Why do People Use Spiritual Mobile Applications? A Qualitative Analysis of Users' Motivations

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Abstract

In the age of mobile technology, the use of spiritual mobile applications (apps) has gained popularity as a means to access spiritual practices and resources. These apps offer functions such as meditation, mindfulness, astrology, and self-reflection, which are also reflected in the concepts of the New Age movement. However, despite the growing interest in spiritual apps in society research in this field is scarce. This study aimed to examine participants' motivations of utilizing modern spiritual mobile apps through in-depth interviews with 19 users. Reflexive Thematic Analysis (RTA) was conducted to identify themes that describe what drives users to engage with spiritual apps. Six themes were identified as crucial for users' motivation. Participants primarily utilize these apps to (1) connect to their core beliefs, (2) to seek hope, (3) for self-nurturing for mental health, (4) for self-reflection, (5) to empower their personal development, as well as (6) for curiosity and continuous learning. They perceive these applications as harmonizing with their individual beliefs, values, and personal goals. This study provides a basis for adapting the app design to users' needs, contributes to the understanding of the experienced role of app-based spirituality in psychological well-being, and enhances the literature on modern spiritual practices.

Keywords: Spirituality, New Age, Reflexive Thematic Analysis, Mental well-being

Why do People Use Spiritual Mobile Applications? A Qualitative Analysis of Users' Motivations

Spirituality plays a significant role in individuals' lives and is associated with positive health outcomes (Hill, Smith & Sandage, 2013; Hamjah et al., 2015; Krok, 2008). With the advancement of mobile technology, the use of spiritual apps has gained popularity as a means of accessing spiritual practices and resources (Buie & Blythe, 2013; Gorichanaz, 2022). However, little is known about the motivations underlying users' engagement with spiritual apps.

Spirituality is a multifaceted and expansive concept that lacks a single definition. It can encompass various dimensions, including a lifestyle, belief system, worldview, religion, philosophy, personality trait, character strength, or a combination thereof (Baysal, 2022; Dyson, et al., 1997; D'Andrea, 2006; Marcoen, 1994; Puchalski et al., 2014; Reimer & Dueck, 2012). It serves as an overarching term for something deeply personal, unique, and individual (Delgado, 2005). Spirituality can involve the cultivation of inner resources, such as hope, gratitude, forgiveness, and compassion that contribute to personal growth, resilience, and well-being (Underwood & Teresi, 2002). It can further be understood as a holistic dimension of human experience that encompasses the emotional, intellectual, social, and transcendental aspects of life (Miller & Thorensen, 2003) and provide individuals with a sense of meaning, purpose, and connectedness to something greater than themselves (Smith-MacDonald et al., 2017). Moreover, particularly during stressful life phases spirituality plays a pivotal role in helping individuals cope with a range of stressors (Falb & Pargament, 2014). Numerous studies have highlighted the positive impact of spirituality on both physical and psychological well-being, including its association with reduced depressive symptoms and increased life satisfaction (Berry & York, 2011; Brooks et al., 2018; Janssen-Niemeijer et al., 2017; Kelley, Athan & Miller, 2007; Koenig, King & Carson, 2012; Marques, Lopez & Mitchell, 2013; Steemers-van Winkoop, 2014). In these investigations

spirituality is regarded as a coping strategy that reinforces faith, self-confidence, self-belief, and transforms negative emotions into more optimistic ones, thereby promoting overall health.

Spirituality has been gaining increasing popularity in the contemporary world (Huss, 2014). Particularly, contemporary challenges to conventional religions, for example, cultural shifts, secularism, or tolerance and inclusivity, have prompted many individuals to seek answers within the realm of modern spirituality, such as *New Age* practices (Campbell, 2005; Campbell, 2013). New Age spirituality (NAS), distinct from traditional religions, is a contemporary, non-traditional spiritual movement that gained prominence during the 1960s and 1970s in the United Kingdom and the United States. It embraces a diverse range of spiritual concepts and practices adaptable to individual preferences (Amaral, 2015; Aupers & Houtman, 2006). NAS adherents often hold beliefs in astrology, the spiritual essence of objects, occult practices (e.g., fortune telling; contacting non-physical or otherworldly entities), tarot card readings, healing modalities (e.g., reiki, sound healing, aromatherapy), or reincarnation (Amaral, 2015). Unlike conventional Western religious beliefs (e.g., Christianity, Judaism, Islam) NAS emphasizes self-spirituality and the significance of individual experiences (Aupers & Houtman, 2006; Berg 2007; Rindfleish, 2005). Some NAS followers view modern society as an impediment to personal growth constraining their full potential (Lewis & Melton, 1992).

Previous studies have underscored the research community's growing interest in spirituality, particularly with a primary emphasis on defining spirituality and elucidating its potential benefits for health and well-being (Berry & York, 2011; Brooks et al., 2018; Delgado, 2005; Janssen-Niemeijer et al., 2017; Kelley, Athan & Miller, 2007; Koenig, King & Carson, 2012; Marques, Lopez & Mitchell, 2013; Reimer & Dueck, 2012; Puchalski et al., 2014; Steemers-van Winkoop, 2014). However, a lack of scholarly investigations remains into the intersection of spirituality and mobile applications. Given the manifold advantages

that spirituality as a lifestyle offers for both physical and psychological well-being it stands to reason that spiritual apps could serve as a viable medium to provide support to individuals struggling with challenges in various areas of life (Bozek, Nowak & Blukacz, 2020; Lavretsky, 2010). Consequently, modern spiritual apps appear to address the spiritual needs of many individuals translating these needs into mobile applications. Mobile apps provide inherent advantages, such as engagement, accessibility, cost-effectiveness, and customization, offering users a modern and convenient means to seamlessly integrate spirituality into their daily lives. By creating supportive platforms, these apps facilitate the exploration and nurturing of users' spiritual paths, making the journey more accessible and personalized.

As smartphones have become integral parts of people's daily lives, developers have seized the opportunity to create and distribute spiritual applications on various app stores (Buie & Blythe, 2013; Gorichanaz, 2022). These mobile apps serve as accessible gateways to spirituality for anyone with a smartphone. Buie and Blythe (2013) conducted a pioneering study that provided an initial glimpse into the world of spiritual apps revealing the presence of to date approximately 6,000 spirituality-related apps within the Apple app store. As mobile applications have developed into a remarkable and rapidly advancing field, the number of spiritual apps is also expected to continue to rise until today (Statista, 2023; Holla & Katti, 2012). Building upon these insights Gorichanaz (2022) delved deeper into the functionality of these applications shedding light on their primary features. It became evident that spiritual apps predominantly emphasize four core elements: journaling functionalities, card decks for fortune telling or self-reflection, notification features delivering inspirational messages, and meditation timers to guide users through mindfulness exercises. These apps offer users the opportunity to engage in various spiritual practices, including meditation and self-reflection, as well as to document their experiences and share them with a broader community (Gorichanaz, 2022).

At the same time, mobile apps have become increasingly popular as a means of providing mental health support (Donker et al., 2013; Lui, Marcus & Barry, 2017; Wang, Markert & Sasangohar, 2023; Qu et al., 2020), and spiritual apps are no exception (e.g. Carissoli, Villani & Riva, 2015; Daudén Roquet & Sas, 2018; Laurie & Blandford, 2016; Ahmad & Razak, 2013). A spiritual app can provide users with a convenient way to access spiritual practices and resources, such as guided meditation, scripture readings, astrology, or virtual community support. The investigation of spiritual apps for religious needs of different faiths has already begun. Studies have been conducted for instance on the usability (e.g., Wahab et al., 2017), the experiences (e.g., Ahmad et al., 2014; Majrashi, 2018) or the design (e.g., Tsuria et al., 2021) of religious mobile applications, which can serve, for example, prayer, holy scriptures, worship services, or religious education. Interestingly, the majority of studies investigating, for instance, the relationship between spirituality and health have primarily assessed individuals' religious beliefs and engagement in religious practices (Koenig, 2000). Nevertheless, the present study prioritizes an exploration of spirituality within the context of NAS. It aims to investigate the spiritual beliefs, practices, and experiences associated with NAS which, as already described above, often encompass a wide range of non-traditional and eclectic beliefs, holistic practices, and metaphysical concepts (Amaral, 2015; Aupers & Houtman, 2006).

Spiritual app usage holds the potential for various benefits that contribute to individuals' well-being and personal growth. Firstly, spiritual app usage can offer individuals a convenient and accessible platform for engaging in spiritual practices and rituals (Ahmad & Razak, 2013). This can include meditation, prayer, mindfulness exercises, affirmations, and guided visualizations, among others. Such practices have been linked to positive outcomes, including stress reduction, improved emotion regulation, increased self-awareness, and enhanced overall psychological well-being (e.g., Eberth & Sedlmeier, 2012; Whitehead & Bergeman, 2012; Akbari & Hossaini, 2018). Secondly, spiritual apps can

provide opportunities for community engagement and social support. Many apps offer features such as discussion forums, online communities, and opportunities for connecting with like-minded individuals to foster a sense of belonging, share experiences, seek guidance, and receive social support, all of which are known to have positive effects on mental health and well-being (Hagerty et al., 2005; Rippentrop et al., 2005). Furthermore, spiritual app usage potentially facilitates personal growth and self-reflection. Through access to spiritual teachings, inspirational quotes, and thought-provoking content individuals can gain insights, broaden their perspectives, and deepen their understanding of themselves and the world around them (Gorichanaz, 2022). This reflective process can contribute to personal growth, meaning-making, and a sense of purpose, all of which are integral to psychological well-being (Steger et al., 2009; Wong, 2011).

