

**The Benefits of Smartphone Apps for Spirituality on Individuals' Mental Well-Being -  
A Qualitative Interview Study**

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## Abstract

**Background and Purpose:** With the continuing rise of technology, smartphone applications for spirituality have become increasingly popular as a convenient and accessible tool for supporting individuals' spiritual practices. Spirituality itself can be defined in a variety of ways, often referring to people striving for psychological development with a particular focus on self-growth and self-fulfilment. This thesis aimed at analysing individuals' own perspectives on spiritual apps and exploring how users discuss their experiences with specific aspects of the apps as helpful for their mental well-being.

**Methods:** 23 participants who regularly engage with a spiritual app participated in semi-structured interviews. The interview data was analysed thematically, focusing on the perceived beneficial aspects of the apps. This involved coding the interview transcripts and looking for themes, which were created as meaningful patterns within the interview data.

**Results:** The findings include seven themes creating insights into which aspects of spiritual apps people find beneficial and how individuals perceive their influence on their mental well-being. The results are *guided meditation as the creation of self-awareness, personalised notifications as an experienced support on continuing spiritual practices, gratitude exercises as a creation of increased life satisfaction, positive affirmations as the development of self-compassion, astrology for individuals' self-understanding, reward system as personal development and feeling of success, and community forum as a form of feeling socially connected.*

**Discussion and Conclusion:** The findings contribute qualitative findings to the field of spiritual mobile applications and add recent knowledge about how users themselves talk about and experience smartphone apps for spirituality concerning their mental well-being. This provides insights for future research to build upon these findings, for app developers on understanding and implementing individuals' needs and preferences, as well as for health professionals on potentially integrating spiritual apps in traditional therapy and interventions.

## **The Benefits of Smartphone Apps for Spirituality on Individuals' Mental Well-Being - A Qualitative Interview Study**

Over the past years, the use of smartphone applications has substantially increased and affected individuals in their way and styles of living more than ever before (Kang et al., 2019). There now exists a large range of networking sites and various mobile applications covering several conditions and lifestyles, for instance, spirituality (Bughin et al., 2019). Smartphone apps for spirituality have become steadily popular as a convenient and accessible tool for supporting individuals' spiritual practices (Kang et al., 2019). Individuals' interests in spirituality have been on the rise since people have become increasingly curious about achieving personal growth and development, as well as searching for their personal meaning in life (Farias & Granqvist, 2007). This led people to deal with their mental well-being in the way of focusing on their self-fulfilment, self-compassion, and self-understanding, hence turning to spiritual practices and beliefs by using a spiritual mobile app (Woodward et al., 2020). Spirituality involves striving for overall wellness, personal growth, and becoming the best version of oneself with a great focus on mental well-being (Ivtzan et al., 2013). It further includes different approaches and ways of living, which allowed people to create their own personal importance of life components and lifestyles. In particular, many people identify themselves with the growing New Age movement, which encompasses various life dimensions with beliefs in a higher power and the relationship between humans and nature (Hanegraaff, 1997).

Despite scientific literature about technological advancements and individuals' increasing interests in personal growth and well-being, qualitative knowledge regarding spiritual mobile apps is missing, thus valuing in-depth exploration of this field. This thesis aims to investigate individuals' personal perspectives on certain features of spiritual apps, how they talk about their experiences, as well as how the use of these apps makes them feel, act, and think.

### **Spirituality**

The concept of spirituality has gained expanded relevance and attention in the past decades and can be observed as an influence on many aspects of Western culture and society, namely social work, healthcare, education, psychology, and counselling, as well as individual personalities (Huss, 2014). There exists a vast range of conceptualisations of spirituality, and it often includes a personal, subjective, and individual meaning (Delgado, 2005). Positive psychology explains spirituality as a feeling of connection, belonging, and self-understanding,

and it has been shown that there is a positive association between mental well-being and spirituality (Barton & Miller, 2015; Falb & Paragament, 2014). This is supported by the study of Božek et al. (2020), whose results indicate that an individual focus on the human mind and spirit positively impacts mental well-being. Further, according to Huss (2014), spirituality involves social and cultural practices, as well as general lifestyles impacting how individuals experience and perceive their life and the world around them. It can be viewed as a concept that refers to any personal belief or lifestyle, which influences individual and personal development (Huss, 2014).

Likewise, conceptualising spirituality in relation to smartphone apps remains even elusive, mainly due to the limited research available that explores these links (Ahmad et al., 2021). This thesis incorporates participants' personal meaning of spirituality and its relation to a spiritual mobile application, meaning that they practise their individual meaning of spirituality by using a spiritual mobile application.

Within the wide range of conceptualisations of spirituality, there often exists a link between spirituality and religion. According to Waaijman (2007), spirituality serves as a means of establishing a connection between divinity and individuals. Although this involves spirituality and religion both holding their importance in terms of striving for self-fulfilment, self-love, connection, hope, and the extraordinary, thus overlapping in their domains of focus, they are often seen as separate phenomena (Paul Victor & Treschuk, 2020). Specifically, as argued by Ammerman (2013), spirituality does not belong to any cultural or religious beliefs and many people seeing themselves as spiritual do not believe in a God. Notwithstanding that spirituality and religion can often be seen as separate practices, previous research by Peteet & Balboni (2013) conceptualises spirituality as a form of religion. This way, spirituality can be viewed as encompassing religious practices, and as described by Huss (2014), it can be seen in relation to religion since it involves individuals striving for a greater purpose than themselves, as well as features such as self-understanding and self-fulfilment, which many people achieve from their faith.

While spirituality can frequently be conceptualised as a form of religion, Schneiders (1989) shows that the term can also be understood as a general life interest, leading individuals to follow certain behaviours and practices. This way, spirituality supports people dealing with their own thoughts and fulfilling their needs and interests in different ways, for instance by practising meditations, self-compassion, self-understanding, astrology, and praying (Schneiders,

1989). As defined by Bandura (2003), spirituality can be seen as an individual-constructed lifestyle enabling individuals to cultivate self-fulfilment and a sense of wholeness, underlying the variety of meanings and definitions of spirituality in current research. Spirituality as a lifestyle can enhance people's self-understanding and foster self-compassion, thereby building a deeper connection with themselves (Asadzandi, 2017). As the present thesis aims to explore how the aspects of spiritual mobile applications influence individuals' mental well-being and how they integrate certain practices of the apps to support their meaning of spirituality, for this research, spirituality can be defined as a personal lifestyle.

Aside from conceptualising spirituality as a lifestyle, previous findings of Weathers (2019) have shown spirituality to be a support for several components of human life. To be more precise, coping spiritually with illnesses can be seen as beneficial since spirituality alleviates suffering (Weathers, 2019). Similarly, it can positively influence other stressful life events, as practising spirituality allows individuals to find meaning and purpose in their life, therefore creating a sense of well-being (Day, 2010). This is supported by the study of Whitehead & Bergeman (2012), which indicates that regular spiritual practices help individuals effectively manage stress and negative emotions by improving positive feelings and fostering optimistic perspectives. Additionally, spirituality can influence surviving everyday tasks, which is supported by the study of Weathers (2019), as it has shown that spirituality creates an increased ability to adapt and cope with adversity, as well as a feeling of connection, peace, fulfilment, self-understanding, and inner strength. Accordingly, it can offer humans new ways to achieve hope, inner harmony, as well as personal growth, and power, hence impacting individuals' mental well-being (Rindfleish, 2005).

As a result of these various positive influences of spirituality, a rising number of people working in the settings of social work, healthcare, education, psychology, and counselling incorporate spirituality into their clinical work (Huss, 2014). Specifically, several areas of psychology integrate spirituality into their treatment methods. One notable field, which nowadays often combines spirituality with its practices, is the field of positive psychology (Falb & Pargament, 2014). According to Falb & Pargament (2014), positive psychology integrates its clinical practices with exercises on hope, gratitude, mindfulness meditation, resilience, and compassion, which all play a significant role in spirituality. As supported by Captari et al. (2022), positive psychology uses these spiritual practices to enhance and integrate them into

individuals' personal lives. The study by Park (2015) has shown that the integration of these practices results in positive effects on clients' self-worth feelings and their quality of life, and it displayed positive effects on people diagnosed with depression and cancer, hence demonstrating the impact of spirituality on individuals' mental well-being.

### **The New Age and Spirituality**

When talking about spirituality, the concept of the New Age is often used to explain spiritual beliefs and practices in modern Western society. According to Farias & Lalljee (2006), the New Age evolution is a mystical ideology creating positive changes in its followers' lives. It includes beliefs in terms of a new life of self-love and self-actualisation and emphasises changes in oneself in order to implement ideological components and follow, as well as belong to this ideology (Ivtzan et al., 2013). Thereby, the New Age incorporates an individualistic culture with a focus on self-growth and fulfilment. In addition, it involves the performances and power of the individual, as well as a pantheistic element since the New Age underlines equality of nature, the divine, and the universe (Farias & Lalljee, 2006). Hence, it includes the sacred aspects of spirituality, and many people thereby strive for something bigger than simply being human (Heelas, 2006).

Likewise, for a lot of people spirituality itself equals the movement of the New Age and the concepts can be overlapping. However, previous research by Holloway (2000) rather separates spirituality from the New Age ideology and has shown conceptual distinctions. Particularly, the results of Holloway (2000) have shown that many individuals identify themselves as spiritual but not as belonging to the New Age movement. In fact, as explained by Holloway (2000), the New Age movement can also be viewed from a negative point of view. Chryssides (2007) argues that the concept of the New Age involves a modern evolution containing its own values and norms without one particular belief. Instead, it encompasses adapting and altering according to societal preferences, hence convincing more and more people belonging to the New Age. This way, the New Age represents universal followers presenting individual, magical, and mystical beliefs just as how they want. On the contrary, spirituality can be observed as a concept that simply includes beliefs and lifestyles that give humans' personal life new meanings and development and allows people to increasingly understand, as well as appreciate themselves (Whitehead & Bergeman, 2012).

