Article

Prompting Spiritual Practices through Christian Faith Applications: Self-Paternalism and the Surveillance of the Soul

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Abstract

This paper examines the everyday use of applications designed for Christian spiritual practices, ranging from Bible reading to prayer to meditation to forms of personal and collective worship. These applications are designed to prompt and reinforce particular behaviours on the part of users to support them in their devotional efforts. As a technology that sits between the external workings of (divine) power and reaffirmations of power through personal examination, these spiritual applications seem to exemplify Foucauldian concerns about surveillance and the production of subjectivity. However, a considered examination of these technologies and an empirical investigation of their use suggests a more complicated story. Though these may be considered “technologies of the self,” their use seems to vary amongst adherents, surprisingly less used by those who may be seen as more spiritually committed. Rather than serving to “quantify” or even “gamify” spirituality fully, the use of these apps suggests a form of self-paternalism in which certain users willingly respond to features designed to encourage particular spiritual practices—a mode of governance that subtly promotes particular (personally) desired behaviours. Drawing in part on an international survey that examined users’ motivations and experiences with these applications, the contexts and results of spiritual applications raise several issues for surveillance studies more generally, including considerations needed for contextual norms, responses to and accommodation of social expectations, and a reorientation towards agency in relation to the production of subjectivity.

Introduction

In January 2014, John Ortberg, senior pastor at Menlo Park Presbyterian Church, and Bradley Wright, an associate professor of sociology at the University of Connecticut, released SoulPulse. SoulPulse was a smartphone-based survey to measure how people experience spirituality on a moment-by-moment basis. Participants would sign up at SoulPulse.org, and, after an intake survey, they would receive two short surveys a day for fourteen days. These daily surveys were texted to them on their smartphones, and they answered questions about what they were experiencing at that moment regarding their spirituality, circumstances, health, and emotions. At the end of two weeks, participants received an interactive report that plotted their spiritual experiences during the study.¹

The developers of SoulPulse published several papers focused on spiritual awareness at different moments

¹ The site was formerly available at <https://soulpulse.org> until 2017. A description of the research was detailed in a *New Yorker* article, “Big Data and the Spirit” available at <https://www.newyorker.com/tech/annals-of-technology/big-data-spirit>.

during the day, self-control and daily stress, and the effect of spirituality on financial stressors.² The developers of this technology had focused on finding ways to make spiritual life in some way more measurable and “actionable,” based on new knowledge of how spiritual experiences are interwoven into the fabric of daily life. Ortberg believes that “the most important dimensions of life have to do with the spirit” but recognises that “those aren’t always quantifiable” (Cep 2014). However, he indicates that “using the best tools and methods available” to attempt to measure spirituality is “worthwhile” (ibid.). According to SoulPulse’s blog and related articles, people tend to be more aware of God in the morning with this decreasing throughout the day, less aware of God whilst resting or working but more aware while cooking food or listening to music, and more aware of God during the day based on the more sleep one gets.³ Further, as noted in an article in the *Journal for the Scientific Study of Religion*, the “act of doing spiritual activities and the sustained doing of these activities contributes to increased spiritual awareness,” and “habitual embodied engagement with technology is associated with lower levels of spiritual awareness” (Kucinskas et al. 2017: 434–35).

It is this last point—how engagement with technology may affect spirituality—that is the focus of this paper. While Kucinskas et al. (ibid.) make this assertion based on their findings, showing that sustained interaction with certain forms of technology use (e.g., working on a computer all day or playing video games) has negative effects on spiritual awareness, this study looks at how more intermittent interaction with spiritual applications, specifically those developed for use on smartphones and tablets, affects people’s spirituality. This paper examines the use of these digital technologies for helping, tracking, and prompting practices of spirituality. We argue that these practices are ones of self-surveillance, a continual monitoring of one’s (spiritual) state with the intention to improve, adjust, or refocus everyday practices of spirituality. There are more communal or corporate aspects of these practices, yet, given the individual use of the devices on which these applications reside, we see this focus on personal practices as key. As such, this particular manifestation of surveillance intersects with a number of research concerns ranging from the quantification of the self, technologies of the self, interpersonal and lateral forms of surveillance, and conditioning practices described in terms of nudging or prompting. It reinforces both already existing concerns and some new variations related to the benefits and detractions of self-surveillance mechanisms beyond those simply connected to spirituality.