Mindfulness is often associated with NAS as it aligns with the focus on personal growth, self-awareness, and holistic well-being found within the New Age movement (Heelas, 1999; Stanley, 2012). Mindfulness teaches that the spiritual (and/or religious) is an experience lived through the body that challenges spiritual growth (Lazaridou & Pentaris, 2016). In a qualitative study conducted by Laurie and Blandford (2016) it was examined how a mindfulness intervention using the popular app *Headspace* is being adopted and experienced by users to understand which factors facilitate use and which make it more difficult. Their results showed that usage was influenced, among other things, by adherence to daily routines, ongoing contemplation of the app's impact, prevailing emotional and mood states, or one's self-perceived ability to use it effectively. Aspects that facilitated use included favourable attitudes toward mindfulness and the app, holding realistic expectations about the app's abilities, and experiencing positive social encouragement. Barriers to app usage were identified to be busy lifestyles, lack of routine, strong negative emotions, and negative perceptions of mindfulness.

Even though little is known about overall experiences of spiritual app users, findings like these suggest that spiritual apps have the potential to influence well-being outcomes, including, for example, increased mindfulness or gratitude, and have the potential to reduce symptoms of stress (Hamjah et al., 2015; Keng et al., 2011). While the use of spiritual mobile applications has gained prominence there is a noticeable gap in research pertaining to modern spirituality and New Age practices. This gap is particularly evident when considering the significance these applications might play in individual's lives and well-being. Existing qualitative studies in the field have been limited in scope often focusing on specific populations, such as elderly Islamic individuals (Ahmad et al., 2021) or older adults in specific geographic regions like Malaysia (Zainal et al., 2015). These studies do not comprehensively represent the diverse range of users. Still, qualitative research has the unique capacity to provide deep insights and offer valuable indications regarding the individual significance of spiritual apps in users' lives (e.g., Laurie & Blandford, 2016).

As this study explores users' motivation to use spiritual apps it is important to define what is understood by motivation in this context. Motivation, in the context of psychology, is the complex interplay of internal and external forces that drive and sustain purposeful actions, directing individuals toward specific goals or the fulfilment of needs (Reeve, 2018; Latham & Pinder, 2005; Weiner, 1985). It can be subdivided into intrinsic motivation, which drives internal satisfaction and enjoyment derived from an activity itself, and extrinsic motivation, which relies on external incentives or pressures to engage in behaviour (Deci & Ryan, 2013).

By examining the research question "What is the users' motivation of using a spiritual mobile application?" this qualitative study seeks to explore the motivations of individuals using spiritual apps and their implications for research and practice within the context of modern spirituality and mobile app usage. Recognizing the limited qualitative research in this area the study aims to address this gap by employing Reflexive Thematic Analysis

(RTA; Braun & Clarke, 2021) to delve into users' motivations and experiences. Understanding the motivation behind users' engagement with spiritual apps holds several implications for both research and practice. Firstly, it provides insights into individuals' wants and expectations related to spiritual mobile apps allowing the developers and designers to tailor their products accordingly. By elaborating the specific features and elements of spiritual apps that resonate with users, the development of more effective and user-centred app designs could be facilitated. Secondly, investigating the motivations for using spiritual apps contributes to the broader field of psychology by expanding our understanding of the role spirituality might play in mental well-being (see Weathers, 2019). Lastly, this study contributes to the literature on modern spiritual practices and their potential benefits for well-being.

Method

Study Design

To explore the question of users' motivation to use spiritual apps qualitative research has been chosen as the research approach. Qualitative research offers a rich and in-depth understanding of individuals' experiences, perceptions and motivations, which is particularly valuable in exploring complex and subjective phenomena such as spirituality. It allows for the exploration of subjective experiences and perspectives of individuals in their natural contexts (Clarke & Braun, 2017). Therefore, semi-structured interviews were conducted following a protocol (Appendix A). Using open-ended interview questions provides the opportunity to delve into the nuances and complexities of the users' motivations for using spiritual apps (Clarke & Braun, 2017). The interviews were conducted in one-on-one sessions which took place either online or in-person. The subsequent data analysis was conducted individually. Participants were recruited with the help of a university-internal study participation platform and through personal contacts. It was left to the participants

themselves to decide which type of app they considered to be a spiritual app. Apps that participants used are listed in Appendix B.

As this thesis is part of a larger study it makes use of the data pool of a research team of Bachelor and Master students supervised by Dr Heidi Toivonen. Initially, a total of 29 interviews were conducted as part of the qualitative research process. These interviews served as the primary source of data for the study and aimed at exploring the motivations behind users' engagement with spiritual apps. However, 19 interviews were ultimately included in the analysis. The selection of these 19 interviews was a deliberate process guided by the data's relevance to the research question and their capacity to contribute to the thematic analysis. Interviews that were clear, detailed, and offered rich descriptions of user experiences and motivations were preferred (see Braun & Clarke, 2012). While the total number was reduced efforts were made to maintain diversity and representativeness within the 19 selected interviews. This means that various perspectives on using spiritual apps as well as the kind of apps that were used (astrology, mindfulness etc.), the participants' motivations, as well as backgrounds, including different nationalities and ages, have been considered to provide a well-rounded understanding of the research question.

Participants

In the present sample 14 interviewees stated that they identify as female and five as male. The average age of the sample is 24.7 years, ranging from 18 to 50 years. The sample comprises seven nationalities with ten of the participants being German, four Dutch, one Norwegian, one Hungarian, one Polish, one Mexican, and one American.

Materials

The interview protocol comprises 16 open-ended questions covering various aspects related to spirituality, New Age spirituality, features of the spiritual apps in use, motivations for app usage, and the perceived impact on the participant's life (see Appendix A). The

interview protocol provided a flexible framework that allowed for minor adjustments based on the interviewee's responses with follow-up questions employed to gain deeper insights as needed.

Procedure

This research was approved by the Ethics Committee of the Faculty of Behavioural, Management, and Social Science (BMS) of the University of Twente (221430; Appendix C).

The broader study was published on a university platform aimed at assisting students in participant recruitment. The researchers also sought potential participants through personal networks and popular social media platforms. Upon expressing their interest or agreement to partake in the study the participants were invited to engage in either online or face-to-face interviews, conducted in a suitable setting. The participants were provided with an information form prior to the interview (Appendix D). They were asked to read it carefully, and questions regarding details were answered by the interviewers. When all the contents of the form were clarified for the participants they were asked to sign the written consent (Appendix E). After obtaining the informed consent the researcher reintroduced the interview's purpose and once more reiterated the study's aims. Subsequently, the participant's permission to record the interview was sought before proceeding with the interview following the provided interview outline. In line with the participants' consent the interviews were systematically recorded by the researcher allowing them to focus entirely on the participant during the interview and facilitating the subsequent transcription process. The voice recordings were transcribed using either Otter.ai or live transcription within Microsoft Teams. Furthermore, each researcher carefully reviewed the transcripts for accuracy and readability before sharing them with the research team for subsequent analysis. To protect the participants' identities pseudonyms were employed in place of their actual names. Lastly, parts of the extracts have been slightly stylized to ensure readability.

Data Analysis

The analysis approach of choice for the research question was Reflexive Thematic Analysis (RTA; Braun & Clarke, 2021) following the six phases of thematic analysis recommended by Braun and Clarke (2006). RTA is a suitable approach for studying the motivations behind users' engagement with spiritual apps due to its ability to provide a rich and detailed exploration of complex and subjective phenomena. It offers the flexibility needed to adapt to emerging insights and inform the design of more user-centred and engaging spiritual apps (Braun & Clarke, 2006; Clarke & Braun, 2017). Inductive coding as a method of analysis facilitated an open-minded exploration of the data leading to the identification of themes, ideas, and connections while maintaining a close connection to the empirical data. This approach ensured the accuracy and authenticity of findings and allowed the codes to evolve in an iterative manner as the analysis progressed (Braun & Clarke, 2006; Braun & Clarke, 2012).

In the initial coding phase, the analysis involved examining relevant excerpts and generating initial codes (Clarke & Braun, 2017). Particular attention was paid to answers given to interview questions 5, 6, and 10, which inquired about participants' motives for app usage. Consequently, expressions that yielded relevant data for addressing the research question were coded. In relation to the research question the fundamental unit of analysis encompassed the expressions of motivations conveyed by users. These expressions displayed varying lengths ranging from a brief clause to several consecutive sentences. The coding process was attentive to users' discussions of their experiences with spiritual apps encompassing both direct and indirect expression of motivations. Direct motivations encompassed concrete expressions of motivation such as "That motivates me". In contrast, indirect expressions of motivation referred to excerpts attributed to the use of paraphrases of motivation, for example: "So that definitely encouraged me to take that up more again".

After coding all transcripts, the codes were systematically organized into themes. This involved the search for patterns across transcripts seeking broader insights into the users' motivation of app usage. The themes underwent several iterations with continuous evaluation to identify any redundancies and to determine if they represent distinct patterns. The analysis culminated in the identification of six main themes related to the motivations behind using spiritual mobile applications.