## **Spiritual Smartphone Applications**

In recent years, smartphone apps have become increasingly interesting for practising spirituality. The applications provide easy, accessible, and affordable ways to integrate and practise spiritual lifestyles, and their effectiveness seems promising (Ahmad et al., 2021). Previous research by Woodward et al. (2020) investigated the general relationship between spiritual mobile applications concerning mindfulness and mental well-being, and it has shown a positive correlation. In addition, according to Orosa-Duarte et al. (2021), utilising mindfulness applications is proven to fulfil humans' spiritual lifestyles, including the investigation of one's own thoughts and general living conditions such as stress reduction, sleep, concentration, and productivity through the help of spiritual practices. However, scientific knowledge about how these apps are perceived by users themselves and in what way they influence their mental well-being is missing. This emphasises the significance to study individuals' own perspectives on the influence of the aspects of those apps on their life.

There are numerous smartphone applications that establish great opportunities to enhance humans' spiritual lifestyles (Woodward et al., 2020). Popular examples of spiritual apps are, for instance, "Co-Star", "The Moonly", "Spiritual Stories Diary", or "Headspace". These applications include elements such as thankfulness, mindfulness meditation, hope, astrology, and yoga, as well as faith, and the meaning of life and death (Gorichanaz, 2022). They allow humans to deal with their self-understanding and self-awareness and Orosa-Duarte et al. (2021) therefore discuss smartphone apps for mindfulness as a support for individuals' spirituality. Nevertheless, besides mindfulness applications, little is known about any other applications, integrating spirituality, as well as how users explain the impact themselves.

To this end, according to Nikolić (2021), practising spirituality with the help of mobile applications supports people to stay motivated and cultivate their spiritual practices. As pointed out by Gorichanaz (2022), these practices include, for instance, breathing techniques, being in the present moment, instructions for spiritual knowledge about tarot cards, and moon cycles, as well as the ability to deliver personalised notifications and a variety of other metaphysical practices. However, scientific knowledge concerning how users talk about their experiences with aspects such as personalised notifications and breathing techniques is missing.

## **Research Objective**

Notwithstanding previous literature and research have examined spirituality and its positive influences on individuals' lives, it is yet not known whether and how these benefits of spirituality are transferred to the use of spiritual mobile applications, thus demonstrating the importance of exploring this link. Adding to that, little is known about individuals' own, experiences, motivations, and perspectives concerning spiritual apps. Consequently, there exists a gap of scientific, qualitative research, with regard to how spiritual apps and their aspects are perceived by users themselves. Analysing users' experiences can enhance recent scientific qualitative knowledge and provide insights into how these easy, accessible technologies could be improved in their designs and functionalities in order to implement users' needs and preferences. Previous literature thereby seems to have high expectations for spiritual smartphone apps. However, there is little research to back this up and to say something about how individuals themselves talk about the apps. Thus, it is valuable to interview a sample of people who regularly use a spiritual mobile app. Hence, this research aims to investigate user experiences with smartphone apps for spirituality, answering the following research question "Which aspects of smartphone apps for spirituality do users find beneficial for their mental well-being?".

## **Methods**

### **Study Design**

In order to achieve a detailed understanding of individuals' personal perspectives and opinions on smartphone applications for spirituality, a qualitative interview study was conducted. Thereby, this thesis included an exploratory research objective, thus, semi-structured interviews were conducted by a group of five students. Five interviews were conducted by the author of this thesis. As all five students investigated different research questions regarding how individuals make sense of spiritual mobile applications, this thesis focused on the impact on people's mental well-being. Following this exploratory study design supported the research aim of gaining an understanding of which aspects of these apps people experience as beneficial for their mental well-being.

### **Participants**

The interviewees were recruited following convenience sampling. Thereby, some participants were assembled using the researchers' personal social networks, others signed up via



the platform SONA, which is an online tool to participate in research studies. Students from the University of Twente could simply find the study and registered themselves this way.

In total, 23 participants aged between 18 and 42 attended the interview study. 16 participants identified themselves as female and six as male. One participant identified themselves as non-binary. The nationalities varied between Dutch, German, and eight others. For the purpose of this study, 15 interviews were used for further analyses, which were selected based on their data relevant to answering the present research question. Five interviews were conducted by the author of this thesis, and nine interviews by four other researchers. The age of the composed group of interviews that were analysed ranged from 18 to 28 ( $M=24$ ). Thereby, eleven participants identified themselves as female and four as male. Their nationalities varied between Dutch, German, and other nationalities. Generally, all individuals who had in-depth experiences using at least one spiritual smartphone app and who had sufficient English skills to participate in an interview were able to take part in the study.

### **Materials**

In order to understand how individuals perceive the impact of these spiritual technologies on their mental well-being, 23 semi-structured interviews were conducted. The interviews were conducted online, as well as in person, depending on people's preferences. Therefore, materials used for investigating this study included the platform Microsoft Teams, as interviews conducted online were attended via this tool. Besides, all interviews were recorded with a recording tool, such as the integrated function of Microsoft Teams or an application for recordings via phones. The interviews were transcribed via Otter.ai, as well as coded with ATLAS.ti, which is a software program for evaluating qualitative data. Further, all data is stored with a university account for Microsoft Teams. An email was sent by the researcher to provide the participants with a research description sheet, which can be found in Appendix B, as well as a consent form (Appendix C). This way, the interviewees were informed about their rights, and the researcher acquired consent to analyse and process individuals' responses given during the interview. The study design, including the study description, the consent form, and the interview guide (Appendix D), was approved by the BMS Ethics Committee of the University of Twente with the approval number 221430, which can be seen in Appendix A.

Furthermore, an interview protocol was used. Thereby, all interviewees were asked the same questions with a different integration of probes, which offered the possibility to respond to

participants' answers and reactions and to initiate meta-conversation. Since the group of five students investigated different research questions on user experiences with spiritual mobile applications, the interview protocol included questions that were developed in order to achieve relevant information to analyse and accordingly answer each research question. However, this thesis mostly focused on analysing those parts of the interviews, which asked the participants about their experiences with certain aspects of the spiritual apps and the perceived influence on their mental well-being.

The protocol was structured by a short introduction of the researcher, a brief clarification of the consent form, and information needed to start the interview. Moreover, questions regarding the participant's demographics, followed by seventeen open questions with certain prompts were asked. The second part of the interview protocol included open questions, which led the interviewees to explain their general beliefs considering spirituality, the term New Age, as well as the different kinds of spiritual apps that they use. Questions that examined these aspects were for instance "Is spirituality a word that describes your beliefs and values well? If yes, would you like to tell me something about what it means to you?" and "Do you recognise the term 'New Age'? If yes, do you think it describes your views on spirituality?". Moreover, the participants were asked to think of distinct topics related to spiritual mobile applications, namely their general mental well-being, their social relationships, the reasons for using the apps, as well as features of the apps. Examples of those questions were "Which functionalities have been beneficial to your general mental well-being?" and "Can you tell me something about why you use this app?" (Appendix C).

### **Procedure**

After agreeing on a date for the interview, the researcher arranged a location or a link to join the interview. At the beginning of the interviews, the participants were welcomed and shortly introduced to the research study. While talking about the general procedure, the researcher sent an e-mail to the interviewees. The researcher read the research information form together with the participants and described the process of the interview, the purpose of the interview study, and general information about the supervisor and contact details. Subsequently, the researcher asked for questions and clarified the informed consent form. This way, the participants became familiarised with confidentiality, their rights, as well as moral considerations. The interviewees were asked to read, fill out, and sign the informed consent form

that afterwards was sent back to the researcher. Thereafter, the researcher inspected the signed consent form and subsequently started the audio recording.

Then, the interviews were carried out considering the interview protocol, which can be seen in Appendix C. The participants were asked 17 open questions regarding their experiences with spirituality apps, and which aspects of those apps they see as beneficial for their mental well-being. Since some interviewees made use of multiple apps, they were then asked to answer the questions considering each app. By using prompts and initiating probes at various points of the interviews, where participants struggled with elaborating on a particular question, the researcher helped the participants to think of and answer the question more deeply, and more detailed explanations regarding their personal experiences were ensured. At the end of the interview, the interviewees were asked about further information they wanted to add and remaining questions. Afterwards, the researcher informed the participants about the opportunity to reach out for contact in order to ask questions that appeared subsequently. Lastly, the researcher finished the audio recording, and the interviewees were thanked for taking part in the research study. Each interview lasted between 25 and 55 minutes.

### **Data Analysis**

In order to investigate the interviews, qualitative thematic analysis according to Braun & Clarke (2006) was completed. Hereby, the researcher analysed the data according to six steps, namely, familiarising with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report (Braun & Clarke, 2006). This way, exploring, analysing, and presenting meaningful patterns within the interview data was possible.

The researcher named the participants by pseudonyms. By transcribing the audio recordings with the program Otter.ai, listening to the audio one more time, and editing the written interviews by anonymising them and correcting misspelt words, the researcher first got familiar with the data. Thereby, the researcher read the interview data paying attention to interviewees' experiences with certain aspects of the spiritual apps, what these make them feel and think, as well as the perceived impact on their mental well-being. The researcher hence got insights into all the different ways participants expressed the aspects of the apps as helpful. Uploading then the transcripts in the program ATLAS.ti and applying its coding tool let the researcher be able to explore and label underlying extracts of the interviews where participants

were talking about their experiences with the aspects of the spiritual apps. This way, units of analysis could be identified, which were usually the length of one sentence and were coded with one code. Thereby, the researcher coded the data by applying an inductive coding technique. This indicates that no theories or codes from previous studies were used. Applying this coding technique supports the exploratory research objective, enabling the researcher to explore meaningful patterns simply from the participants' discussions about their unique experiences with spiritual apps without noting predefined mechanisms and theories. The researcher coded for expressions of the perceived impact of the spiritual technologies on participants' mental well-being, as well as certain aspects associated with these technologies, which resulted in codes such as "the exercises on meditation for inner peace" and "achieving points for continuous practices".

