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Disconnect to Reconnect:

The Phenomenon of Digital Detox as a Reaction to
Technology Overload

by

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Abstract

Keywords

Digital detox; technology impacts; technology consumption; technology reduction; technology addiction, digital overuse; consumer behavior, self-control

Purpose

The purpose of this study is to understand young adults' practicalities of digital detoxing and the respective motivations to act upon these actions. Therefore, this research aims to create knowledge about what young adults do to actively *detox* from the digital technology and to understand their *Motivations* behind.

Methodology

This research took inspirations from an interpretivist ontology and the epistemological stance of social constructionism as it aimed to understand what customers do and what motivates them to actively reduce the use of digital technology from their own perspective. Inspiration was further taken from grounded theory analysis. This was approached through qualitative semi-structured interviews.

Theoretical perspective

As a foundation for the driving motivations, the research streams considered literature within the fields of negative impacts of digital technologies in the professional, the private and the social environment. Furthermore, a literature stream of measures to prevent and control technology addiction serves as a theoretical basis for the practiced actions.

Empirical findings

The empirical findings showed what young adults actively do to limit the interaction with digital technologies in the professional, the private and the social environment and what motivates them to do so. The findings revealed that young adults strive to not merely reduce the interaction, they also substitute and completely delete the use of digital technologies in some situations. The research uncovered that the lines between the three environments are blurring, therefore some *Actions* and some *Motivations* occur in more than one field, yet with differences in intensity and degree. Identified actions are *Creating Barriers*, *Creating Structure* in life, consciously *Creating Awareness*, implementation of *Offline Activities* as well as using *Offline Media* instead. Motivations to reduce the use of digital technology had been identified in *Keeping Self-Control*, *Increasing Performance*, *Improving the Well-Being*, *Being in the Moment* and *Maintaining real life Relationships*.

Conclusions:

The research results further revealed that the lines between the three areas of life are blurring, and actions as well as motivations cannot be fully assigned to one single area. However, in the private environment, young adults show more sophisticated and rather strict actions and motivations as in the professional or social life. Moreover, young adults consider the professional life as the *online life*, while the private life is associated with the possibility of *being offline*.

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1 Introduction

The following introductory chapter provides an overview about the role of digital technology in today's society and leads subsequently within three steps towards the phenomenon: First, both positive and negative effects of digital technology will be explained briefly. Second, an insight about the rising awareness about these impacts will be provided, followed by third, the indication of a reduced usage behavior will be presented.

1.1 Digital Technology in Today's Society

Having a breakfast with the family with a newspaper as the only source of distraction is an increasingly outdated phenomenon. Technology has changed many daily routines as now mobile phones, computers and other digital technologies often substitute the time with friends and family. (Stone, 2009). Those digital technologies have become an important part of everyday life and affect the communication (Belk & Llamas, 2013; Savci & Aysan, 2017). Hence, by 2017, more than 50 percent of the world population are using the Internet on a daily basis, 37 percent actively using social media and 66 percent own a smartphone (Kemp, 2017). As these figures show the extensive use of these technologies in the modern society, it becomes clear that the nature of the everyday life becomes digital. Although digital technologies have brought several benefits into the professional, the private and to social life (Inauen et al. 2017; Rich, 2004; Walsh, White & Young, 2009), it has been recognized that with the overuse of digital technologies in today's hyper connected society, several problems are emerging (Montag & Walla, 2016). To introduce the emerging phenomenon, the following subsection presents the effects of digital technologies of both positive and negative nature.

1.2 Effects of Digital Technologies

Consumer behavior is changing due to the adoption of technologies such as the Internet and the smartphone (Eriksson, Rosenbröijer & Fagerström, 2017; Saprikis, 2018; Živilė & Gintarė, 2015). For example, the propensity to shop online increases among young adults with the frequency of looking at clothing online with a smartphone (Eriksson, Rosenbröijer & Fagerström, 2017). Furthermore, digital devices have affected the working environment (Arnison & Miller, 2002; Tan, Tan & Teo, 2012) as well as businesses in general (Bharadwaj et al. 2013; Sambamurthy, Bharadwaj & Grover, 2003). Beside practical benefits of high shopping convenience among consumers, followed by companies' ability to provide a customized experience (Ludwig-Maximilians-Universität München, 2013), the adoption of

technology provides convenience advantages. For instance, technology use in an educational context, such as with the help of e-learning platforms (Chan et al. 2015; Orton-Johnshon & Prior, 2013) or Web 2.0 technologies (Echeng & Usoro, 2016) can enhance learning experience and academic performance (Echeng & Usoro, 2016; Chan et al. 2015; Orton-Johnshon & Prior, 2013). The development of technology also positively affects the work-related environment, for example in terms of communication, network building or collaboration across organizational boundaries (Arnison & Miller, 2002). Employees are benefiting from technologies through more flexible work hours and job design, faster response times to tasks (Arnison & Miller, 2002) and accomplishing work in teams, for instance decision-making and member satisfaction (Schaubroeck & Yu, 2017). Besides the recognized benefits in a working and studying context, it also becomes clear that such technology inevitably has developed the social and personal life. Hence, with technology advances global communications and interactions among individuals are enabled (Savci & Aysan, 2017). This provides pivotal contributions to build and maintain interpersonal relationships and to participate in society (Chayko, 2014; McKenna & Bargh, 1998). Not only to support social relationships but also to have greater control of their interactions was found as an important reason for young people to prefer communication through mobile media rather than face-to-face (Madell & Muncer, 2007). Hence, social services provided by the Internet and exercised through digital devices benefit introverted people as it provides the possibility to express their personality and to find like-minded people (Amichai-Hamburger, Wainapfel & Fox, 2002) which in turn can lead to a real-life relationship afterwards (McKenna & Bargh, 1998). Within this respect, the smartphone plays a predominant role in today's society. According to Madell and Muncer (2007), mobile-phone related features such as email, text-, and instant messaging lead to greater control over young people's social interactions. Digital media use via smartphones and social media had been further recognized as having positive effects on social behavior and social engagement (Kim, Wang & Oh, 2016), sense of belonging (Park & Lee, 2014; Walsh, White & Young, 2009), connectedness and social identity (Walsh, White & Young, 2009).

However, beside the aforementioned positive effects of digital devices, literature indicates that a problematic use of digital technologies such as the smart devices, but also social media or the Internet in general, can have harmful effects. For example, early research indicates negative effects of greater Internet consumption on social interactions (Amichai-Hamburger, Wainapel & Fox, 2002; Kraut et al. 1998). With the rise of digital devices, particularly with the development of the smartphone, similar negative effects have been investigated on both social interactions and social relationships (Elhai et al. 2016; Kim, 2017; Rotondi, Stanca & Tomasuolo, 2017), the individual well-being (Elhai et al. 2016; Lei et al. 2017; Kim, 2018; Wolniewicz et al. 2018) as well as on the work and study performance (Duke & Montag, 2017; Kuznekoff & Titsworth, 2013; Samaha & Hawi, 2016). Related to negative impacts caused by smartphones, younger generations often have been under examination (Chang & Choi, 2016; Haug et al. 2015; Lei et al. 2017). Previous literature indicated that being separated from the mobile phone causes distress among mobile users (Bivin et al. 2013; Konok et al. 2016) and this impact on health is particularly high among young adults (Dongre, Inamdar & Gattani, 2017; Sharma et al. 2015).

1.3 Rising Awareness of Negative Effects of Digital Overuse

Research indicated that negative impacts caused by smartphone overuse are particularly prevalent in younger adolescents compared with young adults (Haug et al. 2015). Additionally, Ofcom's (2016) recent report shows that particularly young adults people starting to perceive the downside of constant connectivity and become aware of spending too much time online. Ofcom's (2016) report applied a mixed methodology comprising the age groups of teens, young adults and seniors. Interestingly, the Internet seems to be far more important to teens than to young adults. Teens also have been identified to be more dependent on connected devices than the other groups. Contrastingly, a large gap has been detected among young adults and teens, in the perceived duration they spent online (Ofcom, 2016). Much more young adults perceived the time spent online as too much comparing to teenagers (Ofcom, 2016). Therefore, it seems reliable that a possible reason for this phenomenon lies in the disruptive change of the digital landscape in those generations (Ofcom, 2016). The two most salient changes of Facebook in 2006 (Calladine, 2014) and the iPhone in 2007 (Apple, 2007) need to be considered in this context. Even though other manufacturer introduced mobile Internet services, the majority continued using regular mobile phones (Pothitos, 2016). According to the same authors, this has changed with the development of the first iPhone in 2007. Today's teenagers thus already grew up with this reinvented phone and a constant connectivity (Apple, 2007; Ofcom, 2016). They in turn widely associate with others who have similar online behavior and thus are more likely to perceive the time spent online as not too much (Ofcom, 2016). On the contrary, these authors state that young adults used to communicate, work and live in a less online-connected environment before they adapted to the digital landscape. Hence, people in this age group experienced advantages of both, an offline and online environment which makes Ofcom's argumentation reasonable that young adults tend to be more aware of their digital consumption than teenager and starting to recognize the downside of a constant connectivity (Diem, 2017; Ofcom, 2016). Young adults experienced a feeling of nervousness and anxiousness when being offline and recognized a longer interaction with their devices as originally planned, according to Ofcom's (2016) report. This may imply a loss of control over the digital interaction and might be an indication for an addictive behavior regarding the usage of digital technologies among young adults. Young adults perceive negative effects of spending too much time online on all areas of their professional, personal and social life, such as missing out on sleep, spending less time with family and friends or neglecting work or job (Ofcom, 2016).

1.4 Indication of Reduced Usage Behavior of Digital Technology

A recent study of Deloitte (2017) demonstrates rising awareness among smartphone users about their own usage behavior and the usage in their social environment. According to Deloitte (2017) this perception is most apparent among younger consumers. This data also

suggests that the respondents who are experiencing an overuse, show active efforts to control their smartphone interaction. Deloitte (2017) further considers that smartphone adoption among younger consumers has reached its saturation point and thus expects a growing intensity of smartphone users among older generations. The rising awareness of digital overconsumption and its perceived negative effects on young adults' life were also part of Ofcom's research (2016). The data increasingly results in a contradictory usage behavior. The study further shows that the time spent on media and communication activities has slightly decreased among young adults. Furthermore, the research findings of Haug et al. (2015) revealed a reduced overuse behavior of smartphones among young adults compared to teenagers. Supporting Ofcom's (2016) findings, it can be inferred that the consumption of digital devices tends to decrease in this age group. Additionally, and responding to this upcoming phenomenon, web articles suggest several methods to moderate the usage of digital devices, such as turning off notifications, charging the device outside the bedroom or using analogue devices (Center for Human Technology, 2018; Goldston, 2018; Hummel, 2017; Time to Log Off, 2017). To reduce distraction, these sources also suggest to download smartphone applications and extensions which allow an insight in the daily smartphone usage (Center for Human Technology, 2018). Companies and Governments also react upon this upcoming issue. For instance, France's government guarantees its workers the *right to disconnect* (Kaufmann, 2014; Petroff & Cornevin, 2017) and German companies of different industries make efforts to limit the constant availability of their employees (Kaufmann, 2014). Methods, such as canceled server connection after work have been implemented by companies such as Mercedes Benz, BMW or Henkel (Kaufman, 2014). Furthermore, new businesses emerged, trying to target that issue by providing *digital detox* retreats, camps and events (Digital Detox LLC, 2014; Time to Log Off, 2018), campaigns and books to encourage a *detox* behavior (Time to Log Off, 2018) as well as trainings, consultancy and leadership mentoring (Digital Detoxing, 2015) are offered to individuals, families and companies.

1.5 Problem Formulation and Relevance

There is already existent knowledge of the usage behavior of digital technologies and its benefits on social relationships (Campbell & Kwak, 2010; Kim Wang & Oh, 2016; Lawson & Leck, 2013), working and studying (Chan et al. 2015; Echeng & Usoro, 2016), communication (Day & Kumar, 2010; Patterson, 2013), purchase behavior and decision making (Penz & Hogg, 2013) or the individual well-being (Inauen et al. 2017). Much research has also been done into the negative effects of the Internet and digital devices. Thus, research has linked an excessive use of the Internet and digital devices with anxiety and stress (Elhai et al. 2016; Tams, Legoux & Léger, 2018), depression (Kraut et al. 1998), lack of productivity and academic performance (Kraushaar & Novak, 2010; Kuznekoff & Titsworth, 2013; Prabu et al. 2015; Wei, Wang & Klausner, 2012), reduced social interactions (Kim, 2017; Kraut et al. 1998) and other mental health problems (Bivin et al. 2013; Dongre, Inamdar & Gattani, 2017; Kim, 2018; Rotondi, Stanca & Tomasuolo, 2017). More specifically, the increasing prevalence of Internet and smartphone addiction in younger ages and its negative impacts on several aspects of young adults' lives has already received academic attention (Alt, 2015; Haug et al. 2015; Prabu et al. 2015; Przybylsk et al. 2013).

Nevertheless, the countermovement, meaning the conscious decision to reduce the interaction with digital technologies, has yet not been under investigation by researchers. At present, the only evidence supporting the phenomenon of *digital detox* are behavioral observations (Bautista, 2016). In this respect, reports are indicating an increasing awareness among young adults regarding their digital consumption and stressed their perceived digital overuse and their prevalent desire to moderate the usage (Deloitte, 2017; Ofcom, 2016). These reports studied the occurrence of over-consumption and perceived negative effects of spending too much time online. Merely, the study of Ofcom (2016) directly investigated whether people in the United Kingdom have already taken a *digital detox*.

However, it still remains unclear what actions are undertaken to reduce the interaction with digital technologies. The intense interaction with digital technologies seems to reach an inflection point as consciously reduced usage of digital technologies, especially smartphones has been detected (Deloitte, 2017; Goldston, 2018; Ofcom, 2016). In this context, the term *digital detox* gained greater popularity (Bautista, 2016; Belk & Llamas, 2013; Ofcom, 2016) and is considered to become a major trend in 2018 (Goldston, 2018). However, *digital detox* is a term, frequently used in media it is not a currently accepted and defined term in literature. Additionally, there is no consensus about the terminology. Existing terminology includes *digital detox* (Ofcom, 2016), *digital diet* (PwC, 2018), *media diet* (Brewer, 2018) and *Internet Sabbath* (Powers, 2010). Beside these concerns, some degree of reduction of digital technologies seem to be a general and an increasingly prevalent phenomenon. For example, about a third of the Internet users have purposely taken a break from being online (Ofcom, 2016). The study of Ofcom (2016) is the first research that explored the phenomenon of consciously limiting the amount of time spent online among users of digital devices. Therefore, for the purposes of this research, Ofcom's (2016) definition of *digital detox* is applied:

“Digital detox refers to a period of time when a person makes a conscious decision not to go online or use connected devices. This period of digital abstinence can range from less than an hour to indefinitely but is ultimately regarded as an opportunity to focus on offline activities such as exercising, socializing with friends and family, doing housework or homework, or simply relaxing.”
(Ofcom, 2016, p.40)

Ofcom (2016) explored people's perception of their use of the Internet, their attitudes towards connectivity and whether people have the desire to reduce the interaction with their devices. No academic research has been conducted to investigate the practical implementation of the reduced interaction with neither smartphones nor other digital devices. However, previous research about problematic technology usage considers it as important to moderate the usage of Internet and digital devices and to monitor the uses to which they put it (Kraut et al. 1998; Powers, 2010). Additionally, Haug et al. (2015) suggest a consideration of targeted preventive measures, especially for the group of young people. To succeed in a reduction of the device usage, Powers (2010) further considers it to be crucial to understand the motivations behind the reduced interaction with digital technologies. The arising problem reflects the contradiction between increasing digitalization in professional, private and social environment and the greater possibilities the technology brought to these areas on the one hand, and the rising awareness and attempts to reduce the digital interaction among young adults, on the

other hand. It is thus unknown what young adults do to reduce the interaction with digital technology and what drives them to set the motivations into actions.

First and in accordance with the arising phenomenon, it is necessary and relevant for practitioners and academia to understand what young adults do to actively engage in *digital detox* (Center for Human Technology, 2018; Goldston, 2018; Hummel, 2017; Time to Log Off, 2018) and what are the reasons to do so (Duke & Montag, 2017). As *digital detox* is expected to be a major trend in 2018 (Goldston, 2018), this study addresses the importance of gaining a deeper knowledge about this phenomenon. The fact, that this topic receives attention from companies in the Silicon Valley (Center for Human Technology, 2018) and investors exert pressure on smartphone manufacturer to respond to the negative effects of digital devices (Gibbs, 2018), supports the position that this phenomenon needs to be considered by practitioners and academia. This gained knowledge allows marketers new insights in this contradicting trend, as this holds the potential to create new avenues and needs in business models and product development, marketing and brand strategies as well as employer branding strategies.

Therefore, it is necessary and relevant for academia to rethink theories about consumer behavior in the digital age and to interpretively *understand* (Dilthey, 1962) the psychological reality of the individual, the inner motives as the ultimate basis for all human actions (Dilthey, 1962; Simmel, 1977). This knowledge allows exploring the meaningfulness to employ an abstract and planned paradigm to explain diverse consumer buying behaviors.

1.6 Research Purpose and Question

On the basis of the problem formulation, the purpose of this research is to empirically explore the practicalities of *detoxing* and the respective motivations to implement these actions. In particular, the interest of this study lies in the age group of young adults, as they experienced an environment with offline and online media (Diem, 2017; Ofcom, 2016). Also, the behavior to actively reduce the interaction with digital devices is particularly noticeable among young adults (Crane, 2018; Ofcom, 2016). Previous research about negative impacts of the overuse of the digital technologies all evolve in the professional, private and social environment (Alt, 2015; Bivin et al. 2013; Elhai et al. 2016; Haug et al. 2015; Prabu et al. 2015; Przybylsk et al. 2013).

Therefore, investigating the actions and motivations in the professional, the private and the social environment seems to be a suitable and appropriate context to reflect a young adult's life circumstances and to further capture the efforts to actively reduce the usage of digital technologies. In this research, the considered group of young adults has been carefully selected upon their *detoxing* behavior. That consequently and comprehensible allows to gain insight into what actions, methods or strategies young adults undertake to purposely reduce their usage of digital technologies. As a first research within this phenomenon, no emphasis was set on specific technologies. This was done in order to not be biased that a digital overload refers to one single medium, yet it can be caused by technologies of different natures

such as the smartphone, tablet, television, computer or the Internet in general. Therefore, this research aims to create knowledge about what young adults do to actively *detox* from digital technologies. Building on this and by asking active *detox* participants, it is aimed to *understand* (Dilthey, 1962) the motivations behind these actions to draw important implications for practitioners and academia. In accordance with the problematization and the purpose, the research question is worded as follows:

What do young adults do to limit their usage of digital technologies in the professional, the private and the social environment and what are their motivations to do so?

By answering the research question, the main objective of this study is to create new insights in a changing consumer behavior on the one hand, and to draw important implications for companies to consider this emerging phenomenon from a market and organizational perspective. In this respect, it is relevant and important to conduct a study on young adults, actively trying to limit the usage of digital technologies, and also to understand their driving motivations.

As this phenomenon is still emerging, the research is not limited to one specific digital technology such as devices, smartphones, social media or the Internet in general. Therefore, in order to gain a coherent picture of young adult's changing behavior with digital technologies, it is important to consider their different perceptions of an overload. Moreover, the study is not limited to any cultural background.

1.7 Outline of the Thesis

This research process is divided into six main sections. The first section is introducing the topic of the research. It provides the reader with initial thoughts and background information about the arising problem, the purpose and intended contributions of this study. Second, following this introductory chapter, the underlying theoretical context is presented, which results from a comprehensive literature review and constitutes an essential basis for the study at hand. Third, the methodological approach and the selected research strategy is presented. The fourth chapter presents the empirical findings together with by a thorough analysis of the collected qualitative data. On the basis of the analysis, this study presents a coherent picture of the occurring *digital detox* phenomenon. In the fourth section, the central findings are discussed with existing literature and theoretical contributions to as well as extensions of the respective literature streams are provided. Subsequently in the fifth section, concluding arguments are drawn from the analysis and managerial implications follow. The last section finally provides limitations of the research and completes the overall picture by presenting a set of recommendations for further research in the field of a contradictory behavior of digital technology usage.