Results

In the interviews participants discussed one or multiple spiritual mobile apps they are using. The participants in the 19 interviews used the following apps: Calm[1], Balance[2], Co-star[3], Moonly[4], Daylio[5], Headspace[6], The Pattern[7], Saged[8], Sanvello[9], Waking Up[10], Insight Timer[11], The Work[12], Unwinding Anxiety[13], as well as The Astrology App[14]. The mentioned mobile applications generally focus primarily on meditation, astrology, and mindfulness while also addressing aspects of coping with anxiety and stress. All the apps mentioned in the interviews incorporate mindfulness and/or spirituality information. Furthermore, most apps offer the option to connect with friends or other unfamiliar users.

If we take a closer look at the individual foci of the apps, Calm[1], Balance[2], Headspace[6], Sanvello[9], Waking Up[10], or Insight Timer[11] can be grouped into apps that

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[1] *Calm: Sleep, Stress, Anxiety, Focus, Personal Development. (n.d.).* https://www.calm.com/de

[2] *Balance: Meditation, Sleep, Stress. (n.d.).* https://balanceapp.com/

[3] *Co-Star: Hyper-Personalized, Real-Time Horoscopes. (n.d.).* https://www.costarastrology.com/

[4] *Moonly: Moon Rhythm, Birth Charts, Tarot Cards, Runes, Daily Affirmations, Meditations.* https://www.moonly.app/

[5] *Daylio: (n.d.-b). Journal, Diary, Mood Tracker.* https://daylio.net/

[6] *Headspace: Meditation, Sleep. (n.d.).* https://www.headspace.com/

[7] *The Pattern: Birth Charts, Astrology. (n.d.).* https://www.thepattern.com/

[8] *Saged: Daily Rituals, Wisdom, Awe. (n.d.).* http://sagedapp.com/applink/landing/store

[9] *Sanvello: Stress, Anxiety, Depression. (n.d.).* https://sanvello.com/

[10] *Waking Up: Mindfulness, Meditation, Wisdom. (n.d.).* https://www.wakingup.com/

[11] *Insight Timer: Sleep, Anxiety, Stress, Meditation. (n.d.).* https://insighttimer.com/

[12] *The Work: Self-Reflection, Stress. (n.d.).* https://thework.com/the-work-app/

[13] *Unwinding Anxiety: Anxiety, Stress. (n.d.).* https://unwindinganxiety.com/app-features/

[14] *The Astrology App: Predictions, Zodiac Signs. (n.d.).* *https://theastrology.app/*

primarily offer guided meditations tailored to the respective current needs of the user. For instance, there are meditations for anxiety, stress, or self-love. The apps Co-Star[3], Moonly[4], The Pattern[7] or The Astrology App[14] have a clear focus on astrology-related content. Users can create their own birth charts, read their own as well as their friends' horoscopes, or view the phases of the moon. Daylio[5] and Saged[8] are apps that allow users to write an (online) journal about their daily thoughts, feelings, or experiences. This way, they can evaluate their course of mood and focus on writing down positive events. In addition, Saged[8] provides daily affirmations as notifications or articles on various spiritual topics as well as inspirational quotes to the user. The Pattern[6] provides information on the user's personality and horoscope and offers analyses about the connection of both. The Work[12] is an app based on a method of self-inquiry which is designed to assist the users in identifying and challenging their thoughts and beliefs. The purpose of the app is to guide users through the process of self-inquiry questioning and reframing their perceptions of reality. The app Unwinding Anxiety[13] is designed to help users to understand, manage, and reduce anxiety. It combines education, mindfulness practices, and self-tracking to help users to gain greater control over their anxious thoughts and feelings.

Based on the 19 interviews regarding the experience of using these apps six themes were developed aiming to answer the research question "What is the users' motivation of using a spiritual mobile application?" (Table 1). The themes are (1) "Connection to Core Beliefs & Values", (2) "Seeking Hope, Guidance & Emotional Support for Life's Challenges", (3) "Enhancing Holistic Self-Nurturing for Mental Health", (4) "Perspective Transformation Through Emotional Detachment & Self-Reflection", (5) "Empowering Personal Development Through Spiritual Practices", and (6) "Curiosity & Continuous Learning".

Table 1

Themes reflecting the participants' motivation of using spiritual mobile applications.

Theme	Definition	Codes included
Connection to Core Beliefs & Values	Participants utilize spiritual mobile applications as tools to explore, reaffirm, and align with their personal values and beliefs aiming to deepen their connection to their inner selves and higher spiritual principles embodies by the apps' content.	- What is important in life? - Connect to (deeper) self - Conviction: it feels right - Gateway to belief - Tool to connect to something higher - Identification
Seeking Hope, Guidance & Emotional Support for Life's Challenges	Participants use spiritual mobile applications to seek guidance, find hope, and receive support in navigating life's challenges, both present and future. These apps offer a sense of control, optimism, and a community of like-minded individuals who share in their journey.	- Creating hope - Optimism about the future - Guidance & Advice - Inspiration to life - Gives support in tough situations
Enhancing Holistic Self-Nurturing for Mental Health	Spiritual mobile applications serve as holistic tools for participants to enhance their emotional and mental well-being, maintain a positive outlook on life, and nurture a deeper connection with themselves and their surroundings.	- Self-care - Being aware of and listening to inner needs - Promoting inner balance - Taking time for self - Following a healthy routine - Maintaining positive emotions - Conscious handling of stress - Understand own behaviour & habits
Perspective Transformation Through Emotional Detachment & Self-Reflection	Participants turn to spiritual mobile applications as a means to achieve emotional detachment, transform their perspectives, and engage in comprehensive self-	- Change of perspective / view things from a different angle - De-fusion / Distance - Understand self - (Self-) Compassion

	reflection, all of which collectively contribute to perceived enhanced emotional well-being and positive relationships.	- Discover (unhelpful) thoughts and emotions - (Improving) Self-reflection
Empowering Personal Development Through Spiritual Practices	Participants turn to spiritual mobile applications to empower themselves through spiritual practices, foster their mental and emotional state, and embark on a journey of self-improvement and personal growth.	- Coping skills - Cultivating a personal enhancing routine - Gaining wisdom - Motivation to self-improvement - Personal growth
Curiosity & Continuous Learning	Participants turn to spiritual mobile applications as a means to satisfy their curiosity, explore new areas of interest, and engage in ongoing learning and self-improvement.	- Interest & expanding knowledge - Awakens curiosity - Explore new things - Fun - Social exchange

Connection to Core Beliefs & Values

This theme summarizes how participants turn to spiritual mobile applications out of a need to connect with what is important in life, including their beliefs, values, and the connection to their inner selves. Participants perceive these apps as tools to connect with their core values and to reinforce their convictions about what is right for themselves. By providing content that aligns with users' interests or needs, the apps enhance the perception of relevance and maintain user engagement. Consequently, users are more likely to return when they feel the app understands and caters to their beliefs and values. "Lola" described how the app fits into her worldview as well as how it helps her connecting to her true self and with what she believes in.

"[…] it's sort of beyond my worldview, because it questions that itself. You can enter any thought into this app and ask [yourself], is this true and what happens if I believe this thought? So, it makes it very broad and that fits very well with what I actually experienced or what I somehow believe. That the mind creates the world and that you have the possibility to look a little bit behind it. […] to see, is that true, to come closer to one's own truth in a meditative way."

Lola's perspective on the app *The Work*[12] aligns with her belief in the importance of questioning thoughts and beliefs recognizing the mind's role in shaping one's reality. The app's feature of actively questioning thoughts resonates with her worldview encouraging self-inquiry and broadening perspectives. Lola and users of other apps reported the intention to examine the truth of thoughts and "coming closer to one's own truth" through these apps, prompting introspection and self-connection.

Furthermore, participants expressed these apps serving as a gateway to connect with their beliefs, spirituality, and a larger, more expansive perspective. The following excerpt from the interview with "Magda" provides insights into how spiritual apps can serve as an extension of the users' existing spiritual beliefs and can facilitate connecting with those beliefs.

"I […] think it is an extension of something that I believe in, uhm, which is a more spiritual belief in the universe, I suppose. And I feel like the app is sort of an easy gateway to connect with that in a very simple way."

Magda explained that using the app *Co-Star*[3] is an extension of her spiritual beliefs which suggests that she already holds certain spiritual convictions or beliefs about the universe. This quote highlights that the app serves as a means to connect with these spiritual beliefs. It acts as "an easy gateway" that allows users to engage with their spirituality in a straightforward and accessible manner.

Furthermore, participants reported that the notifications and content within the apps resonate with their personal situations and emotional states providing insights and validation. In the following quote "Tae" explained how her usage of the spiritual app *Co-Star*[3] is driven by the experience of finding relatable insights and validation within the content.

> *"And I read [...] today's update, and I think it was, there was an insight that I could relate to and where I could see myself in. And that made me feel seen, and also put some thoughts into words that I related to. I do get some do get confused sometimes. [...] When I read a part about it. And then I feel like it's pretty accurate. [...] I remember in the very beginning, when I started using it, it actually pointed out something to me in words that I couldn't put into words before. And that's why I kept the app regardless of the confusing random sentences here and there, whatever, but I know for a fact that every once in a while, there's definitely something that I know is true."*

The quote emphasizes the emotional connection Tae feels when she encounters content that resonates with her experiences. Tae recalls that when she first started using the app it helped her understand something she could not express in words before. This initial impact played a significant role in her decision to continue using the app. The fact that Tae acknowledges "confusing and random sentences here and there" within the app's content shows that she does not unconditionally believe and trust everything in the app. Her statement about getting confused by the app's content ("I do get some do get confused sometimes") suggests that she acknowledges the app's lack of genuinely individualized content. Instead, it appears that the app's notifications resonate with her state of mind more coincidentally than intentionally. Relatability and validation are subjective experiences and users might interpret content in ways that confirm their existing beliefs or emotions without

objective validation. Nevertheless, Tae's individual experience with the app of being seen maintained her engagement with the app.

