through the SNS diet. However, neither hypothesis was supported, as there was no significant decline in either construct and, conversely, no improvements in psychological well-being. Therefore, the results from this study could not replicate the relationship presumed by Twenge and Campbell (2019, p. 327) regarding the positive effect of "restricted" SNS usage on psychological well-being. The reduction of time spent on SNSs was not found to lead to an increase in psychological well-being. Similarly, Hunt et al. (2018, p. 764) were also unable to determine any significant improvements in psychological well-being in their four-week experiment when restricting time spent on SNSs. Two reasons for the lack of change in psychological well-being may be that the usage of SNSs does not influence psychological well-being or that the effect is too small for such measures to have a lasting impact on well-being.

Given the above, Orben and Przybylski (2019, p. 173) revealed that the effect size of the negative relationship between SNS usage and psychological well-being is so tiny that it explains at most 0.4% of the variation in well-being. Also, there is a chance that the two-week length of the experiment was not long enough to cause a significant decline in the measured constructs, as the impact of SNS usage on psychological well-being may be

more longitudinal. Alternatively, there is reason to believe that the SNS diet was either too constraining or not constraining enough to result in a meaningful improvement in these areas.

In contrast to the expected decline of the meaning experience factor and self-realisation, there was an increase in the global means in the first week. The increase in self-realisation was statistically significant. The increase in meaning experience was not statistically significant, which is why it is neglected in the following discussion. Participants experienced an increase in self-realisation in the first week instead of decreasing, as had been hypothesised. However, this significant increase disappeared again in the second week and settled at the initial level. There was no significant decline in self-realisation following the use of the SNS diet, which is why the hypothesis was not supported, despite revealing a significant result for the multivariate repeated measures ANOVA.

Even though this finding was not expected, previous researchers encountered similar findings which can be used to explain why self-realisation with SNS increased significantly in the first week of the field experiment. Brailovskaia et al. (2020b, pp. 6-7) prescribed participants to spend 20 minutes less time than usual on Facebook and in the first week, participants reported difficulties and an increased craving for social media, like withdrawal, a craving for a substance. However, by the second week, the craving for social media decreased, and they observed a significant ascent in life satisfaction and reduced depressive symptoms. Their evidence sufficiently explains the significant increase in self-realisation in the present study. Similar to Brailovskaia et al. (2020b), 12 of the 18 participants in the present study reported that the second week was much easier, and they had fewer difficulties following the restrictions of the SNS diet. In addition, Brailovskaia et al. (2020b, p. 7) stated that the time restriction led to a higher frequency of physical activity among the participants. This finding can also be partially supported by the qualitative feedback from the study. Nine participants indicated they were “much more productive” due to the increased free time; only two mentioned that they engaged in more physical activities. For instance, one participant stated, “by reducing the screen time, I get to do more healthy things like working out, meeting friends, studying, being creative”. Another participant said, “I have more free time to invest in other things such as going out on walks or reading”.

It can be concluded that the effects on subjective well-being are very diverse, and for some, it leads to a stronger positive experience, while for others, it leads to neutral or even negative experiences with the SNS diet. This finding can be compared with Valkenburg et al.'s finding (2021, pp. 70-71) that the effect of using SNSs is unique to each user and is heavily influenced by person-specific effect sizes. The SNS diet did not demonstrably improve psychological well-being. Further long-term studies are required to assess if there are any long-term effects of SNS usage on psychological well-being.

5.1.4 Social Comparisons, Envy and SNSs

The literature review illustrated that extensive SNS usage is linked with social comparisons (Lee, 2014, p. 259; de Vries & Kühne, 2015, p. 217). Social comparisons and their outcome envy are indirect drivers of anxiety development (Appel et al., 2016, p. 46) and underlying drivers of the adverse consequences on the well-being of its users (de Vries & Kühne, 2015, p. 217). Based on the literature review, it was anticipated that the negative outcomes of social comparisons could be mitigated by conscious processing (Want, 2009, pp. 264-265). This approach was supported in the study by reducing time spent on SNS.

Before the study began, participants were extensively informed about the effects of social comparisons with an information sheet which can be found in Appendix A. They were instructed that whenever they used SNSs, they should remember to be aware of social comparisons occurring unconsciously on SNSs. They should be conscious of the content they consume on SNSs and consider how this may affect their well-being. A robust decline in social comparisons was noticeable throughout the study. Research from Masciantonio et al. found (2021, p. 9; Verduyn et al., 2017, p. 296) that upward social comparison mediates the negative relationship between SNS usage and well-being.

Findings from this study support this relationship. The significant reduction in social comparisons was also accompanied by 11 participants reporting positive developments in their perceived well-being. The positive impact of conscious processing of social comparisons can be interpreted in accordance with the findings of Hunt et al. (2018, p. 763). They pointed to the benefit of self-monitoring in their study, similar to the effect of conscious processing. Individuals with good self-monitoring of their own SNS usage seem less susceptible to the negative effects of SNS usage. In the feedback of this study, one participant stated that they "have learned to be more aware of what content is valuable and

what is unnecessary and a waste of time". Another participant reflected that they were "consuming social media more attentively as a result of the study." Similarly, another subject stated that "I realised that I was spending too much time on Instagram especially and that I could use this time for more meaningful activities", and also another participant indicated that "I realised that social media were not as important as I thought in life". This feedback added further support to the beneficial effects of self-monitoring and the effectiveness of conscious processing in sustainably reducing the negative impacts of social comparisons on SNSs. Drawing again on findings from Lee (2014, p. 259), as well as de Vries and Kühne (2015, p. 217), that more intensive and excessive SNS use is connected with higher levels of unfavourable social comparisons, the imposed time limits can be seen as a crucial lever in addition to self-monitoring to help mitigate the negative impact of social comparisons. One participant shared that through the SNS diet, they became more aware of their usage: "It was incredible seeing how often I used SNSs and how much time I wasted on them." Similarly, another participant stated, "It was much easier to reduce the usage of social media once we got aware of how much time we actually spend there." Further, one participant concluded: "It is good to be conscious of what we consume online for the sake of our mental health! Limiting the content we see, and the time we spend online will improve my life for sure."

The literature review established envy as the primary outcome of social comparisons (Smith & Kim, 2007, p. 53). Recent research (Meier et al., 2020, p. 737) indicated the necessity to differentiate between two kinds of envy: malicious and benign envy (Crusius & Lange, 2014, p. 9). Hence, it was assumed that envy in both forms could be significantly alleviated through the SNS diet. The results from this study only supported one of the two hypotheses testing this relationship. In this study, the multivariate repeated measures ANOVA found that benign envy diminished similarly to social comparisons. No conclusions can be drawn regarding malicious envy as the construct for malicious envy deviated strongly from a normal distribution in all three measurements. The construct was, therefore, not suitable for further statistical analysis to test whether the changes in the means were statistically significant. Meier et al. (2020, p. 737) pointed out in their study that distinguishing the two types of envy as an emotional reaction to social comparisons not only results in negative effects due to SNS usage but also positive emotional effects

such as inspiration due to benign envy. This finding was not replicated in the present study, presumably due to a different research design.

5.2 General Discussion

The study performed in this dissertation strengthens the evolving scientific understanding concerning the effects of SNS usage threefold. First, the study combined scientific evidence from previous studies and suggestions from researchers to improve the well-being of its users. These findings were used to develop the SNS diet and test these suggestions for its overall practicability in a two-week field experiment. Thus, the study followed the request from several researchers to investigate the impact of SNS use holistically. The two-week experiment demonstrated that the measures (such as a screen time reduction) of the SNS diet impacted the participants differently and that the participants reported diverse experiences. This notion also reflects the diversity of research currently available in the realm of SNS usage and its impact on well-being, which do not point in one clear direction. Instead, it was confirmed in this experiment that, consistent with Valkenburg et al.'s (2021, pp. 70-71) research, the effects of SNS usage on well-being are unique to each user and are greatly affected by personality-specific effect sizes. The thematic analysis of qualitative feedback regarding participants' experience with the SNS diet could not be divided into solely positive or negative experiences and the SNS diet varied in its effectiveness at the individual level for the participants. Nevertheless, this study may be considered an essential step toward closing the existing research gap by holistically assessing the consequences of SNS usage.

Second, for most participants, the use of the SNS diet had an overall favourable effect, even though they may have encountered some complications on an individual level. Indeed, it was demonstrated that through the SNS diet, the accompanying instruction of participants and the reduction in SNS usage, social comparison processes, including the outcome of benign envy, were significantly lessened. In addition, among the most impactful findings, participants' anxiety symptoms were substantially reduced over the two-week experiment. It would be reasonable to assume that a significant reduction in social comparisons, benign envy and anxiety would lead to a robust improvement in the participants' well-being. Even though the analysis showed a tendency towards a positive impact on well-being, this assumption cannot be generalised from this data, only at the

individual level, thus reaffirming Valkenburg et al.'s (2021) conclusion. The effects on well-being were demonstrated in the study, were discussed at length in the discussion above and potential underlying causes were suggested.

Third, this study was one of the first to employ a field experiment research design. Many studies studying the effects of SNS usage are primarily cross-sectional (Odgers & Jensen, 2020, p. 336). However, a few studies have conducted similar research, concluding that abstaining from Facebook (Tromholt, 2016) or reducing Facebook usage positively affects the well-being of SNS users (Brailovskaia et al., 2020b, p. 1). Hunt et al. (2018, p. 763) examined the effect of time limits on three SNSs: Facebook, Instagram, and Snapchat. A key limitation of these studies was that participants were substituting their reduced SNS usage with other SNSs (p. 765). This study was able to counteract this limitation, at least on the smartphone, by adding the restriction of a maximum of three SNSs (Primack et al., 2017, pp. 7-8), ensuring that all participants indeed used a maximum of three SNSs. Thus, this study was the first to generalise this regulation to all SNSs. The SNS diet left it up to the participants to select which SNSs they wished to use during the study. Thus, the present study clarifies that these effects on our well-being are often not unique to an SNS but much more to the use of SNSs. Still, it became evident in the analysis of the qualitative feedback that participants started to engage in other forms of media coping. Users reported that they engaged with other forms of media consumption to compensate for their withdrawal from SNSs usage, as they could not switch to other SNSs, at least on their smartphones, an aspect which will be discussed within the limitations section.

While the hypotheses testing showed that the SNS diet reduced anxiety symptoms, social comparisons and benign envy significantly, the thematic analysis revealed emerging insights that had not been considered in the first place. The feedback from the participants showed that during the time they spent with the SNS diet, they reported that they were more productive in their everyday tasks. This finding can be explained by the fact that users were not exposed as often to stimulating triggers on their phones, fighting for their attention simply because their usage was limited and monitored. The real-world utility of the SNS diet for improving self-regulation and a greater sense of self-awareness demonstrated the significant power of deliberate processing in managing the harmful effects of SNS use, such as social comparison.

5.3 Limitations and Implications for Future Research

Notwithstanding these contributions, this study is limited in several respects. First, the compliance issues mentioned in the methodology must be brought to light again. In experiments, the compliance of the participants is difficult to verify. In this study, the researcher made his best effort to monitor objectively verifiable recommendations for compliance with the SNS diet. Through the participants' submitted screenshots, it was possible to verify whether they reduced the number of SNSs and adhered to the daily limit of 30 minutes. Although the participants were told to only use their SNSs via the apps on their smartphones, they could still have been using them on their personal computers or their peers' smartphones. The SNSs could not be switched off by the researcher when the daily limit was used up. Specifically, dedicated apps with this functionality have been excluded for practical reasons. Especially users with an iPhone and iOS can easily circumvent and extend their limits. Users of Android smartphones would be blocked from using the app once a timer is set, and the timer can only be deleted via the system settings. While most participants adhered to the study guidelines, some subjects during the study spend considerably more time on SNSs than they should have.

Second, the subjects of the present study volunteered to participate in the two-week field experiment. This approach was chosen for both ethical and pragmatic considerations. Nevertheless, this results in a selection bias in the sample, exemplified by the fact that primarily individuals who had an affinity for the research topic and came from the researcher's social environment participated in the experiment. The study had to rely on a convenience sample sourced via personal SNSs, and fellow students must be acknowledged as an essential limiting factor of the generalisability of the results. In addition to the convenience sample, the study suffered from a small sample size, which may also cause a generalisability issue concerning the findings. While more than 37 participants registered their participation in the original pre-registration form, only 22 started the actual study, and only 18 participants partook for the entire two weeks. This behaviour can be explained by the fact that the study did not receive any funding, and the participants were not offered any financial incentives. Prospective participants may have lost interest, the study timeframe may not have been convenient for them, or the guidelines of the SNS diet may have been too much of an intrusion into their SNS usage and

lifestyles. In addition, some participants stated that their work demanded them to use SNSs, and therefore they could not always comply with the limit.

It is essential to mention that five hypotheses were not supported as the global means could not be used in the fundamental statistical analysis. Due to the small sample size of 18 participants, the normal distribution of the constructs could not be assumed and had to be tested. Subsequently, many constructs were not normally distributed and could not be used for the multivariate repeated measures ANOVA, so these constructs could not be investigated whether the mean changes differed significantly over the study period. In addition, one hypothesis was not supported due to the p-value threshold of p=.05 used in the study. It would have been significant if a higher p-value had been assumed at a level of p=0.1. It would be useful to conduct this study with a greater sample size to overcome these limitations and to ensure the validity of the findings. The bigger sample size will allow the items to be used to conduct the multivariate repeated measures ANOVA. The selection bias and the small sample size may limit the study's results solely to the experiment's participants and are not generalisable for those reasons.

Above all, it could not be ascertained whether any concrete improvements in subjective and psychological well-being occurred through the SNS diet. At the same time, the feedback from the participants indicated a tendency for the SNS diet to benefit their well-being. Future research should focus, in particular, on the consequences on psychological well-being by extending the duration of the experiment to a longitudinal study of one to three months. So far, only a few studies, including the present one, have shown that psychological well-being is too little affected by a short-term change in SNS usage to account for significant improvements (Hunt et al., 2018, p. 764; Orben & Przybylski, 2019, p. 173). As mentioned in the discussion, some participants seemed to use SNSs as an outlet to relieve their stress. Thus, future studies refining and adapting the SNS diet should consider how SNS activities, such as scrolling on TikTok, can contribute to stress relief and reconcile it with the negative influences of extensive SNS usage.