2 Theoretical Background

Having outlined the roadmap and distribution of the thesis, this chapter sets forth to create a theoretical basis that guides the research at hand through the phenomenon of *digital detox*. Although little academic literature on *digital detox* itself exists, there is an extensive body of academic literature in related fields to this phenomenon. As *digital detoxing* is a counter-reaction of consumers to an experienced overconsumption of the Internet and digital devices (Deloitte, 2017; Ofcom, 2016), this research study is grounded in the field of negative impacts of technology overconsumption. This chapter addresses relevant knowledge, recent studies and theoretical concepts from respective scholars and academic sources in that field. As this study aims to gain knowledge about what people do to reduce the interaction with their digital technologies and what are the reasons that motivate them to act respectively, the following outline of theoretical aspects serve as a framework to approach this topic and further provides an appropriate starting point for the data collection.

Firstly, the negative impacts of problematic usage of digital technologies will be outlined providing a specific lens to investigate impacts on the professional, the private and the social environment. Secondly, detailed illuminations of preventive measures to prevent and control technology addiction will be presented. Given that these two intertwined literature streams can profoundly influence today's consumer thinking regarding digital technology, they build a reasonable basis to further investigate consumers actions against the perceived digital overconsumption and their linked motivations to act respectively. Finally, the streams assist in systematically examining the empirical findings and serve to answer the research question.

2.1 Negative Impacts of Technology Overconsumption

In this section, negative impacts of technology overconsumption on the professional, the private and the social environment are presented.

2.1.1 On the Professional Environment

This literature stream refers to negative effects of digital technology in the working and studying environment.

New technology developments provide various features of mobile smart devices that go beyond texting and enable information access at any time and any place (Chen & Yan, 2016). The rise of digital devices and the resulting availability of Internet-based communication activities through social media for example, not only facilitates but also harms the work

within a study or work environment (Lepp, Barkley, & Karpinski, 2014; Montag & Walla, 2016). While the right amount of technology used during work facilitates productivity, an overuse reduces working productivity (Montag & Walla, 2016). Figure 1 illustrates this relationship between level of productivity and amount of smartphone usage as an inverted U-function.

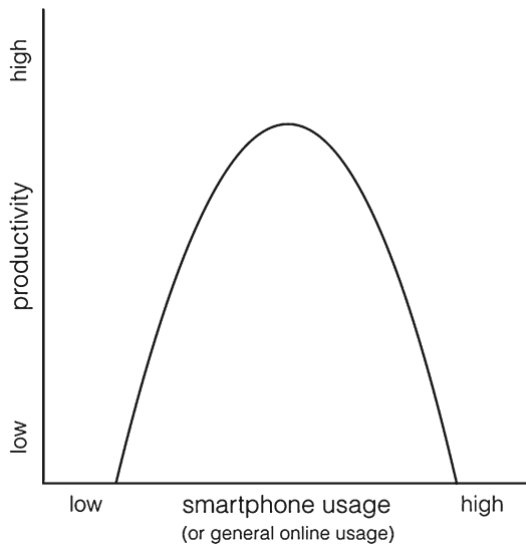


Figure 1: The Association between Smartphone/Online Usage and Productivity (Montag & Walla, 2016, p.4)

According to Montag and Walla (2016), constant interruptions such as repeated one-minute smartphone breaks during the day lead to greater productivity loss than one single long smartphone break. In addition, these authors also investigate the creation of distraction and loss of concentration due to back and forth switching between office or mail programs while working on one task. In more detail, the working flow gets interrupted by incoming emails for instance, which appear on the computer screen and immediately capture attention (Montag & Walla, 2016).

Using the smartphone during work is an interruption of the actual task, leading to distraction which then further results in a loss of flow (Montag & Walla, 2016), focused working time and productivity (Duke & Montag, 2017). According to Haug et al. (2015), when using a smartphone simultaneously while working, it becomes harder to concentrate on or to complete scheduled tasks. Furthermore, the interrelations between smartphone overuse and addiction as well as smartphone interruptions and work-related productivity have been analyzed by Duke and Montag (2017). According to them, there exists a negative relationship between the level of addiction and the number of actual productive working hours due to smartphone interruptions. In their study, smartphone interaction during work reduced the perceived productivity among most of the participants. Furthermore, participants experienced time distortion related to their smartphone usage, which further results in the issue of loss of control (Duke & Montag, 2017). The so-called *technostress* (Tarafdar et al. 2007) at

workplace, which describes stress created by information and computer technology overload, negatively affects the individual productivity (Tarafdar et al. 2007). Thereby, stress is related to missing out of work-related as well as social information (Scott, Valley & Simecka, 2017). Moreover, the inability to disconnect can in the long term negatively affect cognitive processes such as decision making and creativity in the workplace (Scott, Valley & Simecka, 2017). As a result of technology progress, personal and professional limits start to merge into each other and it becomes increasingly difficult for employees to disconnect from work in private life (Scott, Valley & Simecka, 2017; Shallcross, 2012). The everpresent connection to the job can result in contagious stress, depression and anxiety at the workplace (Shallcross, 2012). This in turn not only affects the productivity and the situation with co-workers but also the situation at home by the disability to leave the work-related stress at the workplace (Shallcross, 2012). Due to an abuse of digital devices in a work environment and the resulting constant availability and accessibility, the importance of finding a balance in connectivity as well as creating a boundary between work and private life grows (Scott, Valley & Simecka, 2017; Shallcross, 2012). Moreover, private topics such as family issues are becoming part of the workplace (Scott, Valley & Simecka, 2017). Consequently, the border lines between work and private life become blurred in both directions: Mobile digital devices enable employees to check work related emails after work or even during holidays (Scott, Valley & Simecka, 2017) on the one hand, and leverage the discussion of private issues during work hours (Shallcross, 2012) on the other hand.

Besides the direct negative effects of using a digital device while working, smartphones also facilitate the connectivity to work when not being physically at the workplace (Lanaj, Johnson & Barnes, 2014). Therefore, even outside of the office, employees constantly receive work-related information (Lanaj, Johnson & Barnes, 2014). Nevertheless, using smartphones for work related topics in the evening interferes the sleep quality of an employee (Lanaj, Johnson & Barnes, 2014). As a consequence, the employees' depletion in the morning is increased which then further results in less engagement and efficiency at work the next day (Lanaj, Johnson & Barnes, 2014). Due to the constant connection to work through digital communication possibilities, the boundaries between work and private life get blurred and can therefore result in a work overload (Bucher, Fieseler & Suphan, 2013). In this context, a greater workload can be traced back to increased complexity in technology and information quantity online (Bucher, Fieseler & Suphan, 2013).

In addition to the above stated negative effects of digital devices in the working environment, smartphone addiction and usage, texting or the use of social media for instance, also strongly effects the academic performance of university students in a negative way (Aljomaa et al. 2016; Lepp, Barkley & Karpinski, 2014). The adverse impacts of digital overuse on academic performance have been under investigation as follows. In general, academic performance implies academic outcomes, such as course grades and grade point average (GPA), as well as perceived academic learning and study-related attitudes and behaviors (van der Schuur et al. 2015). The latter refers to the ability to focus on a study task, the motivation for studying or the expenditure of time (van der Schuur et al. 2015). Overall, it is observable that students mostly underestimate the problematic usage of digital technologies in the classroom (Kraushaar & Novak, 2010). Furthermore, the researchers Samaha and Hawi (2016) have analyzed the relation of smartphone addiction and perceived stress among university students. The study showed that the risk of smartphone addiction increases with higher perceived

stress, whereas it decreases with higher academic performance (Samaha & Hawi, 2016). The latter outcome of a negative association between academic performance and technology use can be explained by the fact that when students spend more time on digital technology they in turn also spend less time on studying (Carrier et al. 2015; Samaha & Hawi, 2016).

Following the above-mentioned phenomenon of switching programs back and forth while working on one task (Montag & Walla, 2016), the phenomenon of media multitasking can be also observed in a studying and learning environment regarding distractions in the classroom (Carrier et al. 2015) or academic performance (Kraushaar & Novak, 2010) for example. This refers to a use of more than one medium simultaneously on the one hand or a media use while performing non-media activities on the other hand, such as studying and texting on a digital device (Carrier et al. 2015; van der Schuur et al. 2015). Thereby, media multitasking via technology during class or studying has negative effects on the overall academic performance (Carrier et al. 2015; Kraushaar & Novak, 2010; Wei, Wang & Klausner, 2012; van der Schuur et al. 2015). Moreover, adverse impacts hereby are for example a sacrifice in cognitive learning outcomes (Wei, Wang & Klausner, 2012), disrupted study atmosphere in the classroom (Carrier et al. 2015) or memorizing ability (Kraushaar & Novak, 2010).

In general, studying texts or listening to lectures require focus and close attention to the task, whereas media multitasking provides opportunities for technology-based distractions (Carrier et al. 2015). According to Chen and Yan (2016), distraction through mobile phone multitasking results from three different kinds of distraction: distraction sources, distraction targets and distraction subjects. In the matter of sources, Chen and Yan (2016) refer to issues such as ringing of smartphones, texting and general information communication technology such as social media applications. Possible distraction targets are reading speed and attention, whereas distraction subjects in this context refer to differences in personality, gender and culture (Chen & Yan, 2016). Frequent use of digital technologies for non-academic reasons during class leads to less attention to the actual course content (Carrier et al. 2015; Kuznekoff & Titsworth, 2013; Wei, Wang & Klausner, 2012) and therefore decreases students' cognitive control abilities of sustaining attention and regulating thoughts (van der Schuur et al. 2015).

Thereby, it needs to be mentioned that besides productive course-related study programs, distractive programs on digital devices include for example web surfing, entertainment, email, instant messaging (Kraushaar & Novak, 2010) and posting on social networks (Kuznekoff & Titsworth, 2013). Moreover, this has negative impacts on note-taking behavior regarding depth and information processing (Chen & Yan, 2016; Kuznekoff & Titsworth, 2013), perceived cognitive learning (Wei, Wang & Klausner, 2012) and the quantity of errors regarding memorization of the studied material (Carrier et al. 2015; Kraushaar & Novak, 2010) as well as the performance on exams (Kraushaar & Novak, 2010; Kuznekoff & Titsworth, 2013; Wei, Wang & Klausner, 2012). As the usage of digital technology requires active involvement, it therefore disrupts the primary tasks, causes disorientation, and results in loss of efficiency (Prabu et al. 2015). In addition to the reduction of attention and learning (Wei, Wang & Klausner, 2012), the information processing in the short-term memory as well as storing it into the long-term memory gets compromised (Kuznekoff & Titsworth, 2013). According to van der Schuur et al. (2015), there is an observable relation between deficits in cognitive control, the ability to sustain attention and academic performance. More precisely, these authors investigate that deficits in cognitive control lead to difficulties regarding the

ability to maintain attention, which in turn entails higher engagement in other not study-related activities. Consequently, less motivation for studying results in lower academic performance (van der Schuur et al. 2015).

In the literature, various positive effects of less digital usage during studying have been analyzed. The researchers Kuznekoff & Titsworth (2013) found out that students without using their mobile phones during the lecture took more detailed notes and wrote down around 60 percent more information of class content compared to students who got interrupted by their mobile phones. In relation to this, the ability to self-regulate and to permanently focus on classroom tasks gets enhanced by the reduced usage of digital technology (Pintrich & De Groot, 1990; Wei, Wang & Klausner, 2012). The term self-regulation or self-control hereby implies the strong will of learners to actively engage themselves in cognitive learning (Zimmermann, 2001) and to prevent leisure activities from interfering with work (Tangney, Baumeister & Boone, 2004).

2.1.2 On the Private Environment

This literature stream encompasses the negative impacts of digital technology and its overuse on the individual private life. This refers to a situation when the person is on his own and enjoying himself, without any other people involved. In this section, negative impacts are mainly discussed regarding the well-being.

A growing literature regarding the negative impacts of digital technology on the private life, comprising the Internet, mobile phones and social media, has accompanied the increased use of these technologies. Therefore, the present study continues a stream of research about the negative effects of these technologies that has been initiated by the *Internet Paradox* studies (Bessiere et al. 2008; Kraut et al. 2002, Kraut et al. 1998) and has continued with research on the negative consequences of the Internet usage on the well-being (Byun et al. 2009; Tokunaga & Rains, 2010). Research about the *Internet Paradox* initially found that a heavier use of the Internet impaired psychological well-being. Therefore, given that an excessive Internet use is associated with less psychological well-being, it is reasonable that a significant body of Internet research has focused on this relationship (Weinstein & Lejoyeux, 2010). Thus, research has revealed negative effects of Internet use on psychological well-being, in particular that it causes loneliness (Bonebrake, 2002; Huang, 2010; Stepanikova, Ni & He, 2010; Yao & Zhong, 2014;) daily-life stress (Kraut et al. 2002), depression (Bonebrake, 2002; Campbell, Cumming & Hughes, 2006; Fortson, Scotti & Chen, 2007; Huang, 2010), less life-satisfaction (Carden, 2006; Huang, 2010) and less self-esteem (Huang, 2010). Particularly at home, an abuse of the Internet is associated with loneliness and less life-satisfaction (Stepanikova, Ni & He, 2010). Özdemir, Kuzucu and Ak (2014) found that depression and loneliness are correlated with low self-control and Internet addiction. Also, researchers found out that those negative effects occurred among introverts (Bessiere et al. 2008; Kraut et al. 2002). In their research, Kraut et al. (1998) elaborated that a problematic use of Internet reduces the psychological well-being, although their follow-up research (Kraut et al. 2002) showed that some of the negative effects on psychological well-being reversed over longer periods of time. Overall, existing literature indicates that Internet overuse has negative impacts on individual well-being. With the further development of the Internet, attention has

turned into specific types of Internet use. In this regard, Hamburger and Ben-Artzi (2000) criticize that in their study, Kraut et al. (1998) considered Internet users as a single entity, having all the same needs and motives.

In this respect, Hamburger and Ben-Artzi (2000) pointed out, that in order to gain a comprehensive understanding of the influences of the Internet on individuals' well-being, it is pivotal to consider the different services on the Internet. They further argue that it is necessary to understand the single motives and needs of consumers, as they claim that what is good for one user might not necessary be applicable for another. Other services, such as social media can also exert negative effects on psychological well-being (Burke, Marlow & Lento, 2010; Steinfield, Ellison & Lampe, 2008; Valkenburg, Peter & Schouten, 2006). Hamburger and Ben-Artzi (2000) divided the possibilities to use the Internet into three main areas: social, work, and leisure. As social media became a popular leisure activity over the last decade, concerns regarding the potential addictive use of social media have been risen (Andreassen, 2015; Griffiths, Kuss & Demetrovics, 2014). An excessive use of social media can lead to reduced self-esteem (Andreassen, Pallesen & Griffiths, 2017). Haug et al. (2015) further investigated the relationship between social media and addictive behavior. These researchers revealed that social networking is the most relevant smartphone function for young adults and moreover, that this function can be associated with an addictive smartphone behavior. Findings of their study also provide indication that excessive smartphone use is related to stress and reduced physical activity (Haug et al. 2015).

Given the diverse range of functions afforded by digital technology – from communication, to navigation, Internet surfing and entertainment – the popularity of these devices seems inevitable which lead to the result that a problematic use is related to the construct of problematic Internet use (Kuss et al. 2014). Constant Internet access increases concerns about the negative effects of digital technology overuse (Duke & Montag, 2017). In this respect, smartphone use has the potential to develop into addictive behavior which can interfere with our daily life (Billieux et al. 2015; Duke & Montag, 2017; Wolniewicz et al. 2018). The dependency-like behaviors and symptoms of withdrawal, are not surprising given that many people rely on their phones in daily life (Elhai et al. 2016). Observations of Pérez, Monje and Ruiz (2012) indicate that mobile phone addiction is essentially similar to Internet addiction. Evidence for the construct of problematic smartphone use, or smartphone addiction, comes from a growing literature base (Elhai et al. 2016). Previous research found an existing relationship between mobile phone use behaviors and psychological features, such as personality, self-esteem, impulsivity, and well-being (Ehrenberg et al., 2008; Billieux, Van der Linden & Rochat, 2008; Gross, Juvonen & Gable, 2002; Butt & Phillips, 2008). Others found out that an overuse of digital devices has several negative effects on an individual's private life, including the psychological well-being. In their study with young adults, Lei et al. (2017) found an association between shy young adults and mobile phone addiction. Previous literature has detected a relationship between a problematic smartphone use and the *Fear of Missing Out* (FoMO) (Elhai et al. 2016). According to them, FoMO is a newer personality construct involving reluctance to miss important information. In their research, Elhai et al. (2016) found that FoMO results in the need to frequently stay connected to social networks and further, that people high in *Fear of Missing Out* important information are likely to overuse their smartphones in order to satisfy the need to stay connected. FoMO also drives an overuse of social media (Alt, 2015; Przybylski, Murayama, DeHaan & Gladwell, 2013). An

overuse of digital technology, including smartphone, Internet and social media, was driven by the perceived social pressure and the FoMO on information and social interaction (Reinecke et al. 2017). According to these authors, this overuse can heighten the potential for burnout, depression, and anxiety.

Wolniewicz et al. (2018) focus on the problematic smartphone use, particularly on the type of social use. These authors found out that FoMO is related to both, problematic smartphone use and social smartphone use. Their findings further suggest that the fear of others negative evaluation of oneself, can drive a problematic smartphone use. The latter was found to be related with negative effects such as depression and anxiety (Wolniewicz et al. 2018). Other researchers took a broader viewpoint on the relationship between stress and digital media (Hampton, Lu & Shin, 2016). According to their research, a link between those two elements was found in a heightened awareness of occurring life events in people's network. The so-called *cost of caring* (Hampton, Lu & Shin, 2016), the awareness of undesirable and major life events in the lives of others, were suggested to be a source of psychological stress. In more detail, Samaha and Hawi (2016) investigated the association between perceived stress and an unhealthy smartphone use. According to them, stress leads to reduced satisfaction in life (Samaha and Hawi, 2016).

Qualitative research about what people *like least* about technology (Baron, 2011) contributes to the relation of stress and digital overuse. Baron (2011) found three types of data: Dependency/stress, obligation to be responsive and the disruption of social order. Dependency and stress contains responses that directly or indirectly refer to being tethered to the phone and the feeling of being trapped by the ability of other people to always contact them (Baron, 2011). Konok, Pogány and Miklósi (2017) found out that behavioral and physiological stress and proximity seeking behavior is induced by a separation from smartphones and suggested that mobile attachment is similar to an attachment to other people. The effect of distress on being separated from the mobile phone, the so-called *Nomophobia* (Bivin et al. 2013), also received attention from Konok et al. (2016) and Dongre, Inamdar and Gattani (2017) and was found to be even higher among young adults (Sharma et al. 2015). In more depth, under what conditions *Nomophobia* results in negative consequences, especially stress, has recently been explored by Tams, Legoux and Leger (2018). The need for social connection and the need for immediate connection were determined to be mediators of loneliness and problematic use of media (Kim, 2018).

Working late at night is especially disruptive to sleep (Son et al. 2008) and given the convenience advantage of digital technologies, resulting negative effects on the well-being in terms of sleep gained some attention by researchers (Chang & Choi, 2016; Perlow, 2012). Although there are many causes of insufficient sleep, a commonly-cited reason is smartphone use for work (Perlow, 2012). The same author claims that employees are unable to fully recover from work, as they often use their smartphones for work within an hour before going to bed, and many keep their smartphones within their reach while sleeping (Perlow, 2012). This in turn increases depletion in the next morning (Lanaj, Russell & Barnes, 2014). In their study to examine variables that affect sleep quality of young adults, Chang and Choi (2016) found out that an addictive usage behavior with smartphones has negative impacts on the sleep quality, which is attributable to depression and stress (Stepanikova, Nie & He, 2010; Wolniewicz et al. 2018). In that context, a recent study suggests that smartphone addiction is

better demonstrated by the duration of use and time until the first use in the morning upon waking up (Haug et al. 2015). Lemola et al. (2015) contribute to the position of Haug et al. (2015) by claiming that electronic media use in bed before sleeping is associated with sleep difficulties and reduced sleep duration which in turn is related to symptoms of depression.