Seeking Hope, Guidance & Emotional Support for Life's Challenges

This theme highlights the participants' need to find guidance, hope, and emotional support in various aspects of their lives as a motivation to use the apps. Participants expressed anticipating and seeking predictions about future challenges striving to find positive perspectives and explanations for their feelings and behaviours. They view these apps as sources of daily inspiration and insights considering the past, present, and future phases of their lives. The following section describes an example of the ways in which participants turn to the spiritual app to anticipate future events.

> *"Jasmin": "I checked the little summary [...] thing and then I just clicked on the ones that I thought were like on the more like trouble right now or pressure right now and read those and I thought okay, until when does this last like multiple things that you can see how much it lasts and like I also checked out then like when in those themes would be better again, or would be a different thing because that also already gives you predictions for the future."*

Jasmin mentioned using an assessment feature ("little summary") in the app *Co-Star*[3] which suggests helping users assess their current state within their personal horoscopes. Jasmin specifically selected topics she believed might cause her trouble or pressure at that moment, indicating that she uses the app to address immediate concerns or stressors. She further checked the expected duration of her issues, suggesting users seek insights into the persistence of challenges to manage their mental well-being. Throughout the interviews participants conveyed their desire to gain insights into the future to be better prepared. Interestingly, participants generally do not comment negatively on this function and seem to

trust it unconditionally. Some even reported acting on predictions attempting to positively influence negative outlooks, as Tae also reports elsewhere in the interview.

> *"There might have been, because quite a few times I drew a tarot card asking about relationships because that's quite challenging to me. But I can also be more specific. And then I guess I did act on quite a few cards."*

Tae acknowledges that "there might have been" occasions when the app had an impact on her, particularly when she sought specific guidance on relationships through card readings. This extract highlights how participants like Tae regard tarot cards as significant tools for anticipating future developments. However, when admitting that Tae took actions based on the tarot cards ("I guess I did act") there is an underlying hesitancy.

Despite that, participants also stated that the apps offer them a sense of hope and positivity by helping them shift negative emotional states to more neutral or hopeful ones while explaining their feelings and behaviours. The quote below reflects "Leon's" experience about the apps' ability to provide insight into a challenging life situation, offer guidance, and instil a sense of hope.

> *"And, um, the app really portrayed me the whole situation and, um, where I was at that point and what will be coming. And, um, it was a pretty hard phase in my life. And, um, through that I had, um, the first or really, really like, experienced the first kind of hope in three months [...] They got me to, uh, through some tough times. And uh, yes, that's the main use I have for this app."*

Similar to Jasmin, Leon mentioned that the app *The Pattern*[7] "portrayed [him] the whole situation" implying that the app provides him with a comprehensive and reflective view of his current life circumstances. Leon noted that he was going through a particularly difficult phase in his life. During this challenging period the app seems to have played a

pivotal role in instilling a sense of hope ("really, really like, experienced the first kind of hope in three months") indicating an impact on his emotional state and outlook on the future.

Moreover, participants incorporate daily information and find inspiration in articles, notifications, or community discussions given within the app. Participants like "Sara" appreciate the opportunity to learn about gratitude and gain insights from other likeminded users, as the following quote shows.

> *"[…] reading about things the community does, also inspires me more on what I could do myself […] So, it's nice in a way, because you see, okay, what are other people grateful for because you sometimes there's things you don't even realize you should be grateful for. But others share them that they are grateful for, and you read it and you're like, yeah, that's, that's something I should be actually grateful for."*

Sara mentions deriving inspiration from the app *Saged*[8] using the app's community aspect where she gains a broader sense of gratitude by learning from others' experiences. She acknowledges that sometimes there are aspects of life that she overlooks but feels she should be grateful for. The app's community thus seems to serve as a reminder of these often-unnoticed positive aspects of life. This extract highlights that the apps' social or community aspects might play a significant role in motivating them to use these apps.

Enhancing Holistic Self-Nurturing for Mental Health

This theme reflects how participants turn to spiritual mobile applications with the underlying motivation to engage in self-care practices and enhance their overall well-being and mental health. These apps appear to help them reduce as well as cope with stress and anxiety, promote a positive mindset, and maintain a sense of peace. "Moritz" reported how using the app *Calm*[1] has helped him dealing with stress-related and burn out symptoms.

"And I felt like there was like, some, some burnout symptoms coming up or something. And I did take a week of break, but I used the app to, you know, kind of, kind of fuel myself in that situation. And there was specifically a theme about stress."

Rather than simply taking time off, Moritz chose to use the spiritual mobile app as a resource during his break. This suggests a proactive approach to self-care seeking a tool to help him address the burnout and its related stress. Further, Moritz particularly used the term "fuel myself" which suggests that the app provides him with resources or content to refill his mental and emotional energy. Moritz intentionally used the app as a supporting self-help tool in this challenging life phase. He notes that there was a specific theme about stress on the app. Moritz therefore turned to the app because it offered content related to his current challenges allowing him to specifically address stress and burnout in focused manner. In the following excerpt "Maya" also reported on how the app *Sanvello*[9] helped her dealing with her anxiety independently after finishing her psychotherapy.

"Umm, let me think, it's about a year ago now. It was right after I went to therapy myself and my therapist told me that they [these apps] are good. Especially for mindfulness meditation umm, it is really helpful for preventing or coping with anxiety. Mindfulness means being here now. And this is what helps me personally a lot ´cause I feel like I am able to cope with anxiety."

Maya and several other interviewees revealed that their psychotherapists specifically recommended mindfulness apps to address their issues. Maya personally found mindfulness meditation facilitated by the app highly beneficial for effectively managing her anxiety in everyday life. She succinctly explains her understanding of mindfulness emphasizing the concept of "being here now". It underscores that mindfulness, as facilitated by the app, is a valuable tool for Maya in coping with her anxiety. It implies that these practices help her

staying grounded in the present moment indicating her grasp of its relevance to her mental well-being. Furthermore, the next quote exemplifies how participants perceived the apps as facilitating their mental health management independently of professional help.

"Lena": "Uh, I, I think it was like in, because it, like it was Covid time, so I think I was struggling mentally at that time and I wanted to, I don't know, because I went to therapy at that time as well, so. I think I wanted something for my daily life that I could like do myself. Like, because obviously you can go to therapy like once a week or something, but you, when you feel bad, when you're like by yourself or alone, especially in Covid times that happened, uh, like more than usually I would say. And then I feel like I wanted to have something that maybe helps me cope with the struggles. So, I thought, because I've also heard from, um, yeah, like a lot of friends from my environment who are really into meditation and Buddhism, that they can like, recommend that, especially with anxiety. So, I downloaded it and yeah."

Lena explains that she begun using the app as a means of taking proactive steps to support her mental well-being in the gaps between therapy sessions. Recommendations from friends who were interested in meditation and Buddhism led her to this app as a tool to address her personal challenges. This excerpt highlights how the app serves as a tangible therapeutic resource for managing anxiety and loneliness offering a way to regain a sense of control in her daily life.

Beyond the therapeutic purpose participants also utilize spiritual apps to gain perspective on their lives and stay connected with their inner needs and values by focussing on what is truly important for them. By providing an incentive for self-care and self-reflection, participants expressed that the apps support them in maintaining their mental well-being. The following excerpt from "Naomi's" interview gives such an example.

"[…] we are living, I think in a time where we are a lot of, a lot of time on our phones and online and being distracted from the important things in life and I feel like it makes sense to develop an app such as Headspace where you get time for thinking of these important things in life and not just rush through your day without noticing what you are thankful for and without noticing your feelings and thoughts. […] it just suits my view on how important it is to deal with yourself and to give yourself time and it is nice that the app improves your mental health."

Naomi reflected on the modern era where people spend increasing amounts of time on their phones and online, often becoming distracted from life's essential aspects. She sees the app *Headspace*[6] as a countermeasure against this distraction providing dedicated time for thinking about essential aspects of life and encouraging users to pause, reflect, and cultivate gratitude and self-awareness. Naomi as well as other participants feel that the apps align with their personal view on the importance of self-reflection and self-care. They see the apps as tool to facilitate these practices as well as a resource for enhancing mental well-being. Thus, Naomi's alignment with the app's emphasis on self-care likely reinforces her motivation to use it as it resonates with her values and beliefs.

Perspective Transformation Through Emotional Detachment & Self-Reflection

This theme highlights the participants' need for emotional detachment by using spiritual mobile apps to gain a more objective and emotionally distant perspective on their thoughts, emotions, situations, and beliefs. The participants often discussed how the apps assisted them in taking a step back and adopting a more objective point of view. The following quote is an example of how the participant sees the app specifically as a supporting tool in broadening her focus to see things from a new perspective.

