Experiences of Spiritual Mobile Applications Users: an Interview Study

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Abstract

A growing movement of people engage in spiritual practices that are not connected to religion. A digital product of rising interest are spiritual mobile applications. Spiritual apps discussed in this paper are meditation apps like *Headspace*, *Mindspace, Calm, Balance*, astrology apps like *The Pattern* and *Co-star*, and the fortune-telling app *Falcı Bacı*. Despite the growing popularity of spiritual apps there is a lack of psychological research of this topic. Therefore, this Bachelor's thesis analysed how people construct their experiences with spiritual mobile applications. This study used a qualitative approach with semi-structured interviews. Participants of this study were 20-27 years old, mostly female, and mostly German. The results of a thematic analysis of nine interview transcripts showed seven themes which represent different experiences of spiritual app users. The most common theme was *Experience of improved well-being by symptom reduction and personal development*, followed by *Facilitated self-care through taking time for one-self and connecting to the self*, *Enhanced thought organization and emotion regulation*, *Enhanced mindfulness through calmness and feelings of presence*, *Feelings of comfort through increased trust and hope*, *Enjoyment of collective engagement in the app*, and *Detrimental experiences for mental health through uncritical trust in app*. In general, this paper evaluates that spiritual apps are constructed as being beneficial for the participants well-being in many ways. Thus, it is proposed to integrate spiritual apps in traditional forms of psychotherapy. However, detrimental experiences were expressed when participants excessively trusted the app. Hence, further research is needed to investigate the downsides of spiritual apps to ensure user safety.

Key Words

Spirituality, Mobile Applications, Experiences, Mental Health, Qualitative Study

Experiences of Spiritual Mobile Applications Users: an Interview Study

A growing movement of people who would describe themselves as spiritual does not identify with any specific religion (Huss, 2014). Rather, modern spirituality can be seen as a sort of lifestyle (Hodge et al., 2007). Nowadays, many spiritual individuals use spiritual mobile applications (apps) which are a digital product of rising interest (Blythe & Buie, 2021; Gorichanaz, 2022). With the increasing popularity of spiritual apps, it is of interest to research how these apps and the experience of spirituality are connected (Blythe & Buie, 2021; Flett et al., 2018; Sarkar et al., 2022). Despite the apps' increased popularity, there is a lack of empirical research on spiritual apps. Furthermore, the phenomenon of spirituality has been marginalized in academic psychology and therefore remains understudied in psychological research (Coyle, 2008). Thus, this qualitative interview study provides insights in how individuals construct their experiences with spiritual apps.

As mentioned in the preceding paragraph, spirituality can be understood in many ways. According to the American Psychological Association spirituality is defined as "a concern for or sensitivity to things of the spirit or soul, especially as opposed to materialistic concerns" or "more specifically, a concern for God and a sensitivity to religious experience, which may include the practice of a particular religion but may also exist without such practice" (*APA Dictionary of Psychology*, n.d.). This points out that spirituality can be experienced without being part of any specific religion. According to Grof (2008), spirituality is a private affair and religion an institutional one. Additionally, Dalby (2004) describes spirituality as being central to the meaning and purpose of an individual's life and relating to the divine or transcendental. Moreover, spirituality can become part of a person's identity by meaning making of personal life narratives (Reimer & Dueck, 2012). To conclude, spirituality as defined in this thesis is a way of an individuals' meaning-making of their life by experiences of transcendence.

To bring further understanding to the concept of spirituality, Purdy & Dupey (2005) developed the *Holistic Flow Model of Spiritual Wellness* which presents six interconnected components. The first element is the *belief in an organizing force* in the universe. This belief manifests as a form of relationship to the divine or the experience of transcendence. Secondly, *connectedness* is the feeling of being one with others, nature, or the universe and the mutual relationship between everything. The third element is hope and belief in one's worldview which are described as *faith*. Forth, the movement towards *compassion* symbolizes the emotional connectedness towards others and the willingness to act in an altruistic and selfless way. Fifth, the *ability to make meaning of life* is a way to experience one's life as worth living, identify a purpose, and take responsibility. Sixth and last, the *ability to make meaning of death* opposes the common tendency to deny death or to be afraid of it, but to appreciate life more fully with the acceptance of one's mortality. Thus, according to Purdy and Dupey (2005), spirituality is a multifaceted concept which integrates oneself, others, nature, the universe, and life and death.

The movement of modern and alternative spirituality is often referred to by the term *new age*. New age can be seen as a way of self-discovery by choosing different practices towards achieving self-actualization and experiencing the divine (Ferguson, 1993). Generally, new age is a rather individualistic approach to spirituality compared to conservative religion (Farias & Lalljee, 2006). Additionally, new age is theorized to be a form of social product of Western consumerism which aims to fulfill personal longing for excitement and enlightenment (Rindfleish, 2005). Rindfleish (2005) further elaborates that new age theories are constructed by merging ideas stemming from Eastern and Western religions and psychology. However, the term 'new age' appears very unstructured and unspecific in literature, as many sub-groups and different practices are merged into a broad generic term (Sutcliffe & Bowman, 2021). Furthermore, many people who practice alternative spirituality would not describe themselves as practicing new age (Sutcliffe, 2002). To conclude, modern

spirituality is conceptualized as an individualistic approach of self-discovery in Western consumerist society.