2.1.3 On the Social Environment

This literature stream revolves around the negative impacts of digital technology on social interactions. It encompasses social interactions with for example family and friends as well as being in social environments, when other people are involved.

Besides the aforementioned negative impacts of digital technology usage regarding the professional and private environment, an overuse of digital technologies also negatively affects the sociology and relationship between people (Kim, 2017; Kraut et al. 1998; Montag & Walla, 2016; Rotondi, Stanca & Tomasuolo, 2017).

Although smartphones enable people to stay connected wherever and whenever and create virtual connections through digital interactions by developing a new social context, a feeling of isolation (Amichai-Hamburger, Wainapfel & Fox, 2002; Rotondi, Stanca & Tomasuolo, 2017) and loneliness (Kim; 2017; Yao & Zhong, 2014) emerges. Additionally, social connectedness, which develops through real interpersonal social relationships, decreases in virtual environments (Lee & Robbins, 1998). This leads to social isolation and alienation from the real social environment (Bozoglan, Demirer & Sahin, 2013; Savci & Aysan, 2017). In more detail, the expression “[s]ocial connectedness reflects [the] internal sense of belonging and is defined as the subjective awareness of being in close relationship with the social world” (Lee & Robbins, 1998, p. 338). With this, the development of meaningful and sustainable relationships gets interrupted (Savci & Aysan, 2017).

In turn, a high level of loneliness is related to a lack of communication skills and perceived social support, which further leads to a deficit in social interaction (Kim, 2017). According to Kim (2017), individuals with a high level of loneliness prefer smartphone mediated communication rather than face-to-face interactions as the further are perceived to be less challenging. Moreover, introverted people demonstrate their real personality on the Internet instead of through traditional social interactions (Amichai-Hamburger, Wainapfel & Fox, 2002).

According to Montag and Walla (2016), technology changes the way people interact and communicate with each other within a society. In general, smartphone mediated communication decreases the quantity of face-to-face social interactions (Kim, 2017) and reduces the quality of these personal communications (Rotondi, Stanca & Tomasuolo, 2017). Furthermore, Kim (2017) highlights the importance of physical face-to-face interactions for reducing negative effects of excessive media use, such as loneliness, by increasing the perception of social support from one’s social networks. Moreover, social support in terms of availability for help with tangible favors in daily life, such as babysitting, is more likely in friendships supported by physical proximity rather than online friendships (Kraut et al. 1998). Online friendships are likely to be more limited because they are more distant, and people are not involved in the day-to-day environment and consequently, are less likely to understand the

context of conversations (Kraut et al. 1998). Moreover, smartphones for instance entail a termination of experiencing the moment and communicating with the environment (Montag & Walla, 2016). With this, technology can negatively affect the social functioning or emotion-related capacities, which include inter alia nonverbal information through gestures, face expressions or tone of speech melody (Montag & Walla, 2016). These social abilities of emotion recognition get lost due to virtual social interactions on social media, as there, real face emotions are substituted by virtual smileys and text (Montag & Walla, 2016).

Furthermore, the findings of the study about the *Internet Paradox* of Kraut et al. (1998) indicate several adverse effects of the Internet usage on social involvement. These researchers highlight that a greater use of the Internet was associated with declines in family communication as well as in the size of the local social circle. Moreover, due to social media, individuals spend less quality time with their family and friends (Bucher, Fieseler & Suphan, 2013). In his study about social media disconnection, Mihailidis (2014) found out that participating students questioned the real value of time spent online for peer-to-peer communications through social media as the information shared is perceived as less credible or trustworthy. Moreover, this way of interaction and communication disrupts traditional top-down information flow, meaning from broad to depth conversations, and hinders the ability to talk to people face-to-face (Mihailidis, 2014). Individuals perceive the positive effects of offline time spent with friends on their well-being as less strong when using a smartphone simultaneously (Rotondi, Stanca & Tomasuolo, 2017). In more detail, Rotondi, Stanca and Tomasuolo (2017, p. 25) argue that “[...] while the smartphone can bring distant people closer together, at least virtually, it can also make close people more distant”.

Furthermore, the Internet leverages the behavior of anonymity and therefore makes forming social relationships even more difficult for introverted people (Amichai-Hamburger, Wainapfel & Fox, 2002). Technologies displace the time that would otherwise be spent on leisure time or in social activities (Stepanikova, Nie & He, 2010) such as face-to-face social interactions (Rotondi, Stanca & Tomasuolo, 2017). Moreover, Kraut et al. (1998) found out that passive and nonsocial entertainment activities, for example on the Internet or on television, represent a privatization of entertainment and lead to social withdrawal. Furthermore, the time spent for these nonsocial activities substitutes the previously spent time for social relationships (Kraut et al. 1998). Thereby, it has to be mentioned, that the effect on face-to-face social interactions depends in the degree of intrusiveness of the corresponding technology (Rotondi, Stanca & Tomasuolo, 2017). In more detail, academic literature distinguishes between monologic and dialogic communication technologies (Rotondi, Stanca & Tomasuolo, 2017). The former includes inter alia television and radio and these monological communication technologies imply an unidirectional communication flow (Rotondi, Stanca & Tomasuolo, 2017). Dialogic communication technologies comprise for example telephone and social media, which implies an interactive communication flow with direct connection to the counterpart (Rotondi, Stanca & Tomasuolo, 2017). Therefore, this implies that dialogic communication technologies are more likely to intervene face-to-face interactions (Rotondi, Stanca & Tomasuolo, 2017). Considering the effects of digital technology on sociology, social media networks foster social inequality regarding for instance power or information (Orton-Johnshon & Prior, 2013).

Moreover, digital communities do not facilitate deep interpersonal connections during common experiences and activities (Orton-Johnson & Prior, 2013). To state a concrete example, digital forms of communication, such as the business recruitment network LinkedIn, increasingly mediate labor markets (Orton-Johnson & Prior, 2013). In relation to this, the phenomenon of FoMO, which has been explained in chapter 2.1.2, results in the need of staying connected also to social networks (Elhai et al. 2016). Additionally, perceived social pressure due to availability expectations from the individual's social environment, is a key driver for increasing digital communication and Internet multitasking (Reinecke et al. 2017). All in all, these aspects underline the importance of real human interactions compared to virtual social interaction (Montag & Walla, 2016).

2.2 Measures to Prevent and Control Technology Addiction

In the previous literature streams, negative impacts of digital overuse on the professional and private environment as well as on social interactions have been provided. Measures to prevent and control technology overuse build up a separate stream to discuss existent possibilities to reduce an excessive technology use in order to prevent negative outcomes such as an addictive behavior. As illuminated in chapter 2.1, academic literature widely discusses scientific proven disadvantages of technology overuse and hereafter, with increasing tendency papers revolve around cognitive behavior methods. This shows that the research field of countermeasures against negative consequences of digital technologies is growing, thus paves the way for *digital detox*.

Although the terms Internet addiction, pathological Internet use, technology addiction and media dependence have received recent attention in the literature, there is still a disagreement over diagnostic criteria (Scott, Valley & Simecka, 2017; Winkler et al. 2013), definition (Dau, Hoffmann & Banger, 2015) as well as no consistent terminology regarding this mental health issue (Yao & Zhong, 2014) and addiction disorder (Pontes, Kuss & Griffiths, 2015; Shaw & Black, 2008).

Overall, considering Internet addiction from a cognitive behavioral perspective, the term refers to a behavioral control problem of steering the use of a digital device in daily life (Yao & Zhong, 2014). Thereby, intentional and mindful choices for a conscious usage of digital technology are made, aiming for a better life balance (Scott, Valley & Simecka, 2017). Lifestyle modification strategies for the prevention and reduction of smartphone dependency, such as self-control enhancement or switching off notifications, are considered to improve sleep quality of especially young adults (Chang & Choi, 2016). Moreover, the behavior of completely powering off electronic devices at a certain time in the evening, for example one hour before going to bed, facilitates sleep quality and quantity and therefore entails productivity at work the following day (Lanaj, Johnson & Barnes, 2014). In order to find some rest from the online environment and to avoid having the first and the last interaction of the day with a digital device, Montag and Walla (2016) propose to not keep the smartphone in the bedroom and to use an analog alarm clock instead. As far as the reduction of symptoms

for Internet addiction such as feeling of loneliness are concerned, Yao and Zhong (2014) suggest an increase of social contacts. Thereby, real face-to-face communications are even more effective than computer-mediated interactions whereas the latter seems to neutralize this effect (Yao & Zhong, 2014). Furthermore, it can be argued that spending time online with cyber contacts reduces the offline time for real-life social relationships and therefore also destabilizes relationships with family and friends (Yao & Zhong, 2014; Young, 1998). Consequently, offline social contacts reduce symptoms of Internet addiction (Yao & Zhong, 2014). When having social interactions with family and friends, a disconnection of mobile devices is crucial to perceive this social time as personal quality time (Montag & Walla, 2016).

Research findings indicate that the more time people spend on face-to-face interactions, the more social support and the less negative outcomes, such as problematic use of smartphone, occur (Kim, 2017). That study underlined the importance of face-to-face interactions in diminishing negative effects of excessive media use (Kim, 2017). Furthermore, face-to-face interactions decrease the association between the need for social assurance and need for immediate connection as it forms meaningful relationships with others (Kim, 2018). Referring back to the issue of separating work from private life due to constant availability, which has been elucidated in chapter 2.1.1, Shallcross (2012) proposes a clear cut after finishing work by visualizing closing the office door for example. Additionally, she advises to actively detract the mind from work-related thoughts by listening to music or making a phone call to family or friends on the way home. Furthermore, a healthy lifestyle with adequate sleep and proper eating habits facilitates coping with technology related stress at work (Shallcross, 2012).

In order to mentally cope with overload situations, invasion and uncertainty caused by social media and technology, Bucher, Fieseler and Suphan (2013) suggest several strategies regarding mental social media literacy. In more detail, for example invasion of work issues into the private domain can be limited by setting clear boundaries and adapting work habits accordingly (Bucher, Fieseler & Suphan, 2013). Furthermore, in case of an overwhelming feeling due to invasion, taking a break from work and from social media can help to not impede mental well-being (Bucher, Fieseler & Suphan, 2013). Additionally, work-based team situational learning can support employees to manage fast changing communications on social media and to use it adequately (Bucher, Fieseler & Suphan, 2013). In accordance with that, Chen and Yan (2016) point out the importance of developing the ability to turn off digital devices as well as enhancing self-regulation skills. Moreover, these authors suggest the development and introduction of effective mobile phone policies in classrooms in order to prevent students from distractions. Furthermore, in order to maximize performance and minimize distractions in learning and working situations, one can make strategic choices about when to use a digital device, such as to delay the response to a text message towards after the study or work period (Carrier et al. 2015).

Besides this strategic decision, students can also put their phones on silent mode without vibration or just leave their mobile devices in their backpack or purse (Carrier et al. 2015). According to Carrier et al. (2015), these deliberate behaviors can be framed as teachable *digital metacognition* by critically self-reflecting the personal learning and working experiences regarding implemented strategies for better focusing on one task. According to

Lei et al. (2017), insufficient self-control strategies lead to mobile phone addiction. In more detail, the cognitive element “[s]elf-control is the ability to regulate behavior to fulfill personal values and meet social expectations“ (Lei et al. 2017, p. 364). Consequently, the strengthening of self-control as well as the mitigation of attachment anxiety support the reduction of mobile phone addiction among shy individuals, especially young adults (Lei et al. 2017). For example, self-control trainings, aiming for improving self-awareness and self-monitoring, can be applied as implementation measures (Lei et al. 2017). Moreover, in the self-management approach, the general concept of self-regulation and its special subcategory of self-control play a pivotal role by creating an active lifestyle for people (Dau, Hoffmann & Banger, 2015). Thereby, self-control can be classified in the resistance of temptation of technology usage in order to achieve an overarching goal such as getting a degree (Kanfer, Reinecker & Schmelzer, 2000). Furthermore, self-control is described as heroic behavior by enduring an aversive situation to cause long-term positive results (Kanfer, Reinecker & Schmelzer, 2000). Moreover, the concept of self-control in addiction can be further distinguished into decisional or protracted self-control (Dau, Hoffmann & Banger, 2015).

Conscious smartphone usage accompanied by self-control enables employees to devote their energy to work-related tasks while eliminating non-work distractions (Lanaj, Johnson & Barnes, 2014). In this context, Li et al. (2018) also underline the importance of self-control within an organizational context regarding Internet abuses at work. In order to not disrupt a workflow, it is advisable to close mail programs or other disturbance sources while working on one task (Montag & Walla, 2016). According to Kushlev and Dunn (2015), stress can be reduced when answering emails only at stable and pre-defined time intervals during a day instead of answering them immediately when they arrive in the inbox. A high level of self-control (Tangney, Baumeister & Boone, 2004) or self-discipline (Duckworth & Seligman, 2005) among students also fosters strong academic performance. The suggestions of the aforementioned sources, albeit not scientifically proven, show that several researchers, investigating negative consequences of digital technologies, are concerned about respective countermeasures.

As far psychological and pharmacological treatments are concerned, researchers first provide prevention measures for addiction disease as well as treatments for addicted people (Pontes, Kuss & Griffiths, 2015; Winkler et al. 2013; Young & de Abreu, 2011). Examples include, inter alia, cognitive behavioral therapy (King et al. 2012; Pontes, Kuss & Griffiths, 2015; Winkler et al. 2013; Young, 2009), family therapy (Pontes, Kuss & Griffiths, 2015; Sharma & Palanichamy, 2018; Shaw & Black, 2008), motivational enhancement therapy (Sharma & Palanichamy, 2018), relaxation therapy (Lei et al. 2017), self-management therapy (Dau, Hoffmann & Banger, 2015) or systemic approaches (Scott, Valley & Simecka, 2017). Moreover, in order to find a balance in connectivity, individual counseling intervention is a more promising treatment option compared to group counseling (Dau, Hoffmann & Banger, 2015; Winkler et al. 2013). Besides these clinical treatments, there are outpatient addiction specialist agencies that offer consultation as well as preventive measures for media addiction in schools (Dau, Hoffmann & Banger, 2015).

Nevertheless, activities or strategies to reduce digital interactions mostly occur as suggestions in aforementioned literature streams about negative impacts of digital technology. Only in psychological research, treatment measures and therapies had been implemented and tested.

According to several researchers, there still exists extremely limited, insufficient and inconsistent academic material regarding appropriate methods of treatment for Internet and technology addiction (King et al. 2012; Pontes, Kuss & Griffiths, 2015; Sharma & Palanichamy, 2018; Shaw & Black, 2008; Winkler et al. 2013; Yao & Zhong, 2014).

Apart from academic literature, attention on a reduced and conscious technology consumption is emerging in secondary data sources. According to Roig-Marín (2017), new Internet-based data sources such as blogs or social media can be effectively used as information sources to trace relevant patterns. As far as *digital detox* secondary data is concerned, this recent phenomenon is discussed in several blogs in the Internet (Do What You Love Limited, 2017; Time to Log Off, 2018) and therefore underlines the importance of this recent topic. Moreover, the researcher Beard (2005) stresses the importance of the recognition of the topic of problematic Internet usage among human resources managers. Thereby, he points out that companies need to be aware of the effects of an over usage on employees and as a consequence they need to counteract by providing alternative solutions. Some multinational companies have already recognized the importance of this issue by for instance adapting the company agreements regarding availability after work (Kaufmann, 2014). Furthermore, new emerging businesses offer trainings (Digital Detoxing, 2015; Digital Detox LLC, 2014) and suggestions for several practical adaptations in daily life that support individuals to use their digital technologies more consciously (Center of Human Technology, 2018; Time to Log Off, 2018). In Germany, for example, the organization called *Media Addiction Association* has been founded to offer consultation and provide prevention measures for addiction diseases (Dau, Hoffmann & Banger, 2015).

Existing literature provides knowledge about negative impacts of digital technologies isolated on the professional, the private and the social environment. Furthermore, yet limited and merely of medical nature, there is knowledge about measures to prevent and control technology addiction in the isolated environments. Apart from this external perspective on negative impacts of and countermeasures against digital technologies, academic literature lacks in the understanding of the subjective perspective. Albeit some individual *Actions* already have been suggested by some researchers, the implementation and the respective *Motivations* have not been investigated and remain unclear.

3 Methodology

In this chapter, a detailed description and argumentation for the methodological research approach is presented, which assists to achieve the study purpose. First, the research philosophy provides an argumentation for the ontological and epistemological stand of the research. Then an argumentation for the selected research strategy of the chosen qualitative research and the respective research is elaborated. Subsequently, an insight in the data collection process and the related analysis of qualitative follows. This chapter concludes with a reflection on data credibility and considers ethical aspects of this study.

3.1 Research Philosophy

This research aims to create knowledge about the connection of the scientifically proven negative effects of digital technologies and the conscious actions of individuals to actively reduce their interaction with digital technologies. This supports the subjectivist view point of this research that this social phenomenon is created from the perceptions and consequent actions of social actors (Saunders, Lewis & Thornhill, 2009). Therefore, this research finds its roots in the philosophy of social constructionism. Respectively, this research aims to explore the actions young adults undertake to mediate the subjectively perceived negative effects of digital technology on their life, which they personally relate to a digital overuse. The social constructionist approach follows from the interpretivist philosophy that is necessary to explore the subjective meanings, motivating the actions of young adults in order to enable the researchers to understand these actions (Saunders, Lewis & Thornhill, 2009).

Analogously, inspirations are drawn from a relativist ontology. Young adults have their own subjective experiences that are based on their knowledge, contexts or countries in which they live (Easterby-Smith, Thorpe & Jackson, 2015). As the interviewees in this research all have different cultural backgrounds, there is no single reality about what young adults do or what the motivations are to reduce the interaction with digital technologies. The relativist position in this research thus rather explores many perspectives on the phenomenon of *digital detox* than searches for one single truth (Easterby-Smith, Thorpe & Jackson, 2015). Therefore, the facts revealed from this research depend on the viewpoint or observer.

3.2 Research Strategy

Given the emergence of the phenomenon of *digital detox*, the insights are still limited and isolated. Therefore, an exploratory approach is needed for identifying new aspects and for providing a comprehensive view of the phenomenon (Saunders, Lewis & Thornhill, 2009). In this respect, qualitative methods are usually chosen (Saunders, Lewis & Thornhill, 2009) because they enable a research that is concerned with words rather than with numbers and provides a greater flexibility to discover new themes (Miles & Huberman, 1994; Saunders, Lewis & Thornhill, 2009). Particularly, this research investigated *what (actions)* young adults do to reduce their usage of digital technologies in a professional, private and social environment and *why (motivations)* they are doing it. Therefore, a qualitative method has been the most suitable approach to the conducted research process.

For this emerging phenomenon of reduced interaction with digital technology, it was reasonable to interview those people who are conscious in their consumption of digital technology. The purpose here is to gain a feeling of the situation in order to understand better the nature of the problem (Saunders, Lewis & Thornhill, 2009). Subsequently, analyzing the interviews provided the possibility to then make sense of those data in order to formulate a theory (Saunders, Lewis & Thornhill, 2009). The focus of interest of this study was particularly in understanding why something is happening, rather than being able to describe what is happening (Saunders, Lewis & Thornhill, 2009).

3.3 Research Design

The research design encompasses the conducted semi-structured interviews, the sampling strategy as well as information about the interview process and data collection.