Third, similarly to Andreassen et al.'s (2017, p. 292) study, the convenience sample and the research subject may have appealed to and attracted participants who have concerns about their SNS consumption, such as young adults and people who tend to use them excessively, which potentially yielded an overrepresentation of them. The sample consisted of comparatively young adults but was well-balanced for the gender distribution,

while also being internationally diverse. Even if one could argue that young SNS users need to control their consumption better, future studies could benefit from using a larger and more age-diverse sample.

Fourth, the data collection procedure is another limitation of the present study. Due to the time constraints associated with the dissertation and software access, an alternative approach had to be taken to enable participants to upload their screenshots. Instead of uploading the screenshots directly within the questionnaire, they had to upload them to an external server via their fake identity, which then had to be matched to the individual responses. Despite this being considered a serious limitation, it did not lead to any complications, probably due to the low organisational complexity associated with the small sample size.

Fifth, the study lacked a longitudinal dimension. The SNS diet reduced SNS use and increased self-awareness in the short term. Admittedly, participants were not sent follow-up questionnaires one, three, or six months later about how they fared after the study and whether they could make long-term, sustainable changes in their SNS use. However, this limitation was mainly imposed by the time constraints associated with this dissertation. Future research should therefore use follow-up questionnaires to assess how the SNS diet can have a lasting and sustainable impact on participants' SNS use. It is also noted that the questionnaire used different Likert scales, as the researcher aimed to be as faithful as possible to the original ratings of the scales. The scales had to be standardised afterwards using linear interpolation so that they could be compared with each other. Please note that this step was not required for the multivariate repeated measures ANOVA in the end, as only the identical items were examined with each other. In future studies, one should still ensure that the questionnaires are designed with the same Likert scales.

The sixth limitation relates to the impact of the experimental design. Since the recommendations from previous studies have been pooled, it is infeasible within the present study to determine conclusively what fraction of the causal effects are caused by the SNS diet and what fraction may be induced artificially by the experimental design. According to Tromholt (2016, p. 665), participants may have cultivated in such a research design their ideas about how the SNS diet might affect them and whether these ideas, on average, would point in the same direction as the effects found in the study. Thus, participants' ideas formation may have biassed their responses. The study also did not use

an experimental or control group design. Since the intention was to investigate the effects of the SNS diet on the participants, no significant findings were expected, apart from a considerable increase in the effort had a control group been added. This research design would have been rather difficult considering the small sample size. Hunt et al. (2018, p. p. 763) even stated that improvements occurred in the control group merely because they participated in the study. These considerations indicate that the self-constructed beliefs about the impact of such a study may have a considerable effect on the results. Future research should thus pay attention to how these effects can be verified, examining which fraction of the effects are due to the SNS diet and which fraction is due to the participants' assumptions.

One of the major complications of the SNS diet for the participants was the time constraint of 30 minutes per day. This time period seemed insufficient for many, especially because they were used to spending much more time on SNSs. Future research may attempt to create several difficulty gradients of the SNS diet and seek to habituate the users to this severe reduction in screen time and SNS platforms. Besides, they may seek to develop different variations of the SNS diet considering the unlikeliness of a one-size fits all solution due to the person-specific effects on SNSs.

One of the most interesting findings of the thematic analysis was that some participants started to engage in media coping to replace their reduced SNS use. This finding provides new possibilities to refine the SNS diet in future research. On the one hand, media coping can be proactively used to encourage participants to listen to more podcasts instead of their SNS consumption, to make it easier for them to get used to the screen time withdrawal. Conversely, media coping can also be used to design a stricter SNS diet. An even stricter version would require participants to comply with the SNS diet in a more controlled manner, as they are not supposed to engage with other media as a replacement for the time spent on SNSs. Future studies should investigate whether the identified media coping can be used as a positive reinforcement to facilitate adherence to the SNS diet or whether participants need to be more restricted to prevent them from engaging in media coping.

6 - CONCLUSION

This study aimed to investigate the effects of SNSs on well-being from a holistic perspective and thereby attempt to identify causal relationships to determine a balanced and healthy level of SNS usage. Of particular interest were the aspects of anxiety and stress, determining how much these psychological conditions are influenced by SNS usage and how well-being can be affected through regulated SNS usage. For this reason, the present dissertation sought to answer the research question: *To what extent does the configuration of an SNS diet affect people's anxiety, stress and well-being?*

The first part of the literature review illustrated that SNSs are characteristically a part of social media but not all social media platforms can be classified as SNSs. SNSs are internet-based channels where users can interact with other users and audiences, deriving value from creating and sharing UGC and interacting with others. The creation of UGC in the form of photos, videos, graphics and texts, as well as the interaction with other users, were identified main characteristics of SNSs. In addition, the satisfaction of psychological needs was found to be an influential factor in using SNSs, as they provide users with self-determination and psychological ownership.

The second part presented SCT as a central theoretical instrument, noting that social comparisons are a fundamental psychological process and a central aspect of human social coexistence. Individuals engage in assimilative or contrastive comparisons, directed either upwards or downwards. The direction and orientation of the social comparisons explain the positive and negative effects that the comparisons can produce. In addition, envy was established as an outcome of social comparisons and specified that it was essential to distinguish between malicious and benign envy concerning the effects on well-being. Benign envy can trigger inspiration among users and thus have a positive impact on well-being. Malicious envy can lead to a negative mood, discontent and unhappiness. The third part of the literature review focused on the use of SNSs and their various effects on well-being. First, the positive effects of SNS usage, such as identity expression, reduction of loneliness, social support, social connectedness, sense of belonging and inspiration, were identified. Then, the negative effects of SNS usage were presented which include body image and body satisfaction, decreased self-esteem, depressive symptoms, decrease in life satisfaction, and reduced well-being. A focus was placed on the harmful effects of anxiety, stress, addiction, and depression concerning using SNSs. The fourth section

identified specific intervention recommendations from previous researchers to mitigate the negative aspects of SNS use, such as reducing the number of SNSs used and time spent on SNSs, turning off push notifications, selective exposure to inspirational content, unfollowing influencers and strangers, and reducing the size of the user's network. The results obtained have determined the structure of the SNS diet. This extensive literature review formed the scientific backbone of this study.

The study applied an experimental research design consisting of a two-week field experiment with a sample of n=18 participants to test the newly designed SNS diet and instructions for applicability and effectiveness. The experimental design required participants to complete a questionnaire and submit screenshots of their screen time usage before, during and after implementing the diet. Once the study was completed, the hypotheses were tested using multivariate repeated measures ANOVA, where feasible. This statistical method determined that the SNS diet had a measurable, significant effect on reducing anxiety, social comparisons and benign envy, while no significant effect was found on perceived stress, malicious envy and social anxiety. Moreover, the study failed to determine significant improvements in subjective and psychological well-being.

The current study represents one of the first attempts to apply an experimental approach to examine the effects of SNS usage on well-being. It continued to develop and refine the findings of those few experimental studies further and, in doing so, produced and tested a comprehensive SNS diet. It attempted to incorporate previous researchers' recommendations and address the limitations of previous studies in its research design. In addition, the aim was to reproduce the results and thus further develop the knowledge base. It was found that many of the previously studied platform-specific findings also applied to SNS usage in general. The findings of the field experiment strongly suggest regulating SNS usage rather than eliminating it entirely, i.e., providing education about the mechanisms that take place on SNSs, and limiting the number of platforms used and the amount of time spent on SNSs each day, which can significantly decrease negative outcomes. In particular, the findings from the study underline a causal relationship between reduced and balanced SNS use and improvements in anxiety symptoms and a reduction of social comparisons and benign envy.

The analysis of the participants' qualitative feedback on the SNS diet also identified that the person-specific effects could not be overlooked and play a pivotal role in the

effectiveness and feasibility of the SNS diet. Consistent with the findings of previous studies, it was reaffirmed that person-specific factors highly influence the usage of SNSs and their impact on well-being. While the SNS diet created some complications for some users, others consistently reported favourable experiences. Therefore an association between the SNS diet and subjective and psychological well-being was not demonstrated. The qualitative analysis revealed that improvements in well-being were only observed on an individual level for some participants, but they could not be generalised to the sample or beyond.

For these reasons, the research question regarding what extent the configuration of an SNS diet affects anxiety, stress, and well-being can only be partially answered. The application of the SNS diet did not cause a significant change in the stress level concerning SNS use, which is why it can be reasoned that the SNS diet impacted them too little. The overall perceived stress construct could not be tested due to its statistical limitations. Thus, the influence of SNS use on users' stress perception remains doubtful and could not be ascertained as predicted. However, the SNS diet significantly affected the participants' general anxiety symptoms and caused a substantial reduction in anxiety symptoms in the present sample. Following the SNS diet for two weeks reduced severe anxiety scores. However, the magnitude of the effect remains unanswered, as no clear causal relationship between the SNS diet and the improvement in well-being was established.

It can be concluded that the study provided interesting and meaningful results, which should be further investigated in future studies. In discussing the findings of this study, its inherent limitations should be acknowledged to reflect critically on the conclusions the researcher drew. Many hypotheses could not be tested with the multivariate repeated measures ANOVA due to the small sample size and a lack of statistical prerequisites for the constructs, such as normal distribution. Therefore, the findings did not support several hypotheses. Further limitations of this study and how future researchers should attempt to circumvent them have been thoroughly explored in the previous chapter.

Despite these limitations, the results of this thesis may be considered an important step toward holistically considering the effects of SNS use and a crucial attempt to close the existing research gap. However, future studies must determine how and if the SNS diet directly impacts subjective and psychological well-being. The study itself and the SNS diet caused the participants to confront their consumption and scrutinise it, often for the first

time. The study also revealed the immense potential of conscious processing and self-awareness in preventing and avoiding the adverse outcomes of SNS usage. This insight is considered a central potential application approach for authorities such as schools, universities and companies. They should play an active role in encouraging and educating their peers and employees on how to use SNSs more healthily, thus helping to mitigate negative effects. Otherwise, it is deemed unlikely to sustainably improve the use of SNSs and thereby increase the well-being of the people. The effects of SNS usage cannot be separated into positive and negative outcomes, and SNS usage is neither black nor white. The use of SNSs is not something inherently harmful; indeed, it has numerous beneficial features. Nevertheless, one should be aware of the potential consequences of SNS usage when consumed too much.

Adhering to the SNS diet proved to be an effective tool for counteracting and even reducing the negative effects that the use of SNSs may heighten. Ultimately, the SNS diet may be considered a crucial first effort in developing a healthy and sustainable level of SNS usage. The holistic assessment of SNS use outcomes was an essential first step to further closing the research gap. Still, future research needs to refine the SNS diet and adapt to various SNS user types. The extent to which SNS providers and governments will step into this scientific discussion and support individuals to consume SNSs healthier lies in the future.

REFERENCES

Akiskal, H. S. (1998). Toward a definition of generalized anxiety disorder as an anxious temperament type. *Acta Psychiatrica Scandinavica*, *98*(s393), 66–73. https://doi.org/10.1111/j.1600-0447.1998.tb05969.x

Al-Gamal, E., Alzayyat, A., & Ahmad, M. M. (2015). Prevalence of Internet Addiction and Its Association With Psychological Distress and Coping Strategies Among University Students in Jordan. *Perspectives in Psychiatric Care*, *52*(1), 49–61. https://doi.org/10.1111/ppc.12102

Algina, J., & Keselman, H. J. (1997). Detecting repeated measures effects with univariate and multivariate statistics. *Psychological Methods*, *2*(2), 208–218. https://doi.org/10.1037/1082-989x.2.2.208

Alkis, Y., Kadirhan, Z., & Sat, M. (2017). Development and Validation of Social Anxiety Scale for Social Media Users. *Computers in Human Behavior*, *72*, 296–303. https://doi.org/10.1016/j.chb.2017.03.011

Allen, K. A., Ryan, T., Gray, D. L., McInerney, D. M., & Waters, L. (2014). Social Media Use and Social Connectedness in Adolescents: The Positives and the Potential Pitfalls. *The Australian Educational and Developmental Psychologist*, *31*(1), 18–31. https://doi.org/10.1017/edp.2014.2

American Psychological Association. (n.d.). *Anxiety*. https://www.apa.org/topics/anxiety

Andreassen, C., & Pallesen, S. (2014). Social Network Site Addiction - An Overview. *Current Pharmaceutical Design*, *20*(25), 4053–4061. https://doi.org/10.2174/13816128113199990616

Andreassen, C. S. (2015). Online Social Network Site Addiction: A Comprehensive Review. *Current Addiction Reports*, *2*(2), 175–184. https://doi.org/10.1007/s40429-015-0056-9

Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors*, *30*(2), 252–262. https://doi.org/10.1037/adb0000160

Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors*, *64*, 287–293. https://doi.org/10.1016/j.addbeh.2016.03.006

Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook Addiction Scale. *Psychological Reports*, *110*(2), 501–517. https://doi.org/10.2466/02.09.18.pr0.110.2.501-517

Appel, H., Gerlach, A. L., & Crusius, J. (2016). The interplay between Facebook use, social comparison, envy, and depression. *Current Opinion in Psychology*, *9*, 44–49. https://doi.org/10.1016/j.copsyc.2015.10.006

Back, M. D., Stopfer, J. M., Vazire, S., Gaddis, S., Schmukle, S. C., Egloff, B., & Gosling, S. D. (2010). Facebook Profiles Reflect Actual Personality, Not Self-Idealization. *Psychological Science*, *21*(3), 372–374. https://doi.org/10.1177/0956797609360756

Baek, Y. M., Bae, Y., & Jang, H. (2013). Social and Parasocial Relationships on Social Network Sites and Their Differential Relationships with Users' Psychological Well-Being. *Cyberpsychology, Behavior, and Social Networking*, *16*(7), 512–517. https://doi.org/10.1089/cyber.2012.0510

Bessière, K., Pressman, S., Kiesler, S., & Kraut, R. (2010). Effects of Internet Use on Health and Depression: A Longitudinal Study. *Journal of Medical Internet Research*, *12*(1), e6. https://doi.org/10.2196/jmir.1149

Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent wellbeing: A systematic narrative review. *Children and Youth Services Review*, *41*, 27–36. https://doi.org/10.1016/j.childyouth.2014.03.001

Bevan, J. L., Gomez, R., & Sparks, L. (2014). Disclosures about important life events on Facebook: Relationships with stress and quality of life. *Computers in Human Behavior*, *39*, 246–253. https://doi.org/10.1016/j.chb.2014.07.021

Beyens, I., Frison, E., & Eggermont, S. (2016). "I don't want to miss a thing": Adolescents' fear of missing out and its relationship to adolescents' social needs, Facebook use, and Facebook related stress. *Computers in Human Behavior*, *64*, 1–8. https://doi.org/10.1016/j.chb.2016.05.083

Bhargava, V. R., & Velasquez, M. (2020). Ethics of the Attention Economy: The Problem of Social Media Addiction. *Business Ethics Quarterly*, 1–39. https://doi.org/10.1017/beq.2020.32

Blachnio, A., Przepiorka, A., & Czuczwar, S. J. (2017). Type D personality, stress coping strategies and self-efficacy as predictors of Facebook intrusion. *Psychiatry Research*, *253*, 33–37. https://doi.org/10.1016/j.psychres.2017.03.022

Blachnio, A., Przepiorka, A., & Díaz-Morales, J. F. (2015). Facebook use and chronotype: Results of a cross-sectional study. *Chronobiology International*, *32*(9), 1315–1319. https://doi.org/10.3109/07420528.2015.1083998

Blease, C. R. (2015). Too Many 'Friends,' Too Few 'Likes'? Evolutionary Psychology and 'Facebook Depression.' *Review of General Psychology*, *19*(1), 1–13. https://doi.org/10.1037/gpr0000030

Block, M., Stern, D. B., Raman, K., Lee, S., Carey, J., Humphreys, A. A., Mulhern, F., Calder, B., Schultz, D., Rudick, C. N., Blood, A. J., & Breiter, H. C. (2014). The relationship between self-report of depression and media usage. *Frontiers in Human Neuroscience*, *8*. https://doi.org/10.3389/fnhum.2014.00712

Blomfield Neira, C. J., & Barber, B. L. (2013). Social networking site use: Linked to adolescents' social self‐concept, self‐esteem, and depressed mood. *Australian Journal of Psychology*, *66*(1), 56–64. https://doi.org/10.1111/ajpy.12034

Bourdieu, P., & Wacquant, L. J. D. (1992). *An Invitation to Reflexive Sociology* (1st ed.). University of Chicago Press.