> *Lola: "And there is always another perspective on things to see and this app or the method helps to expand the focus, to expand the consciousness a bit and to see, ah ok, I think I have not had the full picture."*

Lola reported that she uses the app *The Work*[12] in challenging situations in life, but also in everyday situations, to specifically question her automatic reactions, thoughts, and beliefs. In this or similar ways, she and other participants described being able to achieve a change of perspective and process problems in a way that is more helpful and solution-oriented for them. Participants further view the apps as tools for becoming and staying aware of unhelpful thoughts and emotions. They expressed that this approach enables them to understand their own behaviours and patterns and to distance themselves from identified unhelpful thoughts and behaviours. By doing so, participants utilize these applications to foster positive emotions and cope with stress. Below, "Silvia" explained how she uses the app *Daylio*[5] to track her daily moods and activities to see how these are linked.

> *"So basically, it was an app, and you could write down your mood, because I also thought that was very nice to see how I was feeling every day since my mood swings are everywhere. So, it was nice to see for myself, like on what days, am I happy? How can I keep being happy? And it also shows you what have you done today."*

Silvia described the app as helpful in tracking her mood with a specific focus on happiness. This excerpt exemplifies how participants utilize the spiritual mobile applications as visualisation tool for their daily activities, moods, and behaviours. Silvia reported that with the help of the app it is possible for her to trace subliminal connections between, for example, activities or experiences and the associated moods. In this way, participants described succeeding in increasing the frequency of activities that induce positive emotions and maintain the associated positive emotions in the long term. Interestingly, neither Silvia

nor other participants reported any counterproductive experiences of daily mood tracking. Reducing emotions to a single mood rating may not capture the full range of an individual's feelings. The reflective process within these apps, nevertheless, seem to enable users to examine themselves and their experiences more deeply contributing to their holistic self-reflection.

Empowering Personal Development Through Spiritual Practices

This theme describes the participants' need for self-development improving their emotional and mental state as a motivation to use the apps. Participants view these apps as tools for self-improvement through practices like relaxation, emotional calmness, or inner cleansing. They also reported that the apps guide them in addressing various aspects of life fostering emotional stability, social skills, and goal pursuit. The following excerpt expresses how the practice based on the app *Insight Timer*[11] affects "Catherine's" approach to everyday life.

> *"[…] there is a sense of peace, quiet, space, starting the day with a space in your mind and not like getting up, you know, in a very hectic way, rushing around and you know, straightaway, you get more stressed about everything you, you know, you have a different approach to life, I think when you give yourself that space in the morning, and you start with like, a clear mind, spacious mind, calm mind. You know, you start the day in a different way you speak to people in a different way, at least you try. […] you try to keep it for as long as possible. That quality of mind, it's a different quality of mind, I would say. So yeah, that's very important to me."*

Just like other participants, Catherine talked about the importance of gaining mental space and peace for herself to cultivate a more relaxed approach to stressful situations in everyday life and to deal more openly and compassionately with fellow people. Starting the day with a calm and clear mind influences how she interacts with others. She further

emphasized the different effects of practicing and not practicing. While not practicing leads to a more stressed and hectic mindset, regular spiritual practice supports a clearer and freer mindset that is capable of more flexibility and resilience in everyday life situations. Catherine pointed out that giving herself this daily mental space leads to a different approach to life implying that she approaches daily challenges with greater composure and clarity. She also acknowledges the effort to maintain "that quality of mind" recognizing it as a different and desirable mental state. Other participants underlined the aspect of regularity in their practice as well which thus seems to be an essential part of personal growth through spiritual practices for them.

In the course of this, participants find motivation to commit to these app-based practices as they foster structure to the practice. Participants reported that affirmations and notifications, for instance, serve as a source of encouragement to take up these practices. Also, progress and feedback within these apps encourage participants to stick to routines. The excerpt below shows how progress recorded in the app can motivate users to maintain their routine.

> Catherine: "So, I can see the progress on the on the app, right? So, that's also motivating, you know, on the days when you're like, ah, you know, I'm not sure. Maybe today, I'll skip it, then, you know, you can always look there and like, yeah, okay, you know, the growth is there, I don't want to skip it."

Catherine emphasized that her motivation to maintain her routine is fuelled by the progress she has achieved. Other participants echoed this sentiment highlighting the satisfaction and sense of accomplishment derived from seeing their app's calendar or graph consistently grow and complete each day. Participants reported that these features encourage them to return and stay engaged. In this context, users may get the feeling that they are allegedly making progress in their spiritual or self-improvement journeys. Likewise,

Catherine's excerpt illustrates how these app features help users overcome motivation lows. Her statement "[…] the growth is there, I don't want to skip it" highlights how this feature motivates her both superficially, through rewards and satisfaction, and on a deeper level by fostering long-term personal growth including reported coping skills and enhanced self-reflection. While participants like Catherine appreciate this function and find it helpful, there were also a few critical voices among the participants. Some feel pressurised by these functions or find them counter-intuitive for the spiritual purpose of the apps.

Curiosity & Continuous Learning

This theme highlights how participants are driven to use spiritual mobile applications out of curiosity and a desire for ongoing learning and self-discovery. Participants expressed being curious about notifications and recommendations which tempt them to open the app and explore further. They seek to understand various aspects of spirituality, such as astrology and star signs, in order to gain insights into themselves and the world around them. In the following excerpt Jasmin described how the app's notifications in particular motivate her to learn more about the corresponding spiritual topic.

> *"I got a notification, like their daily notification. And then I went to the app because I was like, Oh, I'm actually curious about this right now this notification right now. […] Yeah, because the notification resonated with me, resonated with my current situation. I wanted to know more about like the other aspects."*

Jasmin's decision to open the app *Co-Star*[3] was driven by curiosity sparked by the notification which resonated with her current situation. It suggests that the apps' notifications engage users and draw their attention to its content. Other participants also reported that features such as notifications encourage them to use the app because they provide relevant content that aligns with the users' individual circumstances. The quote also

highlights that after opening the app Jasmin wanted to learn more about the other aspects related to the notification's content.

Beyond that, some participants reported being interested in expanding their knowledge and wisdom in spirituality and practices for everyday life. They view these apps as valuable tools for continuous learning and gaining knowledge. The excerpt from the interview with "Leon" provides insights into the role the individual's prior interest in spirituality and their desire for continuous learning plays in the motivation to use a spiritual app.

> *"Um, I think it was the interest in spirituality also. Because at that time I was just exploring new things. Um, I didn't really understand the mindset that I had. And, um, well this, um, use, the use of the app just, um, expands the knowledge that I have. So, on a daily basis, I learn new things."*

Leon reported that his initial motivation for using the app *The Pattern*[7] was his interest in spirituality. This suggests that initially he was curious and open to explore this aspect of his life. One motivation for using the app, not only according to Leon's statement, is its role in expanding the users' knowledge. Participants view the app as a helpful tool for daily learning and acquiring new insights. The quote underscores the purpose of daily or life-long learning and how participants see support in spiritual apps for this habit.

Discussion

The aim of this study was to answer the research question "What is the users' motivation of using a spiritual mobile application?", analysing 19 interviews with users of one or multiple modern spiritual apps. The six broad themes (1) "Connection to Core Beliefs & Values", (2) "Seeking Hope, Guidance & Emotional Support for Life's Challenges", (3) "Enhancing Holistic Self-Nurturing for Mental Health", (4) "Perspective Transformation Through Emotional Detachment & Self-Reflection", (5) "Empowering Personal Development Through Spiritual Practices", and (6) "Curiosity & Continuous Learning" were

developed using RTA and shed light on what drives the participants to utilize these apps. This thesis underlines the relevance modern spiritual mobile applications seem to show. It highlights how users perceive them as helpful tools that can support their lives on multiple levels by providing a contemporary way of participating in spiritual practices. Furthermore, whereas previous studies have mainly focused on the apps' interaction styles (Gorichanaz, 2022) or the users' experiences of app usage (e.g. Ahmad et al., 2014), this study and the resulting themes cover the participants' motivation behind the use of modern spirituality apps and, thus, indicates what they hope to achieve by using them.

While each theme highlights different aspects of users' motivations for using spiritual apps there are commonalities among them. Thus, most of the themes indicate that participants use the apps for intrinsic motivations. Intrinsic motivation, as defined in Self-Determination Theory (Deci and Ryan, 2013), is characterized by a genuine interest and internal desire to pursue an activity, often driven by personal interests, curiosity, or a sense of competence. It is also a crucial motor for learning, adaption, and growth in competencies that characterize human development (Deci & Ryan, 2013). The participants reported using these apps, for example, for seeking emotional well-being, personal growth, self-reflection, or learning.

However, participants also stated that recommendations (by friends or psychotherapists) or the app's features, such as notifications or progress tracking, motivated them extrinsically to return to the app frequently. Furthermore, some apps incorporate gamification elements, such as daily challenges, streaks, or rewards for frequent use. These features create a sense of achievement and progress, further motivating users to return regularly and stay engaged (Bitrián, Buil & Catalán, 2021). In this context, users may feel that they are making progress in their spiritual or self-improvement journeys. The concept of progress tracking in mobile apps is in line with the principles of persuasive technology (Matthews et al., 2016; Oinas-Kukkonen & Harjumaa, 2008). Research has emphasized the

effectiveness of self-monitoring and feedback in improving the persuasiveness of technologies and applications (Matthews et al., 2016; Oinas-Kukkonen & Harjumaa, 2008). By allowing users to monitor and measure their progress, mobile apps tap into individuals' motivation and encourage them to remain engaged and stick to established routines. The use of self-monitoring and feedback can thus be considered a key extrinsic motivator here (Deci & Ryan, 2013).