3.3.1 Semi-structured Interviews

During the research process, semi-structured interviews were conducted with twelve participants (see Table 1). The aim of this qualitative research was to collect information that captures the meaning and interpretation of the phenomenon of *digital detox* in relation to the interviewees' worldviews (Kvale and Brinkmann, 2009). Therefore, interviews had to be conducted so that these insights could have been gained and to prevent the results to be superficial and valuable insights could have been uncovered (Easterby-Smith, Thorpe & Jackson, 2015). This required the researchers to be open to different worldviews of the participants and to be able to assist them when needed (Easterby-Smith, Thorpe & Jackson, 2015). In order to do so, the data for this research was achieved via a semi-structured interview design. These interviews were more flexible and allowed the researcher to adapt and adjust the questions accordingly (Easterby-Smith, Thorpe & Jackson, 2015). An interview guide has been prepared, containing key themes and questions that guided the researchers through the interview. More precisely, this research guide took inspiration from a theoretical

review of literature about negative impacts of digital technology on different areas of life and measures to prevent and control technology addiction. These insights were used as a basis for the interview guide, with which the assumptions are tested to generate new findings on individual motivations of the reductive behavior regarding the use of digital technology.

Table 1: List of Interview Participants

Participant No.	Nationality	Duration	Date	Location
Participant 1	Swiss	00:57:50	12-Apr	Personal
Participant 2	German	00:52:24	12-Apr	Personal
Participant 3	Chinese	00:44:16	19-Apr	Telephone
Participant 4	German	00:55:11	14-Apr	Telephone
Participant 5	Swedish	00:40:56	14-Apr	Personal
Participant 6	German	01:07:53	12-Apr	Telephone
Participant 7	Turkish	00:47:33	13-Apr	Telephone
Participant 8	German	00:42:36	20-Apr	Personal
Participant 9	American	00:54:03	19-Apr	Telephone
Participant 10	Finnish	00:47:47	13-Apr	Personal
Participant 11	Swiss	00:46:54	14-Apr	Telephone
Participant 12	Canadian	00:55:01	27-Apr	Telephone

Even though the interviewees were selected among their *detox* behavior, this phenomenon is still emerging. Therefore, the interviewees' knowledge about some of the contradictory *Actions* and their *Motivations* to act accordingly might lie beyond their common awareness. The use of semi-structured interviews, guided by the fields of their professional, private and social environment, provided the possibility to make individuals reflect upon their own experience and behavior within the respective fields and to recall actions undertaken by them to reduce the use of digital technology. In case respondents were not able to remember certain behaviors immediately, a selection of similar questions evolving around the same topic were prepared, included in the interview guide and applied if necessary to trigger the remembering (see Appendix A). This interview guide assured to cover the topics found in the literature but also to keep track in order to answer the research question.

3.3.2 Sampling

In correlation with the research question and the conducted literature, the selected sample group of this research were young adults, who are actively reducing the interaction with digital technology. The participant selection criteria served to select young adults who were not only actively implementing strategies in their life to reduce the digital interaction but also those who experienced both, the *online* and the *offline life*:

“I am actually actively looking for opportunities where you can just switch off your phone or in situations where you do not need it or can avoid it.”
(Participant 8)

"So, I have to ask myself what I have done at school? I didn't have a phone or were not connected to the internet at all." (Participant 6)

In order to identify relevant participants, the snowball-technique seemed most efficient. This method is suitable for samples where individuals are very rare, and it is hard to identify from outside who belongs to this specific group (Easterby-Smith, Thorpe & Jackson, 2015). In the case of *digital detox*, the snowball sampling started with a person, personally known by the researchers, who was meeting the criteria for inclusion in the study. This person then was asked to name others who would also be eligible (Easterby-Smith, Thorpe & Jackson, 2015) and information-rich (Miles & Huberman, 1994).

According to Patton (2002), the richness of the gathered information is more important than the sample size, but a reasonable coverage of the studied phenomenon must be still reflected by the number of participants. To identify and select information-rich interviewees, this research followed the principles of purposeful sampling (Patton, 2002). This approach additionally involves the identification of individuals that are especially knowledgeable about or experienced with the phenomenon of interest (Cresswell & Plano Clark, 2011). In the sampling process it was further important to find participants who were willing to participate and share their experiences about the phenomenon under study (Palinkas et al. 2015). As the focus of this study is in the *Actions* actively undertaken by young adults, and their *Motivations* rather than in their body language and nonverbal clues (Bryman & Bell, 2011), the twelve interviews were conducted in-person as well as on the telephone. Apart from that, conducting telephone interviews constitutes the advantage of providing access to interview partners that were located in other countries and could not be reached face-to-face with time and cost constraints (Saunders, Lewis & Thornhill, 2012).

3.3.3 Interview Process and Data Collection

All twelve interviews have been conducted in Lund in April 2018 and lasted approximately 50 minutes (see Table 1). The duration of each interview was dependent on for example the interviewees' ability to reflect and communicate their behavior and their general interest in the topic. Throughout the entire interview process, both researchers were present to directly clear out upcoming uncertainties or technical problems with e.g. foreign telephone calls. Not only for the purpose of transcribing the data afterwards but also to pay close attention to the

interviewees' stories which sometimes turned out to be sensitive, and also to avoid any interruptions through keyboard typing noises, all interviews were recorded. To avoid data loss, the sections had been recorded double via separate devices.

Before starting with the interview questions, each participant was provided with an introduction concerning the purpose of the study, the duration and the confidential usage of the data. Furthermore, the participants' permission to record the section was ensured in advance. All respondents were asked to sign a consent form right after the interview session, containing the previous provided information (see Appendix B). Those participants approached via telephone, received an electronic version of the consent form. These measures were taken to ensure that all participants were adequately informed and aware of the outcome of their participation. As the interviews were kept semi-structured, the interview guide served only as a rough orientation. However, the interview process followed a certain order. A general question about how digital technology is involved in the participants daily life and what encouraged them to rethink their behavior, aimed to initiate a reflection of their digital interaction among different circumstances. At the end, the respondents were asked if there are any further actions they undertake, situations or motivations that have not been covered in the interview. This closing question served to give space to talk about personal concerns the participants have in this respect.

Moreover, laddering-up and laddering-down questions were applied when suitable and new questions were added spontaneously in order to gain a deeper understanding of what was said from the interviewees or to clarify uncertainties in the interviewees responds (Easterby-Smith, Thorpe & Jackson, 2015). Such probes were used by asking for example "Why is this important to you?", "Why do you do..." or "Can you give us an example of a situation in which you...". Nevertheless, the interviewees were encouraged to speak as freely as possible. As this topic evoked what could be perceived as storytelling mode, the researchers only intervened when participants seemed to stray from the subject or when participants had difficulties expressing themselves. During the interview process, the term *digital detox* was not mentioned towards the interviewees. Instead, prospective study participants were informed about the research interested in the active behavior to reduce the use of digital technology. This was to avoid uncertainties and bias about different perceptions and definitions existing about *digital detox*.

Due to individual life circumstances, each interview was individual to the participant and new insights could be collected. This approach of semi-structured interviews allowed the guidance among different fields of life such as the professional, the private and the social environment, but at the same time gathered data about the contradicting usage behavior in the respective fields, which has not been addressed in preliminary literature.

3.4 Data Analysis

As suggested from several researchers, while analyzing the qualitative data, it was intended to be coherent with the chosen philosophy and methodology (Bryman & Bell, 2015; Easterby-

Smith, Thorpe & Jackson, 2015). As preparatory work, the audio recordings were transcribed in order to reflect the participants' exact words (Bryman & Bell, 2015) and to familiarize with the data again (Miles & Huberman, 1994). The rich text-based data was approached with the help of Nvivo, a qualitative data analysis software program, for the purpose of coding. In the course of analyzing the semi-structured interviews, main focus was set on the general process of qualitative text analysis as suggested by Kuckartz (2013). These steps include 1) reading and interpreting the text, 2) building categories, 3) code segments of the text, 4) analyze and 5) present results.

The first step of the analysis followed a hermeneutical nature which involved reading the text carefully and trying to understand it (Kuckartz, 2013). Hermeneutics is not a *method* in the same sense as for example *Grounded Theory* but is rather the kind of interpretation which can be "stimulating and inspiring for the development of systematic qualitative text analysis" (Kuckartz, 2013, p. 2-3). Therefore, by carefully reading through the textual data, inspirations were taken from an hermeneutic point of view in order to understand what was meant in the specific context. While reading the material in an objective hermeneutic manner, key phrases were underlined (Ryan & Bernard, 2003). In this initial work with the text, the aim was to first gain a general impression of the given textual data on the basis of the research question. As suggested by Kuckartz (2013), the research question was outlined with the attempt to answer it while working through the transcribed data. If necessary, it was referred back to the raw data in form of audio-recordings. In this research, inspiration for a guidance through the analysis process was taken from previous literature about negative impacts of digital technology.

The second step of building categories followed a multi-stage process as suggested by Kuckartz (2013). Within this process, *the first stage* includes a rather roughly coding along major categories, which has been derived from the general guidelines used in the data collection. Hereby, the main categories derived directly from the research question that has influenced the way in which the data was collected. As participants in the study were asked about their reductional behavior in the three categories, it is logical that the professional, the private and the social environment served as first main categories for the analysis (Kuckartz, 2013). While reading the transcriptions, the data appeared to develop in three degrees. Therefore, *in the second stage*, the main-categories were further developed in the three sub-categories of *Reduction*, *Substitution* and *Deletion*, based on the findings in the data. *In the third stage*, these sub-categories again had been divided into *Actions* and *Motivations*, guided by the research question.

Within the third step, coding segments of the text, text passages were assigned to the previous created categories stage-wise. This multi-stage process assisted in the distinct elaboration of *Actions* and *Motivations* within the three different life environments. The further procedure followed an open coding process. Here, inspirations from *Grounded Theory* analysis have been taken (Kuckartz, 2013; Saldaña, 2009). Looking for similarities and differences, repetitions and patterns (Ryan and Bernard, 2003) within the data has led to a development of main themes within the categories of *Actions* and *Motivations*.

In the fourth step of analyzing, themes started to appear in several categories, for example in the private and the professional environment. Therefore, to reduce complexity and to prevent

repetitions, equal themes such as *Creating Barriers* had been consolidated and collectively analyzed.

In the fifth step, presenting the results, for simplicity purposes, data will be presented based on the research question. Therefore, the presented results were divided into *Actions* and *Motivations*. Within the discovered *Actions* and *Motivations*, respective behaviors of reductive, substitutive or deleting nature in the three areas of life are discussed. This coding and analyzation approach is illustrated in Appendix C.

3.5 Data Credibility

As suggested by Kuckartz (2014), in order to determine the credibility of qualitative research it was useful to distinguish between internal and external standards of quality. In terms of internal quality, the interviews had been double audio-recorded to avoid data loss. Additionally, in case of ambiguity and to avoid misunderstanding, interviewees were asked to clarify or give examples of what is meant. Also, all participants were informed in detail about the purpose, the outcome and the future use of their data in order to ensure honest answers and to increase the credibility of the data collected. For the transcription of the interviews, the specialized transcription software Nvivo was used to ensure the written transcript correspond to what was actually said and to achieve higher credibility. It has always been emphasized to capture the information as it was expressed by the interviewees, thus the audio recordings have been kept on file for future reference. Referring back to the audio files in the later analyzing process, allowed more reliable analysis of the data.

Furthermore, the external reliability criteria of transferability concerns how transferrable the research is to other situations and places (Kuckartz, 2014). While the findings of the research are based on individual perspectives on the given phenomenon, it was rather aimed for an insight of the individuals' perspective on the given phenomenon, rather than for a generalization of the results in the group of young adults. However, this specific research questions could be applicable in different cultural contexts and extendable to other age groups.

To enhance the reliability and validity of the study, a pre-test with two participants was conducted. As this phenomenon is still emerging, a pre-test was necessary to check whether the perception of the topic was different as expected, and if the developed topic guide ensured that all areas were covered. The pre-test revealed that starting with a general question about their overall usage of digital technology has led to a reflection among their own behavior which in turn eased the start into the topic. Moreover, specifying the sequence of the three areas has led to confusion among the interviewees. Therefore, the topic guide has been changed in a sense that interviewees were enabled to find their own starting point and start with the area they feel most comfortable with. The two test-persons were excluded from the research at hand.

3.6 Ethical Consideration

In his work, Bryman (2008) discussed four ethical principles which need to be considered particularly in social research. Deriving from the literature stream of negative impacts regarding digital technology, this research was expected to address a sensitive topic, some participants might feel uncomfortable to share their experiences with strangers. Being responsible for the individual and to show respect to the participants involved in our research, measures have been taken to ensure that ethical principles were upheld.

In order to not harm to participants (Bryman, 2008) particular value was placed on informing participants from the beginning that they are not obligated to answer any questions they are not comfortable with. Furthermore, it was made clear, that each participant was free to end the interview at any time without giving any reasons and that no wrong answers can be given in this respect. For example, one participant entrusted the researchers with the fact that this participant was experiencing health problems. Additionally, the interviewees were welcome to ask further questions about the topic under research before and after the interview.

The second area, the lack of informed consent (Bryman, 2008), means that as much information as needed to decide whether or not to participate in the study should be provided to prospective research participants. In the beginning of the interview, all respondents were given full information about the nature of the research containing for example a brief information about the university and the course, the purpose, the intention for publication, the confidential use of their personal data as well was the intention to record the session. From the beginning, particular emphasis was placed on an open dialogue with the participants. All emerging questions, such as how collected data will be used for publication, were answered as clear as possible. After the interview, the interviewees were asked to sign a consent form, expressly stating all aforementioned details (see Appendix B). With these measures it was ensured that all interviewees were adequately informed and comfortable to share their information with strangers.

Moreover, it was ensured not to invade the participants' privacy (Bryman, 2008). This particular issue was addressed by clarifying that approval to the interview does not imply the impossibility to refuse to answer certain questions on whatever reasons. According to Bryman (2008), these refusals are often based on the impression that certain questions delve into private realms, which participants prefer not to make public, regardless of the fact that the interview was held in private. Additionally, to respect the privacy needs of each respondent, the participant names were kept confidential and constantly named as *participant* (see Table 1).

As a last relevant point, Bryman (2008) stresses the aspect of deception. According to him, researchers aim to limit the respondents' understanding of what the research is about in order to make them respond honestly and more naturally. Consequently, no information which could change their decision of participation were kept apart from the interviewees. As the interest in the study and the outcome turned out to be high, a copy of the final paper and the results had been offered to all participants.

3.7 Methodological Limitations

Following the above described method, this research is limited to a certain extend. Future research suggestions based on these limitations will be further elaborated in chapter 6.2. First, this research is limited to people who are already practicing *digital detox*. Hence, the participants already perceive a digital overuse and thus consciously implement strategies to reduce their usage of digital technologies. Second, the chosen sample group has not been limited to any specific nationality, as a digital overload as well as resulting negative impacts are a globally occurring. Third and in accordance with the occurrence of the phenomenon, the research at hand is limited to the age group of young adults, as they are expected to be most active in *digital detoxing*.

4 Results and Analysis

By answering the research question, several *Actions* and *Motivations* had been identified. In the research progression, these actions appeared to be of *reductive*, *substitutive* or even *deleting* nature. For simplicity purposes the presentation of the findings and the analysis will follow the structure of the research question. Therefore, *Actions* and *Motivations* will be used as the main sections for presenting the findings. As the lines between the areas of professional, private and social appeared to blur, thus to avoid repetitions, this approach seems logical.

Actions of reductive nature refer to a *Reduction* of the usage of digital technologies. *Substitution* refers to a replacement of digital technology or devices through offline mediums and activities. Furthermore, *Deletion* stands for the most radical way of the three occurring categories as it refers to a reduction to zero of the interaction with digital technologies in certain situations and contexts. An overview of the most valid quotes can be consulted in Appendix D.

4.1 Actions

In the following, the identified actions had been aggregated to five main themes: *Creating Barriers*, *Creating Structure through Rules*, *Creating Awareness*, *Offline Activities* and *Offline Medium*.

4.1.1 Creating Barriers

The first theme embodies all actions undertaken to reduce the use of digital technology. This action appeared in all three areas: the professional, private and the social environment, which will be analyzed accordingly.

In both, the professional and the private environment, it occurred that participants actively put digital technology out of their reach and view. Digital technologies in this respect refers to both, several digital devices, as well as the access to mobile Internet. With this, it comes evident that young adults do not solely care about the device as such but also about creating a barrier to mobile data and are concerned of not always being online. Barriers were created by making the digital technology physically, visually or functionally not available in all areas. The latter refers to the Internet access via digital devices. For example, when meeting up with family and friends or while studying or working, the digital device is either left in another

room while working and studying at home, in the bag after work or face-down on the table. This was also practiced with private devices while interacting with another business device.

This behavior of having no physical or visible access to digital devices in the private environment is practiced by keeping the device physically away such as in the locker or at home during sports, in another room overnight or in the kitchen while eating. Even though they were aware of silent- and flight-mode functions of the devices, they claimed to be not comfortable with being in the same room as the device. It seemed that these actions were implemented to create a physical barrier between the participant and the device which in turn then makes it easier to focus on something else. Participants describe their strategies within several contexts as follows:

“I try to leave my devices in a corner of a room. For example, I leave it in my bedroom when I am in the living room and it will stay there.” (Participant 7)

“Also, when I really have to focus, all my digital devices are in flight mode and also on my laptop, the skype for business is in a *not-disturb-mode* that I do not receive any messages and I can focus.” (Participant 7)

“I actively eliminate potential threads. I just put it away and make it physically not available and also out of my view.” (Participant 3)

In the social environment the interviews revealed that, particularly when meeting up with friends at public places, young adults collectively develop group strategies to create a physical barrier. This was either done by *building a phone tower*, collecting them in a box or agreeing on leaving it in the car while being in a restaurant. Participant 6 describes a group strategy as follows: “My friends are all different and from different cultures, so what we do when we meet up is, we all put our phones on the table, turned around. The first one who turns the phone around to check something which is not related to our topic, has to pay the next round.”

Having the device functionally not available, implies for instance switching off all push up notifications, setting the smartphone on flight or not disturbing mode or even turn it off. This was practiced by participants in both, the professional and private environment, however the latter appeared solely during private time. Here, especially in the late evenings, during the night and while doing sports, young adults were very particularly concerned about being separated from digital technology. In more detail, a certain period of time before actually sleeping had been stressed. During sports activities, digital devices such as smartphones are only used in a functional way, which is to listen to music. Almost all interviewees keep the smartphone in offline mode and only use pre-downloaded music, as they explain:

“Just listening to music on Spotify offline, so I don't take calls when I do sports. I have my phone on flight mode” (Participant 2)

“When I go for a run e.g. I download the music before and set it on flight mode. Running is something for me, just focusing on myself and no one else is part of it.” (Participant 6)

Furthermore, while working or studying at home activating lock functions on the phone or browser extensions on the computer, that block social media pages during a pre-set time frame, are often used methods for deactivating the online functions of digital technology:

“I downloaded an app called *Be focused*. It locks your phone for two hours and you cannot do anything with your phone until the break when you can check your phone again.” (Participant 6)

“I just use a browser extension actually, that doesn't allow you to go on any social media sites for 25 or 45 minutes [...]. I cannot open Facebook, Instagram or YouTube. So then, I am forced to work on the topic I actually wanted to work on during that time.” (Participant 8)

“I also have the program *Self-Control* on google chrome, so you can deactivate some websites, where you don't want to go on, for 5 hours.” (Participant 11)

Apart from the barrier of having the digital technology in another room or using switching of the Internet connection, more sophisticated strategies were implemented by participants in the private environment. Participant 12 figured out that a choosing a certain kind of sport or activity is effective against the use of digital technology: "I think what's nice about going to the gym and yoga is that it forces you to focus on something else [...] So because it, especially yoga with balancing poses, you just have to focus on something". With those particular sports, lifting weights and keeping the balance, focus and concentration is crucial. It therefore is impossible for Participant 12 to reach after the phone while practicing such sports. Furthermore, to create a barrier between her and digital technology, Participant 8 describes the following action:

“I actually have two methods to disconnected: I do not have any mobile data anymore [...] So I only have Internet when I am at university or at work and also only when my laptop is on [...] I do not even have Wi-Fi. I just have an old-school LAN-cable at home. This is actually what helps me not to check for example my phone too often”. (Participant 8)

Rather seldom, participants mentioned the active decision against international sim cards during holidays abroad and make in turn connection to Internet not possible within their private time.