Boyatzis, R. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development* (1st ed.). SAGE Publications, Inc.

Boyd, D. M., & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, *13*(1), 210–230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Brailovskaia, J., & Margraf, J. (2016). Comparing Facebook Users and Facebook Non-Users: Relationship between Personality Traits and Mental Health Variables – An Exploratory Study. *PLOS ONE*, *11*(12), e0166999. https://doi.org/10.1371/journal.pone.0166999

Brailovskaia, J., Margraf, J., Schillack, H., & Köllner, V. (2019a). Comparing mental health of Facebook users and Facebook non-users in an inpatient sample in Germany. *Journal of Affective Disorders*, *259*, 376–381. https://doi.org/10.1016/j.jad.2019.08.078

Brailovskaia, J., Rohmann, E., Bierhoff, H. W., Schillack, H., & Margraf, J. (2019b). The relationship between daily stress, social support and Facebook Addiction Disorder. *Psychiatry Research*, *276*, 167–174. https://doi.org/10.1016/j.psychres.2019.05.014

Brailovskaia, J., Schillack, H., & Margraf, J. (2020a). Tell me why are you using social media (SM)! Relationship between reasons for use of SM, SM flow, daily stress, depression, anxiety, and addictive SM use – An exploratory investigation of young adults in Germany. *Computers in Human Behavior*, *113*, 106511. https://doi.org/10.1016/j.chb.2020.106511

Brailovskaia, J., Ströse, F., Schillack, H., & Margraf, J. (2020b). Less Facebook use – More well-being and a healthier lifestyle? An experimental intervention study. *Computers in Human Behavior*, *108*, 106332. https://doi.org/10.1016/j.chb.2020.106332

Brailovskaia, J., Teismann, T., & Margraf, J. (2018). Physical activity mediates the association between daily stress and Facebook Addiction Disorder (FAD) – A longitudinal approach among German students. *Computers in Human Behavior*, *86*, 199–204. https://doi.org/10.1016/j.chb.2018.04.045

Brown, Z., & Tiggemann, M. (2016). Attractive celebrity and peer images on Instagram: Effect on women's mood and body image. *Body Image*, *19*, 37–43. https://doi.org/10.1016/j.bodyim.2016.08.007

Buunk, A. P., & Gibbons, F. X. (2007). Social comparison: The end of a theory and the emergence of a field. *Organizational Behavior and Human Decision Processes*, *102*(1), 3–21. https://doi.org/10.1016/j.obhdp.2006.09.007

Buunk, B. P., Brenninkmeyer, V. B., Sloman, L., & Gilbert, P. (2000). Social comparison processes among depressed individuals: Evidence for the evolutionary perspective on involuntary subordinate strategies? In *Subordination and defeat: An evolutionary approach to mood disorders and their therapy* (pp. 147–164). Lawrence Erlbaum Associates Publishers.

Buunk, B. P., Collins, R. L., Taylor, S. E., VanYperen, N. W., & Dakof, G. A. (1990). The affective consequences of social comparison: Either direction has its ups and downs. *Journal of Personality and Social Psychology*, *59*(6), 1238–1249. https://doi.org/10.1037/0022-3514.59.6.1238

Buunk, B. P., Kuyper, H., & van der Zee, Y. G. (2005). Affective Response to Social Comparison in the Classroom. *Basic and Applied Social Psychology*, *27*(3), 229–237. https://doi.org/10.1207/s15324834basp2703_4

Campisi, J., Bynog, P., McGehee, H., Oakland, J. C., Quirk, S., Taga, C., & Taylor, M. (2012). Facebook, Stress, and Incidence of Upper Respiratory Infection in Undergraduate College Students. *Cyberpsychology, Behavior, and Social Networking*, *15*(12), 675–681. https://doi.org/10.1089/cyber.2012.0156

Carr, C. T., & Hayes, R. A. (2015). Social Media: Defining, Developing, and Divining. *Atlantic Journal of Communication*, *23*(1), 46–65. https://doi.org/10.1080/15456870.2015.972282

Casale, S., & Fioravanti, G. (2015). Satisfying needs through Social Networking Sites: A pathway towards problematic Internet use for socially anxious people? *Addictive Behaviors Reports*, *1*, 34–39. https://doi.org/10.1016/j.abrep.2015.03.008

Chakraborty, T., Kumar, A., Upadhyay, P., & Dwivedi, Y. K. (2021). Link between social distancing, cognitive dissonance, and social networking site usage intensity: a country-level study during the COVID-19 outbreak. *Internet Research*, *31*(2), 419–456. https://doi.org/10.1108/intr-05-2020-0281

Chang, Y. (2012). The relationship between maladaptive perfectionism with burnout: Testing mediating effect of emotion-focused coping. *Personality and Individual Differences*, *53*(5), 635–639. https://doi.org/10.1016/j.paid.2012.05.002

Chen, W., & Lee, K. H. (2013). Sharing, Liking, Commenting, and Distressed? The Pathway Between Facebook Interaction and Psychological Distress. *Cyberpsychology, Behavior, and Social Networking*, *16*(10), 728–734. https://doi.org/10.1089/cyber.2012.0272

Cheung, F., & Lucas, R. E. (2014). Assessing the validity of single-item life satisfaction measures: results from three large samples. *Quality of Life Research*, *23*(10), 2809–2818. https://doi.org/10.1007/s11136-014-0726-4

Chorpita, B. F., & Barlow, D. H. (1998). The development of anxiety: The role of control in the early environment. *Psychological Bulletin*, *124*(1), 3–21. https://doi.org/10.1037/0033-2909.124.1.3

Chou, H. T. G., & Edge, N. (2012). "They Are Happier and Having Better Lives than I Am": The Impact of Using Facebook on Perceptions of Others' Lives. *Cyberpsychology, Behavior, and Social Networking*, *15*(2), 117–121. https://doi.org/10.1089/cyber.2011.0324

Clerkin, E. M., Smith, A. R., & Hames, J. L. (2013). The interpersonal effects of Facebook reassurance seeking. *Journal of Affective Disorders*, *151*(2), 525–530. https://doi.org/10.1016/j.jad.2013.06.038

Cobb, S. (1976). Social Support as a Moderator of Life Stress. *Psychosomatic Medicine*, *38*(5), 300–314. https://doi.org/10.1097/00006842-197609000-00003

Cohen, S. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health* (pp. 31–67). Sage Publications, Inc.

Cohen, S. (1994). *Perceived Stress Scale*. mind garden. https://www.mindgarden.com/documents/PerceivedStressScale.pdf

Cohen, S., Gottlieb, B. H., & Underwood, L. G. (2000). Social relationships and health. In S. Cohen, B. H. Gottlieb, & L. G. Underwood (Eds.), *Social support measurement and intervention: A guide for health and social scientists.* (pp. 3–28). Oxford University Press.

Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *American Journal of Sociology*, *94*, S95–S120. https://doi.org/10.1086/228943

Cook, N., & Tapscott, D. (2008). *Enterprise 2.0: How Social Software Will Change the Future of Work*. Routledge.

Cramer, E. M., Song, H., & Drent, A. M. (2016). Social comparison on Facebook: Motivation, affective consequences, self-esteem, and Facebook fatigue. *Computers in Human Behavior*, *64*, 739–746. https://doi.org/10.1016/j.chb.2016.07.049

Crusius, J., & Lange, J. (2014). What catches the envious eye? Attentional biases within malicious and benign envy. *Journal of Experimental Social Psychology*, *55*, 1–11. https://doi.org/10.1016/j.jesp.2014.05.007

Davila, J., Hershenberg, R., Feinstein, B. A., Gorman, K., Bhatia, V., & Starr, L. R. (2012). Frequency and quality of social networking among young adults: Associations with depressive symptoms, rumination, and corumination. *Psychology of Popular Media Culture*, *1*(2), 72–86. https://doi.org/10.1037/a0027512

de la Peña, A., & Quintanilla, C. (2015). Share, like and achieve: the power of Facebook to reach health-related goals. *International Journal of Consumer Studies*, *39*(5), 495–505. https://doi.org/10.1111/ijcs.12224

de Vries, D. A., & Kühne, R. (2015). Facebook and self-perception: Individual susceptibility to negative social comparison on Facebook. *Personality and Individual Differences*, *86*, 217–221. https://doi.org/10.1016/j.paid.2015.05.029

de Vries, D. A., Möller, A. M., Wieringa, M. S., Eigenraam, A. W., & Hamelink, K. (2017). Social Comparison as the Thief of Joy: Emotional Consequences of Viewing Strangers' Instagram Posts. *Media Psychology*, *21*(2), 222–245. https://doi.org/10.1080/15213269.2016.1267647

DeLongis, A., Folkman, S., & Lazarus, R. S. (1988). The impact of daily stress on health and mood: Psychological and social resources as mediators. *Journal of Personality and Social Psychology*, *54*(3), 486–495. https://doi.org/10.1037/0022-3514.54.3.486

Dhir, A., Yossatorn, Y., Kaur, P., & Chen, S. (2018). Online social media fatigue and psychological wellbeing—A study of compulsive use, fear of missing out, fatigue, anxiety and depression. *International Journal of Information Management*, *40*, 141–152. https://doi.org/10.1016/j.ijinfomgt.2018.01.012

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*(3), 542–575. https://doi.org/10.1037/0033-2909.95.3.542

Diener, E., Kesebir, P., & Tov, W. (2009). Happiness. In M. Leary & R. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 147–160). Guilford Press.

Dijkstra, P., Gibbons, F. X., & Buunk, A. P. (2010). Social comparison theory. In J. E. Maddux & J. P. Tangney (Eds.), *Social psychological foundations of clinical psychology* (pp. 195–211). The Guilford Press.

Dolev-Cohen, M., & Barak, A. (2013). Adolescents' use of Instant Messaging as a means of emotional relief. *Computers in Human Behavior*, *29*(1), 58–63. https://doi.org/10.1016/j.chb.2012.07.016

Donnelly, E., & Kuss, D. J. (2016). Depression among Users of Social Networking Sites (SNSs): The Role of SNS Addiction and Increased Usage. *Journal of Addiction and Preventive Medicine*, *02*(01), 1–6. https://doi.org/10.19104/japm.2016.107

Dorethy, M. D., Fiebert, M. S., & Warren, C. R. (2014). Examining Social Networking Site Behaviors: Photo Sharing and Impression Management on Facebook. *International Review of Social Sciences and Humanities*, *6*(2), 111–116. https://www.irssh.com

Eleuteri, S., Saladino, V., & Verrastro, V. (2017). Identity, relationships, sexuality, and risky behaviors of adolescents in the context of social media. *Sexual and Relationship Therapy*, *32*(3–4), 354–365. https://doi.org/10.1080/14681994.2017.1397953

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143–1168. https://doi.org/10.1111/j.1083-6101.2007.00367.x

Ellison, N. B., Steinfield, C., & Lampe, C. (2011). Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society*, *13*(6), 873–892. https://doi.org/10.1177/1461444810385389

Ellison, N., Heino, R., & Gibbs, J. (2006). Managing Impressions Online: Self-Presentation Processes in the Online Dating Environment. *Journal of Computer-Mediated Communication*, *11*(2), 415–441. https://doi.org/10.1111/j.1083-6101.2006.00020.x

eMarketer. (2021, January 28). *Average daily time spent on social networks in the U.S. 2018–2022* [Dataset]. Statista. https://doi.org/1018324/us-users-daily-social-media-minutes/

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11

Fabris, M., Marengo, D., Longobardi, C., & Settanni, M. (2020). Investigating the links between fear of missing out, social media addiction, and emotional symptoms in adolescence: The role of stress associated with neglect and negative reactions on social media. *Addictive Behaviors*, *106*, 106364. https://doi.org/10.1016/j.addbeh.2020.106364

Feinstein, B. A., Hershenberg, R., Bhatia, V., Latack, J. A., Meuwly, N., & Davila, J. (2013). Negative social comparison on Facebook and depressive symptoms: Rumination as a mechanism. *Psychology of Popular Media Culture*, *2*(3), 161–170. https://doi.org/10.1037/a0033111

Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, *7*(2), 117–140. https://doi.org/10.1177/001872675400700202

Fikkers, K. M., Piotrowski, J. T., & Valkenburg, P. M. (2016). Beyond the lab: Investigating early adolescents' cognitive, emotional, and arousal responses to violent games. *Computers in Human Behavior*, *60*, 542–549. https://doi.org/10.1016/j.chb.2016.02.055

Finch, H. (2005). Comparison of the Performance of Nonparametric and Parametric MANOVA Test Statistics when Assumptions Are Violated. *Methodology*, *1*(1), 27–38. https://doi.org/10.1027/1614-1881.1.1.27