Carefully reading through the coded transcripts led to first interpretations of the data. The researcher coded and systematically compared more and more interview transcripts. After reviewing and altering the codes several times, the final codes were chosen, and the researcher started searching for themes that occurred while the participants described their experienced impact on their mental well-being. This means that the researcher paid attention to underlying patterns in the way the interviewees talked about their experiences. Thereby, the researcher grouped the coded quotes into wider themes that shared a similar core idea or meaning-making pattern concerning aspects of spiritual mobile applications and how the participants experienced these. In this case, the researcher marked the analysing extracts and added a comment about the particular meaningful pattern saying something more abstract about how the participants talk about their experiences with certain aspects. These were later modified into a theme. This way, the researcher identified the particular meanings that formed similar patterns but were explained differently by the participants. Accordingly, the researcher gathered an understanding of how the participants talked about the different aspects and how these let them feel, think, and act. For instance, while interviewees were talking about the aspect of astrology, they all described their experience as a means of achieving self-understanding. Therefore, the theme of *astrology for individuals' self-understanding* was created and could be further analysed.

Furthermore, all themes involve an interplay of various codes. The researcher reviewed and modified the themes in relation to each other. Hereby, attention was paid to the themes in order to ensure there was no overlap but represented different meaningful patterns. As it turned

out that some themes were too general since they included several codes regarding separate underlying patterns, the researcher split numerous themes into more specific ones. Consequently, what was initially perceived as a single theme was redefined and thus, new themes were established representing individual meaningful patterns. Therefore, certain themes maintained similar overarching aspects, which is why the researcher combined some themes again. Hereby, the researcher revised and significantly reviewed the themes. As a result, the researcher firstly further refined particular themes in order to identify new patterns and subsequently recombined again, as they shared identical meanings and did not align well enough with the refined theme.

Following, the themes were defined. While examining the themes, the researcher placed value on developing the themes in such a way that they were consistent with the participants' perceived experiences. Interestingly, the researcher observed that the meaningful patterns in the interviewees' descriptions of their experiences all appeared while they were talking about one particular aspect of the different spiritual apps discussed in this thesis. This way, the themes were created by participants' meaning-making patterns around the functions of the apps. As a result, the researcher named the themes by combining the specific ways participants explained how the apps have helped them and certain aspects of the apps where the meaningful pattern appeared. Therefore, the themes are named in accordance with the research question and provide insights into how the interviewees talk about their experiences with the aspects. Thus, results could be written up.

Throughout these steps, the researcher got feedback from her supervisors as well as two other students, which led to an iterative process of taking a step back, implementing and refining the researcher's analysis of the interview data various times.

## **Results**

As a result of the analysis of the interview data, seven themes were created. Within these themes, the following smartphone applications were discussed: Headspace, Sanvello, Balance, Calm, Dailio, Co-Star, Saged, and Mindspace. The apps Headspace (Headspace.com), Sanvello (Sanvello.com), Balance (Balanceapp.com), Calm (Calm.com), and Mindspace (Mindspaceapp.com) all focus on mindfulness meditation practices. These involve guided meditations on different topics, such as stress, muscle relaxation, as well as mindfulness music or informing texts and videos around the topic of mindfulness. The app Co-star is an application for

exploring astrology. It incorporates star signs and their meaning, birth charts, and horoscopes (Costarastrology.com). The app Saged includes affirmations and gratitude practices in the form of meditation or self-talk practices, as well as focuses on individual spiritual growth. It further provides a function of a community chatroom where users share and discuss their experiences and beliefs (Sagedapp.com). Lastly, the app Daylio is an app that takes its attention to individuals' personal journals. Users can take notes and use the app as a diary, where people write about what they did and how they felt during the day (Daylio.net).

The themes, as well as their meaning and related codes, can be seen in Table 1. They are listed from highest to lowest frequency.

**Table 1**

*Themes of spiritual smartphone applications concerning beneficial aspects for users' mental well-being*

<b>Theme</b>	<b>Definition</b>	<b>Primary codes</b>	<b>N</b>
Guided meditation as the creation of self-awareness	Being thoroughly aware of what one is sensing and feeling in the present moment without judging or interpreting it and calming down both body and mind through verbal guidance.	- Exercises on muscle relaxation meditation - The programme for daily emotional meditation daily - The exercises on meditation for inner peace - The exercise of breathing meditation - The aspect of stress meditation	45
Personalised notifications as an experienced support on continuing spiritual practices	The feeling of support for the ongoing use and practice of activities through motivating and personal messages.	- The aspect of motivating notifications - The notification asking me how I am feeling - The aspect of reminding notifications - Notifications asking about my worries	29
Gratitude exercises as a creation of increased life	The experience of a sense of being thankful and increasing appreciation	- Thankfulness practices - The programme for thinking of what I am	23

satisfaction	of life with the help of thankfulness exercises.	thankful for - Questions about what kinds of good things I have in life	
Positive affirmations as the development of self-compassion	The development of compassionate self-talk, overcoming self-doubts, and establishing an encouraging relationship with oneself through positive sentences.	- The aspect of reading affirmations for accepting oneself - Exercises on positive affirmations for self-kindness	20
Astrology for individuals' self-understanding	The practice of information seeking on celestial bodies, as well as personal star signs, and their impact on individuals' personalities and behaviours, which leads to gaining insights into individual strengths and challenges, as well as talents and character traits.	- Daily horoscopes - The programme for exploring astrological meaning	13
Reward system as personal development and feeling of success	Feelings of success and growth through the function of achieving points, streaks, and certificates for practising exercises or completing particular goals continuously.	- Receiving a weekly report - Achieving points for continuous practices - The aspect of developing streaks	11
Community forum as a form of feeling socially connected	An increased sense of social support and connection through exchanging and discussing personal experiences with other users via a digital platform.	- The aspect of discussing experiences and beliefs in a chat room - The aspect of a platform for social advice	10

As presented in Table 1, the most common theme was *guided meditation as the creation of self-awareness* with 45 occurrences, while the least common theme was *community forum as a form of feeling socially connected* with ten occurrences. Generally, it can be observed that in twelve out of 15 interviews, the theme *guided meditation as the creation of self-awareness* appeared. Thus, this theme appeared in almost all interviews and is the most common theme. The themes *personalised notifications as an experienced support on continuing the apps' practices*, as well as *gratitude exercises as a creation of increased life satisfaction*, and *positive affirmations as the development of self-compassion* each appeared in ten interviews and are

therefore common as well. The themes *reward system as personal development and feeling of success* and *community forum as a form of feeling socially connected* are less prevalent themes, as they appeared in four interviews, while the least prevalent theme is *the astrology for individuals' self-understanding*, which occurred in only three interviews.

In the following, the themes will be presented and discussed in the same order as in Table 1. Example quotes from the interview data for clarifying the participants' experiences and explanations are presented with their pseudonyms. Some examples involve an interplay of more than one code, while others include only one code. Generally, the examples present the participants' experiences with an aspect of the spiritual mobile app and how they felt helped using this aspect. Additionally, the quotes have slightly been revised in order to ensure readability and participant anonymity.

### **Guided meditation as a creation of self-awareness**

Within the theme *guided meditation as the creation of self-awareness*, the participants discussed different meditation programmes of various apps as helping them feel aware of themselves in the present moment. The theme *guided meditation as the creation of self-awareness* can be defined as experiencing thorough awareness of what one is sensing and feeling in the present moment without judgement or interpretation, thus calming down both body and mind through verbal guidance.

The theme occurred in twelve interviews and in total 45 times. Within the theme, participants discussed their perspectives on the aspect of meditation, focussing on different positive impacts on their mental states. More precisely, they described the aspect of meditation in a way that regulates their emotions and stress and significantly calms down, relaxes, and releases inner tension. The interviewees further discussed it as helping them in improving their productivity and feelings of inner peace, as well as decreasing their anxieties. By explaining their experiences with following a guide's voice within the meditation, the participants discussed the aspect as helping them concentrate, connect with the present moment, and improve awareness of their own state of mind. Accordingly, the participants discussed the aspect of meditation as important for their self-awareness.

In the example seen below, "Jackson" explained which feelings the meditation aspect of the app Headspace creates and that it has valuable effects on his self-awareness.



“And after the guided meditation, I felt completely calm and conscious and at peace and that feeling stayed even while I was preparing myself a coffee and so, the feeling lasted. I love this function of the app. It really helps me mentally feel good and completely self-aware in a certain moment.”

While Jackson describes his use of the aspect of daily emotional meditation, as well as the exercises on meditation for inner peace as beneficial for his mental well-being, he discusses different meditation aspects of the smartphone application Headspace. Jackson discusses what the aspects of emotional meditation, breathing meditation, and muscle relaxation meditation made him feel, namely self-aware and at peace with himself. This emotional state lasted, demonstrating a positive response to the meditation experience. Therefore, it seems that for Jackson, the aspect of meditation has the role of connecting with the present moment. He discusses his experience with the aspect of meditation as a sense of inner calm, achieving a clear mind, and feeling fully present even after he meditates, hence creating the theme *guided meditation as the creation of self-awareness*.

This meaningful pattern could be identified in other interviews as well. Particularly, within this theme, participants clarified that achieving consciousness and focusing on emotions and certain everyday situations through meditation exercises leads them to actually focus on the here and now. Thereby, they explained that meditations help them to regulate their emotions and described how this leads to increased self-awareness.