Overall, when considering the design and functionality of spiritual mobile apps it is notable that their developers aim to create an engaging user experience that encourages users to return to the app regularly and stay logged in for extended periods. Mobile apps in general typically offer a wide range of content to cater to diverse user interests and encourage exploration within the app. By collecting user data and preferences, the apps are able to deliver content tailored to individual circumstances (Wang & Miller, 2020; Mohr, Zhang & Schueller, 2017). Many of the spiritual mobile apps also frequently employ features like push notifications, which seem to be designed to pique curiosity and provide a sense of relevance by offering personalized content, such as daily horoscopes, motivational messages, or reminders related to the users' interests (Wohllebe et al., 2021; Bidargaddi et al., 2018). In this way, the apps enhance the perception of relevance and maintain user engagement (Beldad & Hegner, 2018). Hence, users are more likely to return when they feel the app understands and caters to their personal concerns. In the present analysis, most of the themes share the idea that users are motivated to use spiritual apps because they seem to align with their beliefs, values, and personal goals. Whether it is seeking emotional support, enhancing mental well-being, personal development, or connecting with spiritual beliefs, participants seem to be driven by the alignment between the apps' content and their own values and aspirations. However, the question arises as to whether the apps actually correspond to the existing values of the users or whether marketing strategies and branding efforts shape the perceptions and desires of the users related to spirituality (Rindfleish, 2005). While

alignment with personal values can initially foster intrinsic motivation (Deci & Ryan, 2013) there is a possibility that users could develop a reliance on these apps for aspects of their (self-)perception and well-being.

Most of the themes further emphasize users' expectations of positive outcomes from using spiritual apps. As the Expectancy-Value Theory posits individuals are motivated when they expect that their efforts will lead to a desirable outcome and when they value this outcome (Wigfield & Eccles, 2000). NAS practices embedded in the spiritual mobile apps emphasize personal spiritual growth, self-discovery, and holistic well-being, often through practices such as meditation or astrology (Heelas, 1999; Zeller, 2007; York, 1995; Hanegraaff, 1997). Participants reported believing that these apps yield beneficial results (e.g., mental and emotional well-being, optimism, coping skills) which motivates their continued usage.

In this course, mindfulness is attracting increasing attention, not least because of the positive effects it seems to bring (Payne, 2016; Keng, Smoski & Robins, 2011). Some participants were motivated to use mindfulness apps after their psychotherapists recommended them to address their concerns. According to both the participants and further research, mindfulness practices can be a valuable tool for individuals in their quest for self-improvement as it allows individuals to develop self-awareness, emotional regulation, and a deeper understanding of their thoughts and behaviours (Payne, 2016). Research has shown that mindfulness can have multiple positive effects on psychological well-being, such as reduced symptoms of depression, anxiety, and stress, as well as improved emotional regulation, enhanced well-being, and increased overall psychological resilience (Keng, Smoski & Robins, 2011; Kirby, 2016). Nonetheless, despite its increasing popularity there is apprehension and ambiguity regarding potential health risks linked to mindfulness (Van Gordon, Shonin & Garcia-Campayo, 2017). Research suggests that a potential risk to patients could arise, for instance, from a lack of understanding of the nuances of mindfulness

among some instructors (and recipients) and the consequent suboptimal teaching of mindfulness (Van Gordon, Shonin & Garcia-Campayo, 2017). Especially in the case of existing mental illnesses an adequate handling under professional supervision needs to be ensured (Howard, 2016; Kuijpers et al., 2007).

Apart from mindfulness apps, the use of astrology apps for seeking guidance or hope can be observed in this analysis. Interest in astrology has increased greatly in recent times (Das et al., 2022), possibly also due to the New Age movement (Andersson, Persson & Kajonius, 2022; Gecewicz, 2018). Rising environmental uncertainty has been observed to heighten interest in astrology and various paranormal phenomena (Keinan, 1994; Padgett & Jorgenson, 1982). Additionally, research suggests that astrology not only becomes appealing during times of uncertainty but also appears to validate individuals' self-belief, potentially mitigating the negative emotions usually associated with uncertainty (Lillqvist & Lindeman, 1998). Nevertheless, cases of reliance on astrological services or "fortune-telling addiction" can hint at potential adverse consequences for mental health and should therefore be handled with caution (Das et al., 2022).

The New Age movement has embraced consumer culture resulting in the commercialization of spiritual products and services (York, 2001). This includes the sale of spiritual books, workshops, crystals, mobile applications and other items, often marketed as tools for personal growth and enlightenment. The modern digital performance of such spiritual practices is also called "digital wellness" (Gorichanaz, 2022). The term underscores the trend that individuals increasingly turn to technology to support their spiritual practices and personal growth (Gorichanaz, 2022; Buie & Blythe, 2013). Some of the identified themes highlight users' motivations related to self-empowerment and self-improvement. Users seek to empower themselves through spiritual practices, enhance their mental well-being, and engage in personal growth and continuous learning. Smartphone apps provide accessibility and convenience for users to engage in these practices. Users can access these

resources anytime and anywhere making it easier to incorporate spirituality into their daily lives (Gorichanaz, 2022). Yet, in this way spiritual experiences, practices, and products may face the risk of consumer-oriented marketing, promising personal growth and transformation (Rindfleish, 2005). Rindfleish (2005) introduced the concept of the "self" as a commodity within consumer society. Based on that, it could be assumed that individuals engage in the consumption of spiritual products and services as a means of self-enhancement seeking to improve and transform themselves.

In summary, users' motivations for engaging with spiritual mobile applications involve a complex interplay of psychological factors and personal needs. The diverse set of internal and external inspired motivations collectively shape users' involvement with these apps, primarily as tools to enhance spiritual practices, foster personal growth, and attain emotional well-being. Aligned with the New Age movement, participants immerse themselves in app-based activities like mindfulness and astrology, perceiving these as harmonizing with their individual beliefs, values, and personal goals (Heelas, 1999; Zeller, 2007; York, 1995; Hanegraaff, 1997).

Limitations and Future Directions

At the beginning of the study all apps were categorised under the same umbrella category of "spiritual apps". Yet, subsequent findings suggest a need for more specific categorization, particularly distinguishing between mindfulness and astrology apps. Interestingly, while the identified themes include both mindfulness as well as astrology-based apps it stood out that only users of astrology apps reported aspects like fun or social exchange as driving forces to use the spiritual apps. Future research thus may need to distinguish between the apps' focus. While this study provides insight into the general underlying motivation for using spiritual apps, future research can build on this by conducting user segmentation within the context of spiritual apps. This segmentation could involve categorizing users based on the type of app they engage with (e.g., mindfulness,

astrology, mediation) and then examining the unique motivations and experiences of each group.

Furthermore, expanding the sample's diversity in future research on the motivations behind using spiritual mobile apps is not only desirable but also essential for gaining a more comprehensive understanding of this phenomenon. For example, a larger representation of older cohorts among participants is crucial to capture how different generations engage with spiritual mobile apps. Younger individuals might have different motivations and preferences compared to older generations. Also, gender diversity is important to ensure that research findings are inclusive and reflect the experiences and motivations of a broader spectrum of users. Moreover, while it is positive that the present study had a broad representation of mainly European nationalities expanding the sample to include participants from a wider range of countries can provide more nuanced insights. Incorporating participants from various cultural contexts into future research can help uncover cultural differences in spiritual app usage and underlying motivations.

Furthermore, though not understood as a primary motivation in this analysis, it is noteworthy that participants frequently emphasized the convenience and effortless accessibility of spiritual content via mobile app. The ease with which individuals can access spiritual content through mobile apps could potentially lower the barriers to entry (Venkantesh & Davis, 2000). It may encourage individuals who might not have otherwise initiated spiritual practices to explore and engage with these practices. It could be interesting to explore how digital accessibility affects the initial decision to adopt spiritual practices. Beyond initiation, the accessibility of digital spiritual content may also impact sustained engagement. Thus, individuals could be more likely to continue using these apps when they find the content readily available.

Finally, acknowledging the context and perspective from which this study was conducted is essential for transparency and ensuring the credibility of the results. As this

thesis was written as part of the academic graduation in clinical psychology, the analysis was conducted through a corresponding disciplinary lens. Ongoing critical self-reflection regarding emotional reactions or inductive interpretations allowed for recognizing own pre-assumptions which can influence the interpretation of data. This self-awareness contributed to an iterative approach to the data analysis and enabled considering alternative interpretations.

Conclusion

This study highlights how users of spiritual mobile applications see these as valuable features to support their lives on multiple levels through contemporary engagement with spiritual practices. Users engage with spiritual apps for multifaceted reasons, reflecting a complex interplay of psychological factors, personal needs, and desires, anticipating positive outcomes. The resulting themes elucidate initial intrinsic motivations as a common thread among participants, seeking emotional well-being, personal growth, self-reflection, or learning. Additionally, extrinsic motivators, such as app features like notifications and progress tracking, further enhance users' frequent returns to the apps. Overall, participants perceive the apps as ubiquitous pocket self-help tools – in acute situations or as a preventive routine. The participants' positive view on spiritual app usage underlines the apps' potential to harness technology for positive purposes. However, this represents a contemporary paradox wherein mobile technology is viewed as both a solution to connect with one's inner self and values, but at the same time as a cause for disconnection.

References

Ahmad, N. A., & Razak, F. H. A. (2013). On the emergence of techno-spiritual: The concepts and current issues. Conference Paper.