Frison, E., & Eggermont, S. (2015). Exploring the Relationships Between Different Types of Facebook Use, Perceived Online Social Support, and Adolescents' Depressed Mood. *Social Science Computer Review*, *34*(2), 153–171. https://doi.org/10.1177/0894439314567449

Frost, R. L., & Rickwood, D. J. (2017). A systematic review of the mental health outcomes associated with Facebook use. *Computers in Human Behavior*, *76*, 576–600. https://doi.org/10.1016/j.chb.2017.08.001

Geiger, A. W., & Davis, L. (2020, December 23). *A growing number of American teenagers – particularly girls – are facing depression*. Pew Research Center. https://www.pewresearch.org/fact-tank/2019/07/12/a-growing-number-of-american-teenagers-particularly-girls-are-facing-depression/

Gerson, J., Plagnol, A. C., & Corr, P. J. (2016). Subjective well-being and social media use: Do personality traits moderate the impact of social comparison on

Facebook? *Computers in Human Behavior*, *63*, 813–822. https://doi.org/10.1016/j.chb.2016.06.023

Gilbert, P., Price, J., & Allan, S. (1995). Social comparison, social attractiveness and evolution: How might they be related? *New Ideas in Psychology*, *13*(2), 149–165. https://doi.org/10.1016/0732-118x(95)00002-x

Greenhouse, S. W., & Geisser, S. (1959). On methods in the analysis of profile data. *Psychometrika*, *24*(2), 95–112. https://doi.org/10.1007/bf02289823

Grieve, R., Indian, M., Witteveen, K., Anne Tolan, G., & Marrington, J. (2013). Face-to-face or Facebook: Can social connectedness be derived online? *Computers in Human Behavior*, *29*(3), 604–609. https://doi.org/10.1016/j.chb.2012.11.017

Griffiths, M. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use*, *10*(4), 191–197. https://doi.org/10.1080/14659890500114359

Griffiths, M. D., Kuss, D. J., & Demetrovics, Z. (2014). Social Networking Addiction. *Behavioral Addictions*, 119–141. https://doi.org/10.1016/b978-0-12-407724-9.00006-9

Guo, Y., Li, Y., & Ito, N. (2014). Exploring the Predicted Effect of Social Networking Site Use on Perceived Social Capital and Psychological Well-Being of Chinese International Students in Japan. *Cyberpsychology, Behavior, and Social Networking*, *17*(1), 52–58. https://doi.org/10.1089/cyber.2012.0537

Haferkamp, N., & Krämer, N. C. (2011). Social Comparison 2.0: Examining the Effects of Online Profiles on Social-Networking Sites. *Cyberpsychology, Behavior, and Social Networking*, *14*(5), 309–314. https://doi.org/10.1089/cyber.2010.0120

Han, B. (2018). Social Media Burnout: Definition, Measurement Instrument, and Why We Care. *Journal of Computer Information Systems*, *58*(2), 122–130. https://doi.org/10.1080/08874417.2016.1208064

Harris, T. (2019). *Optimizing for engagement: Understanding the use of persuasive technology on internet platforms.* https://www.commerce.senate.gov/services/files/96E3A739-DC8D-45F1-87D7-EC70A368371D.

Herbert, T. B., & Cohen, S. (1993). Stress and immunity in humans: a meta-analytic review. *Psychosomatic Medicine*, *55*(4), 364–379. https://doi.org/10.1097/00006842-199307000-00004

Hinsch, C., & Sheldon, K. M. (2013). The impact of frequent social Internet consumption: Increased procrastination and lower life satisfaction. *Journal of Consumer Behaviour*, *12*(6), 496–505. https://doi.org/10.1002/cb.1453

Hong, F. Y., Huang, D. H., Lin, H. Y., & Chiu, S. L. (2014). Analysis of the psychological traits, Facebook usage, and Facebook addiction model of Taiwanese university students. *Telematics and Informatics*, *31*(4), 597–606. https://doi.org/10.1016/j.tele.2014.01.001

Howard, P. N., & Parks, M. R. (2012). Social Media and Political Change: Capacity, Constraint, and Consequence. *Journal of Communication*, *62*(2), 359–362. https://doi.org/10.1111/j.1460-2466.2012.01626.x

Huck, S. W., & McLean, R. A. (1975). Using a repeated measures ANOVA to analyze the data from a pretest-posttest design: A potentially confusing task. *Psychological Bulletin*, *82*(4), 511–518. https://doi.org/10.1037/h0076767

Hunt, M. G., Marx, R., Lipson, C., & Young, J. (2018). No More FOMO: Limiting Social Media Decreases Loneliness and Depression. *Journal of Social and Clinical Psychology*, *37*(10), 751–768. https://doi.org/10.1521/jscp.2018.37.10.751

Huta, V., & Ryan, R. M. (2009). Pursuing Pleasure or Virtue: The Differential and Overlapping Well-Being Benefits of Hedonic and Eudaimonic Motives. *Journal of Happiness Studies*, *11*(6), 735–762. https://doi.org/10.1007/s10902-009-9171-4

Huynh, H., & Feldt, L. S. (1976). Estimation of the Box Correction for Degrees of Freedom from Sample Data in Randomized Block and Split-Plot Designs. *Journal of Educational Statistics*, *1*(1), 69. https://doi.org/10.2307/1164736

James, T. L., Lowry, P. B., Wallace, L., & Warkentin, M. (2017). The Effect of Belongingness on Obsessive-Compulsive Disorder in the Use of Online Social Networks. *Journal of Management Information Systems*, *34*(2), 560–596. https://doi.org/10.1080/07421222.2017.1334496

Johnson, R. A., & Wichern, D. W. (2007). *Applied Multivariate Statistical Analysis (6th Edition)* (6th ed.). Pearson.

Jose, P. E., & Weir, K. F. (2012). How is Anxiety Involved in the Longitudinal Relationship between Brooding Rumination and Depressive Symptoms in Adolescents? *Journal of Youth and Adolescence*, *42*(8), 1210–1222. https://doi.org/10.1007/s10964-012-9891-3

Kalpidou, M., Costin, D., & Morris, J. (2011). The Relationship Between Facebook and the Well-Being of Undergraduate College Students. *Cyberpsychology, Behavior, and Social Networking*, *14*(4), 183–189. https://doi.org/10.1089/cyber.2010.0061

Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine*, *4*(1), 1–39. https://doi.org/10.1007/bf00844845

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, *53*(1), 59–68. https://doi.org/10.1016/j.bushor.2009.09.003

Karahanna, E., Xin Xu, S., Xu, Y., & Zhang, N. A. (2018). The Needs–Affordances–Features Perspective for the Use of Social Media. *MIS Quarterly*, *42*(3), 737–756. https://doi.org/10.25300/misq/2018/11492

Kent, M. L. (2010). Directions in Social Media for Professionals and Scholars. In R. L. Heath (Ed.), *Handbook of public relations.* (2nd ed., pp. 643–656). Thousand Oaks, CA: Sage.

Keppel, G., & Wickens, T. D. (2004). *Design and Analysis: A Researcher's Handbook* (4th ed.). Pearson College Div.

Keselman, H. J., Algina, J., & Kowalchuk, R. K. (2001). The analysis of repeated measures designs: A review. *British Journal of Mathematical and Statistical Psychology*, *54*(1), 1–20. https://doi.org/10.1348/000711001159357

Kim, J., & Lee, J. E. R. (2011). The Facebook Paths to Happiness: Effects of the Number of Facebook Friends and Self-Presentation on Subjective Well-Being. *Cyberpsychology, Behavior, and Social Networking*, *14*(6), 359–364. https://doi.org/10.1089/cyber.2010.0374

Kim, W., Jeong, O. R., & Lee, S. W. (2010). On social Web sites. *Information Systems*, *35*(2), 215–236. https://doi.org/10.1016/j.is.2009.08.003

Kleemans, M., Daalmans, S., Carbaat, I., & Anschütz, D. (2018). Picture Perfect: The Direct Effect of Manipulated Instagram Photos on Body Image in Adolescent Girls. *Media Psychology*, *21*(1), 93–110. https://doi.org/10.1080/15213269.2016.1257392

Koc, M., & Gulyagci, S. (2013). Facebook Addiction Among Turkish College Students: The Role of Psychological Health, Demographic, and Usage Characteristics. *Cyberpsychology, Behavior, and Social Networking*, *16*(4), 279–284. https://doi.org/10.1089/cyber.2012.0249

Kramer, A. D. I., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *Proceedings of the National Academy of Sciences*, *111*(24), 8788–8790. https://doi.org/10.1073/pnas.1320040111

Krasnova, H., Wenninger, H., Widjaja, T., & Buxmann, P. (2013). Envy on Facebook: a hidden threat to users' life satisfaction? *Paper Presented at the 11th International Conference on Wirtschaftsinformatik (WI), Leipzig, Germany.* https://doi.org/10.7892/boris.47080

Krasnova, H., Widjaja, T., Buxmann, P., Wenninger, H., & Benbasat, I. (2015). Research Note—Why Following Friends Can Hurt You: An Exploratory Investigation of the Effects of Envy on Social Networking Sites among College-Age Users. *Information Systems Research*, *26*(3), 585–605. https://doi.org/10.1287/isre.2015.0588

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet Paradox Revisited. *Journal of Social Issues*, *58*(1), 49–74. https://doi.org/10.1111/1540-4560.00248

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., Shablack, H., Jonides, J., & Ybarra, O. (2013). Facebook Use Predicts Declines in Subjective Well-Being in Young Adults. *PLoS ONE*, *8*(8), e69841. https://doi.org/10.1371/journal.pone.0069841

Lampe, C., Ellison, N. B., & Steinfield, C. (2008). Changes in use and perception of facebook. *Proceedings of the ACM 2008 Conference on Computer Supported Cooperative Work - CSCW '08*. https://doi.org/10.1145/1460563.1460675

Lange, J., & Crusius, J. (2015). Dispositional Envy Revisited. *Personality and Social Psychology Bulletin*, *41*(2), 284–294. https://doi.org/10.1177/0146167214564959

Lazarus, R. S. (1966). *Psychological stress and the coping process*. McGraw-Hill.

Lazarus, R. S. (1993). From Psychological Stress to the Emotions: A History of Changing Outlooks. *Annual Review of Psychology*, *44*(1), 1–22. https://doi.org/10.1146/annurev.ps.44.020193.000245

Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping* (1st ed.). Springer Publishing Company.

Lee, A. R., Son, S. M., & Kim, K. K. (2016). Information and communication technology overload and social networking service fatigue: A stress perspective. *Computers in Human Behavior*, *55*, 51–61. https://doi.org/10.1016/j.chb.2015.08.011

Lee, B., & Jeong, H. I. (2019). Construct validity of the perceived stress scale (PSS-10) in a sample of early childhood teacher candidates. *Psychiatry and Clinical Psychopharmacology*, *29*(1), 76–82. https://doi.org/10.1080/24750573.2019.1565693

Lee, K. T., Noh, M. J., & Koo, D. M. (2013). Lonely People Are No Longer Lonely on Social Networking Sites: The Mediating Role of Self-Disclosure and Social Support. *Cyberpsychology, Behavior, and Social Networking*, *16*(6), 413–418. https://doi.org/10.1089/cyber.2012.0553

Lee, S. Y. (2014). How do people compare themselves with others on social network sites?: The case of Facebook. *Computers in Human Behavior*, *32*, 253–260. https://doi.org/10.1016/j.chb.2013.12.009

Lee-Won, R. J., Herzog, L., & Park, S. G. (2015). Hooked on Facebook: The Role of Social Anxiety and Need for Social Assurance in Problematic Use of Facebook. *Cyberpsychology, Behavior, and Social Networking*, *18*(10), 567–574. https://doi.org/10.1089/cyber.2015.0002

Lewis, J., & Sauro, J. (2020, June 17). *How to Convert Between Five- and Seven-Point Scales – MeasuringU*. Measuring U. https://measuringu.com/convert-point-scales/

Lin, L. Y., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., Hoffman, B. L., Giles, L. M., & Primack, B. A. (2016). ASSOCIATION BETWEEN SOCIAL MEDIA USE AND DEPRESSION AMONG U.S. YOUNG ADULTS. *Depression and Anxiety*, *33*(4), 323–331. https://doi.org/10.1002/da.22466

Lin, R., & Utz, S. (2015). The emotional responses of browsing Facebook: Happiness, envy, and the role of tie strength. *Computers in Human Behavior*, *52*, 29–38. https://doi.org/10.1016/j.chb.2015.04.064

Liu, C., & Ma, J. (2018). Social media addiction and burnout: The mediating roles of envy and social media use anxiety. *Current Psychology*, *39*(6), 1883–1891. https://doi.org/10.1007/s12144-018-9998-0

Lup, K., Trub, L., & Rosenthal, L. (2015). Instagram #Instasad?: Exploring Associations Among Instagram Use, Depressive Symptoms, Negative Social Comparison, and Strangers Followed. *Cyberpsychology, Behavior, and Social Networking*, *18*(5), 247–252. https://doi.org/10.1089/cyber.2014.0560

Luqman, A., Cao, X., Ali, A., Masood, A., & Yu, L. (2017). Empirical investigation of Facebook discontinues usage intentions based on SOR paradigm. *Computers in Human Behavior*, *70*, 544–555. https://doi.org/10.1016/j.chb.2017.01.020

Mackinnon, A., Jorm, A. F., Christensen, H., Korten, A. E., Jacomb, P. A., & Rodgers, B. (1999). A short form of the Positive and Negative Affect Schedule: evaluation of factorial validity and invariance across demographic variables in a community sample. *Personality and Individual Differences*, *27*(3), 405–416. https://doi.org/10.1016/s0191-8869(98)00251-7

Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology*, *29*(6), 446–458. https://doi.org/10.1016/j.appdev.2008.07.001

Manago, A. M., Taylor, T., & Greenfield, P. M. (2012). Me and my 400 friends: The anatomy of college students' Facebook networks, their communication patterns,

and well-being. *Developmental Psychology*, *48*(2), 369–380. https://doi.org/10.1037/a0026338

Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, *226*, 274–281. https://doi.org/10.1016/j.jad.2017.10.007

Marroquín, B. (2011). Interpersonal emotion regulation as a mechanism of social support in depression. *Clinical Psychology Review*, *31*(8), 1276–1290. https://doi.org/10.1016/j.cpr.2011.09.005

Masciantonio, A., Bourguignon, D., Bouchat, P., Balty, M., & Rimé, B. (2021). Don't put all social network sites in one basket: Facebook, Instagram, Twitter, TikTok, and their relations with well-being during the COVID-19 pandemic. *PLOS ONE*, *16*(3), e0248384. https://doi.org/10.1371/journal.pone.0248384

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99–113. https://doi.org/10.1002/job.4030020205

Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology*, *93*(3), 498–512. https://doi.org/10.1037/0021-9010.93.3.498

Mauchly, J. W. (1940). Significance Test for Sphericity of a Normal n-Variate Distribution. *The Annals of Mathematical Statistics*, *11*(2), 204–209. http://www.jstor.com/stable/2235878

Maxwell, S. E. (1980). Pairwise Multiple Comparisons in Repeated Measures Designs. *Journal of Educational Statistics*, *5*(3), 269. https://doi.org/10.2307/1164969

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2004). *Designing Experiments and Analyzing Data*. Lawrence Erlbaum Associates.