During the discussion about their actions to reduce the use of digital technology, it turned out that in all three areas the smartphone is the most stressed digital technology, to which they are actively trying to create a barrier. While in the professional area already small obstacles seem to be effective in order to reduce the use of digital technology while studying and working, in the private and social life young adults implement rather sophisticated strategies and strict barriers. It can be assumed that in the private life, the feeling of responsibility and self-discipline is rather loose and thus simple methods do not help to reach their aim of reduced usage of digital technology. However, regardless the intensity of the action, all interviewees create barriers of whatever nature to keep either the device or the connection to the Internet apart from them.

4.1.2 Creating Structure through Rules

The second action category revolves around the reduction of digital technology within the professional environment as well as for social interactions.

During the interviews it became apparent that young adults actively structure their work or study tasks by writing a study schedule or a *to-do list* with prioritized tasks as in the case of participant 8: “What helps me to keep my focus is having a to do list and prioritize what is important and then I start working on those.” Besides, student participants create structure through treating their daily study routine as a work day:

“I also had a study schedule which I think might have helped. I would say, today I'm doing this. It was pretty much like I do at the office like I had a calendar for a month what I was going to over each day and my goal was to just make sure that I don't get behind of my schedule. In order to do that I had to sacrifice my phone.” (Participant 12)

“I changed my whole schedule around. Instead of spending 12 hours, trying to study, I was just like, I'm going to treat it like a job, and I am really focused from 9am to 5pm at the library.” (Participant 1)

Thus, one could argue that creating work structure plays a pivotal role for young adults to support the reduction of unconscious usage of digital devices and thus disruptions during working on an offline task.

Methods to implement this strategy are for instance also determining special study and break time frames as “allowing myself only for certain time frames to use it” (Participant 4) and “I am always planning my day: like doing a bit of studying during the morning until lunch and then after I go to the office and I work. [...] So I have different units of time which I push to different areas.” (Participant 8). Others are setting a timer for study periods as well as for breaks during these concentration periods or even use specific study techniques as a supporting means as in the case of participant 10: “I used the *Pomodoro Technique* in my phone which works really well. There you can set a timer for 45 minutes and 10 minutes break for example.” Even within the break times, participants make efforts to get up from the desk and stay apart from digital devices.

These quotes picture the relevance of certain time frames that clearly divide the offline concentration time from breaks. In accordance with this behavior during studying and working, participants also pointed out the importance of setting specific time frames for using technology to answer messages. Thereby, one interviewee referred to this as follows: “When I text, I really take time to text my friends. I usually do that in the evening. I reply to everyone and most of them are online in the evening, so I talk to them a bit. But after a while I just turn it in flight mode.” (Participant 6). Moreover, checking the phone periodically, for example once every hour, is also a way how to structure the use by setting a personal rule. During these study breaks, participants mentioned to either treat themselves to go online “I allow myself [...]” (Participant 4) and “Sometimes I have the feeling I just want to treat myself [...]” (Participant 6) or to instead make themselves busy with offline activities such as cleaning or cooking.

Bringing both factors together, it becomes apparent that some young adults consider online time as a personal treatment during breaks whereas there is a general tendency discernible towards a conscious inactivity of social media and other digital interactions.

Furthermore, to separate work and private life, young working adults usually stressed the importance of having two separate phones for both occasions, for example: “I always had a business phone and the company also offered to use the business phone as a private phone, but I didn't want to, I wanted to keep it separately.” (Participant 2) or: “For the new job now, I keep two separate phones, one private one and one work related one.” (Participant 4).

During free time and after working hours, working participants mostly switch their work phones off “If I am leaving the office, I am leaving the office which means phone is turned off” (Participant 2) or to flight-mode: “I also turn on flight mode for my business phone or turn it off and I won't turn it on before the next day in the morning” (Participant 6) or even occasionally leave it at work, whereas during work, the private phone is placed out of the view to prevent seeing the device or any incoming notifications. Instead, the devices will be merely used during break times. Finally, one could argue that the described factors of *Creating Structure*, including for instance time frames and separation of private and work phones, play a crucial role in young adults' professional life in order to reduce the interaction with digital technologies.

In addition to the above stated structural reduction measures mainly within the professional environment, during social interactions participants also pointed out the creation of personal rules in order to reduce or even stop the usage of digital technologies while they spend time with friends and family. It becomes apparent that young adults make conscious decisions regarding when not to use their digital devices. During joint dinner times with family and friends for instance, participants decided to keep their smartphones away and to use the devices after dinner as they mentioned: “it can be done after dinner” (Participant 2) and “I think I can do that in my own time when I'm not hanging out with people” (Participant 12). Therefore, in order to do so, some participants explained that they are notifying important people in advance of their unavailability during social interactions: “So she knows if I am meeting friends [...] that I will not be available. I think that's the key to success” (Participant 10).

Besides, the group of young adults interviewed emphasized a clear preference for direct phone calls or voice messages compared to written text messages. Two examples provide evidence for this behavior:

“That's also because I rather call with my friends they also know that. I hate to message like ‘How are you- fine and you- fine?’ and then you like okay when you cooked also just call and really tell the other one what you are feeling, how it is and so I can have 2,5 hours a more deeper conversation once every two weeks instead of texting.” (Participant 10)

“One thing I realized: just give them a call! Once you are more offline, you start calling again.” (Participant 6)

Participant 9 implements structure in the interaction with the smartphone by setting up a compromise between enjoying the moment but still sharing a story on social media. She does that by taking a picture but publishing it later the day. This simple change in behavior makes it possible to be actively engaged in the moment and allow the experience to guide her.

4.1.3 Creating Awareness

Apart from the above described behavioral actions within the professional, private and social environment, young adults also make use of strategies which are not actions in a sense of an active behavior but are rather of conscious nature.

In many cases while working and studying, participants make themselves aware of the importance of the task, thus set clear priorities: “If I am focused like on completing a task, this has been my priority” (Participant 4) and “I also place the studies above my smartphone” (Participant 1), or “I tell myself the importance of that work” (Participant 3). Interestingly, such conscious actions seem to mostly start in a similar way when participants start explaining actions by framing it a *personal rule*, *certain rule* or describe the action as *telling myself*, *allow myself* or *commitment to myself*. This behavior of setting a personal rule to reduce the use of digital technology is practiced in both areas, the professional and the private one. Distinguishing from the previous section of *Creating Structure through Rules*, these personal rules are better understood as a conscious commitment, rather than a behavioral rule. Often, those personal rules are mentioned in connection with limitations or setting time frames either for the use of technology or for the absence, as for example “treating the study day as a 9 to 5 work day” as participant 12 describes. In that respect, setting a goal for something more valuable afterwards, such as free time after studying and working, has been mentioned as a possible way to keep digital devices away during periods of focus: “I want to go to the gym, then I have to get this done first. If I then have some time left I can still go on Facebook” (Participant 8). Participants seem to actively recall their personal preferences and values. In addition to the prioritization and the personal goal setting strategy, sometimes participants pointed out that situations of pressure during exam periods for example, facilitate the reduction of digital technology such as the computer, the television or the smartphone. In the case of Participant 2: “It most of the time depends much on the situation and on pressure. If I really have to get things done it is much easier to really avoid it.” The functional limitation of digital devices through smartphone applications was also described as an indicator for creating pressure: “[...] after these two hours the app gives you a sign that you actually could not keep up with your goal and you didn’t make it to even focus for two hours. That is what motivates me keeping it up.” (Participant 6). Quite often in the professional area, young adults seem to actively accumulate tasks which serves to put themselves under pressure which in turn leads to a reduction of the use of digital technology. For them, it takes effort to prioritize work tasks, whereas the self-creation of pressure seems to facilitate the conscious usage of digital technologies during periods of focus.

Exclusively in the private area, they show a reflective strategy, as they make themselves aware of the initial goal with the technology before actually using it. Here, a greater self-awareness about the own behavior and the feelings during the use of technology appeared to

be a successful strategy of many participants. The following examples will clarify these conscious actions:

“I’m tending more to accept it and to say to myself more like well, this time I felt for it again, but next time I will be more conscious, because I noticed that criticizing myself for using the smartphone in that moment doesn’t help [...] So I rather try to recognize it and not to judge it and then be more conscious for next time.” (Participant 4)

“I ask myself what is it doing with me? Am I grabbing it out of joy or out of pressure?” (Participant 3)

Also for the private area, the research revealed differences in the conscious actions among the participants. Some participants are more self-reflective than others, implementing a personal coping mechanism to reduce the interaction with technology. One participant describes her action to reduce the use of her tablet, by making herself aware of the overuse of the technology she aims to reduce. She does that by counting the hours spent with the tablet: “It is so crazy if you think about it after like you have watched some series, [...] and then when I watched a few of them I was trying to count how many hours I put in that and I was like ‘Wow’! What else could I have done with this time?” (Participant 10). It seemed that she was trying to confront herself with the overuse. Quite a lot, it has been answered that it is “all about the mindset” (Participant 3) or “changing the attitude” (Participant 7) when it comes to the question what they do to reduce the interaction with technology. It has become clear, that within the professional and the private life, the actions to reduce the interactions start with the right mindset for almost all participants. Being aware of e.g. social media as the most time-consuming factor leads to a higher motivation to reduce the use of it. Some participants seem to have an easier time mediating the use of technology by having the right mindset albeit for others this is not sufficient enough. Those needed a more structured approach by convincing themselves in the first place about an overuse, thus creating awareness, followed then by personal rules.

In fact, awareness creation implemented in both, the professional and the private life, show that the lines between these areas are blurring for the participants and rather sophisticated, reflective strategies seem to be effective to reduce the use of digital technology. In this respect being aware of the boundaries between work life, where digital technologies are always involved, and the private life has also been addressed by some interviewees. With the following statements, participants express their awareness of a distinct professional and private life:

“This job has been the first job where I have been really good with boundaries. When I am not working, I really don’t check my work devices or interact with people at work. That’s been something new for me because I used to literally just answer emails on weekends or all day long [...]. But now, I put in my time to do a good job during the week and on the weekends, I really don’t look at it.” (Participant 9)

“So, in the end I got quite confident in my position and said: If I am leaving the office, I am leaving the office, which means phone is turned off. I am not going to read any e-mails or open my laptop.” (Participant 2)

Here it is crucial to understand that for them, the professional life is associated with an interaction with digital technologies which drives the desire to separate it from the private one. In short, it can be argued that for most young adults it is of central importance to have full control over their behavior regarding personal boundaries and use of digital devices within a professional environment.

In addition to the professional and private environment, several strategies are implemented to address conversation partners during social interactions in order to first create awareness for an overuse and second to make them reduce it. By doing so, most young adults either directly tell other people to reduce their media consumption as “it doesn't really fit now” (Participant 3), give a funny comment or take a funny video of people using their digital devices and confront them with it afterwards. Moreover, some interviewees just keep the conversation going by actively addressing a question to their dialogue partner: “Are you actually listening to me?” (Participant 6)

Furthermore, rather drastic measures to address the topic of overuse of digital devices during social interactions contain inter alia to stop talking during the conversation, leave the location or even stop meeting up afterwards. Acting that way potentially can break relationships as young adults’ state to attribute these relationships a lower priority in their life. On the contrary, another participant also explained a positive reaction by praising somebody about not using a digital device during the face-to-face conversation: “I told her I really appreciate it that she is not having the phone there all the time because it's so common that it happens I think” (Participant 10).

Predominantly in the private environment, not only actions of reductive nature are implemented to reduce the use of digital technology. Moreover, it appeared that very often particularly digital devices such as the smartphone are substituted by offline alternatives. Here again, it became clear that it is not only about the aspect of digital technology per se but rather about to limit the connection to the Internet which is mediated by such devices. Such offline substitutions are either an offline medium or offline activity.

4.1.4 Offline Activities

While the aforementioned actions merely have been of reductive nature, this theme refers to actions which serve to substitute digital technologies with offline activities in the professional and private environment.

Such activities already start in the morning, as several young adults actively create a morning routine to avoid using digital technologies after getting up. Such morning routines reach from more simple ones like eating breakfast regularly, emptying one big glass of water or taking a shower to rather active routines such as walking the dog outside or doing yoga or meditation before getting connected. The following examples provide more clarification:

“So, what I do is like a morning yoga routine. So, instead of going to my phone right away, I try to do like a stretch.” (Participant 12)

“I had to train myself to not get up right away and immediately start working on my phone or my laptop. I have like a few morning rituals that I do in terms of like meditation, taking my dog outside, actually having breakfast [...] Maybe like five years ago, I would immediately start working right away and now there is a good, at least hour, between me waking up and me turning my phone from airplane mode to active and me getting up my computer.” (Participant 9)

Also, during the day, particularly during study and work breaks, instead of using digital devices, participants stated that they are either actively around people, take a long walk or eat snacks. The strategy to get entertained by other people instead of using technologies was also mentioned in connection with having dinner at home. Eating alone creates boredom for them and thus, the urge to use digital devices grows. Hence, these factors determine the importance of staying disconnected during specific times or situations. By substituting the digital interaction with offline activities of whatever kind, these actions seem to serve as a self-distraction measure to the young adults. By doing so, participants keep themselves entertained and busy to avoid the use of digital devices and mediate the urge to pick it up in the first place. Apart from that, within the private environment, getting a puppy as new hobby is effective, as described from participant 7:

“And now I actually also have a little puppy I have to take care of. So, I have to say I have to quit snapchatting, watching TV, work or whatever and give him attention and walk him outside [...] So now I have my new great hobby, which is a fulltime job to be a puppy mum. I love to play with him, go to school lessons, course trainings, and just spend time with him.”

For her, having the puppy provides some kind of responsibility which makes her use digital technology less and come after that responsibility. She puts having a puppy on the same level as having a hobby, which contributes to the argument that young adults actively try to keep themselves entertained, thus to make themselves busy in order to reduce the interaction with technology. The fact that the discussed substituting activities are of various nature and sometimes even creative, allows to assume that for young adults not merely the separation of the private and the online working life is important but also that they are concerned to make their private life increasingly offline. Within the conversations, participants often framed such substitutions as for example *I did x instead of x*. All in all, entertaining activities reach from having outdoor activities to getting new hobbies and support young adults in their aim to reduce the interaction with digital technology in their private life but also before and during working and studying times.

4.1.5 Offline Medium

This theme emerged from a substitutional behavior in both, the professional and the private environment. Additionally, within the latter, some digital technologies have been reduced to zero, thus deleted in some participants' life.

In a professional environment, digital technologies play a pivotal role and are indispensable in day-to-day work. Nevertheless, with increasing frequency, substituting digital technologies during lectures or job meetings seem to emerge among the participants. By doing so, digital note taking options are substituted with for example paper notebooks and calendars in the professional and the private environment:

“I mean I do read a lot paper-backed books, for a while I read books on my iPad and also used my iPhone calendar for a while, but now I am completely for real books. And I also started using a paper calendar. So that's something that I do a little bit differently against.” (Participant 12)

“So, I started to go back to the roots like got myself a physical timer/organizer book where I can just write everything down, notes, private appointments or just my thoughts.” (Participant 6)

With regard to the usage of hardcover books, reading information in a physical book or newspaper is preferred by many of the interviewees. Albeit it has been specifically mentioned that they are aware of electronic reading options. The preference of this substitution is described in detail by the following participants:

“If I prefer a newspaper, I do it old school and read the newspaper instead of using my phone. I think it is more joyful, it is more something valuable, something good. I prefer reading news on a newspaper because I think it is a better medium. It feels like you have something in your hands, it is about the haptics, the smell of the printing, touching something that somebody produced.” (Participant 2)

“I prefer a physical newspaper due to the quality content, due to the in-depth analysis. I could compare that: If I am reading articles on my phone, in most of the cases it is not more than 500 words. It is quick and short. But if I want to get into a topic deeply, like financial marketing, it is necessary to me to read long articles in such specific magazines.” (Participant 3)

Researcher: But don't you think you could read them on a digital medium, too?
“I would rather pay money for something physical than for something digital to read for my articles.” (Participant 3)

It has become clear in the conversations that young adults do not only try to avoid the interaction with digital technology due to for example distraction risks, in fact they particularly value the characteristics of non-technological media. In this regard, one participant specifically stressed that she never experienced using computers during lectures before she started her second-degree program and further pointed out that she is bothered by the sound of typing during lectures. One gets the impression that studying or reading content on an online medium is considered as less significant, meaningful or even less credible by the participants.

Furthermore, among those participants who usually use the smartphone, computer or tablet to check the time, many acquired an analog wristwatch. This substitute prevents them from using the device for any other reason than looking up the time. For them, the chance is high to

start doing something else, for example “[...] randomly scrolling through social media” (Participant 8). Besides, smartphones are often utilized not only for looking up the time but moreover as an alarm. The morning alarm-function on the smartphone appears to be one of the largest issue for young adults which made them act opposingly. Participant 4 explains his substitutive action as follows:

“I used to set my iPhone alarm, but I recently started to change that into going back to a good old analog alarm, due to the fact that I noticed that in the mornings I’m trying not to use my smartphone before breakfast. Otherwise it is always like getting out of bed, switching off the alarm and having the smartphone in the hand already.” (Participant 4)

Also, there is the fact that still using offline news-podcasts while eating dinner or using an mp3-player for music instead of the smartphone is considered as a substitution among young adults. These participants valued the fact of being *disconnected* from any Internet. It can be assumed that for them, an offline mp3-player provides the same benefits and leads to the same goal of reducing the interaction with technology, as for example an analog radio does. They particular stressed the desire for *being offline* and *disconnected*. Again, in the private area, an extreme action has been uncovered. One participant acted absolutely determined to reduce the interaction with digital technology as he substituted his smartphone through an old Nokia mobile phone without any smart digital features.

Unique in the private environment, the research revealed that young adults do not merely substitute digital technology. In fact, in some cases the use of digital technology gets reduced down to zero, which is termed in this context as deletion. This term embodies detected actions, which are neither of reductive nor of substitutive nature. Frequently practiced among the participants, a deletion of social media accounts was mentioned. Very often, social media has been identified by participants as their biggest trigger in terms of digital overuse. Therefore, it is not satisfying for them to solely reduce the use of social media. In fact, by asking for what they do to reduce the use of digital technology in the private environment, when they are on themselves and nobody else is around them, participants explained that they actively decided for a deletion of social media accounts. In this context, some only deleted the applications on the digital devices, others deleted the account completely. Another participant stated to stop watching television completely, while others stopped using any digital technology while doing sports. In fact, no substitution with an offline device took place. Those who act in a deleting manner, mainly consider the interaction with digital technology as a waste of time. They have associated several negative experiences which have motivated them to act accordingly. However, those motivations will be elaborated in the following section.

As the substitution of digital technology with something non-digital is done by almost all participants and even some deletions occurred in the private environment. This provides evidence that the selected target group has experienced both, working and living within the digital and the non-digital life.

4.2 Motivations

With the aim to answer the second part of the research question, this section presents and analyzes motivations that drive young adults to actively reduce, substitute or delete digital technologies within their professional, private and social life.

4.2.1 Keep Self-Control

In a professional environment, where one has to perform tasks and usually stick to certain deadlines, self-control about focusing on the respective tasks is a pivotal characteristic. Many of the interviewees mentioned the importance of keeping self-control about the usage of digital technologies as one of their main motivations to reduce the interaction with it. The following quote gives an insight into that motivation:

“I was doing my accounting exams that are a lot more rigorous. I actually went to the library from 9 to 5 and I didn’t bring my phone. Because about that time [...] sometimes I acknowledge that I don’t have any self-control and the only way to deal with it, is to literally not have it.” (Participant 12)

Besides, participants particularly express the desire to increase their self-control by being able to mediate the digital use: “But I hope that at some point I can reduce it more and have more control over it as I do have with my private life” (Participant 8).

