Quantifying Myself

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Abstract
The quantified self-movement is an approach to self-improvement that involves tracking and analyzing personal data to gain insights into one's own behaviour patterns. In this study, I quantified my own daily habits from September 2020 to January 2021, collecting data on my sleeping and waking times, eating habits, and daily phone usage.

Through this process, I gained a deeper understanding of myself and identified areas where I could make positive changes. As Martin Boehme[3]discusses in his podcast episode on the quantified self, tracking daily habits can help to identify patterns and create accountability, leading to long-term behaviour change.

In Gary Wolf and Kevin Kelly's book "The Quantified Self,[22]" the authors explore the history and philosophy behind the quantified self-movement and offer practical advice on using technology to track personal data. Inspired by this approach, I used various tools and apps to collect and analyze my own data.

Overall, quantifying myself was a valuable tool for personal growth and self-improvement. By tracking and analyzing my daily habits, I made meaningful changes to my lifestyle and became more mindful of my behaviour patterns. As Ernesto Ramirez notes in his article on the quantified self, this approach has the potential to revolutionize healthcare and wellness by empowering individuals to take control of their own health and well-being.

Contents

1 Introduction

In today's world, where technology has become an integral part of our lives, the concept of quantifying oneself has gained momentum. According to Gary Wolf and Kevin Kelly in their book "The Quantified Self," quantified self-movement[22]involves tracking and analyzing personal data to gain insights into one's own behavior patterns. As Martin Boehme emphasizes in his podcast episode on the quantified self, tracking daily habits can help to identify patterns and create accountability, leading to long-term behavior change.[3]

Tim Ferriss, in his blog post "The Power of Tracking Your Life," shares his own experience of tracking various aspects of his life and how it helped him achieve his goals. He states that "what gets measured gets managed," emphasizing the importance of tracking personal data to gain a deeper understanding of oneself.[6]

The potential of the quantified self-movement to revolutionize healthcare and wellness is highlighted by Ernesto Ramirez in his article "The Quantified Self: An Overview." He states that "the quantified self-movement allows individuals to take control of their own health and well-being by providing them with the tools and knowledge to make informed decisions about their lifestyle choices."[15]

David Kadavy, in his Medium article "How Quantifying Myself Helped Me Take Control of My Life," shares his personal experience with tracking his own data and how it helped him improve his productivity and overall well-being. He states that "quantifying myself gave me a new perspective on my life. It helped me identify patterns, make changes, and achieve my goals."[8]

Overall, the quantified self-movement has the potential to be a powerful tool for personal growth and self-improvement. Through tracking and analyzing personal data, individuals can gain a deeper understanding of their behavior patterns, identify areas for improvement, and take control of their own health and well-being.

With this in mind, I have collected data on my daily habits, including my sleeping and waking times, eating habits, exercise routines, and phone usage from September 2020 to January 2021. By tracking this data on a daily basis, I have identified patterns and gained insights into my daily routine.

However, it is important to critically evaluate the potential benefits and drawbacks of quantifying oneself. While proponents of the quantified self-movement emphasize the potential for self-improvement through tracking and analyzing personal data, detractors highlight the importance of balancing data-driven decision-making with subjective experience and a holistic understanding of the self. By carefully considering these arguments, I have approached my self-quantification journey in a thoughtful and informed manner. In this report, I will present my findings and reflect on the implications of my self-quantification journey.

2 Background

Self-tracking and quantified self-practices have been around for several decades. In the 1970s, wearable computers were used for self-tracking as a form of personal surveillance[17]

[Sellen and Harper, 2003]. In 2001, some media practitioners began using newly available digital technology to track their daily lives for designing Web 1.0 interfaces [Galloway, 2004][7]. The terms "lifelogging", "personal informatics", and "quantified self" are used to describe self-tracking practices. Lifelogging involves recording information about one's life using digital tools, while personal informatics is a term used mostly in the academic human-computer interaction community [Li et al., 2010][10]. The "quantified self" refers to "self-knowledge through numbers" and uses quantitative data as a means or embodiment of monitoring everyday life [Wolf, 2009].[21]

According to Lupton [2014], self-tracking involves knowingly and purposefully collecting information about oneself, reviewing it, and considering how to apply it to one's life[11]. People use self-tracking technologies to collect personal data on various aspects of their lives, including physical, behavioral, and environmental information. The domain of self-tracking today also includes relationships and work productivity [Lupton, 2016][12].