### **Personalised notifications as an experienced support on continuing spiritual practices**

Within the theme *personalised notifications as an experienced support on continuing spiritual practices*, the interviewees discussed feeling supported and inspired for continuing spiritual practices due to the aspects of reminding, as well as motivating messages sent by the spiritual mobile apps. The theme *personalised notifications as an experienced support on continuing spiritual practices* occurred 29 times and in a total of ten interviews. The participants explained that reading a notification or getting an alert as an encouragement for specific activities, which the app offers, has had a positive impact on their mental well-being by feeling supported in what they are practising with the app.

The theme involves descriptions of feeling supported due to the ongoing use and practice of activities through motivating and personal messages that the apps offer. These messages are personalised to individuals' goals, needs, and preferences thereby, motivating, inspiring, and

reminding the users to continue their personal development with the app. By indicating a specific time for which the participants want to practise a certain activity, such as mindfulness meditation, or gratitude, the app sends a notification throughout the day, hence helping the participants to stay inspired for the determined activity. Furthermore, the participants described that receiving a message that asks how one is feeling is of great importance since they then actively think of this question and can observe their personal thoughts and feelings. This way, interviewees explained that it has a positive influence on their mental well-being, encouraging them to continue using the apps.

The example quote of “Naomi” presents that the app Headspace has had good effects on her personally feeling encouraged to an ongoing use of the app. She focused on the notification asking how one is feeling.

“So, I like these notifications as a reminder. It really helps me to use the app regularly. But also, and I would say most importantly I like the message, which asks: How are you feeling today? Then, I actually think of this when I see this notification on my display and when I read it and this really helps me to find a moment for myself during a day, even though I am sitting on a bus. I really like this question, and I am always feeling better after seeing it on my screen and thinking about it. I also just get a general positive feeling about the app then, which as well really leads me to continue using the app.”

Naomi describes how she feels supported by the notification, which asks how she is doing. She discusses that she achieved positive feelings after reading the message on her screen and associated these with using the app. This presents how the aspect made her feel better and led to ongoing use of the app. It seems that Naomi manages to take a break for herself when she sees the notification “How are you feeling today” on her screen, hence helping her to introspect and reflect on her emotional state during the day. Thereby, it seems that Naomi values the function without questioning its mechanisms, as it provides her the opportunity to attend to her emotional state directing her attention inwards, thus supporting her to focus on her mental well-being. She constructs the possibility to acknowledge and observe her personal thoughts and feelings as something achieved by the aspect of personalised notifications. For this reason, it seems that for Naomi the function of personalised notifications has the role of introspecting her

personal emotional states, hence creating a positive attitude towards continuing the apps' practices.

While Naomi discussed her experiences with the aspect of personalised notifications focusing on the notification asking how she is doing, the theme appeared with a different type of emphasis in other interviews. Specifically, another participant explained that they felt mentally well after reading a message that inspired them to continue practising a particular activity. Thereby, the interviewee described their experience discussing that reading an encouraging notification for increasing the practice of, for instance, mindfulness meditation let him feel supported and confident for continuing and enhancing the practice of meditation.

### **Gratitude exercises as a creation of increased life satisfaction**

Within the theme *gratitude exercises as a creation of increased life satisfaction*, the interviewees discussed their experiences with the aspect of gratitude practices by exploring exercises on thankfulness. The theme refers to experiencing a sense of being thankful and increasingly appreciating life with the help of thankfulness exercises.

The theme *gratitude exercises as a creation of increased life satisfaction* occurred 23 times and it appeared in ten interviews. It includes reflecting and exploring positive aspects of individuals' life and performing gratitude for these in different ways. Within the theme, participants discussed that the aspect of gratitude practices helped them be able to think of what kinds of good things they have in their life. Thereby, the interviewees explained that it made them feel grateful and aware of their positive experiences.

In the example seen below, "Charlotte" describes that the app Balance has had good effects on her appreciation of life.

"There is this function called Gratitude, where a voice is asking me questions, such as which situation today made you feel really happy, and something like this, and it lets me thinking of what I am actually thankful for. This is really good for me because I often have a really busy day and I have difficulties seeing the good things during my stressful days, and this function helps me see the day, and in general my life, in a more positive way and also think about situations more positively, as I think of how many good things I actually have in my life. So, this aspect of the app has a huge impact on my mental well-being. I am really getting more thankful for my life than before using the app."

Charlotte describes how the app Balance helped her to appreciate her life. She displays that the question of which situation made her feel happy during the day allowed her to counteract negativity and her stressful days. It seems that for Charlotte, the gratitude aspect has the role of reminding her about the good things in her life, especially during her busy days. She discusses her experience with the aspect as a sense of contentment, shifting away from her personal stressors. Besides, it seems that before using the app, Charlotte saw situations and circumstances in her life in a rather pessimistic way. In contrast, she now discusses the function as nurturing and embracing a more optimistic outlook on her life in general, as she mentions that using the app lets her think in a more positive way. As a result, Charlotte incorporates the aspect as a personal pattern and explains how it is beneficial for her mental well-being, hence developing a gratitude mindset.

While Charlotte focused on her general life attitude and on the question of what made her feel happy, such a direct link from the gratitude aspect and thankfulness practices to positivity in participants' life in general was also discussed in other interviews. Nevertheless, this theme also appeared in other interviews with a different type of emphasis. In particular, one participant experienced these exercises as leading to a stronger connection to the higher power. In this case, the interviewee displayed that she could think of which aspects of her life give her strength and support her faith and blessing. Hence, the participant discussed the aspect of gratitude exercises as experiencing an enhanced thankfulness in her life and recognising the personal importance of her beliefs in a higher power, thus creating the theme *gratitude exercises as a creation of increased life satisfaction*.

### **Positive affirmations as a development of self-compassion**

Within the theme *positive affirmations as the development of self-compassion*, the interviewees discussed the aspect of positive affirmations as accepting personal imperfections and being increasingly kind to oneself. The theme can be defined as the development of compassionate self-talk, overcoming self-doubts, and establishing an encouraging relationship with oneself through positive affirmation sentences.

The theme *positive affirmations as the development of self-compassion* appeared in ten interviews and in total 20 times. Within the theme, participants described that reading positive statements or quotes for accepting oneself and exercises on positive affirmations for self-kindness help them to achieve greater empathy for themselves. More specifically, the

interviewees mentioned that positive affirmations firstly involve reading and persuading sentences such as “I am worthy of love and I deserve respect for exactly who I am”, “I give myself time to develop and grow”, and “My flaws and imperfections make me uniquely me and I value and embrace every one of them”. Further, these functions of the apps demand the participants to repeat the affirmations a couple of times until they feel the actual meaning of a certain affirmation. Thereby, participants explained that the app either asks to talk the statement out loud in front of a mirror or to write the affirmations on a piece of paper. The interviewees described both actions as having an impact on their lines of thinking, as the positive statements influence and result in the development of new, personal ways of thinking, and they displayed actual improvements in their mental well-being.

The example quote of “Maya” demonstrates how the aspect of positive affirmations has had good effects on overcoming negative thoughts of herself.

“So, these affirmations, like these positive sentences that I repeat over and over again, basically decrease my self-doubts and I feel more confident and strong with myself. Also, I feel like I can really accept myself and see my mistakes kind of as belonging to me as all other people also have their issues. So I feel like I can treat myself more positively and I also treat myself more in a way as I treat my friends and family as well, which feels really good to me in long term.”

Maya presents how the aspect of positive affirmations influenced her thoughts and feelings. She displays how it helped her to be kind to herself as she is to others in her environment and to improve seeing herself with the same compassion as she shares with others. Thereby, she explains that she could learn to accept herself and her imperfections and overcome negative thoughts about herself significantly better than before using the app. It seems that for Maya, the affirmation aspect has the role of enhancing her self-treatment, hence supporting her in overcoming personal doubts and insecurities. By discussing the impact of the function in a way that she feels “more confident and strong”, as well as that she “feels really good” in the long term, she discusses the aspect as creating a sense of well-being. As a result, Maya discusses the aspect of positive affirmations as a means of encouraging a warm and empathetic relationship with herself, thus creating the theme *positive affirmations as the development of self-compassion*.

While Maya clarified that reading positive affirmations for accepting oneself helped her to actually accept herself with her mistakes and compassionately increase her self-kindness this

way, the theme *positive affirmations as the development of self-compassion* occurred in another interview with a different type of emphasis. Specifically, another participant rather explained that it has helped them to forgive her mistakes. This interviewee mentioned that forgiving herself let her anxiety and stress significantly decrease, as through the affirmations, she learnt how to be kind to herself. Furthermore, another interviewee pointed out that achieving self-compassion through exercises on positive affirmations for self-kindness makes it easier to cope and deal with challenging situations. As reading affirmations helps participants to accept themselves, they mentioned that it led to increased resilience and confidence. This makes it easier to effectively deal with difficult situations since interviewees explained that they feel mentally stronger and stay kind to themselves rather than adopt negative ways of thinking again.

### **Astrology for individuals' self-understanding**

Within the theme *astrology for individuals' self-understanding*, the participants described the practice of exploring astrological symbols and meaning, as well as reading daily horoscopes. They discussed the aspects as helping them to analyse their strengths and weaknesses, understand why they behaved in a certain way, and why a situation occurred, hence displaying the aspect of astrology as beneficial for their mental well-being.