Not only in the professional but also in the private life of young adults, *keeping self-control* was a highly stressed motivation to reduce the use of digital technology. In this respect, the interviewees experienced their decisions and actions happening too automatized instead of conscious. As participant 4 started to actively reduce the interaction with the smartphone, the motivation that keeps him going was described as follows: “It felt kind of like taking life back into my own hands and not being managed by my smartphone calendar. So that was a great deal of freedom I have won back, basically.” Motivations to reduce acting automatically, thus being guided by technology was also expressed as being scared of how mindless they interact with technology, the need to “change from pushing to pulling” (Participant 9) or to avoid “scrolling randomly” (Participant 2) through the smartphone. Besides of the motivations to gain back and to keep control, the recognized feeling of losing control, particularly in the case of the smartphone, was often mentioned, for example from Participant 8: “As soon as you have your phone in your hand and just wanted to check something quickly, you end up messaging with your friend. It feels like a loss of control, that bothered me!”

Also within the private environment, self-control has been related to the frequent occurring *Fear of Missing Out*. Participants state that they always experienced the urge to check the smartphone for messages or social media through the computer. This urge encouraged the development of an increased perceived stress level and the feeling of loneliness in case of no new messages. To prevent these feelings and thus, to keep control, these negative feelings motivated them to reduce the usage of digital technology in their private life:

“I noticed that sometimes it increases my stress level because I think oh god, I missed something.” (Participant 1)

“It makes you more relaxed because you care less about that you could miss out something, that you won't be up to date.” (Participant 2)

Interestingly, especially the smartphone is often described as something with human capabilities:

“It just eats up my entire time.” (Participant 10)

“I am putting it aside because I know it is going to distract me, but if I am not really focused and I am picking it up again, looking at me like it is the *devil in the corner*, waiting for me, screaming, ‘come pick me up’. Then I already have lost. Then my mind is not free.” (Participant 6)

As the smartphone appeared to be the most frequent used digital technology and also the one young adults are most concerned about, attributing human capabilities to this device shows that smartphones are an integral part of young adults’ life.

The mentioned observations in terms of *self-control* are in connection with the often expressed problem of getting distracted by the computer, the smartphone, social media or by other digital technologies. The distraction reduces the participants perceived feeling of *self-control*, which has been discovered in the professional and the private environment. Thereby, the research revealed that young adults show a strong motivation to solely have control over their individual wants and needs when it comes to how and when they use digital technologies.

4.2.2 Increase Performance

Moreover, to *increase* their *performance* in their professional and private environment, participants are motivated to mediate the interaction with digital technologies.

In their private life, *Increasing Performance* makes up a relatively small part. Here, participants stated that spending time with several technologies such as the computer, smartphone, tablet and television is too time consuming: “After a while I decided and figured out that I don't want to use my smartphone anymore. I just realized that it is too time consuming!” (Participant 11) and “I stopped watching TV after a year ago, which frees up a lot of time!” (Participant 4). In the case of Participant 11, the smartphone got substituted by an old Nokia mobile phone. The research clearly revealed that young adults highly value their private time, which for them takes place *offline*, meaning without any access to the Internet. They rather aim for spending the private life with something that is considered as more valuable, such as the nature or hobbies. Solely in the private environment, participants make the effort to reduce the use of some digital technologies down to zero (delete), which supports the argument, that a distinction between the private and the online life is of high importance to young adults.

As far as the professional environment of young adults is concerned, the motivation to *Increase Performance* also plays a crucial role for reducing or substituting digital technologies during work or study. Following the aforementioned motivation of *Keep Self-Control*, the factor of *Keep Focus* is also an important aspect to consider. Keeping the focus on a task while studying or working refers to the issues of enhancing concentration as well as eliminating potential distraction and disturbance that can result from interacting with digital technologies on the same time. In this respect, the most concerned digital technologies were the smartphone, the tablet and the computer.

Following the findings of several interviews, it can be argued that there is a correlation between the ability to focus and keeping a device apart while studying or working, for example: “When I put my phone fully away, I am so much more focused, and I am so much more efficient, too.” (Participant 1) and “[...] then I focus on work, the phone doesn't really belong to the working place during working time.” (Participant 3). One interviewee referred back to old habits when still using push-up notifications with the following: “I was just all the time checking my phone, I was not focused on anything or what was happening around me” (Participant 7). Additionally, another employed interviewee stressed the different experience between the former behavior of always being working and confronted with technology and the new behavior of being focused during work times: “Now, I accomplished everything I need to accomplish. [...] but then when I start to work, I am focused, and I really do the work. Just because I haven't been continuously working around the clock. I think before, when I was always working, I just never really focused” (Participant 9). With this, it becomes apparent that losing focus on a task is related to the interaction with digital devices. The statement “Right now it is perfect because I can focus on the things I want.” (Participant 11) perfectly summarizes the motivation that drives young adults to leave digital devices apart when they have to focus, which in turn constitutes a higher self-control about their interaction with digital technology.

As far as the issue of concentration is concerned, participants mentioned inter alia that “The problem was that I had so many different devices, I had Skype for business and Skype and I was overwhelmed from messages all the time and I could not concentrate at work!” (Participant 7). Moreover, the issues of distraction as well as disturbance caused by digital devices within the working or studying environment were also two frequently stated motivations for reduction. Thereby, it seems that digital devices interrupt the working flow as “studying without any technology involved, especially your smartphone, was effective. [...] Basically, it worked for the process that you can study without being interrupted.” (Participant 3) and “It distracts you when you see that there are messages coming in” (Participant 1).

The following quotes picture the relevance of both factors as this topic has been pointed out very often as a main motivation to leave digital technologies apart when trying to focus on a task:

“[...] if you fully put it away, then you can work for 4 hours without any disturbing.”
(Participant 1)

“If I get distracted, the worst thing is that I just start working on one thing, have several tabs open, and it just takes so much longer when you really not into what you are doing and when you are always switching between tasks.” (Participant 8)

“If you get distracted by your phone than it is like ‘I am not really present!’ I am putting it aside because I know it is going to distract me.” (Participant 2)

Hence, the themes of concentration, distraction and disturbance that emerged throughout many interviews represent the desire to *Keep Focus* while studying or working on a task. Additionally, one participant was motivated to eliminate digital interruptions during business meetings in order to be more productive. As she claimed, digital note taking avoids getting interrupted by digital technologies. In this regard, many participants state that they perceive their study and work as more productive, more efficient and faster as well as with a better quality of the result when digital devices are not fully involved. The following quotes underline these findings:

“I realized also now, in the new job for instance, my productivity increased dramatically.” (Participant 4)

“I feel more productive and I think I would perform better.” (Participant 5)

“I definitely do my tasks in a higher speed [...]” (Participant 7)

“I try to do one thing at a time and I experience a better quality and I get it done faster!” (Participant 8)

In a study environment, better academic performance becomes visible through higher grades for example. With this, it seems that studying offline, meaning without any digital devices involved, enhances the ability of memorization as participant 1 mentioned: “I definitely feel like I am much more into it and I remember things when I put it fully away.”

In short, it became apparent that the motivation of *Increase Performance* is observable in the private as well as in the professional environment of young adults. Moreover, the research findings show that within the private life, motivations are stronger as in the professional one. This is due to the fact that the former drives young adults to a complete deletion of digital devices, whereas the latter entails actions that follow a reducing and substitutional behavior.

4.2.3 Improve Well-Being

During the interview process, it became clear that participants show an emotional attachment to the topic. When participants were asked by the researchers “How do you then feel when you are studying without using your phone?” or “How do you feel when you then recognize that you use the technology too much?”, the participants placed themselves back in the specific situation and described their emotional state. One theme that appeared in the data is the motivation of improving the well-being, within the professional environment this refers to a *Satisfaction with Work*. In this respect, a reduced interaction with technology in their professional life makes them feel satisfied. For example, it was often mentioned that they feel

more free, less stressed or even more happy when working and studying without having technology involved. On the other hand, many interviewees pointed out that they feel disappointed with themselves if they were not able to focus on a certain task. On the positive side, having the ability to focus on work provided a *rewarding feeling* to one participant. Furthermore, dissatisfaction with their work was also linked to their described feeling of sadness or being guilty when they fail to stay apart from their smartphone or social media while working and studying.

Feeling of guiltiness and disappointment has been pointed out from several candidates stating spending time with digital technologies is a *waste of time* which made them feel dissatisfied with their work:

“The moment when you realized you spend 45 minutes just doing nothing effective on your phone, then I feel bad [...], I am spending a way too much time doing nothing actually, nothing that I value.” (Participant 2)

“When I would sit eight hours in the library and I would watch four hours my phone, I would not be happy.” (Participant 1)

Besides the feeling unhappy or stressed while working and studying, a perceived information overload was discussed as a means for being unsatisfied and disappointed with themselves. Participant 4 describes the information as follows: “I think it was the overload. I went over the top for quite a while due to the fact that company and private phone were the same.” In this respect, the motivation to improve their well-being encompasses the fact, that a reduced involvement of digital technologies in their professional environment in turn makes them calm, relaxed and makes it possible to “get the mind free” (Participant 3). Also, when distracted by the smartphone, the use of social media during studying or working was experienced as a trigger for becoming sad. For example, checking travel blog accounts while sitting on your desk is described by Participant 6 as follows:

“I realized after that [...] Instagram or social media can also make you so sad [...] If I try to focus and see then these travel accounts I get really sad, you don't want to study again and it goes just all the way down. And you [...] think you are just such a zero and cannot do anything in your life. That is what happens when you see Instagram and you see all these amazing things and obviously you know what the world behind is but is not always amazing. You just forget about that when you are studying.”

In total, to avoid the negative feelings that are perceived to be related to digital technologies, and thus to improve their well-being, young adults reduce and substitute those in their working and studying environment.

Particularly in the case of social media, these negative feelings were also noticed apart from their professional life. Young adults reduce their interaction with social media, thus with the smartphone, also in their private environment as it was said to be the most used feature on the device. With the overuse of social media, accessed via the smartphone, computer and the tablet, participants noticed that they start to compare themselves with others on social media and started to become jealous, which in turn made them sad and unhappy. Participant 6 for example even felt depressed by “seeing all these happy places and faces on Instagram”. To

improve their inner emotional state but also to avoid these negative feelings in the first place, motivated them to reduce the use of digital technologies also in their private life. This refers mostly to the use of the smartphone, as this was considered to be the medium to which social media is mostly accessed. After reducing the use of social media and the smartphone, Participant 6 further explained that “[...] the first days are hard but then you focus on yourself which is great, and you do not feel sad and those bad feelings stop.” The strong correlation between the use of social media and the use of the smartphone became visible, as the actions participants described to reduce social media (such as setting time frames for the use and deleting the accounts) are similar to the ones implemented to reduce and delete the interaction with the digital devices.

Furthermore, the motivation to reduce and delete digital technology in the private environment was often described as the desire to not care about anything else, to stop comparing with others and to reduce the pressure of always being online. In this respect, participants felt to have no time left for themselves, when using digital technology too much. Participant 2 even pointed out that the missing feeling of being bored makes him unhappy. With that, he referred back to his childhood, when he was used to have time to confront himself with himself instead of immediately using digital technologies when boredom occurred.

Apart from intensively discussed emotional feelings, participants often mentioned perceived negative impacts on their mental health, which motivates them to reduce their use of digital technology. In this context, it was frequently stated that they consider their interaction with technology, particularly with the smartphone, as addictive. This addictive relationship to digital technology was also paraphrased as the feeling of being trapped, as in the case of Participant 7. She also stressed that the overuse of digital technology during work, her private and her social environment caused burnout. Another participant explained the concern about the health as follows:

[...] understanding how radiation can impact our lives and how it can affect our sleeping cycle and how it can really just lead to diseases as well and change us at the psychological level. I think the scary part is that it's so strong that it can get to the psychological level of our well-being.” (Participant 12)

The concern of the negative impacts on the mental health was raised by many participants, as they stated to sometimes even have panic attacks caused by the fear of missing out in the case of not being connected to the Internet, social media or in touch with the smartphone.

Moreover, and particularly to substitute digital technology with offline media (see section 4.1.5), it appeared that young adults are motivated by the *fear of stultification*. Often, interviewees highlighted that using digital technologies as an alarm for private appointments, reduces their ability to remember things. It was stressed, that they forget things faster when using digital media instead of offline ones. Using digital technology is seen as not “stimulating in an intellectual way” (Participant 2). In order to “train the brain” (Participant 9) or to “challenge the mind” (Participant 6), digital technology was substituted by offline media. For example, participant 6 got herself an analog wristwatch in order to be punctual and to not just rely on the remembering sound of the smartphone alarm.

In total, having reduced the interaction with digital technologies, participants collectively experienced a *higher satisfaction with work* in terms of reduced *stress, happiness, rewarding feelings* and reduced *disappointment* and *guiltiness*. Moreover, in the private life, improving the emotional state, recognized impacts on the mental health as well as the *Prevention from Stultification* collectively motivated them to reduce the use of digital technology. All these sub-themes are *Motivations* that can be summarized as a main *Motivation* for improving the *well-being*.

4.2.4 Be in the Moment

The interview group emphasized the importance of *Be in the Moment* when spending time with friends and family as well as enjoying time with oneself. This motivation therefore occurred in the social as well as the private environment of young adults as a drive for reducing the interaction of digital technology. Hereby, *being in the moment* seemed to be one of the main initiators for starting the reduction. Overall, this motivation is described by candidates as follows:

“So, I recognized that nice correlation of like all the best things in my life happen offline. I had made really good friends via Instagram and the majority of my closest relationships have come from in person interactions. And all of my best experiences have been away from my screen and so I thought to take a break to just experience what life is like without constantly being with my phone and also like instead of thinking of like how am I going to share that moment after the fact, just like experiencing the moment.” (Participant 9)

“Once you realized that this is one of the most amazing feelings being in the moment - you really like don't want to give it away anymore.” (Participant 6)

During social interactions, being not distracted by devices and just focused on what is happening around oneself, were mentioned several times during the interview, such as:

“[...] you just feel more in the moment and more focused on what is happening compared to being sunk into your smartphone.” (Participant 4)

“I felt that I could concentrate more and better in that moment and also felt that I had more time for my friends. So, when I set up this meeting, I really met them - consciously. It was not just like ‘hey nice to see you’ but actually I am somewhere else in my head.” (Participant 6)

Besides, many of the interviewees mentioned that the time *in the moment*, being disconnected from digital technologies and spending time with family and friends in real life, is perceived as very valuable:

“So, I think those are the moments that I really value in terms of when you're really disconnected and you don't even think about it, it's literally the conversation is just so engaging that you don't even care where your phone is, right?” (Participant 12)

“I definitely value just like taking that time to spend time with them and not be on my phone.” (Participant 7)

Additionally, another participant stressed the importance of *Being in the Moment*, especially during special events and occasions. Thereby, it becomes observable that here *In the Moment* implies being there for someone who deserves closer attention in that moment, such as a wedding or a birthday celebration.

Bridging this to the field of private life of young adults, the terms of *embrace*, *enjoy*, *feel* and *focus on the moment* appear very often in both areas:

“I felt that I made the most out of this conversation because we had a great conversation, an interesting topic, I just really was in the moment. That was just an example of why I enjoy the time of being without my phone.” (Participant 6)

“You are just happy and embrace the present or the moment, talking with other people and not spending time pretending to communicate through social media.” (Participant 2)

“This doesn't have to be dealt with right away. It could be nicer to enjoy the moment and then deal with the other stuff later.” (Participant 5)

Taking a closer look to the private environment, participants stressed that they appreciate having time for themselves, even more when no digital devices are involved, as “you really focus on where you are and what you are doing” (Participant 1). This *feeling of joy*, *relaxation* and *freedom* by just “[...] taking a break from everything” (Participant 5) occurred in several situations. Among the most frequently mentioned ones, the factors of *eating as an experience* and *observing details* are developed from the findings. The former implies being focused on the food and therefore tasting flavors more intensely was described by the candidates as follows:

“I just noticed over the last few weeks what kind of difference it makes when I am really focusing on the food and on what I am eating and flavors get more intense.” (Participant 4)

“I think you just notice the food more than when you are on your phone because you are distracted. Then you just eat to eat and you're not eating to enjoy it.” (Participant 1)

The motivation to *observing details*, was pointed out by Participant 6 as observing the situation through the eyes instead of through a camera. Thereby, she stated the following example of a music concert:

“People take pictures of the concert all the time or filming. People took just out their phones and filmed my favorite song for about 5 min straight and I thought: How do you enjoy it? How do you the music, which goes through your body and people dance and people cry, people laughing, whatever you observe.” (Participant 6)

Additionally, other examples for *observing details* were related to simple everyday observations in the nature: “When have you the last time recognized that the birds are singing

in the morning, and did you also look at the sunset and the sunrise? I think people do not recognize those small things in life” (Participant 7).

All mentioned motivations such as the feeling of *freedom*, *joy* or *focus* determine the relevance of *taking a break* from digital technologies in order to be able to *Be in the Moment*.

4.2.5 Maintain Relationships

The last of the five outcomes of the research study regarding motivations that drive young adults to reduce the interactions with digital devices, is embedded within the social life and is of reductive nature. Thereby, the factor of *Maintain Relationships* was emphasized very often by the interviewees, implying the increase of social involvement on the one hand as well as the prevention of negative influences on real life relationships on the other hand.

First, with respect to social involvement, many of the participants mentioned that the quality of face-to-face conversations is increasing when no digital technology is in between. Moreover, formulations such as “deeper conversations” (Participant 1) and “bringing the conversations to a whole new level” (Participant 8) seem to imply that offline conversations are not superficial but rather go into depth:

“It feels like we spend more time talking about one specific topic and going into more details and it also becomes more interesting. Comparing to, when you only have two minutes and your friend picks up the phone - I experienced we just stay on the surface of a topic and we do not have a very good conversation.” (Participant 8)

“I do know more about what is going on in their lives. You feel more a bit more part about their lives.” (Participant 6)

“I think that deep conversations happen when smartphones are not involved, there's no music or anything and you're just literally talking. And that's what I like about my friends, like we can get to that level where we're just sharing very deep thoughts about our lives and a lot of things that we just wouldn't share with anyone right? So I think those are the moments that I really value in terms of when you're really disconnected and you don't even think about it, it's literally the conversation is just so engaging that you don't even care where your phone is, right?” (Participant 12)

Moreover, participants pointed out not only the depth and quality of the conversation but also the connection and relationship to the other person as such. Thereby it became apparent that without having a digital technology involved, a stronger connection develops as Participant 9 stated: “I think having that lack of technological interface has fostering a stronger connection with some of my friends.” Also, another participant explained his need for verbal interaction and a dialogue during a face-to-face conversation, rather than a monologue: “I want a mutual communication both ways not just a monologue, I want a dialogue. I really want to interact with each other” (Participant 3).

Furthermore, for some interviewees it is of central importance to influence other people in their social environment towards a more offline life and to function as a good example.

Participant 12, for instance, underlined her responsibility to serve as a role model when playing with her niece with the following statement: “I put my phone away, that's another thing because she is so young, I don't want to be a negative influence and just like be on my phone all the time.” Besides, the following examples also stressed the importance of influencing peers in a positive way:

“So, I kind of influenced him positively in that way. And then I also did the same with my sister. [...] And so I think that my behavior changes had a positive influence on other people and their life, too.” (Participant 9)

“I feel that I am helping them in some way because they are my friends.” (Participant 3)

Second, referring to the issue of preventing negative influence on real life relationships, the motivation to reduce the interaction with digital technology when being with other people comes from negative feelings that the participants have experienced. These range from *frustration* and *stress* over *disrespect* and *appreciation* up to *waste of time*.