Some of the underlying implications of modern spirituality are studied in positive psychology. For example, meditation is explored and the importance of aspects like gratitude, hope, and connectedness are acknowledged by this field of study (Gable & Haidt, 2005). To go further, Peterson & Seligman (2004) include transcendence in their catalogue of character strengths. Additionally, they declare spiritual transcendence as one level of well-being which has to be fulfilled to achieve full thriving (Peterson & Seligman, 2004). Hence, positive psychology acknowledges the importance of spirituality for mental well-being.

The positive effect of spirituality on mental well-being is also studied in the field of nursing. For instance, it is emphasised how important spirituality is for the well-being of patients through strengthening inner peace and successful adaption (Delgado, 2005). Delgado (2005) further brings to attention that healing was mainly spiritual in pre-modern times of medicine. In general, experiencing spirituality in everyday life improves psychological and physical aspects of well-being (Whitehead & Bergeman, 2012). Spirituality was further investigated to be a promising way of coping with stressors through positive reframing and meaning making (Van Cappellen et al., 2013; Kremer & Ironson, 2014). Hence, spirituality in nursing is recognized for its positive effects on mental well-being.

As can be seen, spirituality is a phenomenon that is researched among diverse disciplines. Next to nursing (Delgado, 2005; Renz et al., 2005), those are for instance studies in the fields of philosophy (McPherson, 2017), social sciences (Luhrmann et al., 2021), and religious studies (Sutcliffe & Bowman, 2021). This shows the multifaceted nature of spirituality and its significance across domains. To add to this interdisciplinary body of knowledge and to gain understanding of spirituality from a psychological perspective, psychological research of spirituality is needed.

The modern world offers many options to include spirituality in everyday life. For example, the internet provides ways to collect knowledge about any spiritual branch and to connect with like-minded people in forums. The AppStore and Play Store offer thousands of apps for meditation, astrology, mindfulness, yoga, and many more spiritual practices with millions of downloads. Despite prominent calls for research in the domain of spirituality, the field of user experience research of spiritual apps is still in its infancy (Ahmad et al., 2021). By connecting academic communities, a comprehensive approach can be adopted to embrace the conscientious, respectful, and ethical integration of spirituality into technologies for health and well-being (Smith, 2022). This again highlights that psychological research is needed.

Furthermore, this paper specifically aims at exploring how individuals construct their experiences with spiritual apps. It is important to understand the experiences of spiritual app users to capture the feelings and thoughts towards the apps. When insight in the individual experiences is gained, potential benefits and downsides of spiritual app use can be determined. For example, spirituality is found to play a huge role in the lives of individuals with mental health issues and is thus suggested to be incorporated in clinical settings (Milner et al., 2019). Here, these apps could become a useful tool to integrate in therapy or counselling. Additionally, if potential risks are identified in this study, app design can be improved, and interventions could address issues with spiritual apps.

To conclude, this paper aims to capture the way people using spiritual apps construct their experiences. Thus, the research question of this paper is "What experiences do people have using spiritual apps?". To gain deep understanding of the unique experiences of individuals, this study uses a qualitative approach by conducting interviews.

Methods

Study Design

I conducted this Bachelor's thesis within the framework of a larger study which will be conducted by my supervisor Heidi Toivonen from University of Twente together with the

researcher Tim Gorichanaz from Drexel University in the College of Computing and Informatics. In this thesis, a qualitative study design was executed by conducting online and in person face-to-face interviews. 23 semi-structured interviews were performed by four other Bachelor's students conducting their thesis work, Heidi Toivonen, Tim Gorichanaz, and me. An interview protocol created by the interviewers with a fixed set of 17 questions was used (Appendix 1). Additionally, follow-up questions and probes were added when necessary to gain deeper understanding.

I conducted this study as part of a group of five Bachelor's students who collected the interview data together but conducted data analysis separately to answer different research questions. In this thesis, I laid the focus on the individual experiences the participants have using spiritual apps. Which apps were in the scope of this study was determined based of the answer of the participants. Thus, they had to ascribe spiritual meaning to the app so it would count as a spiritual app in our definition.

Participants

From the whole dataset of 23 interviews, I selected nine interviews for the analysis. I excluded the interview transcripts of participants that did not use the app in a spiritual way. To differentiate between a spiritual use and a non-spiritual use, I used the definition of spirituality as described in the introduction of this thesis. Thus, individuals had to attribute spiritual meaning to the app. This was for instance not the case if the participant stated to use the app just because their friend wants them to do so, and they do not believe in it themselves. Also, I excluded interviews when spirituality was expressed within a more traditional spiritual belief system like any specific religion. Additionally, I excluded data, when the participant did not use the app for a long time before the interview. Therefore, the interview transcripts selected for data analysis included the participants' descriptions of recent use of a spiritual app.

Of the selected interviews, the participants' age ranged from 20 to 27 years. Six participants were female, two were male, and one identified as other. Within this sample most individuals were German. Three interviews were held by me, six by my fellow students Emily Poggenklas and Hannah Dülberg.