The theme *astrology for individuals' self-understanding* appeared 13 times and in a total of three interviews. It can be defined as the practice of information seeking on celestial bodies, as well as personal star signs, and their impact on individuals' personalities and behaviours. The participants explained that reading about planets and stars, as well as their influence on human behaviour helped them understand themselves significantly better. Within the theme *astrology for individuals' self-understanding*, the interviewees discussed that reading about their star signs provides them the opportunity to explore their characteristics and personalities, assisting them to be aware of their personal attributes and life paths. This way, reading about astrological symbols is discussed by the interviewees as influencing their understanding of their strengths and challenges, hence creating a better understanding of who they are. Thereby, this practice influenced participants' insights into their talents and character traits and within the theme, the astrology aspect was discussed as enhancing the users' self-understanding.

In the example seen below, "Moritz" explained that the app Co-star has had positive effects on his self-understanding.

"It has your astrology chart, your natal chart as a feature, and then it has an

explanation for everything that you do. It describes every planet and explains what the planets and stars mean to you personally. So, this is really a feature specifically telling you how astrology influences you on certain days. I feel like this really helps me to understand my actions and why certain things in a day happened and why I behaved in a certain way.”

Moritz describes how the app provides a wide explanation for “everything you do” and gives an explanation for what celestial bodies mean to him personally. He seems to enjoy reading the descriptions and explanations about all possible aspects of astrology. Thereby, he seems to take the aspect of astrology at face value and discusses the aspect as it provides real data, hence experiencing the app as helping him to understand his behaviours without questioning anything about it. It appears that Moritz constructs his self-understanding fully based on astrological data about the stars’ impact on his behavioural actions, thus demonstrating reliance and trust in the aspect of astrology.

While Moritz displayed that exploring astrological meaning made it possible to understand why specific behaviour occurred and how it came to certain situations, this theme appeared in another interview with a different type of emphasis. Specifically, another interviewee discussed the theme rather in a way of reading daily horoscopes with advice based on personal astrological signs, thereby achieving self-understanding. This let the participant understand current individual circumstances, hence exploring possible opportunities and challenges as a result of using the aspect of astrology. Accordingly, the interviewee could achieve an understanding of their personality, why they have certain strengths and weaknesses, and which opportunities suit their character best to grow personally. For that reason, the participant discussed the theme as becoming aware of their qualities and mentioned an influence on their decision-making aligned with their possibilities, strengths, and challenges.

### **Reward system as personal development and feeling of success**

Within the theme *reward system as personal development and feeling of success*, the interviewees described the possibility of tracking their personal development in the form of a reward system for practising certain exercises as a sense of accomplishment and fostering increased motivation for further development and success. The theme can be defined as feelings of success and personal growth through the aspects of achieving points, streaks, and certificates for practising exercises or completing particular goals continuously.

In total, the theme appeared in four interviews, and it occurred eleven times. Within the theme *reward system as personal development and feeling of success*, participants discussed the aspect of a reward system in the form of achieving points for continuous practices as fostering their belief in personal growth and motivation for further progress. The interviewees mentioned that developing their streak of, for example, meditating 35 days in a row increased their feelings of accomplishment and success, and fostered the strive for increasing the streaks and points. This way, participants displayed that they track their personal development and experience the use of the spiritual app as successful, which is why the interviewees described this aspect as helpful for their positive feelings.

The example quote by “Jackson” demonstrates that using the app Headspace has had good effects on his feelings of accomplishment and success.

“This function that every time you meditate they give you a streak really motivates me to increase this streak. And developing the streak each day makes me feel accomplished and like I achieved something I personally feel growing, which really helps me mentally. I feel like I achieve something during the day. So, if you've been meditating for 20 days, you have a 20-day streak and you have something that you can work on and achieve more and more. And when I see that streak, I get excited about doing it and increasing the streak and feel me growing even more.”

Jackson explains how the app Headspace provided motivation for increasing his meditation streak and gives insights into what developing his streak of meditation meant to him personally. He seems to experience the app as helpful for his feelings of fulfilment and deeper engagement with the practice of meditation, thereby positively impacting his mental well-being. For this reason, the aspect of a reward system within the app Headspace appears as a role of creating success in Jackson’s life. He discusses his experiences with the aspect as giving him a sense of accomplishment based on his practice of, for instance, meditation. Achieving and developing a streak is seen by Jackson as a sense of motivation, reinforcing and rewarding his meditation practices as a means of personal achievement. As a result, it seems that he creates his feelings of success as something achieved by the aspect of a reward system, hence discussing the aspect as it provides him the opportunity to feel real success simply shaped by the use of the app. Consequently, Jackson’s attitude and feelings towards the aspect shape his real-world



experiences concerning his feelings of success away.

Taking a closer look at the language used by Jackson, it is noticeable that he does not question anything about the aspect yet. He seems to enjoy being rewarded for the practice of, for instance, meditation, hence being at risk of shifting his focus from the main purpose of meditation away towards an extreme focus on gaining rewards in the long term.

Additionally, there were no variations within the types of emphasis of this theme. The interviewees mentioned setting a goal on, for example, practising gratitude for a particular number of days in a row led them to work towards this goal, thereby tracking, as well as feeling their personal development. The participants discussed gaining points or increasing a streak when achieving this goal as feeling rewarded for their development, which helps them feel successful. They further explained these feelings as important for them to mentally feel well concerning their life success, as presented in the example quote by Jackson.

### **Community forum as a form of feeling socially connected**

Within the theme *community forum as a form of feeling socially connected*, the participants discussed the opportunity to share and connect with other users and thereby learn about others' experiences as an aspect of great importance for their mental well-being. The theme *community forum as a form of feeling socially connected* refers to the sense of social support and connection through exchanging and discussing personal experiences with other users via a digital platform.

The theme appeared ten times and in a total of four interviews. The interviewees explained that making use of the function of the community forum creates a space where they can get in touch with other users and share their minds on similar beliefs, needs, and perspectives on specific practices of the app. Within the theme, the participants discussed the aspect of a community forum of spiritual apps as a peaceful and non-judgemental environment where users engage in discussions with each other. As described by the participants, this function led them to feel socially connected, as they could share their own experiences and feelings, as well as they may learn from other users' experiences. Accordingly, the interviewees mentioned that this aspect of spiritual mobile apps is of great benefit to their social connections. By asking questions on the community platform, participants explained that they could share their worries and ask for advice. Receiving an actual reply from another user led the interviewees to feel a sense of community and shared life values.

In the example seen below, “Lisa” explained that the app Saged has had positive effects on her feelings of connection.

“Then, the app also has a community platform, and I would say it had a really positive effect on me feeling a sense of belonging and it created a connection to other people. I really feel socially connected when I use this function. A lot of people just share what they're manifesting for, what they're hoping for. So, in general, people share their beliefs and discuss them. And reading and engaging in these discussions every day also just gives me a really great feeling.“

Lisa displays how the aspect of the community platform established a sense of belonging and the possibility to connect with like-minded users. She describes that connecting with other individuals who share similar beliefs, values, and interests led her to discuss shared purposes. This way, Lisa further explains how the app made her feel. It seems that for Lisa, the aspect of a community forum of the app Saged has the role of a supportive friend. It also seems that she usually misses social support from her environment, hence turning to the app in order to enhance this lacking support. Thereby, the app seems to promote her social connections and supports her on a friendship level. As a result, it assumes that Lisa felt the need for a sense of community, which she now meets by turning to the aspect of a community forum. Recognising actual communication via the app in the form of sending and receiving messages let her engage in a non-judgmental environment, which fulfils Lisa’s need for social connection and support from her environment, thus creating the theme *community forum as a form of feeling socially connected*.

As it appears that Lisa underlines her needs concerning social support and connection as something that she achieves through the aspect of a community forum, it is noticeable to explore the language used within the creation of the theme. Precisely, Lisa discusses her experiences with the app Saged exclusively phrased as positive and supportive. She discusses her experiences with the aspect of a community forum in a way reminding of emotional support and does not doubt her trust towards the aspect. It seems that Lisa does not see any critical points yet and that she constructs her need for social connection with her environment entirely on the aspect of a community forum without doubting that she does not achieve emotionally supportive friends in her real-world experiences.

## Discussion

This thesis discussed the experiences of individuals using a smartphone app for spirituality and aimed to investigate how people perceive certain aspects of these applications as beneficial for their mental well-being. Through 15 interviews, seven themes were generated, which answer the following formulated research question “Which aspects of spiritual mobile apps do people find beneficial for their mental well-being?”.

The created themes highlight specific aspects of spiritual mobile applications and provide insights into how participants discussed the ways in which these aspects were helpful for their mental well-being, namely *guided meditation as the creation of self-awareness, personalised notifications as an experienced support on continuing spiritual practices, gratitude exercises as a creation of increased life satisfaction, positive affirmations as the development of self-compassion, astrology for individuals’ self-understanding, reward system as personal development and feeling of success, and community forum as a form of feeling socially connected.*

Overall, the findings involve different aspects of spiritual apps and distinct ways of influencing participants’ mental well-being, which the participants discussed within the themes. While the interviewees discussed their experiences and perceived impact of aspects of spiritual apps on their mental well-being, it could be observed that in some interviews, simply one or two themes occurred, and in others, four or more were created. Accordingly, generating one theme in an interview did not mean that another theme could not be created anymore, as the themes were created based on interviewees’ meaning-making patterns around different aspects of the apps. To be more precise, the same participant could explain their experience with an aspect as helpful for their self-understanding (*astrology for individuals’ self-understanding*), as well as discuss another aspect as beneficial for their feelings of social connection (*community forum as a form of feeling socially connected*). As a result, participants described their experiences with spiritual apps discussing the influences of various aspects on their mental well-being. These influences seem to impact different personal feelings of the participants.