Health and well-being are the main tracking domains in the scope of self-tracking or the quantified self. People track their health and well-being information such as heart rate, sleep, physical activity, calories, clinical symptoms, stress, and recovery to review and modify their lives. Self-tracking devices can provide data and refine them into key performance indicators and produce visualizations of these data[18][Swan, 2013]. Furthermore, self-tracking is increasingly recognized as a valuable tool for improving health and well-being [Ferguson and Hirschman, 2012].[5]

In summary, self-tracking and quantified self-practices have a rich history and are used to collect personal data on various aspects of life. These practices involve knowingly and purposefully collecting information about oneself and reviewing it for personal benefit. Health and well-being are the primary tracking domains, and self-tracking devices provide data that can be refined into useful information for individuals.

3 Related Works

Self-tracking and the quantified self have been examined across various disciplines and from various theoretical and methodological perspectives. For example, prior research in computer science has explored wearable augmented reality systems based on walking locomotion analysis (Kim et al., 2018)[9] and developed algorithms for monitoring sleep (Bianchi et al., 2018)[2]. Communication research has discussed self-tracking as a communicative phenomenon with social media, the self, and the social networks of peers (Lupton, 2014)[11]. Sociological studies have explored ways of attributing meaning to data-gathering practices in terms of the quantified self (Ruckenstein and Pantzar, 2017)[13]. Prior literature also includes research focusing on the societal and ethical concerns regarding self-tracking, including the value of personalized healthcare (Swan, 2013)[18].

In the medical field, prior studies have explored the clinical experience of self-tracking technologies in the context of chronic diseases (Wicks et al., 2012)[20] and the use of self-tracking devices in rehabilitation (Allet et al., 2016)[1]. Research on information systems has examined themes such as user acceptance of self-tracking, user motivation, and goal attainment related to self-tracking and the quantified self (Morrison et al., 2016; Wang et al., 2016)[14].

To keep the scope of our study manageable, we focused specifically on self-tracking and the quantified self, executed via devices, apps, and platforms, and excluded digital diaries and video recordings to concentrate solely on the role of self-tracking in health and well-being. Moreover, we focused on empirical research where the primary research sub-

jects are humans and excluded purely technical papers and articles focusing on products, services, and markets.

4 Research Objectives and Methodology

This section outlines the research objectives and the methodology employed to achieve them.

4.1 Research Objectives

The research objective of the study "Quantifying Myself" is to explore the benefits and challenges of self-tracking as a tool for personal growth and self-improvement, by collecting and analyzing data about different aspects of one's life, including hobbies, health, emotions, addictions, and studies, over a period of six months. The study aims to investigate how self-tracking can help individuals gain insights into their behaviours and habits, set and achieve personal goals, and make positive changes in their lives, as well as to identify potential pitfalls and limitations of self-tracking, such as the risk of obsession, anxiety, or loss of privacy. To achieve these objectives, the study employs a mixed-methods approach, combining quantitative data analysis of self-tracked variables with qualitative data collection through journaling and interviews, and draws on theories and frameworks from psychology, sociology, and information science. The findings of the study will contribute to the emerging field of the quantified self and provide practical recommendations for individuals interested in self-tracking as a means of self-discovery and self-improvement.

4.2 Methodology

Data Collection: The data collection process involved the researcher, who is also the study participant, collecting data about various aspects of their own life. This data was collected on a daily basis for a period of six months, from September 2020 to January 2021. The data collection included a wide range of variables, such as the participant's hobbies, health and wellness, emotional state, academic and professional pursuits, and any addictions or habits.

To ensure the accuracy and consistency of data collection, the researcher utilized a variety of tools and methods, including wearable devices, self-reported surveys, and digital tracking tools. The wearable devices included a fitness tracker to monitor physical activity and sleep patterns, as well as a heart rate monitor to track stress levels. Self-reported surveys were used to gather data

Data Analysis: The collected data was analyzed using both descriptive and inferential statistical techniques. Descriptive statistics, such as means, standard deviations, and frequencies, were used to summarize the data and gain insights into different aspects of the participant's life. Inferential statistics, such as correlation and regression analyses, were used to identify relationships and patterns between different variables. Data analysis was performed using statistical software, and the results were interpreted and reported in an organized and systematic manner.

Data Visualization: The analyzed data was visualized using various charts and graphs to facilitate the identification of trends and patterns in the data.

Limitations: The limitations of the study include the self-reported nature of the data, which may introduce bias, as well as the limited sample size of one participant. Additionally, the study focused solely on the researcher's experiences and may not be generalizable to other populations.

5 Data Analysis and Visualizations

This section presents a detailed analysis of the collected data, identifying patterns and relationships between variables using statistical methods and data visualization techniques. Readers will gain key insights into the findings and their relevance to the research questions.