Materials

The study was conducted by the research team either online via *Microsoft Teams* or in person. The interviews were transcribed using the tool *Descript* and *otter.ai*. Additionally, the transcripts were manually checked for correctness and readability. The data was anonymised, and participants were given pseudonyms. Finally, I performed the analysis both by hand and with the qualitative research tool *Atlas.ti*.

The interview protocol I used in this thesis was constructed in joined effort between Heidi Toivonen, Tim Gorichanaz, four other Bachelor's students, and me. In a meeting to discuss the interview questions, we made sure to include questions to answer all proposed research questions by the Bachelor's students. Also, we checked the questions for suggestiveness and if they were open enough to let the participants freely describe their app use. To gain an understanding of the participants experience with spiritual apps, the interview was built of questions that related to the participants spirituality, e.g. "Is 'spirituality' a word that describes your beliefs and values well?", questions that were about the use of the app, e.g. "When you open the app, how long do you usually spend on it?", and questions that related to emotional and behavioural changes of the participant through this app, e.g. "Would you say using this app has had an impact on you or your life? On your thoughts, feelings, or experiences?". The full list of questions can be found in Appendix 1.

Procedure

After the study got approved by the BMS ethics committee of the University of Twente (Ethical Approval Number: 221430), the study got uploaded on SONA to recruit participants. The Bachelor's students also asked for participation on their social media

accounts (WhatsApp, Instagram). Furthermore, Heidi Toivonen and Tim Gorichanaz were searching for participants in their networks and shared the study on various social media. Prior to the interview, participants were asked to indicate informed consent, stating that all information will be treated confidentially, and participation is completely voluntarily and can be stopped at any time (Appendix 2). Additionally, the participants were given a short, written description about the content of the study (Appendix 3). After receiving consent that the participant allows recording, the recording and transcription was started.

Data Analysis

To gain a deeper understanding of the individual experience of using spiritual apps, the approach of Thematic Analysis (TA) was used (Braun & Clarke, 2006). With this method I read the transcripts to discover patterns in meaning to determine themes.

In line with the six steps of TA from Braun & Clarke (2006), I first familiarized myself with the data. After reading through all interviews, I selected the transcripts of interviews I conducted myself and the ones from Emily Poggenklas and Hannah Dülberg for data analysis according to the criteria described in the participants section of this thesis. The data analysis for the interviews I held myself already started while conducting the interviews. Here, I was able to grasp the general tone in which participants used to talk about the apps. Additionally, I already noticed some reoccurring topics between participants. Concerning the nine selected transcripts, I read through the data a minimum of two times while constructing and writing down first ideas. In accordance with my expectations, I perceived the participants' general positive way of talking about the apps, while they were expressing ways in which the app is helping them. Also, I noticed that many participants were expressing that engaging in the app is something they do for themselves. While focussing on first impressions, I had my research question in mind and searched for answers in the transcripts.

In the second step, I generated initial codes by labelling short data extracts and coded the data accordingly. I created the codes very close to the data, to ensure that unique

experiences are not overlooked. For example, I differentiated codes like "living in the present moment" from "being present in the here and now" which first might seem to have the same underlying experience. However, the first code includes a rather active experience described with the verb "living" whereas the second one is rather passive with "being present". Furthermore, the data extracts which I identified as codes varied from single words to whole sentences. The third step included searching for themes through discovering patterns in meaning in the codes. Here, I grouped codes into themes based on shared meaning making. For example, I grouped codes like "self-knowledge", "being in touch with myself", and "focus on self" into one theme, as they shared the meaning of how participants experience the app use as connected to their self.

In the fourth step, I reviewed the themes, whereby I needed to go back and forth between themes, codes, and data to then finally defining and naming the themes in the fifth step. This step was an ongoing process of adjustment which also took place while writing down the results. Additionally, I continuously checked the consonance of the themes with the data. When reviewing the themes, I combined themes that I first thought to be distinct from each other, added additional themes, and changed the way I tried to combine different codes. The final themes present descriptions of the participants of their experience with spiritual apps. Writing down the results in the sixth step of TA, I selected data extracts that either showed common or unique experiences of each theme for the final analysis. Additionally, the supervisor commented on the themes and the explanations provided by me, while recommending some adjustments like merging themes or redefining themes to fit the experiences described by the participants.

Results

To answer the research question of what experiences people have using spiritual apps, the performed TA resulted in seven overall themes. The apps used by the participants were *Headspace, Mindspace, Calm, Balance, The Pattern, Co-Star* and *Falcı Bacı*. The first four

mentioned are meditation and mindfulness apps which provide different features such as notifications, guided meditations, and sleep audios. *The Pattern* and *Co-Star* are based on astrology and show horoscopes and future forecasts, send notifications with quotes, and provide the user with a social platform for friends. *Falcı Bacı* is a Turkish coffee mug reading app to get predictions of the future. The excerpts given below as examples have been slightly edited to enhance readability. The themes are presented together with their definition and associated codes in table 1 and will be discussed in the text below.