Ahmad, N. A., Zainal, A., Baharum, Z. & Razak, F. H. A. (2021). Spiritual User Experience (iSUX) for Older Adult Users using Mobile Application. *International Journal of Advanced Computer Science and Applications*, *12*(5), 67-73.

Ahmad, N. A., Zainal, A., Razak, F. H. A. & Adnan, W. A. W. (2014). Assessing Older People Experiences of using Mobile Spiritual Applications. At: International Islamic University Malaysia. *National Symposium of Human Computer Interaction (SymHCI)*. Selangor, Malaysia.

Ajzen, I. (1980). Understanding attitudes and predicting social behavior. *Englewood cliffs*.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control: From cognition to behavior* (pp. 11-39). Berlin, Heidelberg: Springer Berlin Heidelberg.

Akbari, M., & Hossaini, S. M. (2018). The relationship of spiritual health with quality of life, mental health, and burnout: the mediating role of emotional regulation. *Iranian Journal of Psychiatry*, *1*(13), 22-31.

Amaral, L. (2015). New Age Spirituality. In *Springer eBooks* (pp. 1–5).

Andersson I., Persson J., Kajonius P. (2022). Even the stars think that I am superior: Personality, intelligence and belief in astrology. *Personality and Individual Differences*, 187, 111389.

Aupers, S., & Houtman, D. (2006). Beyond the Spiritual Supermarket: The Social and Public Significance of New Age Spirituality. *Journal of Contemporary Religion*, *21*(2), 201–222.

Baysal, M. (2022). Positive Psychology and Spirituality: A Review Study. In *Spiritual Psychology and Counseling*. EDAM (Educational Consultancy and Research Center).

Beldad, A. D., & Hegner, S. M. (2018). Expanding the technology acceptance model with the inclusion of trust, social influence, and health valuation to determine the predictors of German users' willingness to continue using a fitness app: A structural equation modeling approach. *International Journal of Human–Computer Interaction*, *34*(9), 882-893.

Berg, M. J. T. (2007). New age advice: ticket to happiness? *Journal of Happiness Studies*, *9*(3), 361–377.

Berry, D. M., & York, K. (2011). Depression and religiosity and/or spirituality in college: A longitudinal survey of students in the USA. *Nursing & health sciences, 13*(1), 76–83.

Bidargaddi, N., Almirall, D., Murphy, S., Nahum-Shani, I., Kovalcik, M., Pituch, T., ... & Strecher, V. (2018). To prompt or not to prompt? A microrandomized trial of time-varying push notifications to increase proximal engagement with a mobile health app. *JMIR mHealth and uHealth*, *6*(11), e10123.

Bitrián, P., Buil, I., & Catalán, S. (2021). Enhancing user engagement: The role of gamification in mobile apps. *Journal of Business Research*, *132*, 170-185.

Black, D. S. (2011). A brief definition of mindfulness. *Behavioral Neuroscience*, *7*(2), 109.

Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3:2, 77-101.

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57–71). American Psychological Association.

Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative research in psychology*, *18*(3), 328-352.

Brooks, F., Michaelson, V., King, N., Inchley, J., & Pickett, W. (2018). Spirituality as a protective health asset for young people: an international comparative analysis from three countries. *International Journal of Public Health*, *63*(3), 387–395.

Bozek, A., Nowak, P. F. & Blukacz, M. (2020). The Relationship Between Spirituality, Health-Related Behavior, and Psychological Well-Being. *Frontiers in Psychology*, *11*.

Buie, E., & Blythe, M. (2013). Spirituality: there's an app for that!(but not a lot of research). In *CHI'13 extended abstracts on human factors in computing systems* (pp. 2315-2324).

Campbell, H. A. (2005). Spiritualising the Internet. Uncovering Discourses and Narratives of Religious Internet Usage. *Online-Heidelberg Journal of Religions on the Internet*, *1*(1).

Campbell, H. (2013). *Digital Religion: Understanding Religious Practice in New Media Worlds*.

Carissoli, C.,Villani, D., & Riva, G. (2015). Does a meditation protocol supported by a mobile application help people reduce stress? Suggestions from a controlled pragmatic trial. *Cyberpsychology, Behavior, and Networking*, *18*(1), 46-53.

Chassiakos, Y. L. R., & Stager, M. (2020). Current trends in digital media: How and why teens use technology. In *Technology and adolescent health* (pp. 25-56). Academic Press.

Clarke, V. & Braun, V. (2017) Thematic analysis. *The Journal of Positive Psychology*, 12:3, 297-298.

D'Andrea, A. (2006). The Spiritual Economy of Nightclubs and Raves: Osho Sannyasins As Party Promoters in Ibiza and Pune/goa. *Culture and Religion*, *7*(1), 61–75.

Das, A., Sharma, M. K., Kashyap, H., & Gupta, S. (2022). Fixating on the future: An overview of increased astrology use. *International Journal of Social Psychiatry*, *68*(5), 925-932.

Daudén Roquet C., & Sas C. (2018). Evaluating Mindfulness Meditation Apps. In: Proceedings of the Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems. New York, USA.

Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.

Delgado, C. (2005). A Discussion of the Concept of Spirituality. *Nursing Science Quarterly*, *18*(2), 157–162.

Donker, T., Petrie, K., Proudfoot, J., Clarke, J., Birch, M. R., & Christensen, H. (2013). Smartphones for smarter delivery of mental health programs: A systematic review. Journal of Medical Internet Research, 15(11), e247.

Dyson, J., Cobb, M., & Forman, D. (1997). The meaning of spirituality: a literature review. *Journal of Advanced Nursing*, *26*(6), 1183–1188.

Eberth, J., & Sedlmeier, P. (2012). The Effects of Mindfulness Meditation: A Meta Analysis. *Mindfulness* 3, 174–189.

Estanek, S. M. (2006). Redefining Spirituality: A New Discourse. *College student journal*, *40*(2), 270–281.

Falb, M. D., & Pargament, K. I. (2014). Religion, Spirituality, and Positive Psychology: Strengthening Well-Being. *Cross-Cultural Advancements in Positive Psychology*, 143–157.

Gecewicz, C. (2018). 'New Age'beliefs common among both religious and nonreligious Americans.

Gorichanaz, T. (2022). Smartphone apps for spiritual wellness. *Open Information Science*, *6*(1), 106-115.

Hagerty, B. M., Williams, R. A., Coyne, J. C., & Early, M. R. (2005). Sense of belonging and indicators of social and psychological functioning. *Archives of Psychiatric Nursing*, *19*(4), 18-29.

Hamjah, S. H., Ismail, Z., Sham, F. M., Rasit, R. M., & Ismail, A. (2015). Spiritual approach in managing work-related stress of academicians. *Procedia-Social and Behavioral Sciences, 174*, 1229-1233.

Hanegraaff, W. J. (1997). *New Age religion and Western culture: Esotericism in the mirror of secular thought* (Vol. 72). State University of New York Press.

Heckhausen, J., & Heckhausen, H. (2006). Motivation und Handeln: Einführung und Überblick. *Motivation und Handeln*, 1-9.

Heelas, P. (1999). *The New Age movement: The celebration of the self and the sacralization of modernity*. Blackwell.

Hill, P. C., Smith, E., & Sandage, S. J. (2013). Religious and spiritual motivations in clinical practice. In *The psychology of religion and spirituality for clinicians* (pp. 69-99). Routledge.

Holla, S., & Katti, M. M. (2012). Android based mobile application development and its security. *International Journal of Computer Trends and Technology*, *3*(3), 486-490.

Howard, S. J. (2016). Mindfulness may have risks as well as benefits. *Journal of the Royal Society of Medicine*, *109*(7), 259-259.

Huss, B. (2014). Spirituality: The emergence of a new cultural category and its challenge to the religious and the secular. *Journal of Contemporary Religion*, *29*(1), 47-60.

Ivtzan, I., Chan, C. P., Gardner, H. E., & Prashar, K. (2013). Linking religion and spirituality with psychological well-being: Examining self-actualisation, meaning in life, and personal growth initiative. *Journal of religion and health*, *52*, 915-929.

Janssen-Niemeijer, A. J., Visse, M., Van Leeuwen, R., Leget, C., & Cusveller, B. (2017). The Role of Spirituality in Lifestyle Changing Among Patients with Chronic Cardiovascular Diseases: A Literature Review of Qualitative Studies. *Journal of Religion & Health*, *56*(4), 1460–1477.

Keinan, G. (1994). Effects of stress and tolerance of ambiguity on magical thinking. *Journal of personality and social psychology*, *67*(1), 48.

Kelley, B. S., Athan, A. M., & Miller, L. F. (2007). Openness and spiritual development in adolescents. *Research in the Social Scientific Study of Religion,18*, 3–33.

Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical psychology review*, *31*(6), 1041-1056.

Kirby, L. C. (2016). Mastering mindfulness for survival in medicine. *Journal of the royal society of medicine*, *109*(2), 44-45.

Koenig H. G. Religion, Spirituality, and Medicine: Application to Clinical Practice (2000). *JAMA*, *284*(13):1708.

Koenig, H. G., King, D. E., & Carson, V. B. (2012). *Handbook of religion and health*. Oxford University Press.

Krok, D. (2008). The role of spirituality in coping: Examining the relationships between spiritual dimensions and coping styles. *Mental health, religion and culture, 11*(7), 643-653.

Kuijpers, H. J., Van der Heijden, F. M. M. A., Tuinier, S., & Verhoeven, W. M. A. (2007). Meditation-induced psychosis. *Psychopathology*, *40*(6), 461-464.