Delving into the perceived effects of spiritual apps on individuals’ mental well-being, it is noticeable that the interviewees described the effects of certain aspects differently. In particular, some participants already described an overall improvement in their mental well-being when they were talking about their experiences with the apps. In this case, the participants discussed

the way certain aspects of the apps had helped them as an actual improvement in their mental well-being. To be more precise, the present findings have shown that within the theme *positive affirmations as the development of self-compassion*, interviewees described the effect of the aspect of positive affirmations as an actual improvement in their mental well-being by increasing their self-compassion. Other participants explained that they believe in actual improvement by continuing to use the app and its practices. Few others described that they just see the apps' aspects as beneficial for their mental well-being but do not indicate yet whether using the app will actually improve it, as participants discussed the effect of the aspect of a community forum within the theme *community forum as a form of feeling socially connected*.

Aside from individuals' different perspectives on the impact of spiritual apps on their mental well-being, it is further noticeable how the interviewees talked about their experiences. More specifically, participants take the applications at face value, and it seems that they believe in them as serious parts of their life. To illustrate, while the participants discussed the aspect of astrology, the theme *astrology for individuals' self-understanding* was created, and they talked about it as the aspects provide real data on how situations of stars and certain star signs influence their character and personalities. The interviewees do not doubt any of the claims but rather discuss the aspect as they believe in its truth and predictions for their future, which might create risks in the long term and harm their real-world experiences and understandings.

Likewise, the themes *reward system as personal development and feeling of success* and *personalised notifications as an experienced support on continuing* can be critically reflected. As the themes include the aspect of a reward system and the aspect of personalised notifications, they involve techniques leading to user retention and increased usage and trust on the aspects. By creating a sense of success and support, both aspects are designed in order to persuade and keep the user engaged with the apps simply by using the app, instead of by practising spiritual practices themselves. The participants described the aspects of a reward system and personalised notifications exclusively as beneficial, without any perspective on how the aspects are implemented in order to encourage their positive beliefs towards the apps. Thus, the interviewees did not recognise yet what the main aim of the function of the apps is, leading to the potential risk of dependency and addictive behaviour concerning spiritual apps.

Taking a closer look at previous research and recent implications of this study, the present results are in line with former findings underlying well-being technologies and spiritual mobile

applications, contributing qualitative insights into individuals' personal experiences and how they talk about these. The study by Woodward et al. (2020) investigated technological supplements to traditional well-being techniques, and its results have shown a positive relation to mental well-being. The current findings are in line with and enrich the research by Woodward et al. (2020), as this study gives in-depth insights into how people discuss spiritual technologies integrated as smartphone apps as influencing their mental well-being. For instance, the theme *positive affirmations as the development of self-compassion* involves using a spiritual app and practising positive affirmations, which is discussed as an increase in users' self-compassion, therefore affecting participants' mental well-being. Thus, this study has found that technologies for practising spirituality are also important tools contributing to potential positive influences on individuals' mental well-being.

Moreover, the present findings have shown how individuals talk about their personal experiences with spiritual apps, for instance in a way that led to the creation of the theme *community forum as a form of feeling socially connected*. Within the generation of the theme, participants discussed the feeling of connection in a way that they are able to share their spiritual beliefs and values with like-minded users. This finding aligns with research by Weathers (2019), which indicates that spirituality can contribute to feelings of connection. In contrast to spirituality in healthcare practices, as studied by Weathers (2019), this study investigated spirituality integrated into smartphone applications. Hence, the current findings contribute knowledge about how the feeling of connection can further be extended to spiritual mobile applications, namely due to their aspects of a community forum.

Although the study contributes qualitative, scientific knowledge concerning spiritual mobile apps, certain aspects and practicalities limit the present research study and challenged the data collection process. As it was required to coordinate a schedule for all the interviews and arrange a location to conduct in-person interviews, it sometimes led to practical challenges. These became more difficult, as some participants did not show up on the agreed date. Consequently, it led to time constraints as conducting an interview included preparation and concentration for the researcher, which could not be used on the actual date and led to a waste of time. Additionally, this practical limitation firstly led to limited access to participants, as finding individuals who meet the specific criteria required access to a certain population, namely individuals believing in spirituality and regularly using a spiritual mobile application. For this

reason, recruiting the optimal statistical terminology took additional time, and further time constraints shaped the data collection process.

Just as important is the potential influence of the sample on the current findings. Particularly, the sample could have limited the present results concerning interviewees' age and gender. With a mean age of 24, the results of this study are shaped by individuals from a relatively small and young age group and have limited generalisability to individuals' experiences from a larger age group. Further, since eleven participants identified as female, this study may be shaped by female participants' experiences, thereby limiting the generalisability of the result. A more diverse sample could have ensured a greater range of individuals' perspectives and experiences, as well as an enhanced understanding of how individuals with different inclusion criteria, gender, and from different age groups perceive and benefit from spiritual apps.

Another limitation could be identified with regard to the interview questions. To be more precise, due to the semi-structured interview questions' rather directive nature and focus on certain topics such as the participants' social relationships, their mental well-being, and their daily routines, the interviewees were not able to talk about their experiences with spiritual apps entirely freely. As a result of asking the participants about their experiences concerning their social relationships, their mental well-being, and other specific points, they were directed in their way of explaining their experiences with spiritual apps. Consequently, the findings of this study may not fully capture fully personal perspectives on participants' experiences with spiritual apps. This is because the researcher stuck to the interview protocol, thereby limiting the interviewees in explaining their own line of thinking completely open without taking a certain point into account while describing their experiences.

A further considerable shortcoming of the present study is that it requires relying on the researcher's interpretations and conclusions resulting from analysing the present data. As the interviewees' experiences were analytically explored, the researcher interpreted how the participants discussed the spiritual apps based on their own perspectives and characteristics. Thus, the present results could potentially be influenced by the researcher's own beliefs and preconceptions.

Likewise, further exploration of particular areas within the field of spiritual smartphone applications can contribute to an enhanced understanding of the effectiveness and potential impacts on mental well-being in future research studies. As some participants mentioned that

they find certain aspects helpful and believe in an actual improvement of their mental well-being when they continue practising spirituality with the app, it seems especially interesting to conduct a longitudinal study building upon this research. This would increase the understanding of the long-term effects of spiritual smartphone apps on participants' mental well-being. Moreover, conducting a longitudinal study on this issue would also be advantageous in order to investigate the negative impacts of spiritual apps. As the interviewees take the apps at face value, some first adverse influences could be seen, for instance within the theme *astrology for individuals' self-understanding*. Yet, longitudinal studies could improve knowledge about the actual impact of spiritual apps on individuals' mental well-being, hence clarifying lasting negative impacts on individuals that result from their trust and positive beliefs in the apps. With a focus on potential risks that arise while individuals talk about beneficial aspects of spiritual apps, app designers could gain further insights into users' actual experiences and which potential risks their positive perspectives about the apps create in the long term. Accordingly, app developers could implement findings about detrimental influences of aspects that users find beneficial by refining the aspects in a way that they do not harm individuals unconsciously.

Aside from investigating longitudinal studies, future research could enhance scientific knowledge about spiritual mobile applications by investigating detrimental aspects of spiritual apps and influences that might be negative. In particular, once again, as the participants take the apps at face value, it seems like they see them as an important tool in or even part of their life. This might lead to certain risks, such as dependency. For instance, the apps provide aspects helping to personally grow, and individuals thereby deal with particular emotional aspects such as their self-understanding, life satisfaction, and self-compassion, which creates the risk of becoming emotionally dependent on certain functions of the apps. The theme *personalised notifications as an experienced support on continuing spiritual practices* includes the functionality of the personal question "How are you feeling today", which might be a risk for detachment from real-life experiences since users thereby feel emotionally supported, leading them to be persuaded to continue the use of the app. Future research could build upon this study by investigating detrimental aspects of spiritual apps that app developers can implement these aspects and ensure a balanced use with regard to real-life experiences and that a spiritual app cannot replace natural human interactions and connections.

For instance, reflecting the theme *reward system as personal development and feeling of success*, the participants do not seem to doubt anything about it. The apps offer the function of gaining points and streaks for users' spiritual practices and general use of the apps, which is discussed by the participants as they feel rewarded and successful simply by engaging with a spiritual app. Thereby, the interviewees seem like they do not take success in their real-life experiences into account. This raises the potential risk of users losing their perspectives and relation to the real world, which might lead them to not achieving something in their natural life. Additionally, the theme *community forum as a form of feeling socially connected* does not involve any underlying pattern in which the participants discussed their experiences in any way that questions their engagement with the apps. They seem to take it at face value to socially connect via a community forum and might be at risk for extreme reliance. Consequently, this leads to another potential risk of neglecting real-life relationships or responsibilities, as users do not see it as detrimental while they engage with the apps.

Furthermore, future research could contribute to the field of spiritual mobile applications by investigating comparative studies. In particular, exploring whether similar themes would appear in different contexts with other participants seems interesting in order to analyse further meaningful patterns. Since the participants all explained their experiences with a certain aspect of a spiritual mobile app in one and the same underlying meaning, such as *guided meditation as the creation of self-awareness*, it might be advantageous to identify whether other underlying patterns emerge while different people talk about the aspect of meditation. This would also give researchers and app designers further understanding of variations within the experiences of certain aspects and could contribute to implementing and optimising specific functionalities to achieve the desired impact on users.

In addition, it seems valuable to investigate quantitative data on the impact of spiritual smartphone apps on certain mental health domains, such as depression, anxiety, and panic building up on the present results. As the current findings have shown the theme *affirmations as the development of self-compassion*, within which the participants already explained that their mental well-being improved as a result of engaging with a spiritual app, it seems promising to integrate these technologies into psychological treatment and combine it with traditional psychotherapy. Measuring then to what extent improvements in these domains are achieved would lead to scientific knowledge about the correlation between spiritual apps and



psychological disorders and would enrich the present findings with stronger statistical evidence. As this study has shown that the use of spiritual apps can be beneficial for individuals' self-awareness and appreciation of life, these feelings seem important taking mental disorders such as depression and panic into account. Accordingly, this research supports the notion that the inclusion of spiritual apps in clinical practice might have benefits, especially for people struggling with maintaining self-compassion, hence quantitatively investigating this would provide additional insights for psychologists to properly decide in which diagnosis it seems of significance to combine a spiritual app with their treatment and in which it might not be beneficial.