Table 1

Experiences of People Using Spiritual Mobile Applications

Theme	Definition	Primary Codes	*N*
Experience of improved well-being by symptom reduction and personal development	People experienced the app to help their mental health by decreased symptoms of anxiety, depression, and stress and flourishing mental health.	- Positive influence on mental health - Improve well-being and mindfulness - See things more positively - Feelings of strengths and development - Feeling better - Therapeutic experience - Take a break - Handle stress better - Makes less stressed	34
Facilitated self-care through taking time for one-self and connecting to the	Participants' experiences of deepened connection to themselves and	- Being in touch with myself - Helps taking time for myself - Becoming a better version - Connect to myself	32

self	the app's role in providing dedicated time for themselves.	- Focus on self - Sense of self-care - Self-knowledge	
Enhanced thought organization and emotion regulation	People experienced to process thought and emotions differently by feeling organized, focused, and by the ability to process feelings through the app.	- Capacity to process feelings - Getting aware of emotions - Distance from emotions - Deal with emotions - Helps to think about all that happened - Feeling organized - Helps to focus - Gain control - Have a more objective view - Find origin of thoughts - Clarity - Let thoughts pass by - Take different perspective	25
Enhanced mindfulness through calmness and feelings of presence	People experienced to relax, feel relieved, calmed down and being present in the here and now using the app.	- Consciousness of surrounding - Living in present moment - Present in the here and now - Feeling relieved - Helps to calm down - Relaxing	16
Feelings of comfort	People experienced	- Gives trust in something	8

through increased trust and hope	finding comfort in oneself and something bigger through the app which led to feelings of trust, hope, and comfort often build by a process of meaning-making.	- Gives trust in myself - Trust in being on the right track - Something to hold on to - Something taking care of me	
Enjoyment of collective engagement in the app	People experienced joy in using the app collectively with friends or family.	- Enjoying using the app - Fun to use the app	7
Detrimental experiences for mental health through uncritical trust in app	People experienced the app being detrimental for their mental health as they took the app at face value and were obsessed with the app which led to stress and anxiousness.	- Detrimental for mental health - Feeling stressed - Feeling anxious - Being obsessive about app - Taking app at face value	5

Experience of Improved Well-Being by Symptom Reduction and Personal Development

The theme *Experience of improved well-being by symptom reduction and personal development* occurred in all nine interviews. Within this theme, the participants discussed their experience of symptoms of depression, anxiety, and stress being reduced. Additionally, they expressed increased flourishing mental health through feelings of strengths and personal development. Flourishing can be defined as experiencing emotional, social, and psychological well-being so individuals can live to their full potential (Keyes, 2002). Therefore, within this theme not only the reduction of symptoms but also additional improvements like finding strengths and increased development were discussed by the participants. For example, "Charlotte" expressed that the app motivates her and gives her "feelings of strength and development". Participants either clearly stated that the app improves their mental health or indirectly described their intentions to deal with negative states (e.g. anxiety, depression, stress) with the use of the app. Also, "Jackson" points out the healing effect the app has on him, stating, that meditating with the app *Headspace* is "therapeutic" to him. Furthermore, "Lena", for instance, elaborates how she used *Mindspace* to deal with her anxiety symptoms:

> Lena: *Like I said, it was basically because I felt like I want to be able to cope with anxiety that I experienced a lot at that time. And I've heard from a lot of people that meditation can be very helpful and that's why I wanted just to try out something that might help me in daily life to deal with this anxiety without having to rely on, for example, therapy and be able to actually do something myself to just deal with that.*

In this example, Lena is discussing the app as helpful for her anxiety and as an alternative to therapy. She is also constructing therapy as something to be avoided as she does not want to have to rely on it. She also points out that the app is something she can do herself, implying a sense of increased agency contra the option of going to therapy. Initiating the use

of the app is presented as something she just wanted to "try out", as an experiment instigated by the recommendations of meditation from other people. It was also common for other participants to describe the app as an experiment which then was integrated into the individuals' life. However, Lena was the only participant that stated to be in psychotherapy during the period of using the app. Hence, she was expressing a unique experience of combined strategies to deal with her anxiety by psychotherapy and using the app.

Facilitated Self-Care Through Taking Time for One-Self and Connecting to the Self

The second most common theme was *Facilitated self-care through taking time for one-self and connecting to the self* which includes descriptions of the participants taking time to connect deeper with themselves and focus on themself. Here, participants elaborated on their experience to get in touch with themselves and connect to their self by the use of the app. Additionally, individuals expressed that the app use helps them to take time for themselves so they can focus on their self, get to know themselves better and eventually even become a better version of themselves. Experiences within this theme were expressed in three different ways, namely connection, time, and ownership. In the first way, participants expressed a sense of connecting with the self. Secondly, they expressed the experience as a way of taking time for themselves. Also, participants discussed the app use as something they do for themselves, indicating a sense of ownership or an experience that solely belongs to them.