McCord, B., Rodebaugh, T. L., & Levinson, C. A. (2014). Facebook: Social uses and anxiety. *Computers in Human Behavior*, *34*, 23–27. https://doi.org/10.1016/j.chb.2014.01.020

Meier, A., Gilbert, A., Börner, S., & Possler, D. (2020). Instagram Inspiration: How Upward Comparison on Social Network Sites Can Contribute to Well-Being. *Journal of Communication*, *70*(5), 721–743. https://doi.org/10.1093/joc/jqaa025

Meier, A., Reinecke, L., & Meltzer, C. E. (2016). "Facebocrastination"? Predictors of using Facebook for procrastination and its effects on students' well-being. *Computers in Human Behavior*, *64*, 65–76. https://doi.org/10.1016/j.chb.2016.06.011

Meier, A., & Schäfer, S. (2018). The Positive Side of Social Comparison on Social Network Sites: How Envy Can Drive Inspiration on Instagram. *Cyberpsychology, Behavior, and Social Networking*, *21*(7), 411–417. https://doi.org/10.1089/cyber.2017.0708

Merolli, M., Gray, K., & Martin-Sanchez, F. (2014). Therapeutic Affordances of Social Media: Emergent Themes From a Global Online Survey of People With Chronic Pain. *Journal of Medical Internet Research*, *16*(12), e284. https://doi.org/10.2196/jmir.3494

Mikami, A. Y., Szwedo, D. E., Allen, J. P., Evans, M. A., & Hare, A. L. (2010). Adolescent peer relationships and behavior problems predict young adults' communication on social networking websites. *Developmental Psychology*, *46*(1), 46–56. https://doi.org/10.1037/a0017420

Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, *63*(2), 81–97. https://doi.org/10.1037/h0043158

Moreau, A., Laconi, S., Delfour, M., & Chabrol, H. (2015). Psychopathological profiles of adolescent and young adult problematic Facebook users. *Computers in Human Behavior*, *44*, 64–69. https://doi.org/10.1016/j.chb.2014.11.045

Morgan, C., & Cotten, S. R. (2004). The Relationship between Internet Activities and Depressive Symptoms in a Sample of College Freshmen. *CyberPsychology & Behavior*, *6*(2), 133–142. https://doi.org/10.1089/109493103321640329

Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review*, *110*(3), 472–489. https://doi.org/10.1037/0033-295x.110.3.472

Mussweiler, T., Rüter, K., & Epstude, K. (2004). The Ups and Downs of Social Comparison: Mechanisms of Assimilation and Contrast. *Journal of Personality and Social Psychology*, *87*(6), 832–844. https://doi.org/10.1037/0022-3514.87.6.832

Nabi, R. L., Prestin, A., & So, J. (2013). Facebook Friends with (Health) Benefits? Exploring Social Network Site Use and Perceptions of Social Support, Stress, and Well-Being. *Cyberpsychology, Behavior, and Social Networking*, *16*(10), 721–727. https://doi.org/10.1089/cyber.2012.0521

Nesi, J., & Prinstein, M. J. (2015). Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms. *Journal of Abnormal Child Psychology*, *43*(8), 1427–1438. https://doi.org/10.1007/s10802-015-0020-0

Nunnally, J. C. (1978a). An Overview of Psychological Measurement. *Clinical Diagnosis of Mental Disorders*, 97–146. https://doi.org/10.1007/978-1-4684-2490-4_4

Nunnally, J. C. (1978b). *Psychometric Theory* (2nd ed.). Mcgraw-Hill College.

Oberfeld, D., & Franke, T. (2012). Evaluating the robustness of repeated measures analyses: The case of small sample sizes and nonnormal data. *Behavior Research Methods*, *45*(3), 792–812. https://doi.org/10.3758/s13428-012-0281-2

O'Brien, R. G., & Kaiser, M. K. (1985). MANOVA method for analyzing repeated measures designs: An extensive primer. *Psychological Bulletin*, *97*(2), 316–333. https://doi.org/10.1037/0033-2909.97.2.316

Odgers, C. L., & Jensen, M. R. (2020). Annual Research Review: Adolescent mental health in the digital age: facts, fears, and future directions. *Journal of Child Psychology and Psychiatry*, *61*(3), 336–348. https://doi.org/10.1111/jcpp.13190

Oh, H. J., Ozkaya, E., & LaRose, R. (2014). How does online social networking enhance life satisfaction? The relationships among online supportive interaction, affect, perceived social support, sense of community, and life satisfaction. *Computers in Human Behavior*, *30*, 69–78. https://doi.org/10.1016/j.chb.2013.07.053

O'Leary-Kelly, S. W., & J. Vokurka, R. (1998). The empirical assessment of construct validity. *Journal of Operations Management*, *16*(4), 387–405. https://doi.org/10.1016/s0272-6963(98)00020-5

Olson, C. L. (1974). Comparative Robustness of Six Tests in Multivariate Analysis of Variance. *Journal of the American Statistical Association*, *69*(348), 894–908. https://doi.org/10.1080/01621459.1974.10480224

Orben, A., & Przybylski, A. K. (2019). The association between adolescent well-being and digital technology use. *Nature Human Behaviour*, *3*(2), 173–182. https://doi.org/10.1038/s41562-018-0506-1

O'Reilly, T. (2005, September 30). *What Is Web 2.0*. O'Reilly Media. Retrieved December 11, 2021, from https://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html

Osatuyi, B. (2013). Information sharing on social media sites. *Computers in Human Behavior*, *29*(6), 2622–2631. https://doi.org/10.1016/j.chb.2013.07.001

Park, E., Cho, M., & Ki, C. S. (2009). Correct Use of Repeated Measures Analysis of Variance. *Annals of Laboratory Medicine*, *29*(1), 1–9. https://doi.org/10.3343/kjlm.2009.29.1.1

Parrish, B. P., Cohen, L. H., & Laurenceau, J. P. (2011). Prospective Relationship between Negative Affective Reactivity to Daily Stress and Depressive Symptoms. *Journal of Social and Clinical Psychology*, *30*(3), 270–296. https://doi.org/10.1521/jscp.2011.30.3.270

Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The Stress Process. *Journal of Health and Social Behavior*, *22*(4), 337. https://doi.org/10.2307/2136676

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, *30*(3), 227–238. https://doi.org/10.1016/j.appdev.2008.12.010

Peterson, R. A. (1994). A Meta-Analysis of Cronbach's Coefficient Alpha. *Journal of Consumer Research*, *21*(2), 381–391. https://www.jstor.org/stable/2489828

Pilkonis, P. A., Choi, S. W., Reise, S. P., Stover, A. M., Riley, W. T., & Cella, D. (2011). Item Banks for Measuring Emotional Distress From the Patient-Reported Outcomes Measurement Information System (PROMIS®):

Depression, Anxiety, and Anger. *Assessment*, *18*(3), 263–283. https://doi.org/10.1177/1073191111411667

Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behavior*, *62*, 155–167. https://doi.org/10.1016/j.chb.2016.03.084

Pituch, K. A., & Stevens, J. P. (2016). *Applied Multivariate Statistics for the Social Sciences* (6th ed.). Routledge: New York.

Ponnusamy, S., Iranmanesh, M., Foroughi, B., & Hyun, S. S. (2020). Drivers and outcomes of Instagram Addiction: Psychological well-being as moderator. *Computers in Human Behavior*, *107*, 106294. https://doi.org/10.1016/j.chb.2020.106294

Primack, B. A., Shensa, A., Escobar-Viera, C. G., Barrett, E. L., Sidani, J. E., Colditz, J. B., & James, A. E. (2017). Use of multiple social media platforms and symptoms of depression and anxiety: A nationally-representative study among U.S. young adults. *Computers in Human Behavior*, *69*, 1–9. https://doi.org/10.1016/j.chb.2016.11.013

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, *29*(4), 1841–1848. https://doi.org/10.1016/j.chb.2013.02.014

Przybylski, A. K., & Weinstein, N. (2017). A Large-Scale Test of the Goldilocks Hypothesis: Quantifying the Relations Between Digital-Screen Use and the Mental Well-Being of Adolescents. *Psychological Science*, *28*(2), 204–215. https://doi.org/10.1177/0956797616678438

Quan-Haase, A., & Young, A. L. (2010). Uses and Gratifications of Social Media: A Comparison of Facebook and Instant Messaging. *Bulletin of Science, Technology & Society*, *30*(5), 350–361. https://doi.org/10.1177/0270467610380009

Quinn, S., & Oldmeadow, J. A. (2012). Is theigeneration a ‘we’ generation? Social networking use among 9- to 13-year-olds and belonging. *British Journal of Developmental Psychology*, *31*(1), 136–142. https://doi.org/10.1111/bjdp.12007

Rader, E., & Gray, R. (2015). Understanding User Beliefs About Algorithmic Curation in the Facebook News Feed. *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*. https://doi.org/10.1145/2702123.2702174

Reinecke, L., Klatt, J., & Krämer, N. C. (2011). Entertaining Media Use and the Satisfaction of Recovery Needs: Recovery Outcomes Associated With the Use of Interactive and Noninteractive Entertaining Media. *Media Psychology*, *14*(2), 192–215. https://doi.org/10.1080/15213269.2011.573466

Reinecke, L., Vorderer, P., & Knop, K. (2014). Entertainment 2.0? The Role of Intrinsic and Extrinsic Need Satisfaction for the Enjoyment of Facebook Use. *Journal of Communication*, *64*(3), 417–438. https://doi.org/10.1111/jcom.12099

Rieger, D., & Klimmt, C. (2018). The daily dose of digital inspiration: A multi-method exploration of meaningful communication in social media. *New Media & Society*, *21*(1), 97–118. https://doi.org/10.1177/1461444818788323

Rosen, L., Whaling, K., Rab, S., Carrier, L., & Cheever, N. (2013). Is Facebook creating "iDisorders"? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior*, *29*(3), 1243–1254. https://doi.org/10.1016/j.chb.2012.11.012

Russo, A., Watkins, J., Kelly, L., & Chan, S. (2008). Participatory Communication with Social Media. *Curator: The Museum Journal*, *51*(1), 21–31. https://doi.org/10.1111/j.2151-6952.2008.tb00292.x

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68–78. https://doi.org/10.1037/0003-066x.55.1.68

Ryan, T., Chester, A., Reece, J., & Xenos, S. (2014). The uses and abuses of Facebook: A review of Facebook addiction. *Journal of Behavioral Addictions*, *3*(3), 133–148. https://doi.org/10.1556/jba.3.2014.016

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719–727. https://doi.org/10.1037/0022-3514.69.4.719

Sagioglou, C., & Greitemeyer, T. (2014). Facebook's emotional consequences: Why Facebook causes a decrease in mood and why people still use it. *Computers in Human Behavior*, *35*, 359–363. https://doi.org/10.1016/j.chb.2014.03.003

Schalet, B. D., Cook, K. F., Choi, S. W., & Cella, D. (2014). Establishing a common metric for self-reported anxiety: Linking the MASQ, PANAS, and GAD-7 to PROMIS Anxiety. *Journal of Anxiety Disorders*, *28*(1), 88–96. https://doi.org/10.1016/j.janxdis.2013.11.006

Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology*, *51*(6), 1257–1264. https://doi.org/10.1037/0022-3514.51.6.1257

Schmider, E., Ziegler, M., Danay, E., Beyer, L., & Bühner, M. (2010). Is It Really Robust? *Methodology*, *6*(4), 147–151. https://doi.org/10.1027/1614-2241/a000016

Schönfeld, P., Brailovskaia, J., Bieda, A., Zhang, X. C., & Margraf, J. (2016). The effects of daily stress on positive and negative mental health: Mediation through self-efficacy. *International Journal of Clinical and Health Psychology*, *16*(1), 1–10. https://doi.org/10.1016/j.ijchp.2015.08.005

Schou, J., & Farkas, J. (2016). Algorithms, Interfaces, and the Circulation of Information: Interrogating the Epistemological Challenges of Facebook. *KOME*, *4*(1). https://doi.org/10.17646/kome.2016.13

Seabrook, E. M., Kern, M. L., & Rickard, N. S. (2016). Social Networking Sites, Depression, and Anxiety: A Systematic Review. *JMIR Mental Health*, *3*(4), e50. https://doi.org/10.2196/mental.5842

Selye, H. (1956). *The Stress of Life* (1st ed.). McGraw Hill.