5.1 Visualizations

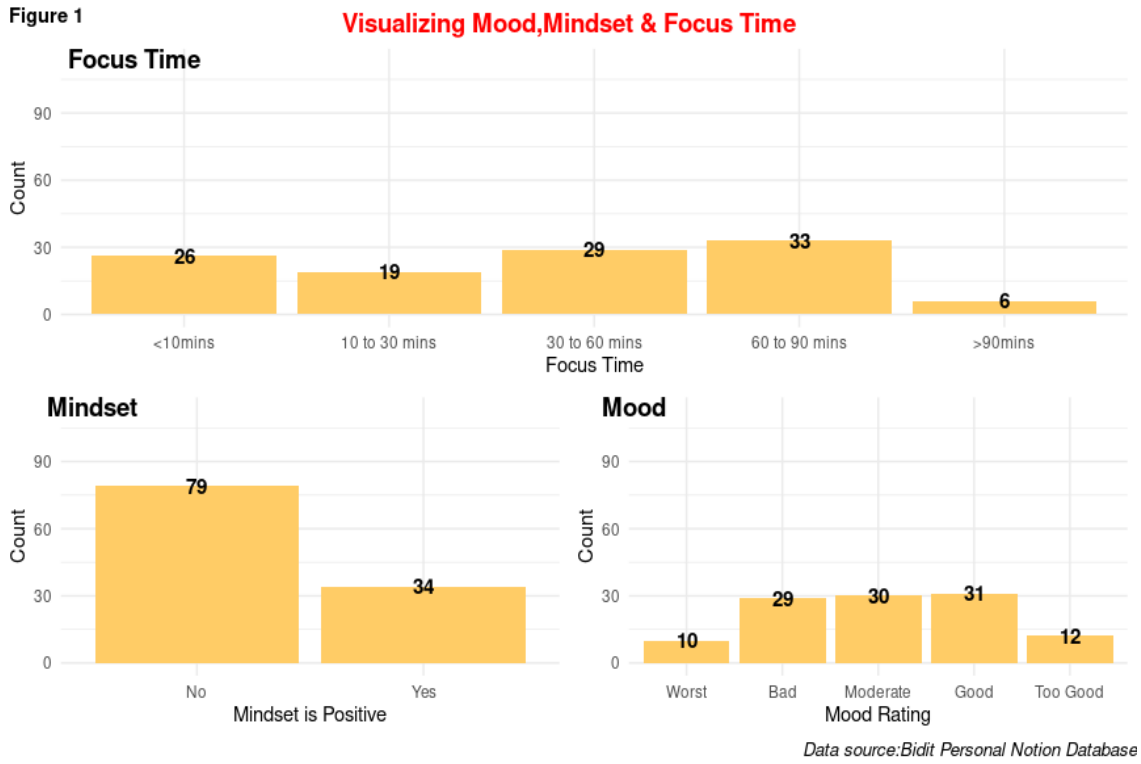

Figure 1: Visualizing Mood, Mindset and Focus Time

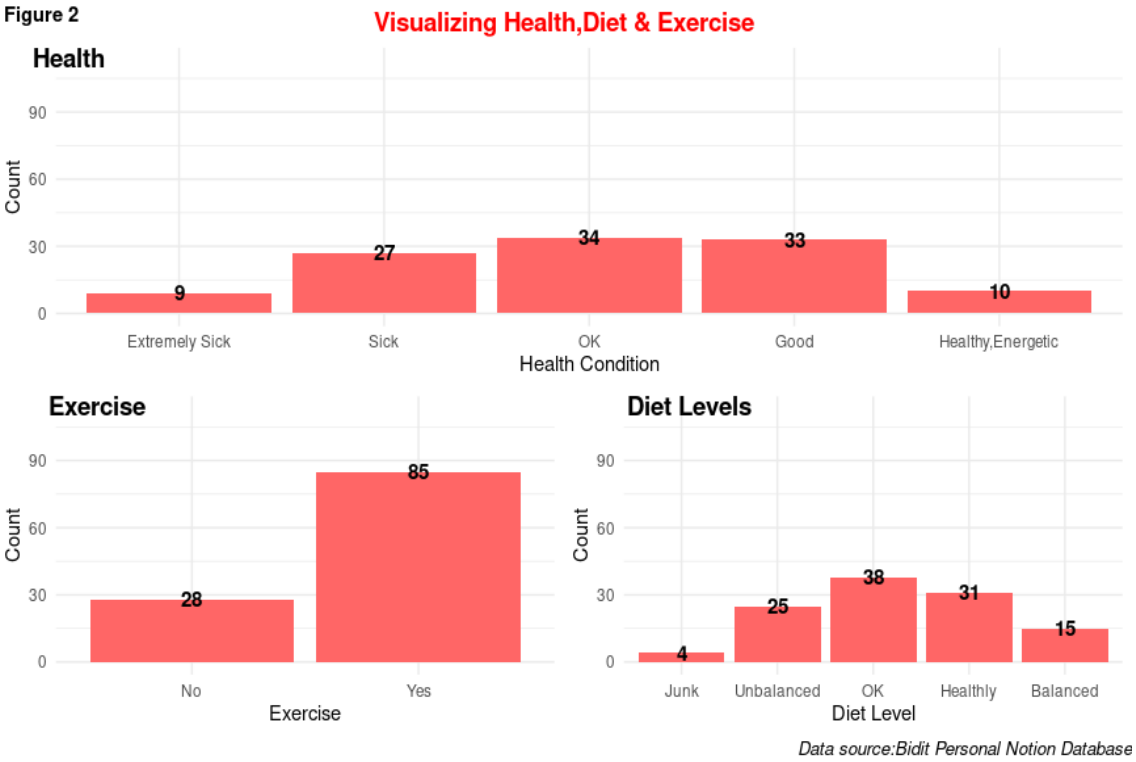

Figure 2: Visualizing Health, Diet, and Exercise

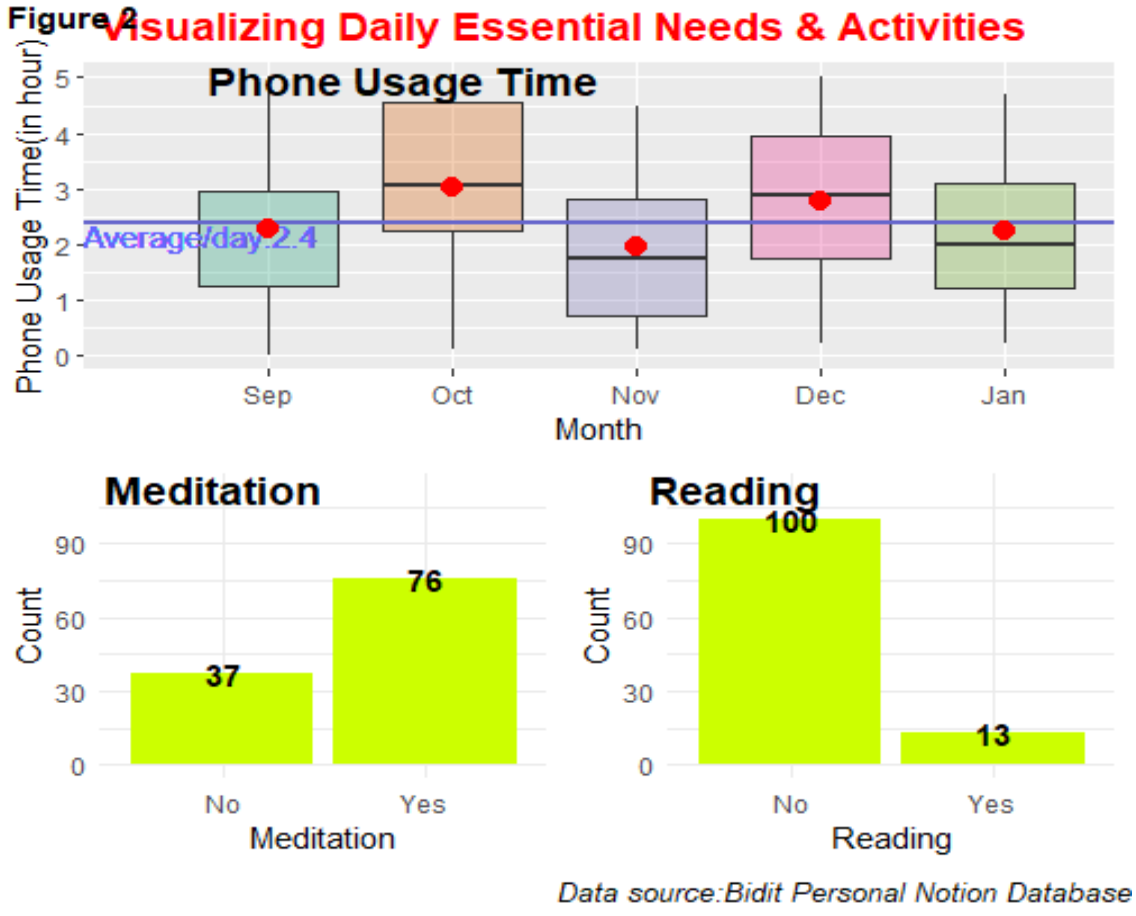

Figure 3: Visualization of Phone usage time and hobbies

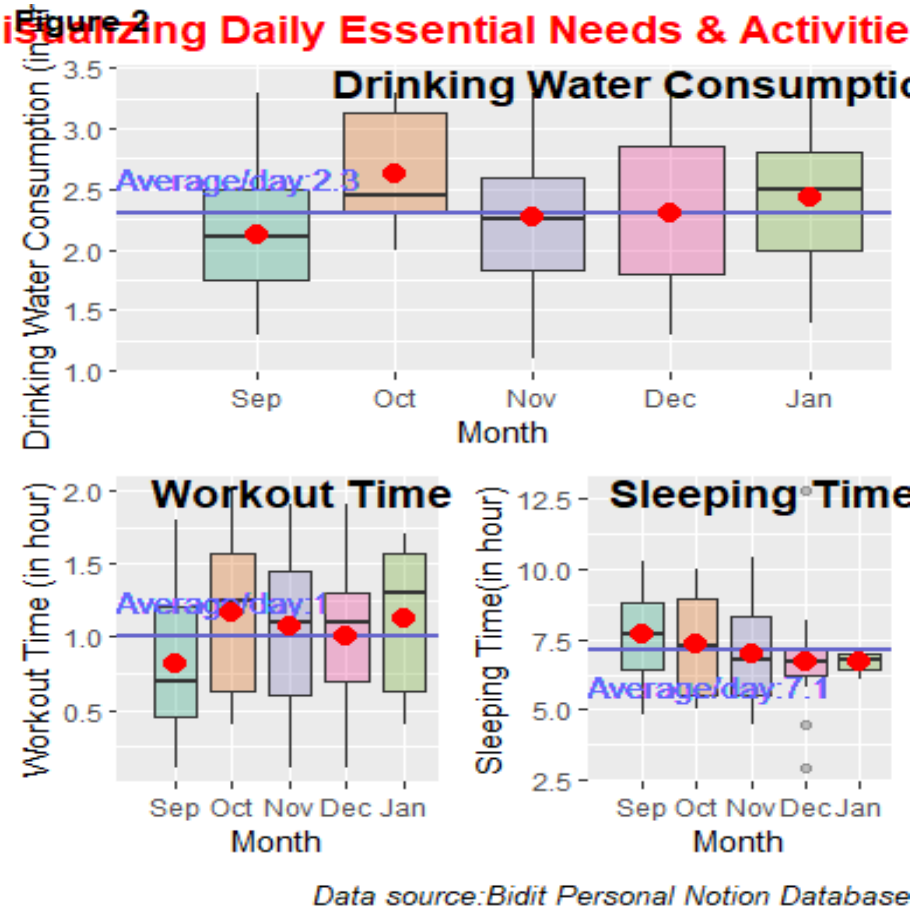

Figure 4: Visualizing daily activities

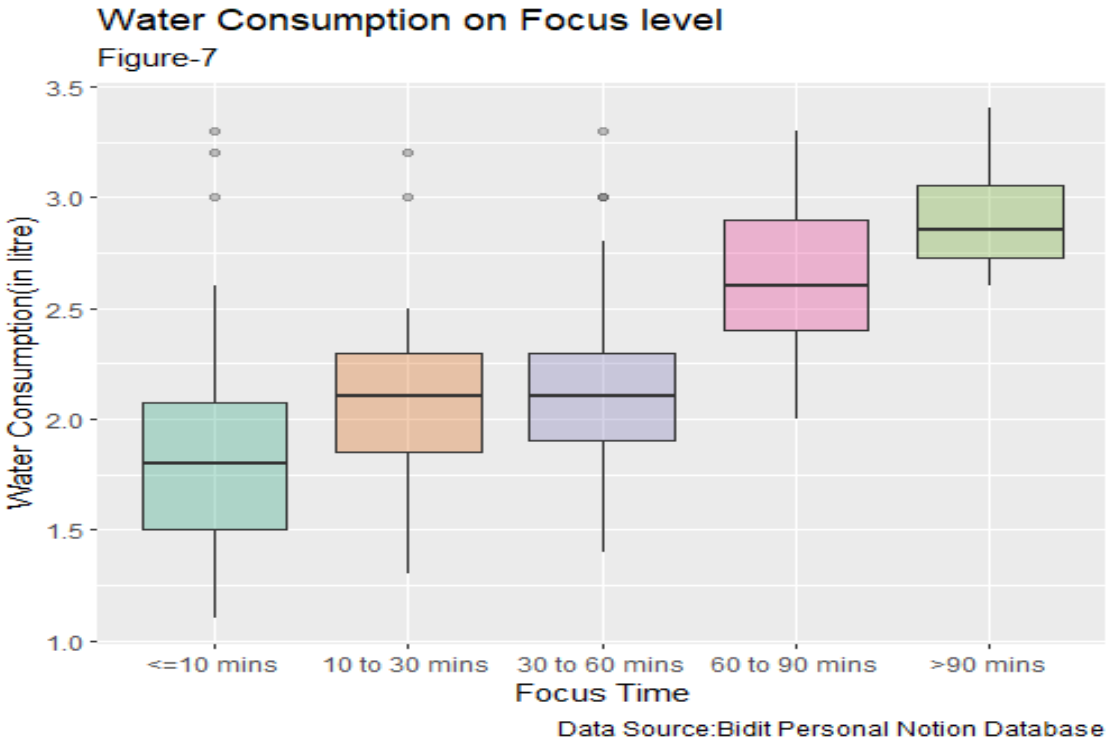

Figure 5: Water Consumption on Focus Time

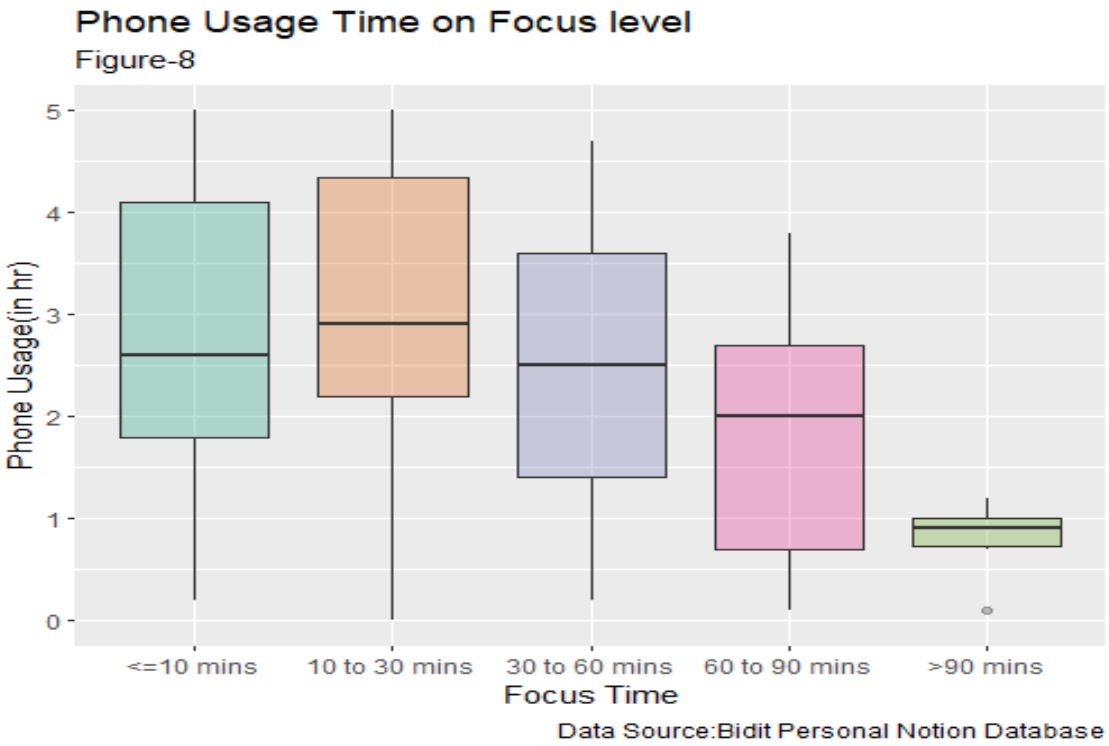

Figure 6: Phone Usage and Focus time

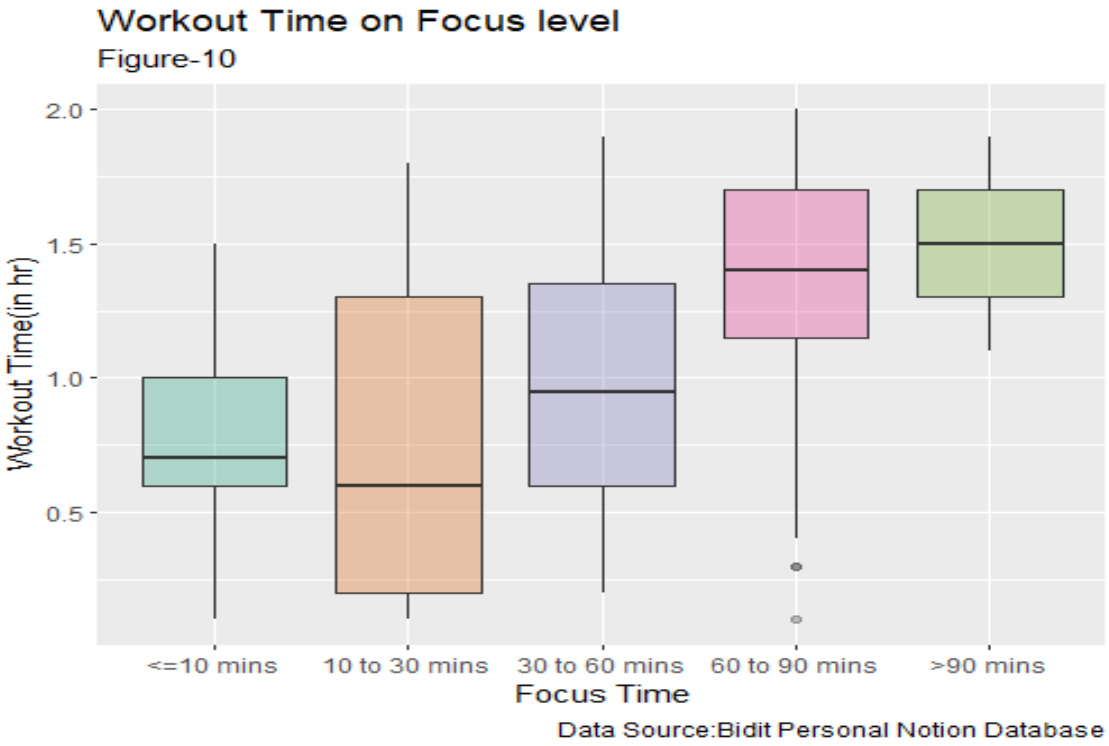

Figure 7: Workout and Focus time

5.2 Comments

The data collected by the researcher from September 2020 to January 2021 revealed the following insights:

5.2.1 Mindset, Focus, and Mood