"Naomi": *I would say that just from the fact that they offer meditation, the app gives me the possibility for being in touch with myself, my needs, my emotions, thoughts, so, I feel like, it helps me taking the time for myself at some points during the week, which I really need, and this positively influences my mental health.*

Naomi states that the meditations provided by the app help her to be in touch with herself and her needs, emotions, and thoughts, indicating an experience of connection with herself. She further connects this to the positive impact this type of self-care has on her mental well-being. She also states the importance of the app as a possibility to take time for herself. Naomis' illustrated experiences represent the common descriptions of this theme as she is pointing out the deepened connection to herself. She also empathizes on the time she is able to take for herself. However, she is not expressing the sense of ownership which was commonly discussed within this theme.

Enhanced Thought Organization and Emotion Regulation

Furthermore, the theme *Enhanced thought organization and emotion regulation* includes participants' descriptions of experiencing an enhanced way of dealing with their thoughts and feelings. Within this theme, participants elaborated on their enhanced emotion regulation and ability to organize thoughts differently. Therefore, this theme involves descriptions of the participants' awareness of their emotions and capacity to process their feelings. Here, individuals talked about the ability to distance from their feelings and to deal with their emotions. Thus, emotion regulation includes the interviewees' discussion of how the app supports their ability to deal with their emotions differently. For example, participants stated that they were able to become aware of their emotions through meditation. Additionally, they expressed that horoscopes made them able to distance from their emotions by finding external explanations for example through certain planet constellations in the universe. Like this, participants stated to no longer be overwhelmed by their feelings but to be able to process them and eventually deal with them accordingly. This goes in line with Kremer & Ironson's (2014) observation, that spirituality is a way of meaning making and aids to reframe situations positively.

Moreover, within this theme participants discussed their experiences of enhanced thought organization. Here, the interviewees described to experience a state of mind in which

they could process their thoughts differently. Participants stated to achieve this state as they were able to think about all that happened and had a more objective view through using the app. For instance, individuals described that the meditations provided by the app helped them to let thoughts pass by and find the origin of their thoughts. They further evaluated that this led them towards clarity of thoughts and the ability to take a different perspective. Also, participants explained that they were able to gain control and focus on their thoughts, so they felt organized.

> Charlotte: *Yeah, well, yesterday I was a little bit distressed and jittery and also overwhelmed because I felt like I couldn´t really handle my thoughts and control them. Yes, I guess control is a good word. I sometimes have this that I can´t really focus because there is one thought going on in my head after another. And I was thinking about a lot of stuff. So, I'm a person who always thinks a lot, also about random stuff that is not worth it. And meditating with Balance really helps me to focus and gain control. It helped me in this moment to, to think about all the things that happened during the day or happened some time in the past.*

For instance, Charlotte described how the mediation app helps her to gain control to be able to achieve clarity and focus on her thoughts. She stated that she felt stressed before handling and organizing her thoughts. Charlotte further elaborated that meditating is an aid for her to think her thoughts trough, indicating a way of being able to integrate experiences of the day and the past.

Differing from meditating without using an app, participants described that through the app meditation gets very available and easy to access. Additionally, individuals pointed out the apps' great variety of meditations to choose from. Both, the availability, and the variety, were described as very convenient by the participant. Inclining that this led

participants to meditate more often and really experience the meditation as something bringing relieve to overwhelming thoughts and emotions.

Enhanced Mindfulness Through Calmness and Feelings of Presence

Another experience of using the app discussed by the participants is illustrated by the theme *Enhanced mindfulness through calmness and feelings of presence*. Differing from the previous theme, in this one the participants expressed a newly formed relationship to their surroundings and the moment they were in. Thus, this theme includes participants' experiences that describe a transformed perception rather than a change in emotion and thought. This theme includes descriptions experiencing relaxation, relieve, and calmness through the use of the app. Furthermore, individuals elaborated on their overall consciousness of their surrounding by existing in the moment and being present in the here and now through the app use. Here, the experience expands over the actual use of the app and manifest in a form of vibe that accompanies the participants also after using the app. Participants elaborated on how they were able to integrate feelings of mindfulness in their daily lives. Additionally, it was common within this theme that descriptions included the heightened awareness of the "outside". Here, a shift from the focus on the self to a more inclusive consciousness was expressed by the participants.

> Jackson: *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 I think the feeling lasted maybe for like another 20 minutes. So overall like 40 minutes of being in that state of moving slowly and being conscious of how you move your body and what are you feeling, what are you thinking of and what is good for you.*

Jackson describes how the meditation helps him to calm down and experience peace. He further elaborates that he can take these feelings with him until after the use of the app is

over. He addresses that he moves in a slow manner and experiences consciousness of his mind and body, indicating a way of experiencing mindfulness.

> Jackson: *And living in the present moment, but not only living in the present moment, also being aware of it, aware of how you're reacting to interactions with other people, to things that are happening to you and everything. And I don't know my, in my personal opinion, I believe that's a skill rather than being born with it or something.*

Jackson further discusses that he experiences awareness and that this helps him to react better to other people and situations. He also describes mindfulness as something he is able to learn through the use of the app.