Kwon, M. W., Mun, K., Lee, J. K., McLeod, D. M., & D'Angelo, J. (2017). Is mobile health all peer pressure? The influence of mass media exposure on the motivation to use mobile health apps. *Convergence*, *23*(6), 565-586.

Latham, G. P., & Pinder, C. C. (2005). Work motivation theory and research at the dawn of the twenty-first century. *Annu. Rev. Psychol.*, *56*, 485-516.

Laurie, J., & Blandford, A. (2016). Making time for mindfulness. *International journal of medical informatics*, *96*, 38–50.

Lavretsky, H. (2010). Spirituality and aging. *Aging Health*, *6*(6), 749–769.

Lazaridou, A. & Pentaris, P. (2016). Mindfulness and spirituality: therapeutic perspectives. *Person-Centered & Experiential Psychotherapies*, *15*(3), pp.235-244.

Lewis, J. R., & Melton, J. G. (1992). *Perspectives on the New Age*. SUNY Press.

Lillqvist, O., & Lindeman, M. (1998). Belief in astrology as a strategy for self-verification and coping with negative life-events. *European Psychologist*, *3*(3), 202-208.

Lui, J. H. L., Marcus, D. K., & Barry, C. T. (2017). Evidence-based apps? A review of Mental health mobile applications in a psychotherapy context. *Professional Psychology: Research and Practice, 48*(3), 199–210.

Majrashi, K. (2018). User need and experience of Hajj mobile and ubiquitous systems: Designing for the largest religious annual gathering. *Cogent Engineering*, 5:1480303.

Marcoen, A. (1994). Spirituality and personal well-being in old age. *Ageing & Society*, *14*(4), 521-536.

Marques, S. C., Lopez, S. J., & Mitchell, J. (2013). The role of hope, spirituality and religious practice in adolescents' life satisfaction: Longitudinal findings. *Journal of Happiness Studies,14*(1), 251–261.

Mohr, D. C., Zhang, M., & Schueller, S. M. (2017). Personal sensing: understanding mental health using ubiquitous sensors and machine learning. *Annual review of clinical psychology*, *13*, 23-47.

Matthews, J., Win, K. T., Oinas-Kukkonen, H., & Freeman, M. (2016). Persuasive technology in mobile applications promoting physical activity: a systematic review. *Journal of medical systems*, *40*, 1-13.

Koenig, H. G., King, D. E., & Carson, V. B. (2012). *Handbook of religion and health*. New York: Oxford University Press.

Miller, W. R., & Thoresen, C. E. (1999). Spirituality and health. In W. R. Miller (Ed.), *Integrating spirituality into treatment: Resources for practitioners* (pp. 3–18). American Psychological Association.

Miller, W. R., & Thoresen, C. E. (2003). Spirituality, religion, and health: An emerging research field. *American Psychologist, 58*(1), 24–35.

Oinas-Kukkonen, H., & Harjumaa, M. (2008). A systematic framework for designing and evaluating persuasive systems. In *Persuasive Technology: Third International Conference, PERSUASIVE 2008, Oulu, Finland, June 4-6, 2008. Proceedings 3* (pp. 164-176). Springer Berlin Heidelberg.

Padgett, V. R., & Jorgenson, D. O. (1982). Superstition and economic threat: Germany, 1918-1940. *Personality and social psychology bulletin*, *8*(4), 736-741.

Payne, R. K. (2016). Mindfulness and the Moral Imperative for the Self to Improve the Self. *Handbook of mindfulness: Culture, context, and social engagement*, 121-134.

Possamai, A. (2000). A profile of New Agers: social and spiritual aspects. *Journal of Sociology*, *36*(3), 364–377.

Puchalski, C. M., Vitillo, R., Hull, S. K., & Reller, N. (2014). Improving the spiritual dimension of whole person care: Reaching national and international consensus. *Journal of Palliative Medicine, 17,* 642–656.

Qu, C., Sas, C., Daudén Roquet, C., & Doherty, G. (2020). Functionality of Top-Rated Mobile Apps for Depression: Systematic Search and Evaluation. *JMIR mental health*, *7*(1), e15321.

Reeve, J. (2018). *Understanding motivation and emotion*. John Wiley & Sons.

Reimer, K. S., & Dueck, A. (2012). Spiritual Identity: Personal Narratives for Faith and Spiritual Living. *Religions*, *3*(2), 251–265.

Rindfleish, J. (2005). Consuming the Self: New Age Spirituality as "Social Product" in Consumer Society. *Consumption Markets & Culture*, *8*(4), 343–360.

Rippentrop, A. E., Altmaier, E. M., Chen, J. J., Found, E. M., & Keffala, V. J. (2005). The relationship between religion/spirituality and physical health, mental health, and pain in a chronic pain population. *Pain*, 116(3), 311-321.

Rose, S. R. (1998). An examination of the new age movement: Who is involved and what constitutes its spirituality. *Journal of Contemporary Religion*, *13*(1), 5–22.

Smith-MacDonald, L., Norris, J. M., Raffin-Bouchal, S., & Sinclair, S. (2017). Spirituality and Mental Well-Being in Combat Veterans: A Systematic Review. *Military medicine*, *182*(11), e1920–e1940.

Stanley, S. (2012). Mindfulness: Towards a critical relational perspective. *Social and Personality Psychology Compass*, *6*(9), 631-641.

Statista (2023). Number of mobile app downloads worldwide from 2016 to 2022. Statista. https://www.statista.com/statistics/271644/worldwide-free-and-paid-mobile-app-store-downloads/

Steemers-van Winkoop, M. (2014). *Spiritualiteit en gezondheid*. Budel: Damon

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The journal of Positive Psychology*, 4(1), 43-52.

Tsuria, R., Bellar, W., Campbell, H., Cho. K. J. (2021). Transferred, mediated or transformed: considering the design, features, and presentation of sacred text mobile applications. *Journal of Contemporary Religion*, *36*(1).

Underwood, L.G., Teresi, J.A. (2002). The daily spiritual experience scale: development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health-related data. *ann. behav. med.* 24, 22–33.

Van Gordon, W., Shonin, E., & Garcia-Campayo, J. (2017). Are there adverse effects associated with mindfulness?. *Australian & New Zealand Journal of Psychiatry*, *51*(10), 977-979.

Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating persistence, deep level learning and achievement: The synergistic role of intrinsic-goal

content autonomy-supportive context. *Journal of Personality and Social Psychology*, *87*(2), 246-260.

Wahab, A., Kamaruddin, A., Hassan, S. & Che Pa, N. (2017) *Addressing usability quality attributes in techo-spritual application.* In: 6th International Conference on Computing and Informatics (ICOCI 2017), 25-27 Apr. 2017, Kuala Lumpur, Malaysia. (pp. 443-451).

Wang, X., Markert, C., & Sasangohar, F. (2023). Investigating Popular Mental Health Mobile Application Downloads and Activity During the COVID-19 Pandemic. *Human Factors*, *65*(1), 50–61.

Wang, L., & Miller, L. C. (2020). Just-in-the-moment adaptive interventions (JITAI): A meta-analytical review. *Health Communication*, *35*(12), 1531-1544.

Weathers, E. (2019). What is spirituality?. *Spirituality in healthcare: Perspectives for innovative practice*, 1-22.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological review*, *92*(4), 548.

Whitehead, B. R., & Bergeman, C. S. (2012). Coping with daily stress: differential role of spiritual experience on daily positive and negative affect. *The journals of gerontology. Series B, Psychological sciences and social sciences*, *67*(4), 456–459.

Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary educational psychology*, *25*(1), 68-81.

Wohllebe, A., Hübner, D. S., Radtke, U., & Podruzsik, S. (2021). Mobile apps in retail: effect of push notification frequency on app user behavior. *Innovative Marketing*, *17*(2), 102-111.

Wong, P.T. (2011). Positive psychology 2.0: Towards a balanced interactive model of the good life. *Canadian Psychology/Psychologie Canadienne*, 52(2), 69-81.

York, M. (1995). *The emerging network: A sociology of the new age and neo-pagan movements*. Rowman & Littlefield.

York, M. (2001). New Age commodification and appropriation of spirituality. *Journal of Contemporary Religion*, *16*(3), 361-372.

Zainal, A., Ahmad, N. A., Razak F. H. A., & Nordin, A., (2015). A multi-method exploration: The use of mobile spiritual applications amongst older adults. *International Conference on Information Technology Systems and Innovation (ICITSI)*, pp. 1-7.

Zeller, B. (2007). New Religions: A Guide. New Religious Movements, Sects and Alternative Spiritualities, by Christopher Partridge and J. Gordon Melton. *Nova Religio*, *11*(1), 118-119.

Appendix A

Interview Protocol

Welcome to this interview about spiritual mobile applications. My name is ___ 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____ 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 B:

Apps used

- Co-Star

- Daff Moon

- Headspace

- Insight Timer

- Sadhguru

- Sanctuary

- Saged

- Soul Essence Mastery Technique

- Spiritual Stories Daily

- The Moonly App

- The Pattern

- The Work

- Unwinding Anxiety

Appendix C

Ethical approval

UNIVERSITY OF TWENTE.
FACULTY BMS

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.

Appendix D

Information sheet

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 E

Consent form

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 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.

    □   □

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.

_____   _____   _____

Name of researcher [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 ay 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.