Figure-1

- My focus time was satisfactory, with more than 1 hour of focus on 37 out of 113 days.
- I mostly had a negative attitude towards daily problems and difficulties.
- My mood remained more or less okay during the study period.

5.2.2 Diet, Exercise, and Health Condition

Figure-2

- My health condition was a concern, with only 43 out of 113 days being good and energetic.
- Exercise was consistent, with 85 out of 113 days having at least one hour of exercise.
- My diet was okay with no significant problems observed.

5.2.3 Daily Needs and Activities

Figure-4

- My average drinking water consumption per day was less than what an Indian male should consume according to experts (3 litres).
- My average sleeping time per day was 7.1 hours per day, which is a little less than what an average person needs (8 hours).
- On average, I spent at least one hour per day on exercise, which is a good sign.

5.2.4 Phone Usage Time, Meditation, and Reading

Figure-3

- My phone usage time was 2.4 hours per day, with the maximum value being less than 5 hours.
- I practised meditation sincerely for 76 out of 113 days.
- Reading was neglected, with only 13 out of 113 days dedicated to reading.

5.2.5 Insights on Factors Affecting Focus Time

Health Condition

Focussed Time	Health Condition:1	2	3	4	5	Sum
<=10min	1	5	13	6	1	26
10 to 30 mins	4	6	3	4	2	19
30 to 60 mins	3	8	9	5	4	29
60 to 90 mins	1	8	8	13	3	33
>90 mins	0	0	1	5	0	6
Sum	9	27	34	33	10	113

Figure 8: Contingency table of health condition and focus time

The contingency table shows how the focus time has varied over my health condition. There seems to exist a weak positive association between health conditions and focus time.

Water Consumption Figure-5 There seems to be a weak positive association between drinking water consumption and focus time. From the boxplot, we can see that the median water consumption is much higher when I have focused for more than 60 minutes.

Phone Usage Figure-6 There seems to be a very weak negative association between phone usage time and focus time. From the barplot, we can see that the phone usage time is significantly low when I have a high focus time. Similarly, when I have a high phone usage, I have lower focus time.

Workout Time Figure-7 There seems to be a weak positive association between workout time and focus time.

Overall, the data provided insights into my daily habits and behaviors, highlighting areas of improvement for a better and healthier lifestyle.

6 Discussion of Results in the Context of Previous Research

This section will discuss the implications of the results within the broader context of previous research in the field. It suggests drawing on the work of other scientists or psychologists to help interpret findings and to support arguments

6.1 Implications for Previous Theories

Based on the analysis of my daily habits and behaviors, it can be argued that there are several factors that influence my productivity, such as my health condition, water consumption, phone usage, and workout time.