Some participants explained that they sometimes caught themselves answering superficial phrases without actual listening because they were distracted by their smartphones. This recognition creates awareness of the overuse and further turns into *frustration*, *disappointment* and a *bad feeling*. Such a situation was described as follows:

“I started noticing that I heard myself saying ‘yeah that's true’ while reading something else on the iPhone and basically missing their part, but that was kind of an automatically reaction, response/reaction to what they were saying, with me even not knowing what it exactly was.” (Participant 4)

“I would feel disappointed of myself that it happened. Especially because I am so aware of it and it is a really big deal for me. at the same time, it would help me to reflect and motivate me to change things. It would also make me feel bad. It really would.” (Participant 6)

In relation to this feeling of *frustration* about the own behavior and being hurt by someone's passive behavior of not fully listening is also stated belong the motivations as follows: “And I feel that they are not listening to what I am saying. And it actually makes you feel a bit less, yeah frustrated but also just hurt, too” (Participant 1). With this respect, themes such as *disrespect* and *discourtesy* emerged from the conducted interviews of young adults. In more detail, participants perceive a passive behavior of their conversation partners, which means not actively listening because of smartphone interactions, as impolite, rude and less trustworthy. This becomes evident when having a closer look at the following quotes:

“I think you can hear if somebody is checking emails or whatever while being with you on the phone because you always get these ‘hm, yes...’ and you know that then you kind of hear that they are not with you.” (Participant 4)

“I think it is very impolite when you just take out your smartphone and everybody is sitting on a table and texting another person or checking social media or the photos on social media. I do think this is very impolite next to family and friends.” (Participant 7)

Another interviewee reframed these kind of situations as “If I am spending time with someone, then it is a form of respect. And what I expect from them is the same” (Participant 3). Hence, this is related to the issue of *appreciation*. During the interviews, the importance of giving as well as receiving appreciation during face-to-face interactions came up as a pivotal motivation to leave out digital devices during social interactions in order to avoid creating a barrier between the other person. This correlation is visible in the following statements:

“If someone takes out his phone when I am with him, I think it is impolite. You do not appreciate the conversation with him. Because you give the feeling ‘wait a second, I have something else more important to do’. (Participant 6)

“And if either yourself or they are using their phone, it's almost like for me personally, I think I can do that in my own time when I'm not hanging out with people. I definitely value just like taking that time to spend time with them and not be on my phone.” (Participant 12)

The latter statement seemed to address the valuable time with real life interactions and the desire to spend the time effectively rather than wasting the time when someone is not really listening. In turn, following the answers from most participants it can be argued that involving digital technologies during real face-to-face interactions decreases personal relationships. This sometimes even turned out in not meeting up with a certain person any more.

5 Discussion and Theoretical Contribution

First, results deriving from the analysis will be reflected and presented as a coherent picture of *Actions* and *Motivations* within the professional, private and social environment. Second, the study at hand contributes to and extends the existing literature in the respective environments.

5.1 Reflection on Results

As described above, the research revealed blurring lines between the areas of the professional and private environment as well as of social interactions. Therefore, the following table (see Table 2) illustrates the occurrence of all presented *Actions* and *Motivations* in these three areas with respect to the degree of implementation. Thereby, the *Actions* and *Motivations* occurred either in a reductive, substitutive or deleting manner.

Table 2: Blurring Lines between the Professional, the Private and the Social Environment

Actions	Professional	Private	Social
Creating Barriers	■	■	■
Creating Structure through Rules	■		■
Creating Awareness	■	■	■
Offline Activities	○	○	
Offline Medium	○	○ ▲	
Motivations	Professional	Private	Social
Keep Self-Control	■	■ ○	
Increase Performance	■ ○	▲	
Improve Well-Being	■ ○	■ ○ ▲	
Be in the Moment		■	■
Maintain Relationships			■

■ Reduction ○ Substitution ▲ Deletion

Examining the actions from a vertical perspective, it becomes visible that solely *Creating Barriers* and *Creating Awareness* are presented in all three areas, while all other *Actions* appear twice. Moreover, whereas *Creating Structure through Rules* appears in the professional and social environment, *Offline Activities* and *Offline Medium* are *Actions* only practiced in the professional and the private environment.

Examining the actions from a horizontal perspective the first three actions of *Creating Barriers*, *Creating Structure through Rules* and *Creating Awareness* exclusively constitute a reduction of the interaction with digital technology. In contrast, the last two actions of *Offline Activities* and *Offline Medium* are both of substitutive nature and the latter additionally appears in form of a deletion.

Taking a closer look into the professional area, it becomes conspicuous that only there, all kinds of *Actions* are covered. Thereby, the first three *Actions* are of reductive nature and the last two ones appear as substitutes. As digitalization made working and studying more convenient, digital technologies are indispensable and ever-present in the professional environment. Therefore, actions of deleting kind might not be as realizable as desired by young adults. Nevertheless, the fact that within the professional area, all discovered actions are practiced, demonstrates that instead of going into depth, by deleting technology, young adults broaden their *Actions*.

Looking at the private life of young adults, this area appeared to be the most active one as all three possible degrees of implementation are present. Nevertheless, the *Action* of *Creating Structure through Rules* does not exist in this area. Here, making conscious decisions, thus create awareness as well as the *Creation of Barriers* were more effective to young adults than *Creating Structure* through rules. In more detail, the actions of *Creating Barriers* and *Creating Awareness* follow a reductive nature. The remaining two, *Offline Activities* and *Offline Medium* appear both as a substitution and the latter additionally occurs in form of a complete deletion. Therefore, the only visible deleting *Action* that was observed during the interviews of young adults is presented within the private life. Therefore, instead of implementing rules to reduce the digital interaction, a complete deletion of some digital technologies is more effective for young adults. In the social environment it is striking that only the first three *Actions* are presented, also just in form of a reduction. This can be traced back to the fact that within social interactions, it is not merely of the young adults own control whether or not to be in contact with digital technologies. Therefore, when spending time with peers, a substitution and a deletion could be difficult, nevertheless a digital involvement can be reduced.

Examining the *Motivations* from a vertical perspective, it becomes visible that none of these five is presented in all environments. The first three *Motivations*, *Keep Self-Control*, *Increase Performance* and *Improve Well-Being* were mentioned by the interviewees in the professional as well as the private environment. Moreover, the *Motivation Maintain Relationships* only occurs within the social environment of young adults, whereas *Be in the Moment* appears in the private and social environment.

Examining the *Motivations* from the horizontal perspective, *Motivations* to reduce and to substitute digital technology occur in the professional and the private life, albeit exclusively in

the latter all three degrees of implementation are present. During social interactions, only *Motivations* to reduce the use of digital technologies appear.

Taking a closer look on the professional environment, all present *Motivations* of young adults are to reduce the usage, whereas to *Increase Performance* and to *Improve the Well-Being* additionally motivates them to substitute digital technologies. On the contrary, the two last *Motivations* of *Be in the Moment* and *Maintain Relationships* solely exist to reduce the usage behavior.

As within the *Actions*, exclusively in the private environment, *Motivations* occur in all dimensions. Thereby, to *Improve the Well-Being* young adults are motivated to reduce, substitute and to delete digital technologies from their private life. As young adults consider the private life as the *offline* life, their fully and solely control about their motivations becomes clear. Feeling well, thus to *Improve the Well-Being* is extremely important for young adults, as this is the area when they are on their own and can act fully independently. Moreover, the *Motivations Keep-Self Control* and *Be in the Moment* occur in form of a reduction, whereas the former additionally includes substitutions. Lastly, the second *Motivation of Increase Performance* is presented only in a deleting nature within the private life of young adults.

Overall, it becomes evident that actions for a *digital detox* behavior are mostly performed within the private and the professional environment. In their private life, young adults seem to apply rather creative and sophisticated strategies and proceed in a relatively radical way as this is the only area where deleting actions are performed. Here, young adults are not dependent on anybody or anything, thus are able to exercise a powerful and direct influence on their *digital detox* behavior. Referring back to the observed professional life as *online life* and the private life as *offline life* - this in turn develops the *Motivation* to even more reduce the interaction with digital technology in the private area in order to create a greater gap between those two. Moreover, considering the several degrees of implementation, it is observable that reductions appear by far the most and in all three fields. Following this, only very few deletions are represented and if so, solely in the private life of young adults. This again underlines the argument that young adults implement rather sophisticated strategies in their private environment.

This research revealed that within the context of *digital detox* young adults seem to get away from *always being on* and actively *go offline*, rather than reducing the usage of digital technologies per se. As a result, it can be argued that the term *digital detox* could be redefined by considering the fact that *digital detox* does not only refer to a temporary abstinence from online-connection. Instead, this research has revealed the need for consideration of two more facts: First, young adults do not only temporarily stay apart from internet-connection but also from digital technologies as a whole, such the computer, the smartphone, a tablet or the television. Second, the period of abstinence can be described in three degrees: a reduction, a substitution or a deletion.

In respect to the issue of self-control, young adults desire to control digital devices in the way that they decide when and how to use them, rather than letting the devices use and guide them. With regard to the positive effects of *digital detox*, it seems that the reduction of digital technology interaction within the social environment enhances the quality of the social

climate between young adults and fosters a deeper perception of the respective situation in general.

Another pivotal implication of this research is that not only the usage of digital technology can be considered as a *habit*, moreover, the change in behavior to daily implement actions to reduce the technology use, turned into a habitual behavior, too. This entails a habituation process which is in turn facilitated by repetitive actions. For example, switching the smartphone to flight-mode overnight appeared to happen already automatically, thus becomes an evening-routine.

Moreover, it became clear that young adults adapt a *detox* behavior in form of an attitude or lifestyle. Hence, the implementation of routines and rituals in young adults' professional, private and social environment facilitates the general aim of *going offline* and functions as a means to break a *habit*. Finally, these *habits* reduce the urge to constantly interact with digital technology. Thus, young adults establish offline activities on a daily basis in order to substitute digital technologies during the day.

5.2 Motivations to Limit Digital Technology Consumption

In the following, a discussion with existing literature, contributions of *Motivations* are provided of the literature streams of negative impacts of digital technology within the professional, the private and the social environment. While existing literature discovered negative impacts by providing an external perspective, this research presents an internal perspective of young adults to reduce the use of digital technology.

Professional Environment

Previous literature in the field of negative impacts of digital technology has revealed that an overuse of technology causes *loss in productivity* and *distraction* from a task (Duke & Montag, 2017; Montag & Walla, 2016), *addictive behavior* (Duke & Montag, 2017), an *increased stress level* and *low concentration* at the workplace (Tarafdar et al. 2017). The disability to disconnect from technology further leads to *stress*, *depression* and *anxiety* at the workplace (Shallcross, 2012). Additionally, in the studying environment, an abuse of digital technologies while studying has negative effects on the *academic performance* (Aljomaa et al, 2016; Carrier et al. 2015; Lepp, Barkley & Karpinski, 2014, van der Schuur et al. 2015; Samaha & Hawi, 2016). *Loss of concentration* and the *ability to remember* was also discussed within the studying environment (Chen & Yan, 2016, Kraushaar & Novak, 2010; Kuznekoff & Titsworth, 2013). The reduced use of digital technologies has positive effects on the ability to *self-control* and *self-regulate* (Tangney, Baumeister & Bone, 2004; Zimmerman, 2001). From an internal perspective, referring to young adult's own perceptions, the study uncovered that some of the existing negative impacts serve as *Motivations* for young adults to actively

reduce the use of digital technology while working and studying. Therefore, the research findings confirm that *increasing academic and work-related performance* serve as *Motivations*.

Additionally, the research contributes to existing literature in this field as young adults are also motivated by the strong will to *keep focus* on a certain task within the professional environment. In this context, the aspect of *self-control* within the professional environment is hardly covered in existing literature. Within the study, a connection between the strong will to *keep focus* and existing problems of *distraction* and *loss of concentration* appeared. Perceived *distraction* and *concentration* issues connect the *Motivations keep focus* and *self-control*. The *distraction* reduces the participants' perceived feeling of having *self-control*. This research further contributes to the field of *self-control* in the professional environment with the finding that young adults reduce the usage of digital technology within the professional environment in order to keep *self-control* about the digital interaction. In total, young adults highly desire to have sole control over when and how to use digital technologies within their professional environment.

Additionally, existing literature only provides limited insight into negative impacts on the *well-being*, particularly within the professional environment. This research therefore extends this stream with knowledge about *satisfaction at work*, which serves as *Motivation* for young adults to reduce the interaction with technology. Young adults appeared to be more satisfied and happy with their job and study as well as proud of themselves when not *wasting* too much time with digital technologies. Instead, perceived inner *calmness* and feelings of *relaxation* when working and studying arose. Therefore, the respective literature stream will be extended by the finding that digital overuse can cause *dissatisfaction* in the professional environment.

Private Environment

Within the stream of negative impacts on the private environment, existing literature discovered negative consequences of digital overuse on the *well-being*. In particular it causes *loneliness* (Bonebrake, 2002; Huang, 2010; Kim, 2018; Stepanikova, Ni & He, 2010; Yao & Zhong, 2014), *stress* (Hampton, Lu & Shin, 2016; Kraut et al. 2002), *depression* (Bonebrake, 2002; Campbell, Cumming & Hughes, 2006; Fortson, Scotti & Chen, 2007; Huang, 2010), less *life-satisfaction* (Carden, 2006; Huang, 2010) which in turn encourages an addictive behavior with digital technologies (Elhai et al. 2016; Haug et al. 2015; Lei et al. 2017; Pérez, Monje and Ruiz, 2012). Moreover, overconsumption of digital technologies encourages FoMO (Alt, 2015, Przybylski et al, 2013; Wolniewicz, 2018) which in turn affects the mental health (Reinecke et al. 2017, Wolniewicz, 2018) and the sleep quality (Chang & Choi, 2016; Lemola, 2015; Perlow, 2012).

The research at hand contributes to the existing literature stream by providing knowledge about motivations regarding *mental health* and *emotional state*. Negative impacts such as the perceived feeling of *unhappiness*, *sadness* and *jealousy* encourage depressive feelings, while perceived pressure of always being online facilitates perceived *stress* among young adults.

Negative impacts on *mental health* were also found as *Motivations* among young adults to reduce the interaction with digital technology.

Additionally, this literature will be extended as insufficient knowledge is available on the aspect of *self-control* also within the private environment (Özdemir, Kuzucu & Ak, 2014). Contributing to this aspect, a loss of *self-control* within the private life of young adults has been discovered. The way in which digital technology is used by young adults appeared to happen automatically and guided from the technology rather than by their own decision. Therefore, not only to keep *self-control* but also to gain back *self-control* motivates young adults to reduce the interaction with digital technologies. Extending the stream of negative impacts on the private environment, particularly the *well-being*, this research provides evidence that digital overconsumption can lead to a loss of *self-control* within the interaction of digital technologies.

Negative impacts on the memory and the ability to maintain attention have so far only been found in existing literature of the professional environment (Kuznekoff & Titsworth, 2013; van der Schuur et al. 2015). This research revealed that young adults are also motivated by the *Fear of Stultification*. Young adults frequently experienced a decrease in the ability to remember things as digital technologies with alarm-functions made self-memory redundant. Therefore, to stimulate the active thinking and remembering, thus to prevent stultification, young adults reduce the use of digital technology in the private environment. Consequently, and extending the negative impacts in the respective stream, an overuse of digital technologies encourages a perceived *Fear of Stultification*.

Moreover, existing literature only covers impacts on the *well-being*, but does not consider aspects of performance, which were only covered in the literature of professional environment. Contributing to this, the discovered motivation of performance in the private life also refers to a not efficient and valuable use of time. For participants in this study, the private time is desired to be spent with nature and hobbies or with real life relationships instead of with digital technologies. Thus, an efficient and effective use of private time forms the *Motivation of performance* in the private life. Consequently, and extending the negative impacts in the respective stream, an overuse of digital technologies can reduce *performance* aspects within the private environment.

Another *Motivation* of young adults to reduce the use of digital technology is phrased as *Being in the Moment* and extends the existing literature. No existing literature provides an insight of impacts on the perception of daily life. This research revealed, that reducing the use of digital technologies, participants experience more details of things happening around them in daily life. With no technology involved, young adults perceive more details for example of their food (texture, intensity of flavors), free time activities (emotions and body language) or observations in nature (singing birds in the morning). Consequently, and extending existing literature of negative impacts in the respective stream, an overuse of digital technology can decrease the *perception of daily life details*.

Social Environment

Within the stream of negative impacts on social interactions, existing literature discovered that an overuse of digital technology reduces the quality and depth of communications with friends and family (Bucher, Fieseler & Suphan, 2013; Rotondi, Stanca & Tomasuolo, 2017). Moreover, it *reduces face-to-face relationships, social support and communication skills* (Kim, 2017; Kraut et al. 1998; Lee & Robbins, 1998; Savci & Aysan, 2017). Furthermore, literature discussed impacts on forming relationships, increasing *isolation and loneliness* (Amichai-Hamburger, Wainapfel & Fox, 2002; Yao & Zhong, 2014).

The research at hand contributes to the existing literature stream by providing knowledge about *Motivations* regarding depth and quality of social conversation. *Being in the Moment* thus describes the *Motivation* for having in-depth, high quality conversations and enjoying the time with family and friends, as this time is considered as highly valuable.

Furthermore, the *Motivation to Maintain Relationships* is connected to the previous discussed aspects of face-to-face interactions and social support. In this context, the research revealed that young adults are concerned to prevent negative influences on their real-life relationships. By reducing the use of digital technology during social time, young adults strive to increase their social involvements to existing face-to-face relationships by showing appreciation and respect and by avoiding the creation of a barrier through digital technologies. Consequently, and contributing to existing literature, discovered *Motivations* to reduce the use of digital technologies during social interactions reflect previous discovered negative impacts in the respective stream. However, a new insight is provided in the sense that these negative consequences on social relationships appear as *Motivations* among young adults.

5.3 Actions to Limit Digital Technology Consumption

In the following a discussion with existing literature, contributions of *Actions* are provided within the literature stream of measures to prevent and control technology addiction. With respect to the research question, the contributions will be separated in the professional, the private and the social environment.

Although there are still active discussions about the term, diagnostic criteria and definition of technology addiction (Dau, Hoffman & Banger, 2015; Scott, Valley & Simecka, 2017), existing literature discussed several measures to prevent and control technology addiction. Therefore, more cognitive measures such as *conscious decision making*, a critical *self-reflection* as well as lifestyle modifications through *self-control* are expected to reduce an overuse of digital technologies, thus counter an addictive behavior (Chang & Choi, 2016; Kanfer, Reinecker & Schmelzer, 2000, Lei et al. 2017, Scott, Valley & Simecka, 2017). *Self-control*, *self-discipline* and critical *self-reflection* measures were also found in the professional environment (Carrier et al. 2015; Duckworth & Seligman, 2005; Lanaj, Johnson & Barnes, 2014; Li et al, 2015; Tangney, Baumeister & Boone, 2004). However, there is still insufficient knowledge in academic literature about measures to reduce the use of digital technologies in order counter perceived negative impacts.

The research at hand contributes to the existing literature stream by providing knowledge about measures to reduce the use of digital technologies. This contribution is provided from an internal, subjective perspective. Thus, research at hand revealed that *Actions* practiced by young adults are also of cognitive nature, as lifestyle modifications and *Actions* in the field of *self-control* measures are implemented by young adults. However, existing literature clearly isolates measures in the three environments, thus fails to consider measures that are equally implemented in other environments of life, as it is done within this research. Therefore, existing literature will be extended by providing subjective *Actions* within the professional, private and the social environment.

Professional Environment

The research at hand also discovered cognitive actions, named as *Creating Awareness* within this research, implemented by young adults to reduce the use of digital technologies. Consequently, and contributing to previous literature in this field, young adults set clear *priorities*, make use of *personal rules* and actively create *self-pressure* to prevent the interaction with digital technologies. Literature in the professional field will be expanded by providing knowledge about actions of *Creating Barriers*, *Creating Structure through Rules*, *Offline Activities* as well as *Offline Medium*.

Within the professional environment, barriers are created by having digital technologies physically, visibly and functionally not available. Special lock functions on computer and smartphone, as well as offline-modes serve as means to create a barrier. Furthermore, *Creating Structure through Rules* encompasses the use of to-do-lists, clear time frames for study and work periods, as well as using special alarm-functions for periods of *concentration* and *focus*. *Offline Activities* in the professional environment are mostly implemented during periods of breaks which serve as means for entertainment in order to prevent digital technology usage. The last theme of *Offline Medium* extends the respective literature with *Actions* that encompasses the substitution of digital technologies with offline media such as paper calendars or notebooks.

Private Environment

The research at hand also discovered cognitive actions in the private environment, named as *Creating Awareness* within this research, implemented by young adults to reduce the use of digital technologies. Consequently, and contributing to previous literature in this field, the research discovered *self-reflective strategies*, as young adults make themselves aware of the overuse and recall the initial goal with the technology when using it. Thus, cognitive *Actions*, practiced through exercising *self-control* by making mindful choices and being *self-reflective*, go in line with existing literature.