Selye, H. (1976). Stress without Distress. *Psychopathology of Human Adaptation*, 137–146. https://doi.org/10.1007/978-1-4684-2238-2_9

Shakya, H. B., & Christakis, N. A. (2017). Association of Facebook Use With Compromised Well-Being: A Longitudinal Study. *American Journal of Epidemiology*. https://doi.org/10.1093/aje/kww189

Shapiro, S. S., & Wilk, M. B. (1965). An Analysis of Variance Test for Normality (Complete Samples). *Biometrika*, *52*(3/4), 591. https://doi.org/10.2307/2333709

Shaw, A. M., Timpano, K. R., Tran, T. B., & Joormann, J. (2015). Correlates of Facebook usage patterns: The relationship between passive Facebook use, social anxiety symptoms, and brooding. *Computers in Human Behavior*, *48*, 575–580. https://doi.org/10.1016/j.chb.2015.02.003

Shensa, A., Sidani, J. E., Lin, L. Y., Bowman, N. D., & Primack, B. A. (2015). Social Media Use and Perceived Emotional Support Among US Young Adults. *Journal of Community Health*, *41*(3), 541–549. https://doi.org/10.1007/s10900-015-0128-8

Smith, R. H., & Kim, S. H. (2007). Comprehending envy. *Psychological Bulletin*, *133*(1), 46–64. https://doi.org/10.1037/0033-2909.133.1.46

Song, H., Zmyslinski-Seelig, A., Kim, J., Drent, A., Victor, A., Omori, K., & Allen, M. (2014). Does Facebook make you lonely?: A meta analysis. *Computers in Human Behavior*, *36*, 446–452. https://doi.org/10.1016/j.chb.2014.04.011

Spies Shapiro, L. A., & Margolin, G. (2014). Growing Up Wired: Social Networking Sites and Adolescent Psychosocial Development. *Clinical Child and Family Psychology Review*, *17*, 1–18. https://doi.org/10.1007/s10567-013-0135-1

Sriwilai, K., & Charoensukmongkol, P. (2015). Face it, don't Facebook it: Impacts of Social Media Addiction on Mindfulness, Coping Strategies and the Consequence on Emotional Exhaustion. *Stress and Health*, *32*(4), 427–434. https://doi.org/10.1002/smi.2637

Steele, J. R., & Brown, J. D. (1995). Adolescent room culture: Studying media in the context of everyday life. *Journal of Youth and Adolescence*, *24*(5), 551–576. https://doi.org/10.1007/bf01537056

Stefanone, M. A., Kwon, K. H., & Lackaff, D. (2012). Exploring the relationship between perceptions of social capital and enacted support online. *Journal of Computer-Mediated Communication*, *17*(4), 451–466. https://doi.org/10.1111/j.1083-6101.2012.01585.x

Steinfield, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, *29*(6), 434–445. https://doi.org/10.1016/j.appdev.2008.07.002

Suls, J., & Wheeler, L. (2000). A Selective History of Classic and Neo-Social Comparison Theory. In J. Suls & J. Wheeler (Eds.), *Handbook of Social Comparison: Theory and Research* (1st ed., pp. 3–19). Springer Science+Business Media. https://doi.org/10.1007/978-1-4615-4237-7_1

Tandoc, E. C., Ferrucci, P., & Duffy, M. (2015). Facebook use, envy, and depression among college students: Is facebooking depressing? *Computers in Human Behavior*, *43*, 139–146. https://doi.org/10.1016/j.chb.2014.10.053

Taylor, D. G. (2020). Putting the "self" in selfies: how narcissism, envy and self-promotion motivate sharing of travel photos through social media. *Journal of Travel & Tourism Marketing*, *37*(1), 64–77. https://doi.org/10.1080/10548408.2020.1711847

Tennen, H., McKee, E., & Affleck, G. (2000). Social Comparison Processes in Health and Illness. In J. Suls & L. Wheeler (Eds.), *Handbook of Social Comparison: Theory and Research* (1st ed., pp. 443–483). Springer Science+Business Media.

Tiggemann, M., & Polivy, J. (2010). Upward and Downward: Social Comparison Processing of Thin Idealized Media Images. *Psychology of Women Quarterly*, *34*(3), 356–364. https://doi.org/10.1111/j.1471-6402.2010.01581.x

Tiggemann, M., & Slater, A. (2013). NetGirls: The Internet, Facebook, and body image concern in adolescent girls. *International Journal of Eating Disorders*, *46*(6), 630–633. https://doi.org/10.1002/eat.22141

Tiggemann, M., & Zaccardo, M. (2015). "Exercise to be fit, not skinny": The effect of fitspiration imagery on women's body image. *Body Image*, *15*, 61–67. https://doi.org/10.1016/j.bodyim.2015.06.003

Tromholt, M. (2016). The Facebook Experiment: Quitting Facebook Leads to Higher Levels of Well-Being. *Cyberpsychology, Behavior, and Social Networking*, *19*(11), 661–666. https://doi.org/10.1089/cyber.2016.0259

Twenge, J. M., & Campbell, W. K. (2019). Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets. *Psychiatric Quarterly*, *90*(2), 311–331. https://doi.org/10.1007/s11126-019-09630-7

Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019a). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. *Journal of Abnormal Psychology*, *128*(3), 185–199. https://doi.org/10.1037/abn0000410

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time. *Clinical Psychological Science*, *6*(1), 3–17. https://doi.org/10.1177/2167702617723376

Twenge, J. M., Spitzberg, B. H., & Campbell, W. K. (2019b). Less in-person social interaction with peers among U.S. adolescents in the 21st century and links to loneliness. *Journal of Social and Personal Relationships*, *36*(6), 1892–1913. https://doi.org/10.1177/0265407519836170

Valenzuela, S., Park, N., & Kee, K. F. (2009). Is There Social Capital in a Social Network Site?: Facebook Use and College Students' Life Satisfaction, Trust, and Participation. *Journal of Computer-Mediated Communication*, *14*(4), 875–901. https://doi.org/10.1111/j.1083-6101.2009.01474.x

Valkenburg, P., Beyens, I., Pouwels, J. L., van Driel, I. I., & Keijsers, L. (2021). Social Media Use and Adolescents' Self-Esteem: Heading for a Person-Specific Media Effects Paradigm. *Journal of Communication*, *71*(1), 56–78. https://doi.org/10.1093/joc/jqaa039

Valkenburg, P. M., & Peter, J. (2007). Preadolescents' and adolescents' online communication and their closeness to friends. *Developmental Psychology*, *43*(2), 267–277. https://doi.org/10.1037/0012-1649.43.2.267

Valkenburg, P. M., & Peter, J. (2009). The Effects of Instant Messaging on the Quality of Adolescents' Existing Friendships: A Longitudinal Study. *Journal of Communication*, *59*(1), 79–97. https://doi.org/10.1111/j.1460-2466.2008.01405.x

Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend Networking Sites and Their Relationship to Adolescents' Well-Being and Social Self-Esteem. *CyberPsychology & Behavior*, *9*(5), 584–590. https://doi.org/10.1089/cpb.2006.9.584

Vall-Roqué, H., Andrés, A., & Saldaña, C. (2021). The impact of COVID-19 lockdown on social network sites use, body image disturbances and self-esteem among adolescent and young women. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *110*, 110293. https://doi.org/10.1016/j.pnpbp.2021.110293

van de Ven, N., Zeelenberg, M., & Pieters, R. (2009). Leveling up and down: The experiences of benign and malicious envy. *Emotion*, *9*(3), 419–429. https://doi.org/10.1037/a0015669

Vannucci, A., Flannery, K. M., & Ohannessian, C. M. (2017). Social media use and anxiety in emerging adults. *Journal of Affective Disorders*, *207*, 163–166. https://doi.org/10.1016/j.jad.2016.08.040

Vasey, M. W., & Thayer, J. F. (1987). The Continuing Problem of False Positives in Repeated Measures ANOVA in Psychophysiology: A Multivariate Solution. *Psychophysiology*, *24*(4), 479–486. https://doi.org/10.1111/j.1469-8986.1987.tb00324.x

Vázquez-Herrero, J., Negreira-Rey, M. C., & López-García, X. (2020). Let's dance the news! How the news media are adapting to the logic of TikTok. *Journalism*, *23*(8), 1717–1735. https://doi.org/10.1177/1464884920969092

Verduyn, P., Lee, D. S., Park, J., Shablack, H., Orvell, A., Bayer, J., Ybarra, O., Jonides, J., & Kross, E. (2015). Passive Facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General*, *144*(2), 480–488. https://doi.org/10.1037/xge0000057

Verduyn, P., Ybarra, O., Résibois, M., Jonides, J., & Kross, E. (2017). Do Social Network Sites Enhance or Undermine Subjective Well-Being? A Critical Review. *Social Issues and Policy Review*, *11*(1), 274–302. https://doi.org/10.1111/sipr.12033

Vogel, E. A., Rose, J. P., Okdie, B. M., Eckles, K., & Franz, B. (2015). Who compares and despairs? The effect of social comparison orientation on social

media use and its outcomes. *Personality and Individual Differences*, *86*, 249–256. https://doi.org/10.1016/j.paid.2015.06.026

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, *3*(4), 206–222. https://doi.org/10.1037/ppm0000047

Wang, X., Cai, L., Qian, J., & Peng, J. (2014). Social support moderates stress effects on depression. *International Journal of Mental Health Systems*, *8*(1). https://doi.org/10.1186/1752-4458-8-41

Want, S. C. (2009). Meta-analytic moderators of experimental exposure to media portrayals of women on female appearance satisfaction: Social comparisons as automatic processes. *Body Image*, *6*(4), 257–269. https://doi.org/10.1016/j.bodyim.2009.07.008

Waterman, A. S. (2008). Reconsidering happiness: a eudaimonist's perspective. *The Journal of Positive Psychology*, *3*(4), 234–252. https://doi.org/10.1080/17439760802303002

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070. https://doi.org/10.1037/0022-3514.54.6.1063

We Are Social, Hootsuite, & DataReportal. (2022a, May 4). *Digital 2022: Global Overview Report*. DataReportal – Global Digital Insights. https://datareportal.com/reports/digital-2022-global-overview-report?utm_source=Global_Digital_Reports&utm_medium=Article&utm_campaign=Digital_2022

We Are Social, Hootsuite, & DataReportal. (2022b, July 21). *The Global State of Digital in July 2022*. DataReportal – Global Digital Insights. https://datareportal.com/reports/digital-2022-july-global-statshot

We Are Social Ltd. & Hootsuite Media Inc. (2021, October). *The Global State of Digital 2021* (Q4 Update). https://www.hootsuite.com/pages/digital-trends-2021

Wegmann, E., Stodt, B., & Brand, M. (2015). Addictive use of social networking sites can be explained by the interaction of Internet use expectancies, Internet

literacy, and psychopathological symptoms. *Journal of Behavioral Addictions*, *4*(3), 155–162. https://doi.org/10.1556/2006.4.2015.021

Wells, G., Horwitz, J., & Seetharaman, D. (2021, September 14). Facebook Knows Instagram Is Toxic for Teen Girls, Company Documents Show. *WSJ*. https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739

Wenninger, H., Cheung, C. M., & Chmielinski, M. (2021). Understanding envy and users' responses to envy in the context of social networking sites: A literature review. *International Journal of Information Management*, *58*, 102303. https://doi.org/10.1016/j.ijinfomgt.2020.102303

Wenninger, H., Cheung, C. M., & Krasnova, H. (2019). College-aged users behavioral strategies to reduce envy on social networking sites: A cross-cultural investigation. *Computers in Human Behavior*, *97*, 10–23. https://doi.org/10.1016/j.chb.2019.02.025

Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., Charlson, F. J., Norman, R. E., Flaxman, A. D., Johns, N., Burstein, R., Murray, C. J., & Vos, T. (2013). Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. *The Lancet*, *382*(9904), 1575–1586. https://doi.org/10.1016/s0140-6736(13)61611-6

Wood, J. V. (1996). What is Social Comparison and How Should We Study it? *Personality and Social Psychology Bulletin*, *22*(5), 520–537. https://doi.org/10.1177/0146167296225009

Woods, H. C., & Scott, H. (2016). #Sleepyteens: Social media use in adolescence is associated with poor sleep quality, anxiety, depression and low self-esteem. *Journal of Adolescence*, *51*, 41–49. https://doi.org/10.1016/j.adolescence.2016.05.008

Zhang, S., Zhao, L., Lu, Y., & Yang, J. (2016). Do you get tired of socializing? An empirical explanation of discontinuous usage behaviour in social network services. *Information & Management*, *53*(7), 904–914. https://doi.org/10.1016/j.im.2016.03.006

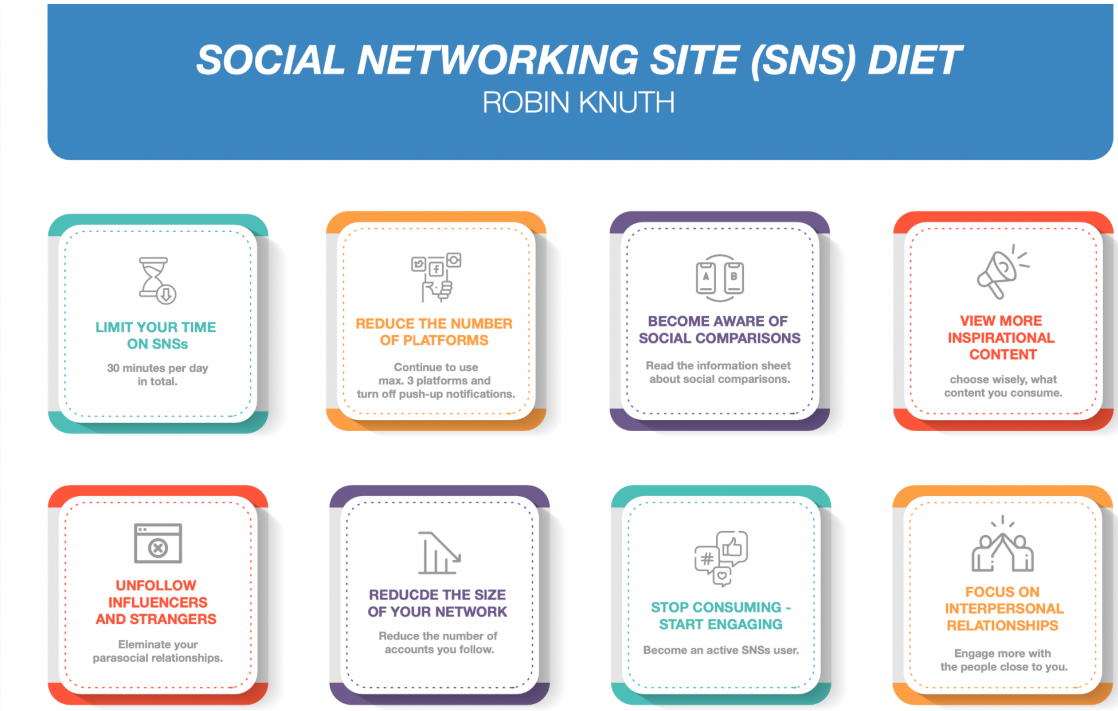
Zhao, N., & Zhou, G. (2020). Social Media Use and Mental Health during the COVID‐19 Pandemic: Moderator Role of Disaster Stressor and Mediator Role of Negative Affect. *Applied Psychology: Health and Well-Being*, *12*(4), 1019–1038. https://doi.org/10.1111/aphw.12226

Zink, J., Belcher, B. R., Kechter, A., Stone, M. D., & Leventhal, A. M. (2019). Reciprocal associations between screen time and emotional disorder symptoms during adolescence. *Preventive Medicine Reports*, *13*, 281–288. https://doi.org/10.1016/j.pmedr.2019.01.014

APPENDICES

APPENDIX A

The SNS Diet



What Do I Need To Do?
INSTRUCTIONS

PLEASE READ AND FOLLOW THESE INSTRUCTIONS FOR THE NEXT TWO WEEKS.