### **Conclusion**

This study aimed to achieve insights into how individuals talk about their experiences with spiritual mobile applications and provides scientific evidence of aspects of these apps that people find beneficial for their mental well-being. Thematically analysing the interview data not only gave insights into aspects of spiritual apps but also presented how individuals perceive and discuss the aspects as helpful. Taken together, the present research has shown that spiritual mobile apps have the potential to positively influence individuals' mental well-being, yet further research is required to affirm the present findings and to explore whether the use of spiritual apps indeed enhance individuals' mental well-being and whether the critical sides develop in relation to the current findings.

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## Appendix A

### Ethical Approval

**UNIVERSITY OF TWENTE.**

FACULTY BMS

### 221430 REQUEST FOR ETHICAL REVIEW

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Request nr: 221430  
 Researcher: Toivonen, H.K.  
 Supervisor: -  
 Reviewer: Klooster, P.M. ten  
 Status: Approved by commission  
 Version: 2

#### 1. START

##### A. TITLE AND CONTEXT OF THE RESEARCH PROJECT

1. What is the title of the research project? (max. 100 characters)

User Experiences with Smartphone Apps for Spirituality

2. In which context will you conduct this research?

Academic research conducted by a faculty member

3. Date of the application

02-12-2022

5. Is this research project closely connected to a research project previously assessed by the BMS Ethics Committee?

No/Unknown

##### B. CONTACT INFORMATION

6. Contact information for the lead researcher

6a. Initials:

H.K.

6b. Surname:

Toivonen

6c. Education/Department (if applicable):

BMS-PGT

6d. Staff or Student number:

77024080

6e. Email address:

h.k.toivonen@utwente.nl

6f. Telephone number (during the research project):

+358407458418

6g. If additional researchers (students and/or staff) will be involved in carrying out this research, please name them:

h.k.toivonen@utwente.nl

6h. Have you completed a PhD degree?

Yes

8. Is one of the ethics committee reviewers involved in your research? Note: not everyone is a reviewer.

No

### C. RESEARCH PROJECT DESCRIPTION

9a. Please provide a brief description (150 words max.) of the background and aim(s) of your research project in non-expert language.

This is an exploratory study on the experiences of people who use smartphone applications somehow connected to spirituality (New Age) lifestyle and practices (e.g. Saged, Sadhguru, Spiritual Stories Daily). Me and my co-researcher, Assistant Teaching Professor Tim Gorichanaz from the Drexel University College of Computing & Informatics, are planning to recruit people who are already using these apps and conduct semi-structured interviews with a phenomenological approach. The study aims to understand the role and function the users perceive the apps as having in their everyday life and meaning-making, as well as the connection of the app to their values and worldviews. While there is an increasing number of conceptual studies on modern spirituality and New Age, often from a critical standpoint, there are very few studies focusing on the experiences and perceptions of self-declared spiritual people themselves. Furthermore, while different mobile applications revolving around New Age beliefs and practices are becoming increasingly common, there are no studies investigating the use of these apps and the meanings given to them by the users. The study aims to contribute a) to our understanding of the deeper user experiences of mobile applications with a focus on a group of less known apps and b) to HCI field with a new methodological approach, which combines qualitative narrative analysis of the users' stories to a comparative analysis of the stories told by the apps (researcher construct based on the functionalities, visualities, and text materials included in the apps). Findings of the study will increase our understanding of the interplay of the increasingly common New Age lifestyles with technology use and thus, expand the current understanding of wellbeing applications towards the direction of spiritual wellbeing.

9b. Approximate starting date/end date of data collection:

Starting date: 2022-12-31

End date: 2023-12-30

9c. If applicable: indicate which external organization(s) has/have commissioned and/or provided funding for your research.

Commissioning organization(s):

Not applicable

Funding organization(s):

Not applicable

## 2. TYPE OF STUDY

Please select the type of study you plan to conduct:

I will be collecting new data from individuals acting as respondents, interviewees, participants or informants.

## 4. RESEARCH INVOLVING THE COLLECTION OF NEW DATA

### A: RESEARCH POPULATION

20. Please provide a brief description of the intended research population(s):

The research population covers adults who have already (prior to the interview) been using any mobile application that they themselves consider spiritual/New Age (some examples are apps such as Saged or Sadhguru). Participants will be recruited using the researchers' own networks, ads on social media, contacting the app developers, and possibly by using the student pool SONA. The participants can be of any nationality and live anywhere in the world, as long as they can participate in an online interview conducted in English or in another language in which the interviewer is fluent (Finnish, Swedish, etc.).

21. How many individuals will be involved in your research?

We expect to include at least 10 and up to 40 interview participants altogether.

22. Which characteristics must participants/sources possess in order to be included in your research?

The participants must be at least 18 years old, able to speak English well enough to participate in an online interview (or native in some other language in which the interviewer is fluent), as well as have used for any period of time any of the various spiritual applications out there. We will recruit participants that have been using an app (or several of them) that the participants themselves define as "spiritual". That is, we will not be pre-defining what spirituality/New Age means or which apps they should have been using. However, people who have only used apps that have to do with traditional religion (e.g., any of the various Christian or Muslim apps) will not be included in the study.

23. Does this research specifically target minors (<16 years), people with cognitive impairments, people under institutional care (e.g. hospitals, nursing homes, prisons), specific ethnic groups, people in another



country or any other special group that may be more vulnerable than the general population?

No

24. Are you planning to recruit participants for your research through the BMS test subject pool, SONA

Yes

## B. METHODS OF DATA COLLECTION

25. What is the best description of your research?

- Interview research

26. Please provide a brief yet sufficiently detailed overview of activities, as you would in the Procedure section of your thesis or paper. Among other things, please provide information about the information given to your research population, the manipulations (if applicable), the measures you use (at construct level), etc. in a way that is understandable for a relative lay person.

The study set up is transparent: We will recruit participants that have been using any modern spirituality related smartphone application. The recruitment text will name some examples, such as Saged, Sadhguru, or Spiritual Stories Daily. The participants will take part in a semi-structured interview in an online setting such as Teams or Zoom. The interviews will be recorded. The questions asked will concern 1) the participant's definition and experiences of New Age spirituality and 2) their experiences of using a particular app or apps revolving around spirituality. The interview will start out by asking e.g., "How do you define spirituality?" and "What does "spirituality" mean to you?" and then proceed to more specific app-related questions such as "What app (or apps?) do you use as part of your spirituality?", "How do you use this app?", and lastly, "Tell me about the last time you used the app. Try to place yourself in that situation and share with me as much detail as you can."

How much time will each participant spend (mention the number of sessions/meetings in which they will participate and the time per session/meeting)?

One interview of 30-60 minutes

## C: BURDEN AND RISKS OF PARTICIPATION

27. Please provide a brief description of these burdens and/or risks and how you plan to minimize them:

The participant burden is minimized by keeping the interview scheme as concise as possible and by only including questions that are needed to answer the research question. Since some of the interview questions are relatively personal (e.g., concerning their views on spirituality), it cannot be excluded that some participants might feel discomfort about this. To minimize any discomfort, the interview questions are kept relatively open to allow the participants themselves define at what depth they will be answering the questions; by making clear to all participants that they can discontinue the interview at any point without any consequences for them; and by

conducting the interview itself in a sensitive and professional manner. Should any students participate in collecting the data, they will be trained beforehand to make sure they conduct it in the best way possible. In case the participants will feel any psychological discomfort during or after the interview, they are offered the chance to discuss with the interviewer and provided with both the main researchers' (Heidi Toivonen and Timothy Gorichanaz) contact information to be able to contact them later to discuss the interview.

28. Can the participants benefit from the research and/or their participation in any way?

Yes

Please Explain:

The interview is designed to offer the participants an interesting chance to have a reflective discussion on their personal views and lifestyle, from the perspective of their use of spiritual mobile applications.

29. Will the study expose the researcher to any risks (e.g. when collecting data in potentially dangerous environments or through dangerous activities, when dealing with sensitive or distressing topics, or when working in a setting that may pose 'lone worker' risks)?

No

#### D. INFORMED CONSENT

30. Will you inform potential research participants (and/or their legal representative(s), in case of non-competent participants) about the aims, activities, burdens and risks of the research before they decide whether to take part in the research?

Yes

Briefly clarify how:

The participants will be provided with an information sheet, sent to them by email after they indicated interest in participating in the study. The sheet will explain the aim of the study, how the interview is conducted and what topics will be covered, as well as the participants' rights and how their anonymity will be protected.

32. How will you obtain the voluntary, informed consent of the research participants (or their legal representatives in case of non-competent participants)?

Signed

33. Will you clearly inform research participants that they can withdraw from the research at any time without explanation/justification?

Yes

34. Are the research participants somehow dependent on or in a subordinate position to the researcher(s) (e.g. students or relatives)?

No

35. Will participants receive any rewards, incentives or payments for participating in the research?

- No

36. In the interest of transparency, it is a good practice to inform participants about what will happen after their participation is completed. How will you inform participants about what will happen after their participation is concluded?

- Participants will receive the researcher's contact details, so that they can contact the researcher if they have questions/would like to know more.
- Other (Please specify):  
Participants who indicate their interest will receive the final publication(s) written using this interview data.

#### E. CONFIDENTIALITY AND ANONYMITY

37. Does the data collected contain personal identifiable information that can be traced back to specific individuals/organizations?