Feelings of Comfort Through Increased Trust and Hope

The participants discussed developing feelings of hope and strengthening trust in oneself and something bigger through the use of the app. The theme *Feelings of comfort through increased trust and hope* includes the participants' description of how spirituality gives them trust in themselves but also in something bigger like the Divine. The experiences during the app use were for example described with giving trust in being on the right track or giving something to hold on to. "Leon" elaborates that the quotations given by *The Pattern* give him hope and power to live.

> Leon: *This app provides me with quotations with information about my friends, about my current life phase, about everything that might come to me or might be happening and just gives me hope and power to live.*

In this example, Leon describes that the app is fostering hope and strength in him. He even suggests that this is substantial for living his life. He points out that information is

provided about the future which is commonly discussed within this theme. This implies that hope is strengthened when there is more perceived certainty about future happenings. Moreover, he expresses that quotations provided by the app give him information about his life at the moment, suggesting that the app helps him to make meaning of the situations he is currently in and gives him an explantiaion on why things are the way they are. This process of meaning making could additionally play into feelings of hope. The intensity in which Leon expresses that the app gives him power to live underlines the importance the app has in his life.

Enjoyment of collective engagement in the app

Participants' elaborations of experiencing the app use as something fun were included in the theme *Enjoyment of collective engagement in the app*. Taking pleasure in using the app was expressed by the individuals as they describe the app use as fun and that they enjoy engaging in the app. Here, the information provided by the app was experienced by the participants as fun and collective engagement in the app led to further experiences of joy. Participants were able to use the app collectively either in person or by online engagement in the social platform of the app.

Maya: *The last time I did it, the outcome of the coffee mug was nice. So I was really happy about it. But it's always also really funny because I always do it collectively. It's not nothing individual, but it's always connected to my mom. And then we read through her outcome of the app and my outcome of the app.*

Maya, for example, stated that she has fun engaging in the app because she is able to share that moment with her family. She explicitly states that she uses the app collectively, suggesting that this is the part that brings her joy. Additionally, she described that the positive outcome of the app made her happy which probably increased her joy. In general, *Enjoyment*

of collective engagement in the app was merely expressed when participants were able to connect the app use with social relationships. So, when they were able to share the engagement in the app with someone else or when the app had a feature to compare personality features between friends. Furthermore, experiences within this theme were only expressed by participants that used astrology & fortune-telling apps.

Detrimental experiences for mental health through uncritical trust in app

Experiences within the last theme were only expressed two times by two individuals. Here, the participants elaborated on their negative experiences with the app. Both participants stated that the negative influence of the app on their mental health was due to taking the information provided by the app at face value. To gain full understanding of these experiences, the following two examples are presented.

Maya: *When something positive came, I was really like brightened up and I was just saying "oh, yes, I can go forward without worrying too much", but if something negative came up and I was really like [breathing out loudly]. Yeah, the evidence was kind of like "oh no, I need to be careful" and I was feeling stressed and not that well.*

Maya states that the content of the future predictions of the app *Falcı Bacı* influenced the way she felt afterwards. She describes negative feelings after being confronted with a bad outcome, which lead to stress, worrying and decreased well-being. This stands in contrast to her description of positive feelings after receiving a good prediction. This indicates that the content of the app has an influence on the mood of the participant and even influences her behaviour as she expresses that she felt like having to be careful. The dependence of her mood based on the app also inclines the importance and truthfulness Maya ascribes to the app. This indicates that the detrimental effect on her well-being stems from the fact that she takes the app at face value.

"Jasmin": *And though I would also say that sometimes some periods where I'm not doing that well, I'm going to be super obsessive about, like, astrology and like, why things are not going well. And then I completely believe everything the app says and then it's a bit detrimental for my mental health.*

Jasmin takes a different standpoint when elaborating on the detrimental effect the app Co-star has had on her well-being. She describes her preoccupation with the app when she is generally not in a good state of mind. She evaluates on the way she tries to make meaning and find explanations in the app. Moreover, she explains that this behaviour reduces her well-being because she is inclined to completely trust in the content of the app. This indicates that she is more vulnerable to shortcuts in reasoning when in a bad state while engaging with the app. In general, both participants took the information provided by the app very seriously which eventually led to experiencing the app as detrimental to their well-being. Differing from the experiences of other participants, Jasmin and Maya reflect on negative implications of the app use. This might be because they directly received negative feedback from the app instead of positive outcomes as they usually experience. They normally rely on the app when they want to experience something positive. However, the app did not bring positive emotions as expected. These unmet expectations might have increased experiencing the app as detrimental to their mental health.