Research has shown that physical and mental health are critical components of productivity (Gubler, Larkin, Pierce, 2018). In my case, the data indicates that my health condition has a weak positive association with my focus time. This finding is consistent with previous studies that have found that poor health can negatively impact productivity (Liu, Wang, Yao, 2017)[19]. Therefore, it is important for me to prioritize my health and take steps to maintain good physical and mental well-being in order to optimize my productivity.

Water consumption is also an important factor that affects productivity. Previous studies have found that even mild dehydration can lead to impaired cognitive performance, including reduced focus and memory (Edmonds Jeffes, 2009). The data from my analysis reveals a weak positive association between drinking water consumption and focus time. This suggests that increasing my water intake may improve my productivity. Therefore, I should strive to consume the recommended daily intake of water to optimize my cognitive function and productivity.

In addition, phone usage has been shown to have a negative impact on productivity (Rosen, Carrier, Cheever, 2013)[16]. In my case, the data reveals a weak negative association between phone usage time and focus time. This finding is consistent with previous research that has found that excessive phone usage can lead to distractions and reduced productivity. Therefore, it is recommended that I limit my phone usage during work hours to optimize my productivity.

Finally, regular exercise has been shown to improve cognitive function and productivity (Hogan, Mata, Carstensen, 2013)[4]. The data from my analysis reveals a weak positive association between workout time and focus time. This suggests that increasing my

workout time may improve my productivity. Therefore, I should strive to incorporate regular exercise into my daily routine to optimize my cognitive function and productivity.

In conclusion, the analysis of my daily habits and behaviors reveals that several factors influence my productivity, including my health condition, water consumption, phone usage, and workout time. By prioritizing my health, increasing my water intake, limiting my phone usage, and incorporating regular exercise into my routine, I can optimize my cognitive function and productivity.

6.2 Limitations of Research

While the research conducted on the topic of quantifying oneself by analyzing daily habits and behaviors provides valuable insights, there are limitations to consider.

Firstly, the data collected was only for a limited period of time, from September 2020 to January 2021. It is possible that my habits and behaviors could have been different during other times of the year, which may affect the generalizability of the findings.

Secondly, the study relied on self-reported data, which may be subject to bias and inaccuracies. For example, I may have overestimated or underestimated the amount of water I consumed or the time I spent on my phone.

Thirdly, the study did not account for external factors that may influence my productivity, such as work environment or social interactions. This may limit the applicability of the findings in real-world settings.

Lastly, the study did not explore the underlying reasons for the observed associations between various factors and productivity. Therefore, it is unclear whether the associations are causal or simply correlative.

Overall, while the research provides valuable insights into the factors that influence my productivity, it is important to consider the limitations and potential biases in the data to make informed decisions about improving my daily habits and behaviors.

7 Conclusions and Remarks

In conclusion, the process of quantifying oneself can be a valuable tool for gaining insights into one's daily habits and routines. By tracking and analyzing data on various aspects of one's life, including sleep, exercise, nutrition, and technology use, individuals can gain a deeper understanding of their own needs and preferences, and use this knowledge to make informed decisions about how to improve their well-being and productivity.

Self-quantification can help individuals to identify patterns and make meaningful changes in their lives. For example, by tracking their sleep patterns, individuals can determine the ideal amount of sleep they need, and adjust their sleep habits accordingly. Similarly, by tracking their phone usage, individuals can identify patterns of excessive screen time, and take steps to reduce their usage.

One of the key advantages of self-quantification is that it allows individuals to gain personalized insights into their own needs, rather than relying solely on generic recommendations from experts. For example, while experts may recommend getting a certain number of hours of sleep each night, self-quantification can help individuals determine the specific amount of sleep that works best for them. Similarly, while experts may recommend certain dietary guidelines, self-quantification can help individuals identify the specific foods that make them feel best.

However, it is important to recognize that self-quantification has its limitations. Data can only provide a limited view of the complex and multifaceted human experience, and subjective

experience and intuition also play an important role in decision-making. In addition, there are potential drawbacks to relying solely on data-driven decision-making, including the risk of becoming overly fixated on data and losing touch with one's own instincts and emotions.

In conclusion, self-quantification can be a powerful tool for gaining insights into one's own needs and preferences. By combining data-driven insights with subjective experience and intuition, individuals can make informed decisions about how to improve their well-being and productivity. Ultimately, the key to successful self-quantification is finding a balance between objective data and subjective experience and using this knowledge to create a personalized approach to health and wellness.

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