However, literature will be extended with new knowledge about *Actions* within the private environment, that are: *Creating Barriers*, *Offline Activities* as well as *Offline Medium*.

Within the private life, *barriers are created* by having digital technology physically, visibly and functionally not available. This particularly refers to having digital devices in flight-mode or leaving them at home during leisure activities or place them in different rooms. *Offline Activities* include the active implementation of morning routines and new hobbies as well as performing outdoor activities to reduce contact to digital technology. The implementation of an *Offline Medium* extends the respective literature with *Actions* that encompass the substitution of digital technologies with offline media such as an analog wristwatch and alarm, an old mobile phone, hardcover books and newspapers or even a complete deletion of social media accounts.

Social Environment

The research at hand also discovered *Actions* practiced to reduce the use of digital technologies in the social environment, named as *Creating Awareness* within this research. No existing literature in the field of preventive measures provides knowledge about *Actions* to prevent and control digital technology overuse within social interactions. Consequently, this stream will be extended with new insights about *Actions*, practiced by young adults to actively reduce the use of digital technologies within the social environment. It appeared that young adults implement *Actions* for themselves to reduce the usage in social interactions but also apply joint *Actions* in groups to reduce the usage collectively. With the *Creation of Barriers*, collective strategies to prevent and control the usage are implemented by for example keeping all smartphones together at a certain place or agreeing on joint consequences when using the device. Within the theme of *Creating Structure through Rules*, *Actions* are practiced independently to reduce the own usage during social time. Time frames for responding as well as sharing information through one single phone call instead of sending several messages are examples for such practiced *Actions*. Furthermore, relevant contacts will be informed in advance about being not available due to social appointments to avoid interruptions and thus prevent using digital technology while spending time with friends and family.

In total, existing literature about negative consequences of digital technologies and measures to prevent and control technology addiction merely investigated impacts and countermeasures in one specific field. However, this research has revealed that the lines between these areas of life are blurring. Negative impacts, thus *Motivations* to reduce the usage of digital technologies, appeared in the professional and the private environment as they do during social interactions. Sometimes, equal *Motivations* occur in more than one area.

Correspondingly, measures to prevent and control addictive behavior with technology, thus *Actions* to reduce the usage of digital technologies also appeared in the professional and the private environment as they do during social interactions. Here again, equal actions occur in more than one area. With this research, a more general and comprehensive view on negative impacts and countermeasures, thus on *Actions* and *Motivations* is provided by using different insights from different streams.

6 Conclusion

In the previous section, the results of this research have been discussed and respective literature extended. Throughout the course of research, further knowledge about the phenomenon in question was gathered. With the link to the previous in-depth analysis, implications for practitioners will be provided. Last in this chapter, a reflection upon the limitations of this study is provided, followed by suggestions for further research.

6.1 Managerial Implications

With this research it became clear that a conscious use of digital technologies is occurring, and young adults are motivated to actively be more conscious with their technology consumption. As the phenomenon of *digital detox* was already declared as an emerging trend (Goldston, 2018) and lifestyle (Chang & Choi, 2016) within today's society, this research provides new knowledge about how young adults *detox* and what their *Motivations* are to do so. Consequently, this knowledge needs to be considered from practitioners, as existing and emerging businesses can benefit from this changing behavior among young consumers. Especially in the context of marketing and brand strategies, a rethinking by consumers regarding these technologies evokes important adjustments in business in order to stay relevant for the respective target groups.

Three main practical implications are relevant for marketers, brand and product managers as well as human resource managers with respect to *digital detox*. Attributable to the emergence of the phenomenon and highlighting the relevance of this topic, several implications from a market perspective, separated into existing and emerging businesses, and organizational perspective can be drawn for practitioners which will be presented in the following.

6.1.1 Implications from a Market Perspective

In order to stay relevant for consumers, adaptations of existing products and communication measures towards the change in customer behavior, new emerging customer groups as well as the development of completely new business areas need to be mentioned.

Existing Businesses

This study has revealed that the shift backwards to *going offline* and *disconnection* entails a change in consumer behavior and strongly influences and affects future marketing and branding strategies. Moreover, the interviewed young adults seemed to perceive the topic of

digital detox as an emotional and sensitive topic. As such, marketing managers can make use of a first mover advantage by paying attention to the emerging concerns of their target group. Also, by showing a *care-taking* and *trend-focused* behavior, firms are able to address young adults as new target groups. Young adults are seeking for attention with this issue. With the indication of *digital detox* as being a new lifestyle, a consideration of respective advertisements is suggested, for instance including endorsement strategies. In order to quickly spread the trend of *digital detox* and switch over to *being offline is cool*, this can be communicated and endorsed by not only celebrities but particularly from peers. Here, to leverage the peer-effect, collaborations with especially micro-influencers are suggested.

Additionally, not only the marketing strategies need to be adapted. In order to stay relevant for existing and new consumer groups, companies need to adapt their existing product range. For instance, already small adaptations to facilitate the application of offline functions on digital devices might please consumers.

New Businesses

As described in detail in the introduction of this paper, new business areas are already in the starting gates, as this topic has already received attention from the Silicon Valley. Consequently, this trend of *going offline* provides opportunities not only for existing companies operating in the field of digital technologies but also for start-ups emerging from that trend. Furthermore, these business opportunities may range from new offline features, over assisting applications to reduce the interaction with digital technology up to completely offline substitutes. In more detail, an offline function for a so-called *emergency messages* could be a possible new feature. The idea thereby lies in the implementation of a message criteria, where the sender can mark the message as an *emergency message* through a checkbox. By doing so, users of digital devices are able to stay offline, however messages marked as an *emergency message* still reach the receiver.

Moreover, as far as the term of assisting applications is concerned, the findings of this study reveal that young adults already make use of applications or browser extensions that block several online functions for a specific period of time. Hence, this field provides further business opportunities. Considering the research findings in a broader context, it seems that many young adults actively search for substitutes to reduce their interaction with digital technology down to zero in specific situations. Having this in mind, completely new business opportunities regarding offline substitutive media such as *detox phones* are emerging. This does not only refer to new businesses but could also be relevant for existing businesses in form of an additional product category. Thereby, it is important to mention that instead of creating cannibalization of the existing product range, firms should leverage this business opportunity by combining two product groups. In more detail, one could introduce a *detox phone*, which has only basic features such as calling but is also connected to the smartphone in order to reflect contact directory.

6.1.2 Implications from an Organizational Perspective

In order to stay relevant for current and future employees, necessary adaptation measures concerning the company itself, including trainings for employees or employer branding activities, need to be considered.

In this context, the *well-being* as well as a clear separation of the professional and the private life, was found to be highly concerned among young adults. Thus, in order to support the *well-being* of employees on the one hand, and to address potential employees through an appropriate employer branding strategy on the other hand, companies need to take into account the changing behavior with digital technology.

Moreover, this study demonstrated the importance of a work-life balance, which in turn implies the ability to *go offline* after working hours and to *get the mind off* from work in private times. Moreover, young adults described the dilemma of the desire of *going offline* and the social pressure as well as the work circumstances that force them to stay connected and does not allow any disconnection. Consequently, companies need to react accordingly by creating awareness of the topic internally as well as providing offline solutions and support offline behavior in free time. It is expected that companies will consequently benefit from more motivated employees and their higher productivity during work times.

As organizational environment already fosters a strong *self-control* (Lei et al. 2017; Li et al. 2018), companies could introduce trainings and coachings for employees how to better deal with a separation of a digital professional life and the offline private life. Higher *self-control* and a perceived feeling of *self-responsibility* will contribute positively to a greater satisfaction at work. In order to show a care-taking behavior as an employer, marketing *digital detox* measures to the labor market can foster a company's image for existing and future employees. Therefore, considering *digital detox* within an organization has the potential to serve as an effective employer branding strategy.

6.2 Further Research

An extension of the study in the field of reduced usage behavior of digital technologies is suggested as negative impacts in several areas of life were discovered. As only few outcomes regarding positive effects of *digital detox* could have been revealed, suggestions for further research lie in this area.

First, as the research at hand considered young adults who are actively and consciously reducing their digital consumption, further data can be collected with young adults who are not aware of their *detox* behavior but instead unconsciously reduce the interactions with digital technologies. During the discourse of this research, it has been discovered that more young adults are concerned about their digital consumption as visible from the outside.

Second, since this paper has not been limited to any specific nationality, future research might take a closer look at diverse cultural groups in order to discover potential cultural differences. Literature has already pointed out potential cultural or gender differences as distraction subjects of mobile phone multitasking during focusing on one task (Chen & Yan, 2016). Therefore, a cultural comparison could give further insights into differences in reductive, substitutive or deleting *Actions* and the *Motivations* of young adults from different cultural backgrounds. Looking at a superordinate level, future research may consider the level of integration of digital technologies in different nationalities in order to better understand the resulting *Motivations* and *Actions* for reduction.

Third, during the interviews it seemed to arise a storytelling mode among the participants. Therefore, looking at this research field by applying a storytelling research method could be useful to capture participants self-expression and to gain a better understanding of related emotions and issues.

Fourth, in order to generate a broad knowledge within this emerging research field and to capture all *Actions* and *Motivations* regardless the technology used, the study was not limited on one single digital technology. Nevertheless, the research revealed that the smartphone, supported through the social media applications, is the most used and concerned digital device among young adults. In turn, looking at specific devices could provide a deeper understanding of the *detox* behavior with the respective digital device.

In sum, has become evident that a *digital detox* behavior becomes a trend among young adults who have experienced a life in both, the online and the offline environment. This again, intensifies the relevance of consideration of this phenomenon in business contexts, especially in the field of marketing, and moreover reinforces the need for further research within this field.

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Appendix A

Interview Guide

Introduction to the Interview

We want to thank you for taking the time to talk with us today. Our names are Linda and Charlotte and we would like to talk with you about your experiences of reducing the use of digital technology. Specifically, as part of our Master thesis in the program of International Marketing and Brand Management, supervised by Javier Cenamor, we are assessing the motivations for a reduced usage of digital technologies among young adults. We furthermore investigate what young adults do to actively reduce the usage. The interview will take about 50 minutes. In order to ensure we do not miss any of your comments, we will tape the session. Are you ok with that? Because we are on tape, please be sure to speak up so that we do not miss your comments. All of the responses will be kept confidential. This means that your interview responses will only be shared with the both researchers and we will ensure that any information we include in our thesis does not identify you as the respondent. Remember, you don't have to talk about anything you do not want to, and you may end the interview at any time. Are there any questions about what I have just explained? Are you willing to participate in this interview?

Following this telephone interview, you receive a consent form to ensure your agreement with the usage of your data for research purposes.

Entry Questions

- For what or in which situations do you usually use (or have used) digital technology the most? That can be for example your smartphone, tablet, computer, Internet, Social Media....
- *Instruction: Stick to the first environment the interviewee starts speaking about: Professional, Private, Social*
- What bothers you in that situation when your device is involved?
 - What are you doing to reduce it?

Topics to Cover

Professional Environment (Work/Study)

- What are you doing with the digital technologies when you have to focus on one task (e.g. during studying/working) for not getting distracted?
- Do you experience any differences if digital technologies are involved or not involved in terms of e.g. efficiency, results, outcome, ...?

Private Environment

- What are you doing to reduce the interaction with your digital technologies in your private individual time? (e.g. at Home, when you're on yourself and no one else is involved?)

→ *Instruction: Stick to the first area the interviewee starts speaking about:*

- a) During meal-times (breakfast, lunch, dinner, breaks etc.)
 - b) Leisure activities
 - c) Specific times of the day (mornings, evenings, nights etc.)
- What differences do you experience if this technology is involved or not involved?
 - Why is that so important to you to reduce it while (Sports/specific times/meal-times, ...)? What motivates you?

Social Environment

- When you are spending time with family and friends, what do you do to less interact with digital technology?
- What differences do you experience if this technology is involved or not involved? (e.g. in the relationship with the person you are spending time with)
- Why is that so important to you to reduce it during these social times? What motivates you?

Using Probes

- Why is that?
- Can you give an example of a situation in which you...?
- How does that make you feel?
- Why is that so important to you in this situation?
- How do you prevent yourself getting back to use the digital technology you just described?
- How to you overcome the urge to use it?
- Any strategies, methods, rituals or rules you have implemented to achieve this?
- What motivates you to keep going with using less technology?

Closing Questions

- Are you satisfied with the current level of reduced interaction with digital technologies? In which situations would you like to further reduce it?
- Is there anything more you would like to add in this respect about which we haven't talked yet?

Appendix B

Consent Form



LUND UNIVERSITY
School of Economics and Management

Disconnect to Reconnect: The Phenomenon of Digital Detox as a Reaction to Technology Overload

Interview Consent Form

I have been given information about the research ***Disconnect to Reconnect: The Phenomenon of Digital Detox as a Reaction to Technology Overload*** and discussed the research project with Linda Miksch and Charlotte Schulz, who are conducting this research as a part of the Master Program *International Marketing and Brand Management* at Lund University, supervised by Javier Cenamor.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time.

By signing below, I am indicating my consent to participate in the research as it has been described to me. I understand that the data collected from my participation will be used for thesis and university publications, and I consent for it to be used in that manner.

Name:

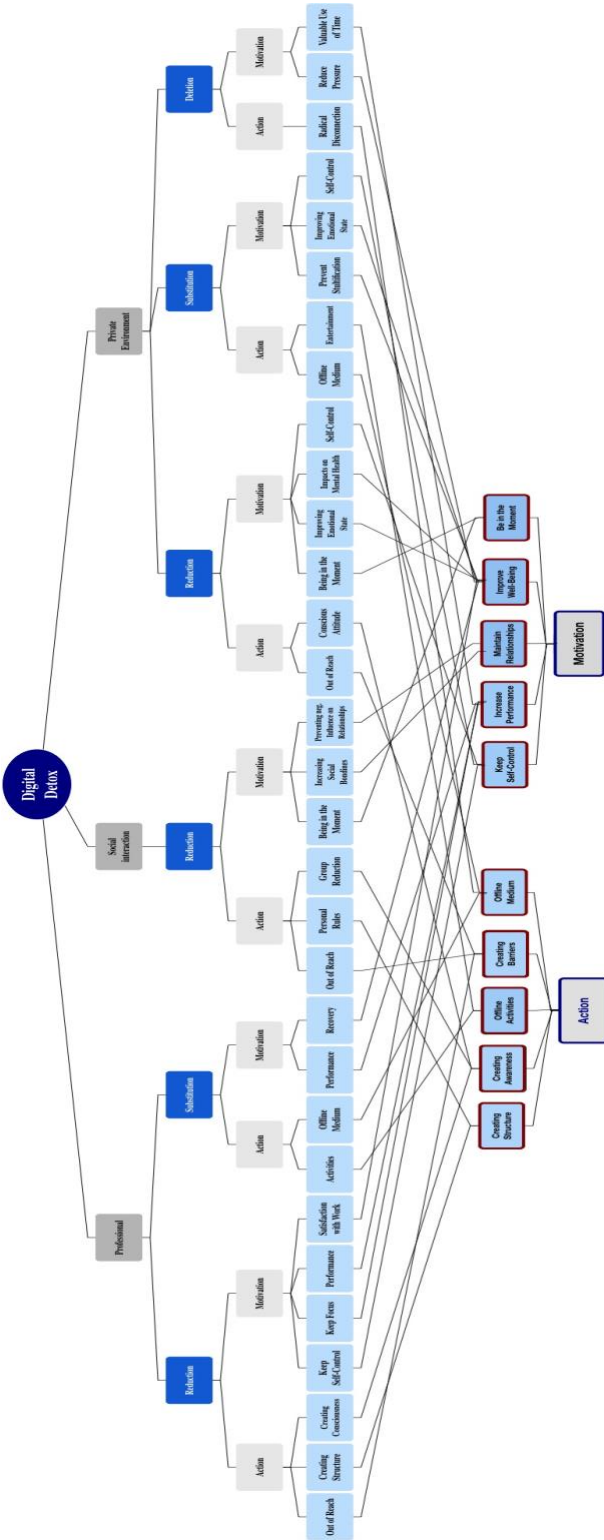
Email:

Telephone:

Date & Signature:

Appendix C

Visualization of Data Analysis (own illustration)



Appendix D

Most Valid Quotes

	Professional	Private	Social
Actions	<p>“I actually have two methods to disconnected: I do not have any mobile data anymore [...] So I only have Internet when I am at university or at work and also only when my laptop is on [...] I do not even have Wi-Fi. I just have an old-school LAN-cable at home. This is actually what helps me not to check e.g. my phone too often”.</p>	<p>“I had to train myself to not get up right away and immediately start working on my phone or my laptop. I have like a few morning rituals that I do in terms of like meditation, taking my dog outside, actually having breakfast [...] Maybe like five years ago, I would immediately start working right away and now there is a good, at least hour, between me waking up and me turning my phone from airplane mode to active and me getting up my computer.”</p>	<p>“My friends are all different and from different cultures, so what we do when we meet up is, we all put our phones on the table, turned around. The first one who turns the phone around to check something which is not related to our topic, has to pay the next round.”</p>
	<p>“So, in the end I got quite confident in my position and said: If I am leaving the office, I am leaving the office which means phone is turned off. I am not going to read any e-mails or open my laptop.”</p>	<p>“If I prefer a newspaper, I do it old school and read the newspaper instead of using my phone. I think it is more joyful, it is more something valuable, something good. I prefer reading news on a newspaper because I think it is a better medium. It feels like you have something in your hands, it is about the haptics, the smell of the printing, touching something that somebody produced.”</p>	<p>“That's also because I rather call with my friends they also know that. I hate to message like ‘How are you- fine and you- fine?’ and then you like okay when you cooked also just call and really tell the other one what you're feeling, how it is and so I can have 2,5 hours a more deeper conversation once every two weeks instead of texting.”</p>
	<p>“So, I started to go back to the roots like got myself an physical timer/organizer book where I can just write everything down, notes, private appointments or just my thoughts.”</p>	<p>“I used to set my iPhone alarm, but I recently started to change that into going back to a good old analog alarm, due to the fact that I noticed that in the mornings I'm trying not to use my smartphone before breakfast. Otherwise it is always like getting out of bed, switching off the alarm and having the smartphone in the hand already.”</p>	<p>“If I am spending time with someone, then it is a form of respect. And what I expect from them is the same. I want a mutual communication both ways not just a monologue, I want a dialog. I really want to interact with each other.”</p>
	Professional	Private	Social
Motivations	<p>“When I put my phone fully away, I am so much more focused, and I am so much more efficient, too.”</p>	<p>“It felt kind of like taking life back into my own hands and not being managed by my smartphone calendar. So that was a great deal of freedom I have won back, basically.”</p>	<p>“You are just happy and embrace the present or the moment, talking with other people and not spending time pretending to communicate through social media.”</p>
	<p>“[...] after these two hours the app gives you a sign that you actually could not keep up with your goal and didn't focus for even two hours. That is what motivates me keeping it up.”</p>	<p>“I am putting it aside because I know it is going to distract me, but if I am not really focused and I am picking it up again, looking at me like it is the devil in the corner, waiting for me, screaming, ‘come pick me up’. Then I already have lost. Than my mind is not free.”</p>	<p>“It feels like we spend more time talking about one specific topic and going into more details and it also becomes more interesting. Comparing to, when you only have two minutes and your friend picks up the phone - I experienced we just stay on the surface of a topic and we do not have a very good conversation.”</p>
	<p>“For instance, my boss and I, when we are in a meeting, I like no phones on the table. Because it will set us down interrupting sometimes, like when we are trying to have a productive meeting and then all of the sudden, an email is come in [...]. So even in like work situations, I like that we have the notes that we need in front of us and we don't need a computer or our phone and talk about that, whatever it is we are working on.”</p>	<p>“Once you realized that this is one of the most amazing feelings ‘being in the moment’ - you really like don't want to give it away anymore.”</p>	<p>“If someone takes out his phone when I am with him, I think it is impolite. You do not appreciate the conversation with him. Because you give the feeling ‘wait a second, I have something else more important to do’</p>