Discussion

The aim of this Bachelor's thesis was to investigate the experience of individuals using spiritual mobile applications. An explorative interview study was conducted. The performed thematic analysis resulted in the following seven themes: *Experience of improved well-being by symptom reduction and personal development*, *Facilitated self-care through taking time for one-self and connecting to the self*, *Enhanced thought organization and*

emotion regulation, *Enhanced mindfulness through calmness and feelings of presence*, *Feelings of comfort through increased trust and hope*, *Enjoyment of collective engagement in the app*, and *Detrimental experiences for mental health through uncritical trust in app.*

In summary, most participants described their experiences with the app as beneficial for their mental health. The theme *Experience of improved well-being by symptom reduction and personal development* encompassed participants' accounts of experiencing reduced symptoms of anxiety, depression, and stress, as well as flourishing mental health through personal growth and development. The theme *Facilitated self-care through taking time for one-self and connecting to the self* highlighted participants' deepened connection to themselves and the app's role in providing dedicated time for themselves. Furthermore, the theme *Enhanced thought organization and emotion regulation* captured participants' experiences of improved emotion regulation and thought organization skills. Within the theme *Enhanced mindfulness through calmness and feelings of presence*, participants described feelings of relaxation, being present in the moment, and heightened consciousness of their surroundings. Within the theme *Feelings of comfort through increased trust and hope* participants revealed experiences of increased trust, hope, and a sense of solace derived from the app. Additionally, the theme *Enjoyment of collective engagement in the app* highlighted the collective engagement and the joy participants derived from sharing the app experience with family and friends. Lastly, the theme *Detrimental experiences for mental health through uncritical trust in app* included accounts from a small number of participants who described negative experiences like stress and anxiety through the excessive belief in future predictions or obsessive focus on the app's horoscopes. In the following, potential benefits and drawbacks of spiritual apps will be discussed and practical implications will be elaborated.

The spiritual apps used by the participants can be separated in two groups, namely meditation and mindfulness apps (Headspace, Mindspace, Calm, Balance) and astrology and fortune-telling apps (The Pattern, Falcı Bacı, Co-Star). Here, differences in experiences

between these two groups were visible. Users of meditation apps expressed more commonly the experiences within the theme *Facilitated self-care through taking time for one-self and connecting to the self*, while empathizing the way they can focus on themselves through the app use and how they can take time for themselves. Additionally, participants of the first group commonly discussed experiences within the theme *Enhanced mindfulness through calmness and feelings of presence*.

On the other hand, users of the second group (The Pattern, Falcı Bacı, Co-star) described their experiences as giving feelings of meaning making and certainty. Thus, experiences within the theme *Feelings of comfort through increased trust and hope* were more common in this group. Additionally, experiences of the theme *Enjoyment of collective engagement in the app* were only expressed by individuals of this group, which the participants attributed to the possibility to share engagement in the app with friends or family either in real life or within the app. According to Nita (2019), the focus on collective experiences was mostly ascribed to religion in contrast to spirituality by former scholars. However, a growing trend in modern spirituality shows a return to a collective and shared engagement in spirituality away from individuality (Nita, 2019). This claim is further corroborated by this thesis, as participants described the enjoyment of collective engagement while performing an alternative spiritual practice like astrology.

Interestingly, experiences within the theme *Detrimental experiences for mental health through uncritical trust in app* were also only expressed by the second group. Here, the detrimental experience was ascribed to the way fortune-telling and horoscopes have a negative influence on the participants' psychological well-being. This goes in line with a literature review of Das et al. (2022) discussing the phenomenon of dysfunctional use of astrology and fortune-telling. They claim that astrology and fortune-telling are used by individuals to deal with uncertainty, as they experience anxiety and stress when in ambiguity. In turn, knowing about what might come offers reassurance and stress relief. However, this

can lead to a preoccupied and dysfunctional use of fortune-telling which can further increase anxiety about coping with uncertainty and difficulties in critical thinking and problem-solving abilities. This spiral of anxiety and dependence can eventually lead to a so-called *future-telling addiction* (Das et al., 2022). Here, individuals do not use psychological help services to deal with their emotional difficulties but rely on astrology and future-telling services. As spiritual apps make this service available at all times, the risks coming with future-telling could be increased. Also, the interviewees Maya and Jasmin described their experiences with the app as detrimental for their mental health, as they were already in a bad state and took the information provided by the app at face value. Das et al. (2022) finally pose the question on whether this condition should be diagnosed and suggest further research to investigate this issue so help can be administered to affected individuals. These findings underline the significance of research of the potential drawbacks and risks of spiritual practices facilitated through spiritual app use.

Even though the participants of this study all described themselves as spiritual, they did not explicitly mention other-worldly or transcendent experiences when using the app as could be suspected when talking about spiritual experiences. The app use was rather very practical and resembled a self-help practice. For the users of mediation apps, this would firstly go in line with Roquer and Sas (2018) stressing that most mindfulness apps mainly focus on the bodily part of meditation rather than supporting *insight*. They describe insight as a useful tool of meditation which is the more spiritual aspect of this practice. However, they claim that meditation apps predominantly bring attention to breathing or other bodily perceptions and for example focus on improving sleep instead of supporting spiritual feelings like transcendence. Nevertheless, this would not explain why participants using astrology and fortune-telling apps did not describe spiritual experiences. This could either be through the unusual situation of being in an interview or not wanting to share these experiences. Also, as elaborated in the introduction, spirituality is a marginalized topic, which could lead the participants to describe

their experiences with the app less spiritual as they might have experienced it. Furthermore, this observation could be ascribed to the connection of modern spirituality to consumerism and the general meaning-making of spiritual experiences in the rationalised Western world. As discussed in the introduction, modern spirituality as a product of Western consumerism is mainly orientated in bringing personal excitement and enlightenment (Rindfleish, 2005). Rindfleish (2005) further points out that modern spirituality is focused on the self and inner experience. This could explain why participants describe their experiences with the app in a way that was focussed on themselves and their daily experiences.