Yes

38. Will all research data be anonymized before they are stored and analysed?

Yes

39. Will you make use of audio or video recording?

Yes

- What steps have you taken to ensure safe audio/video data storage?

The videos will be stored in the UT Teams environment, in a Teams folder accessible only to the researchers of the project.

- At what point in the research will tapes/digital recordings/files be destroyed?

After the interview has been fully transcribed into text, the original video will be destroyed.

#### 5. DATA MANAGEMENT

- I have read the UT Data policy.
- I am aware of my responsibilities for the proper handling of data, regarding working with personal data, storage of data, sharing and presentation/publication of data.

#### 6. OTHER POTENTIAL ETHICAL ISSUES/CONFLICTS OF INTEREST

40. Do you anticipate any other ethical issues/conflicts of interest in your research project that have not been previously noted in this application? Please state any issues and explain how you propose to deal with them. Additionally, if known indicate the purpose your results have (i.e. the results are used for e.g. policy, management, strategic or societal purposes).

I do not anticipate any ethical issues or conflicts of interest.

#### 7. ATTACHMENTS

Participant information sheet.pdf, Informed consent sheet final.pdf

#### 8. COMMENTS

## 9. CONCLUSION

Status: Approved by commission

The BMS ethical committee / Domain Humanities & Social Sciences has assessed the ethical aspects of your research project. On the basis of the information you provided, the committee does not have any ethical concerns regarding this research project. It is your responsibility to ensure that the research is carried out in line with the information provided in the application you submitted for ethical review. If you make changes to the proposal that affect the approach to research on humans, you must resubmit the changed project or grant agreement to the ethical committee with these changes highlighted.

Moreover, novel ethical issues may emerge while carrying out your research. It is important that you reconsider and discuss the ethical aspects and implications of your research regularly, and that you proceed as a responsible scientist.

Finally, your research is subject to regulations such as the EU General Data Protection Regulation (GDPR), the Code of Conduct for the use of personal data in Scientific Research by VSNU (the Association of Universities in the Netherlands), further codes of conduct that are applicable in your field, and the obligation to report a security incident (data breach or otherwise) at the UT.

## Appendix B

### Participant Information Sheet

Research Project: User Experiences with Smartphone Apps for Spirituality

Smartphone applications focusing on modern spirituality (New Age) have been increasing in number, but very little is known about the experiences of people using such apps. This study is conducted as a collaboration between Assistant Professor Heidi Toivonen from Psychology, Health, and Technology at the University of Twente, the Netherlands, and Assistant Teaching Professor Tim Gorichanaz from the College of Computing and Informatics at the Drexel University, Philadelphia, the US. We study the experiences of people who use spiritual applications such as Saged, Sadhguru, Spiritual Stories Daily, or any of the other applications available focusing on modern spirituality/New Age lifestyle and practices. Note that we are not recruiting participants using applications focused on traditional religions, such as any of the existing Christian or Muslim applications.

Participation in this research is voluntary and no incentive for participation will be provided. The research involves participating in a one-on-one interview on an online video call, using e.g. Zoom or Teams. The interview will be conducted either in English but also in other languages, in case the interviewer is fluent in it and it is the participant's first language. The interview will last for 30-60 minutes. The participant will be asked questions about their personal views on modern spirituality and their thoughts and experiences of using any smartphone application related to spirituality. The participant can decline to participate and withdraw from the research at any time, without any negative consequences, and without providing any reasons.

The interviews will be audio- and video recorded. The interview data will be fully anonymized upon transcription, and all interviewees will be referred to by pseudonyms throughout the analysis and in the final written works produced from the data. Individual participants cannot be identified from the articles written using this data. The data will be stored online in a safe environment according to the rules of the University of Twente for a period of ten years. The interview data will be used for scientific research published in research articles written by Profs. Toivonen and Gorichanaz.

Responsible researchers and contact persons for questions about the research and rights of research participants: Assistant Professor Heidi Toivonen [h.k.toivonen@utwente.nl](mailto:h.k.toivonen@utwente.nl) and Assistant Teaching Professor Tim Gorichanaz [gorichanaz@drexel.edu](mailto:gorichanaz@drexel.edu)

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee/domain Humanities & Social Sciences of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by [ethicscommittee-hss@utwente.nl](mailto:ethicscommittee-hss@utwente.nl)

## Appendix C

### Informed Consent

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## Informed consent

Authors: BMS Ethics Committee with input from Human Research Ethics TU Delft

Last edited: 20-01-2022

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This is a research project concerning spiritual smartphone applications. The project is designed to gather information about people's experiences and thoughts on applications revolving around modern spirituality/New Age.

### **Consent Form for *User Experiences with Smartphone Apps for Spirituality***

**YOU WILL BE GIVEN A COPY OF THIS INFORMED CONSENT FORM**

*Please tick the appropriate boxes*

**Yes No**

#### **Taking part in the study**

I have read and understood the study information dated [02-12-2022], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.

I consent voluntarily to be a participant in this study. I understand that I will not be paid for my participation. I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason and without any negative consequences. If I decline to participate or withdraw from the study, no one will be told and it will not affect my relationship with the University of Twente or with Drexel University.

I understand that taking part in the study involves being interviewed on the Zoom or Teams video call platform. The interview will last approximately 30-60 minutes. Notes will be written during the interview. The interview will be audio- and video recorded, and after the video call has been transcribed into text, the recording will be destroyed.

#### **Use of the information in the study**

I understand that information I provide will be used for scientific articles published in academic journals. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure.

I agree that my words can be quoted in research articles. The research output will refer to me with a pseudonym and I will not be identifiable from the paper.

I agree to be audio/video recorded. Yes/no

I understand that most interviewees will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.

#### **Future use and reuse of the information by others**

I give permission for the transcribed, anonymized interview that I provide to be archived in an online repository by the University of Twente for 10 years, so it can be used for future research and learning. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions. Personal information collected about me that can identify me, such as [e.g. my name or where I live], will not be shared beyond the study team.

#### **Signatures**

\_\_\_\_\_  
Name of participant [printed]

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

I have accurately read out the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.

\_\_\_\_\_  
Researcher name [printed]

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Study contact details for further information: [h.k.toivonen@utwente.nl](mailto:h.k.toivonen@utwente.nl)**

#### **Contact Information for Questions about Your Rights as a Research Participant**

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee/domain Humanities & Social Sciences of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by [ethicscommittee-hss@utwente.nl](mailto:ethicscommittee-hss@utwente.nl)



## Appendix D

### Interview Protocol

Welcome to this interview about spiritual mobile applications. My name is Emily and I am doing this interview because I am part of a group of students working on this project, and we will collect interviews as data for our Bachelor's theses and eventually a research paper written by our supervisor.

Have you read the information form? Are there any questions at this point?

I will need your written consent by email in order to be able to use this interview.

Do I have your permission to record this interview? [If yes, turn on recorder.] Is it okay if I make some notes for myself during the interview?

Your participation in this interview is voluntary. Remember, you can choose to skip any question for any reason. You can also end the interview at any time.

The information I'm collecting today will be stored separately from any of your personally identifying information, such as name and email address. The interview will be transcribed and anonymized so that you cannot be identified from it.

Quotations from the interviews may be used in Bachelor's theses or publications based on this research, but all data will be presented anonymously. I will go to every length to make sure you cannot be identified, even implicitly, from your words or any locations or services you describe.

If you ever have any questions about this interview, you can contact me at [e.poggenklas@student.utwente.nl](mailto:e.poggenklas@student.utwente.nl) or my supervisor Heidi Toivonen at [h.k.toivonen@utwente.nl](mailto:h.k.toivonen@utwente.nl). If you have any questions about your rights as a research participant, you should contact my supervisor.

Now, let's start the interview! First, I would need some basic background information about you. Could you tell me your age, gender, and nationality as well as in which country do you live at the moment?

Thanks, now we'll go to the actual interview questions.

1. Is "spirituality" a word that describes your beliefs and values well?

- If yes, would you like to tell me something about what it means to you?
- If not, what concept describes your beliefs and values better, and could you tell me something about what it means to you?

2. Do you recognize the term "New Age"? If yes, do you think it describes your views on spirituality?

3. Now, let's talk about spiritual mobile applications. What spiritual app (or apps?) do you use on a regular basis?

(If they use multiple apps, ask these questions for each app)

4. When did you start using this app?

5. What made you download this app?

6. Can you tell me something about why you use this app?

7. Next, I'm going to ask you to tell me something about how you use the app. Firstly, what kinds of features does the app have and how do you use them?

8. How often do you use it?

9. When you open the app, how long do you usually spend on it?

10. Tell me about the last time you used the app. Try to place yourself in that situation and share with me as much detail as you can.

- If you don't remember the last time you used the app, tell me about any recent time you recall
- Prompts: When was this? Why did you use the app? How did you use it? Who were you with? Where were you? How did it feel to you?

Note to the interviewer: Try to understand the situation, the nature of the interaction with the app. Try to get the interviewee discuss the meaning of the app, what it makes them think and feel.

11. Would you say using this app has had an impact on you or your life?

- On your thoughts, feelings, or experiences?
- Has using this app had an impact on your daily habits and/or routines?

12. Has using this app had an impact on your mental wellbeing?

- If yes, which functionalities have been beneficial/detrimental to your wellbeing?

13. Has using this app helped you in your social relationships?

- If yes, which functionalities have been helpful to your social relationships?

14. If you could change one thing about the app, what would it be?

15. How well do you think this app fits with your worldview? Is there something that isn't a fit?

NOTE: IF THERE IS ANOTHER APP TO BE DISCUSSED, GO BACK TO QUESTION 4!

16. Has the use of these apps inspired you to seek additional information on other spiritual practices outside the app?

17. Would you like to add any additional comments?