01 + 02 LIMIT YOUR TIME AND REDUCE NUMER OF THE SOCIAL NETWORKING SITES

For the duration of the study, you are only allowed to spend **a maximum of 30 minutes per day on all social networking sites**, while you are only also only allowed to **use a maximum of three social networking sites**.
Decide for yourself if you prefer to continue using only a single platform, two or a maximum of three platforms. If you use more, then stop their use completely for the next two weeks. You are allowed to decide for yourself whether you want to spend your time limit of 30 minutes on one social network or if you prefer to continue to use up to three social networking sites.

Use your phone's "Digital Well-Being/App Limit" function to set a timer accordingly. Once the time is set, the social networking apps will be blocked after the time limit has elapsed. **You will find a detailed explanation on page 04 - 06**.

Additionally, **please turn completely off your SNS notifications so that I do not receive push-up notifications permanently.**

03 BECOME AWARE OF THE IMPACT OF SOCIAL COMPARISONS

Please read the information sheet on **page 07** about social comparison processes with the utmost attention.

04 VIEW INSPIRATIONAL CONTENT

For the duration of the study, you are supposed to selectively expose yourself to more inspirational content. While using SNSs is more beneficial for your well-being to consume more inspirational content such as art or educational content. Choose the type of content you encounter on social networking sites more wisely. Try avoiding consuming beautified content.

What Do I Need To Do?
INSTRUCTIONS

05 + 06 REDUCE THE SIZE OF YOUR NETWORK AND UNFOLLOW INFLUENCERS/STARS/PEERS

Please analyse your network, and eliminate your parasocial connection. Parasocial connections are people and accounts you follow, which you know, but they don't know you. Hence, drastically unfollow influencers, celebrities, and strangers you have little or no contact with. Consider if these accounts and people provide any meaningful value to your life? If not, unfollow them. Commit yourself to unfollowing as many non-necessary accounts as possible.

For guidance: Ask yourself how important it is for you to follow this person and what value you gain from it. Also, ask yourself whether you have a one-sided relationship with this person. If so, consider whether it is necessary seeing their
content every day or if you can unfollow them.

07 STOP CONSUMING, START ENGAGING

Viewing content passively on social networking sites can influence your well-being negatively. Instead, use the social networking sites as they were intended initially: to "network" and be "social". Changing how you use your time on social networking sites can have quite some beneficial impacts on your well-being. For the duration of the study, you are advised to turn from a passive user to an active SNSs user. Become more active while spending your daily limit. Share, Comment, Like - Be social. On the other hand, you should avoid consuming content from others like Reels and TikTok. For the next two weeks, become an actively engaged social networking site user.

08 FOCUS ON INTERPERSONAL RELATIONSHIPS

For the duration of the study, you are requested to focus more on interpersonal relationships. For this reason, you are advised to start engaging more with friends, family and close peers. You can also become an active member of a community. Use your daily time limit more wisely and your social networking sites as a tool to maintain and foster social connections. Do you want to waste your limit watching one TikTok Video after the other? Or do you want to reach out to a friend you haven't talked to in a while?

How To Limit Your SNS Usage?

LIMIT YOUR USAGE

HOW TO LIMIT YOUR DAILY SOCIAL NETWORKING SITE USAGE?

One of the most crucial instruments for the next two weeks is reducing your time spent on social networking sites and the number of SNSs you use daily. Since you are not requested to give up your daily usage, you must be going to **set a timer** for your use. This section is going to explain how you can set your timer.

As explained, you are free to choose to spend **30 minutes per day with a single platform** or split your **30 minutes up to a maximum of three platforms.** Therefore you need to decide if you want to spend your 30 minutes on one, two or three platforms.

Suppose you generally use more than three platforms. In that case, you are **encouraged to deactivate them or delete them to avoid the temptation to use them.**

WHICH SOCIAL MEDIA PLATFORMS ARE CONSIDERED AS SNSs WITHIN THIS STUDY?

Facebook, Instagram, TikTok, Snapchat,Twitter, Reddit, YouTube, LinkedIn, Pinterest etc.

WhatsApp and Messages are not considered as social networking sites.

IMPORTANT NOTE:

Do not continue to use your social networks on another device. Please try to spend only your daily 30 minutes during the study.

04

How Can I Schedule My SNS Usage?

LIMIT YOUR USAGE

Scenario 01:

If you use only two social networking sites, e.g. Instagram and Snapchat, there are two options. Either you will give up one platform and use your daily limit of thirty minutes for a single platform. Or, if you wish to keep both, you are requested to allocate your 30 minutes limit per day as you want. For instance, you could decide to use Instagram for 20 minutes per day and Snapchat for 10 minutes or 15 mins each.

The only requirement is not to **exceed the daily limit of 30 minutes in total**.

Scenario 02:

If you are using more than three social networking sites, let's say you are using Instagram, Facebook, TikTok, Twitter, LinkedIn and YouTube daily.

In this case, you are requested to give up at least three platforms you are using. If you want to give up all but one platform, you would again have your 30 minutes entirely at your disposal. However, if you decide to use two to three social networks during the study, you must divide your daily SNS limit by 30 minutes.
For example, if you choose to use two platforms, you could choose to have 15 minutes per platform or 20 minutes for the first and only 10 minutes for the second. The same logic applies to three platforms; you can split it up equally 10 minutes per platform or choose it more freely, such as 20 minutes for the first platform and 5 minutes for the second and third. Any platforms you do not use during your study, please delete them from your smartphone and reinstall them after the study.

The only requirement is not to exceed the daily limit of 30 minutes in total.

05

How To Set Your Timer?

LIMIT YOUR USAGE

PLEASE VIEW YOUR BRIEFING FOR VIDEO RECORDING'S OF HOW TO SET UP THE TIMERS ON iOS AND ANDROID.

HOW TO SET UP THE TIMER ON iOS?

Go to your system settings -> Select "Screen Time" -> Select "App Limits" -> Click on "Add Limit" -> Choose the apps you want to continue to use -> Set your time limit accordingly if you wish to use two or three social networks and add a limit.

HOW TO SET UP THE TIMER ON ANDROID?

1. Way:
Go to your phone's system settings -> Select "Digital Well-Being & Parental Control" -> Select "Dashboard" -> Click the hourglass next to the app(s) you want to continue to use -> Set the timer limit according to the studies guidelines. If you wish to use two or three social networks, add the limit for each app.
2. Way:
Go to your phone's system settings -> Select "Digital equilibrium" -> Select" time restrictions" -> To time constrain specific apps, click on "app limitation" and search for the app/s you want to limit. -> Set the time limit according to the studies guidelines. If you wish to use two or three social networks, add the limit for each app.

If you have any troubles setting up your app timer, please contact me directly:
e-mail: s-rknuth@ucp.pt **phone:** +4915785677908

06

What Are Social Comparisons?

INFORMATION SHEET

This information sheet is intended to make you aware of social comparisons and their potential negative impact on your well-being.

Social comparison processes lead us to compare ourselves with other people. We compare ourselves to those who are better off if we want to become inspired to improve ourselves, and we compare ourselves to those that are worse if they're going to feel better. These comparisons are used to assess and judge our abilities and capabilities. Social comparisons occur every day in real life, and often unconsciously. Therefore, it is crucial to understand that everyone is comparing themselves to other people in their social world, whether it's comparing our appearance to celebrities we see in the media or comparing their talents to our peers.

Also, on social networking sites, social comparisons take place. We constantly encounter social information cues that can trigger social comparison processes. We should know that the outcomes of social comparisons, such as envy, can negatively influence our well-being. So, for instance, if we constantly see that others have a better body or better looks, are on holiday more often or have a presumably more exciting life, this can negatively influence our well-being.

For this reason, it is crucial to be aware that the content we see and compare ourselves to is not representative of reality. Instead, this is often only half the truth, as we always want to show off the best of ourselves, which can lead to a distorted image of reality. In this sense, people will edit their pictures to enhance and alter their looks and showcase only the happy moments in their lives. If you consume such content every day, it can strongly influence your well-being. Suppose these comparisons are mainly made against a distorted impression of reality that causes and reinforces the adverse effects. By reminding ourselves that these social comparisons constantly occur while using social networking sites, we can attempt to counteract the negative consequences.

For the next two weeks, please be aware that whenever you use social networking sites, you will be comparing yourself to other people and that this can negatively affect your well-being. You will come across distorted and beautified content, so be aware that it does not correspond to reality. I recommend that you set yourself a daily reminder, which will remind you about the negative impact of socialcomparison processes and the impact they might have on your well-being. You can also print out the infographic and hang it in your room, somewhere you can notice it every day.

07

APPENDIX B

Measures Used in the Study

Table A1

Measures Used in the Study

Construct	Items	Scales	Reference
Demographical Data	Which gender do you feel you belong to?	Male Female Non-binary / third gender Prefer not to say	No special refereces
	How old are you?	17 or younger 18-24 25-34 35-44 45-54 65 or older	
	What's your current profession?	Pupil Student Employee Self-Employed Retired Housewife/man Currently without a profession Other	
	What is your nationality?	Text Entry: Single Line	
Objective Measure for Social Networking Sites Usage	Participants were requested to upload screenshots of their SNS usage		Method by Hunt et al. (2018)
Use of Multiple SNS Platforms	Which Social Networking Sites Do You Use on A Regular Basis? Facebook Instagram TikTok Snapchat Twitter Reddit YouTube LinkedIn Pinterest	Multiple Select of Platforms Used	Method by Primack et al. (2017)
Self-Evaluation of SNS usage	Please indicate to what extent the following statement applies to you: "I consider myself an extensive user of social networking sites."	1 (does not apply at all) 2 (does not apply) 3 (does somewhat apply) 4 (neither applies nor does not apply) 5 (somewhat applies) 6 (applies) 7 (fully applies)	Self-developed
	Please complete the following statement: "I consider the daily usage of social networking sites...for my well-being."	1 (extremely harmful) 2 (harmful) 3 (slightly harmful) 4 (neither harmful nor beneficial) 5 (slightly beneficial) 6 (beneficial) 7 (extremely benefical)	

PANAS *Positive affect* *Negative affect* 	Please indicate for each emotion to what extent you have felt it in the past week. excited inspired enthusiastic alert determined distressed scared upset nervous afraid	1 (not at all) 2 (a little) 3 (moderately) 4 (quite a bit) 5 (extremely)	Mackinnon et al. (1999)
Life Satisfaction	All things considered, how satisfied are you with your life at the moment?	1 (Extremely dissatisfied) 2 (Moderately dissatisfied) 3 (Slightly dissatisfied) 4 (Neither dissatisfied nor satisfied) 5 (Slightly satisfied) 6 (Moderately satisfied) 7 (Extremely satisfied)	Cheung and Lucas (2014)
Meaning Experience	The daily use of Social Networking Sites I experience as... ...meaningful. ...valuable. ...full of significance. ...precious.	1 (does not apply at all) 2 (does not apply) 3 (does somewhat apply) 4 (neither applies nor does not apply) 5 (somewhat applies) 6 (applies) 7 (fully applies)	Huta and Ryan (2009) - adapted and shortened
Self-realisation	While using Social Networking Sites... ...I feel the sensation of being really being alive. ...I feel that it helps me to become who I really am. ...I feel more complete and fulfilled. ...I feel more intensely engaged than I do when engaged in most other activities.	1 (does not apply at all) 2 (does not apply) 3 (does somewhat apply) 4 (neither applies nor does not apply) 5 (somewhat applies) 6 (applies) 7 (fully applies)	Waterman (2008) - adapted
Social Comparisons	While using Social Networking Sites... ...I sometimes feel inferior in comparison to other users. ...I sometimes compare my content with the content of other users. ...I sometimes have the feeling that other users experience more amazing things than me. ...I sometimes compare myself with the content of other users.	1 (does not apply at all) 2 (does not apply) 3 (does somewhat apply) 4 (neither applies nor does not apply) 5 (somewhat applies) 6 (applies) 7 (fully applies)	Loosely adapted from Meier et al. (2020) (*note: initially items were based on Allan and Gilbert (1995), Gibbons and Buunk (1999), Steers et al. (2014)*)

Envy	Please indicate for each statement to what extent it applied to you in the past week.	1 (does not apply at all) 2 (does not apply) 3 (does somewhat apply) 4 (neither applies nor does not apply) 5 (somewhat applies) 6 (applies) 7 (fully applies)	Crusius and Lange (2014) - Adapted
Benign Envy	I felt benign envy toward other people's content on social networking sites. I admired the content of others on social networking sites. I wanted to make similar content on social networking sites. I wanted to have similar experiences shared by other people on social networking sites. I felt benign envy toward other people's experiences shared on social networking sites.		
Malicious Envy	I felt malicious envy towards other people's content on social networking sites. I would have liked to badmouth other people's content. I had hostile thoughts about other people's content on social networking sites. I wished that the other people's content would no longer exist. I felt malicious envy toward other people's experiences shared on social networking sites.		
Anxiety - PROMIS	In the past 7 days... ...I felt uneasy ...I felt worried ...I felt anxious ...I felt fearful	1 (never) 2 (rarely) 3 (sometimes) 4 (often) 5 (always)	Pilkonis et al. (2011, p. 273)
Social Anxiety Scale for Social Media Use	On Social Networking Sites... ...I feel anxious about the fact that others might find my actions awkward. ...I am concerned about being ridiculed by others for the content I have shared.	1 (never) 2 (rarely) 3 (sometimes)	Alkis et al. (2017) - adapted and shortend
Shared Content Anxiety	...I am concerned about the fact that the content I share will not be liked by others. ...I am afraid that my close friends will not approve of my behaviour. ...I would feel uncomfortable when my friends publicly express their dislike about the content I have shared.	4 (often) 5 (always)	
Interaction Anxiety	...I feel uneasy while making new friends. ...I am afraid of interacting with others. ...I feel nervous when I have to talk with others about myself.		
Self-Evaluation Anxiety	...I feel anxious about making a negative impression on people. ...I am concerned about people thinking poorly of me. ...I feel anxious about not being able to meet people's expectations.		
Perceived Stress Scale	Please indicate by circling how often you felt or thought a certain way in the past month. In the last month, how often have you felt that you were unable to control the important things in your life? In the last month, how often have you felt confident about your ability to handle your personal problems?* In the last month, how often have you felt that things were going your way?* In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	1 (never) 2 (almost never) 3 (sometimes) 4 (fairly often) 5 (very often)	PSS-4 Cohen (1988 +1994)
Perceived Stress Related to Social Networking Site Use	Please indicate how those events described would make you feel if you were browsing a social networking site right now: I would feel stressed if my posts did not receive comments I would feel stressed if my posts did not receive likes I would feel stressed if my posts received negative comments I would feel stressed if I lost friends/followers on social networking sites I would feel stressed if I got kicked out from social media group I would feel stressed if I had to use social networking sites regularly to keep up to date. I would feel stressed if I felt I had to post regularly on social networking sites.	1 (completely disagree) 2 (somewhat disagree) 3 (neither agree nor disagree) 4 (somewhat agree) 5 (completely agree)	Fabris et al. (2020) - adapted and extended by two self-developed items
Added Block for Survey 2			