In general, the most dominant theme *Experience of improved well-being by symptom reduction and personal development* included the participants' descriptions of experiences that involved either symptom reduction or flourishing mental health. This aligns with the study of Van Cappellen et al. (2013) which states that the concept of spirituality should be viewed not only as a means of coping with challenges but also as a continuous cycle that leads individuals towards positive emotions. Also, this theme includes participants' experiences of reduced stress, coinciding with the study of Whitehead and Bergman (2011) where spirituality as an efficient coping mechanism for stressors was discussed. As argued in the introduction, these results further align with the observation that everyday spirituality improves general well-being (Whitehead & Bergman, 2011).

Strength and Limitations

As this study is exploratory in nature, the small sample size is not a limitation itself. Nevertheless, it is important to take into consideration that the sample does not show a great variation in participants' demographics, as they were predominantly female, German and in their twenties. Thus, participants shared important demographics which probably influenced the individuals' meaning making of experiences with the apps. Additionally, my own upbringing and personal interest in spiritual practices like yoga and astrology might have shaped my perspectives and influenced the way I understood the data and categorized certain

themes. However, I actively challenged myself to take a different perspective and let myself be guided by the information shared by the participants. Furthermore, the themes were reviewed by my first and second supervisor. These revisions served to increase the trustworthiness of this study (Guba, 1981).

Moreover, the participants' responses have to be seen in the context of the situation of taking part in an interview. For example, participants might have been influenced by the effect of social desirability and the framing of questions. Even though the interviewers were inclined to build rapport with the participants and to foster a welcoming atmosphere, participants were asked to share very private and sensitive information which might have let to reservedness. Spirituality is a marginalized topic which is not often talked about. Therefore, individuals might not be completely open about their experiences. Additionally, when looking at the results it is important to keep in mind that the data is influenced by the ability of the participants to reflect on their experiences and the ability to share information comprehensively.

Nevertheless, the qualitative approach of this study led to a deep insight in the experiences of users of spiritual apps while staying close to the participants' point of view. Furthermore, this study is the first of its kind and included a diverse variety of spiritual apps. The results of this study contribute to the scientific literature on spirituality by demonstrating the positive impact spiritual apps can have on individuals' mental health. Potential benefits for users can be seen in the general positive tone used by the participants when talking about the apps which is displayed in the themes. Moreover, the participants' experiences discussed within the theme *Detrimental experiences for mental health through uncritical trust in app* highlight potential risks of using spiritual apps.

Recommendations

The insights of this study rise implications for research and practice in spiritual app development and healthcare. In app development, it would be valuable to further determine

which features users find most benefitting for their mental health, so these can be incorporated efficiently which could increase mental health benefits. Additionally, deeper understanding of the risks of these apps has to be determined to address them appropriately.

In general, future research could focus on longitudinal studies that examine the long-term effects of spiritual apps on well-being. Furthermore, it would be of interest to explore different populations. For instance, the use of apps in different cultural backgrounds could be studied or the experience of users with specific mental health conditions. Finally, spiritual apps could be compared to other health care interventions to determine their effectiveness on improving well-being. Participants' statements of the therapeutic character ascribed to their experiences with the app show the importance of further researching this topic in the domain of health care. If spiritual apps are found to be helpful, they could actively be integrated in therapy or psychological care for clients who identify as spiritual. Additionally, it could be investigated how often spiritual needs are addressed in therapy and if people would want to have it integrated in treatment.

Conclusion

This study investigated the experiences users of spiritual apps have when engaging with the app. Seven different meaning making patterns were described by the interviewees which covered a wide range of experiences of using spiritual apps. The themes reflect how the participants of this study experience the use of spiritual mobile applications. Most interviewees described their experiences as positive with a beneficial influence on their well-being, self-care, mindfulness, or comfort. Participants also stated to enjoy the app when they were able to use it collectively. Nonetheless, two participants expressed negative experiences that were detrimental for their mental health. Thus, this topic is in need of further research to investigate the potential benefits and downsides spiritual apps have for the well-being of users. In conclusion, this thesis provides valuable insight into the experiences of spiritual app users while underlining the positive experiences expressed by the participants.

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Appendix 1

Interview Protocol

Welcome to this interview about spiritual mobile applications. My name is Hannah and I am doing this interview because I am part of a group of students working on this project, and we will collect interview 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 h.s.neumuller@student.utwente.nl or my supervisor Heidi Toivonen at 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?

Appendix 2

Informed consent

<u>Authors:</u> BMS Ethics Committee with input from Human Research Ethics TU Delft

<u>Last edited</u>: 20-01-2022

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

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

Appendix 3

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 participants' 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 videorecorded. The interview data will be fully anonymized upon transcription, and all interviewees will be referred to with 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 and Assistant Teaching Professor Tim Gorichanaz 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

Appendix 4

UNIVERSITY OF TWENTE.

221430 REQUEST FOR ETHICAL REVIEW

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 prove 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 repsentative(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 repsentatives 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 re-consider 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.