Assessing the SNS Diet	Please briefly reflect on the past seven days of adapting to the new SNS diet...		Self-developed
	How easy was it for you to adapt to the new diet?	1 (extremely difficult) 2 (moderately difficult) 3 (slightly difficult) 3 (neither difficult nor easy) 4 (slightly easy) 6 (moderately easy) 7 (extremely easy)	
	In comparison to the previous week, using the new social networking site diet I feel ...	1 (much worse) 2 (moderately worse) 3 (slightly worse) 4 (about the same) 5 (slightly better) 6 (moderately better) 7 (much better)	
	How would you rate the SNS Diet - what do you find easy to implement and what do you find difficult to implement?	Text Entry: Multiple Lines	
	Have you noticed any changes in your well-being with the new SNS diet?	Text Entry: Multiple Lines	
	Have you noticed any problems that you did not expect?	Text Entry: Multiple Lines	
	Is there anything else you would like to say? If so, please answer in a couple of sentences.	Text Entry: Multiple Lines	
Added for Survey 3			
Assessing the SNS Diet	Even though the study is now over, would you consider continuing with the diet?	0 (No) 1 (Yes)	Self-developed
	Was the second week any different from the previous one?	Text Entry Multiple Lines	
	Have you been able to get accustomed to the modifications of your SNS usage?	Text Entry Multiple Lines	
	Please let me know briefly why you (or why you would not want to) would consider using the SNS diet over a longer period of time.	Text Entry Multiple Lines	

Note. To be as faithful as possible to the authors' original scales, the Likert Scales were not standardized but represented as intended by the authors. Most scales were adapted to the appropriate wording for SNSs. Since this study followed a repeated measures design, the questionnaires remained the same throughout and after. However, an additional questionnaire block was added to surveys 2 and 3.

APPENDIX C

Table A2

Overview of Supported and Unsupported Hypotheses

			Unsupported	Supported
H1	H1a	SNS users adopting the SNS diet will experience a significant decrease in their perceived stress.	x	
	H1b	SNS users adopting the SNS diet will experience a significant decrease in their perceived stress related to SNS usage.	x	
H2	H2a	SNS users adopting the SNS diet will experience a significant decline in their general anxiety symptoms		x
	H2b	SNS users adopting the SNS diet will experience a significant decline in social anxiety symptoms related to SNS usage.	x	
H3	H3a	SNS users adopting the SNS diet will experience a robust improvement in their subjective well-being by exhibiting a significant improvement in their positive affect.	x	
	H3b	SNS users adopting the SNS diet will experience a robust improvement in their subjective well-being by exhibiting a significant decrease in negative affect .	x	
	H3c	SNS users adopting the SNS diet will experience a robust improvement in their subjective well-being by exhibiting a significant improvement in their life satisfaction.	x	
H4	H4a	SNS users adopting the SNS diet will experience a robust improvement in their psychological well-being by exhibiting a significant reduction in their meaning experience when using SNSs.	x	
	H4b	SNS users adopting the SNS diet will experience a robust improvement in their psychological well-being by exhibiting a significant reduction in their self-realisation during SNS usage.	x	
H5	H5a	SNS users who adopt the SNS diet experience a significant decrease in involvement in social comparisons on SNSs.		x
	H5b	SNS users who adopt the SNS diet experience a significant decrease in benign envy.		x
	H5c	SNS users who adopt the SNS diet experience a significant decrease in malicious envy.	x	

Table A3

Global Means, Median, SDs, Internal Consistencies (Cronbach's Alpha)

	Global Mean			Global Median			SD			α			Shapiro-Wilk $W(18), p$		
	BL	W1	W2	BL	W1	W2	BL	W1	W2	BL	W1	W2	BL	W1	W2
PA	3.90	4.32	4.50	3.85	4.00	4.60	1.10	1.27	1.20	0.69	0.83	0.73	.967, .733	.936, .250	953, .466
NA	3.58	2.40	2.27	3.25	2.20	1.90	1.64	1.12	1.15	0.87	0.88	0.88	949, .415	**.857, .011**	.905, .069
LS	4.33	5.33	5.56	5.00	6.00	6.00	1.71	1.37	1.04	.	.	.	.923, .145	**.805, 0.002**	**.892, .041**
MEA	3.58	4.04	3.65	3.38	4.00	3.88	1.19	1.57	1.45	0.81	0.94	0.90	.957, .552	955, .512	.934, .233
SR	2.67	4.76	2.85	2.63	5.00	2.63	1.08	1.66	1.40	0.81	0.92	0.92	.937, .258	.897, .051	.944, .338
SC	4.38	3.50	3.35	4.50	3.63	2.63	1.45	1.39	1.46	0.80	0.84	0.89	.962, .644	955, .516	.929, .187
BE	4.59	3.23	3.13	4.40	3.10	3.20	1.29	1.39	1.33	0.89	0.87	0.87	.973, .843	.938, .267	.958, .570
ME	2.12	1.70	1.64	1.60	1.30	1.10	1.19	0.92	0.76	0.84	0.89	0.94	**.831, .004**	**764, <.001**	**.640, <.001**
ANX	3.44	2.60	2.33	3.25	2.31	2.13	1.31	1.04	1.05	0.89	0.75	0.81	.952, .465	.937, .253	**.895, .047**
SAS-SNSU	2.97	2.54	2.51	2.65	2.35	2.08	1.49	1.19	1.42	0.93	0.92	0.95	**.891, .039**	**.881, .028**	**.885, .032**
PSS	4.10	–	–	4.38	–	–	1.50	–	–	0.82	0.40	-0.02	–	–	–
PS-SNSU	4.23	4.00	3.52	4.43	3.79	3.57	1.31	1.24	1.28	0.76	0.82	0.78	.942, .315	922, .139	.939, .243

Note. Based on n=18 participants. Original Likert scales were used to gather the data to remain as truthful as possible to the authors, however, scales were standardised afterwards. Significant results of the Shapiro-Wilk test were highlighted in Bold. Please note that these results must be read inverted.
PA: Positive Affect, NA: Negative Affect, LS: Life Satisfaction, MEA: Meaning Experience, SR: Self Realisation, SC: Social Comparisons, BE: Benign Envy, ME: Malicious Envy, ANX: Anxiety, SAS-SNSU: Social Anxiety related to SNSs usage, PS: Perceived Stress, PS-SNSU: Perceived Stress related to SNSs usage.

Table A4

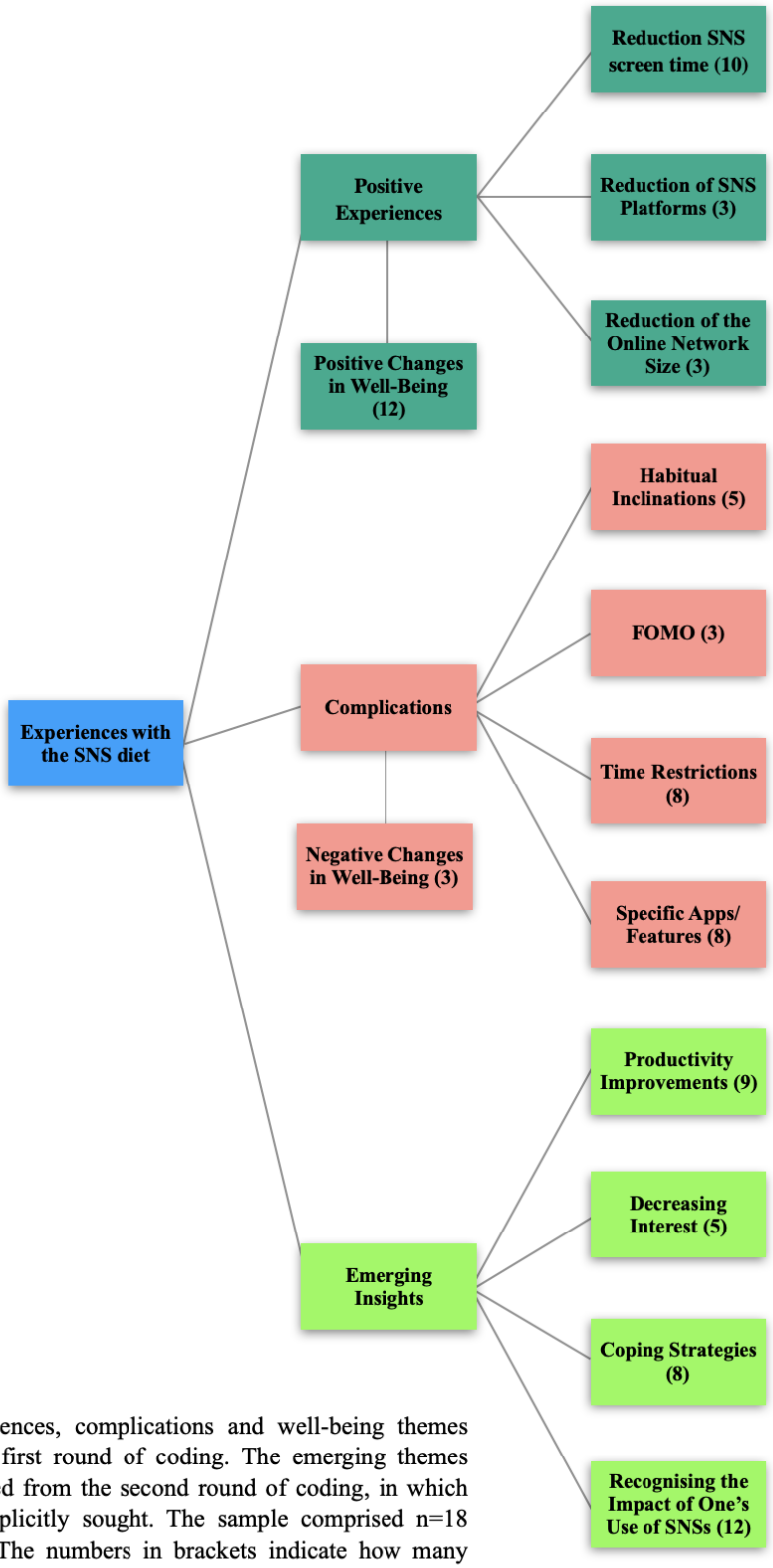
Mean Differences, Multivariate Repeated Measures ANOVA, Post-Hoc Tests, and Effect Sizes

	M (SE)			Test Statistics and Effect Sizes Multivariate	Post Hoc Pairwise Comparisons
DV	BL	W1	W2	**Wilks' Λ, *F*(2,16), *p*, *partial η2***	***I-J*, *p***
PA	3.90(0.26)	4.32(0.30)	4.50(0.28)	.888, 1.008, .387, .112	–
NA	3.58(0.39)	2.40(0.27)	2.27(0.27)	–	–
LS	4.33(0.40)	5.33(0.32)	5.56(0.25)	–	–
MEA	3.58(0.28)	4.04(0.37)	3.65(0.34)	.753, 2.631, .103, .247	–
SR	2.67(0.26)	4.76(0.39)	2.85(0.33)	**.289, 19.694, < .001, .711**	**BL - W1: *I-J* = -2.09, p < .001; BL - W2: *I-J* = -.18, p = 1.00, W1-W2: I-J =1.92, p <.001**
SC	4.38(0.34)	3.5(0.33)	3.35(0.35)	**.661, 4.096, .037, .339**	**BL - W1: *I-J*=0.86 , *p* = .044; BL - W2: *I-J* = 1.03, *p* = .029, W1-W2: *I-J* =.15, *p* = 1.00**
BE	4.59(0.31)	3.23(0.33)	3.13(0.31)	**.366, 13.835, .001, .634**	**BL - W1: *I-J* = 1.37, *p* < .001; BL - W2: *I-J* = 1.47, *p* < .001, W1-W2: *I-J* = 0.1, *p* = 1.00**
ME	2.12(0.28)	1.70(0.22)	1.64(0.27)	–	–
ANX	3.44(0.31)	2.60(0.24)	2.33(0.25)	**.472, 8.947, .002, .528**	**BL - W1: *I-J* = 0.83, *p* = .009; BL - W2: *I-J* = 1.10, *p* < .002, W1-W2: *I-J* = 0.27, *p* =.826**
SAS-SNSU	2.97(0.35)	2.54(0.28)	2.51(0.34)	–	–
PSS	4.10(0.36)	–	–	–	–
PS-SNSU	4.23(0.31)	4.00(0.29)	3.52(0.30)	.717, 3.165, .069 , .283	–

Note. Based on n=18 participants and two-tailed significance tests. BL: Baseline (before), W1: Week 1(during), W2: Week 2 (after)
PA: Positive Affect, NA: Negative Affect, LS: Life Satisfaction, MEA: Meaning Experience, SR: Self Realisation, SC: Social Comparisons, BE: Benign Envy, ME: Malicious Envy, ANX: Anxiety, SAS-SNSU: Social Anxiety related to SNSs usage, PS: Perceived Stress, PS-SNSU: Perceived Stress related to SNSs usage. (*original scales were used to gather the data, however, scales were standardised afterwards). *significant results are highlighted in bold, p-values are based on 95% CIs, *Bonferroni (α = .005) adjusted p-values, mean differences (I-J) are based on 95% CIs

Figure A5

Themes from the Feedback of the Thematic Analysis on the SNS Diet



Note. The positive experiences, complications and well-being themes were created through the first round of coding. The emerging themes related to SNS use emerged from the second round of coding, in which emerging themes were explicitly sought. The sample comprised n=18 participants in the study. The numbers in brackets indicate how many participants commented in the feedback about the SNS on these topics. Respectively they were then coded accordingly to these themes.