These applications emerged in relation and response to the development of several applications for tracking and adjusting lifestyles, specifically the use of smartphones, tablets, and other digital devices that people use readily and often to monitor their behaviour and habits (Luxton et al. 2011; Azar et al. 2013). Most of these applications and the research examining them have predominantly been on health, meditation, and physical well-being. However, some studies connect application or technology use with spirituality (see for instance Bellar 2017; Campbell 2012; Tkach 2014), though with hundreds of spiritually focused applications available in app stores for both Android and Apple smartphones (Tkach 2014), this research area has significant room for further study. As many other studies have found that applications for self-surveillance could have a significant effect on the behaviour of users (Aguilar-Martínez et al. 2014; Chen, Bauman, and Allman-Farinelli 2016; Dennison et al. 2013), this focus on spiritual applications seems to exemplify Foucauldian concerns about “technologies of the self,” particularly as they exist between the external workings of (divine) power and reaffirmations of power through personal examination. That is, the use of these applications seems an ideal space to examine how the more disciplinary concerns of Foucault’s earlier works connect with his later focus on more “confessional” practices—Christianity as an institutional religion imposed upon individual subjects simultaneously being (re)produced through the daily activities of its adherents.

However, a considered examination of these technologies and an empirical investigation of their use suggests a more complicated story. For this research, we asked users of such Christian applications to respond to how they found the use of these application in terms of being user-friendly; entertaining or

² See Gutierrez, Park, and Wright (2017); Kucinskas et al. (2017); Park et al. (2016).

³ soulpulse.org/blog/ [accessed June 1, 2017]; now archived at archive.li/FtuiP.

engaging; encouraging spiritual growth; or being informative. We further asked whether the respondent perceived these applications as helpful in terms of things like “sharing faith,” “reading the Bible,” “setting faith goals,” and “increasing spiritual self-awareness.” The survey specifically focused on asking how users saw these applications as helping them in certain spiritual practices,⁴ and listed a number of example applications, such as YouVersion/The Bible App, Pray As You Go, Bible In One Year, iDisciple, PrayerMate, My Daily Devotional, Olive Tree, and Our Daily Bread, with space to indicate other applications that were not listed. The majority of respondents used applications that helped them in reading the Bible (81 per cent), worshipping (26 per cent), and praying (24 per cent). The survey further revealed that in practice, the use of these apps seems not to be a more regulatory or normative expectation of spiritual expression as Foucault’s practices of confession may suggest. Instead, rather than serving to “quantify” or even “gamify” spirituality fully, the use of these apps suggests a form of self-paternalism in which users willingly respond to features designed to encourage particular spiritual practices. This shifts the focus from routinised interventions in practice towards a softer form of prompting or nudging behaviour as articulated by Sunstein and Thaler (2003; see also Thaler and Sunstein 2008).

In what follows, the paper examines current understandings of self-inspection within contemporary societal injunctions to “know oneself.” It then examines how new devices and technologies have enabled more intimate measuring of self on an increasingly routine basis through both quantifying and gamifying these practices, with a specific focus on the rise of Christian spiritual applications. Next, the paper details the results of an exploratory international survey focused on spiritual app use as noted above before making several suggestions regarding the implications of and concerns for these spiritual practices of self-monitoring for our understanding of surveillance more generally.

Self-Knowledge and Technologies of the Self

Research into conceptualisations of self-knowledge have long focused on the interplay between personal subjectivity and acts of intimate self-reflection, from Charles Horton Cooley’s (1902) articulation of the “looking-glass self” as an internalisation of others’ perspectives to later symbolic interactionist thought, most notably of George Herbert Mead (1932) and Herbert Blumer (1986), who saw a notion of self-understanding as largely a reflective process contrasting with the “generalised other.” This emphasis on a reflective process was further developed by Anthony Giddens (1991) in his description of “late modern” identities. For Giddens, our very identity is produced through a process of continual self-monitoring in light of and in contrast with social structures and practices. In his perspective, identity is a continual process of reflexivity. Reflection (usually) implies some form of action on the part of the self—that an assessment is transformed into either a revision or continuation of practices that have produced this (perception of) self in the first place. This is perhaps best described in terms of how the self is “performed,” a concept that draws allusion to Erving Goffman’s (1959) dramaturgical analysis or Judith Butler’s (2002) description of gendered identities.

Within surveillance studies, these descriptions of reflexive and performed selves have largely been eclipsed by more Foucauldian concerns about the production of subjectivity variously engaged with by the aforementioned authors. Both Foucault’s (1977) understanding of disciplinary power, the focus of his earlier work, and confessionary technologies of the self, the focus of his later work (1988), indicate that subjectivity is largely a byproduct of (a) the workings of power upon “docile bodies” in the first instance and (b) self-reaffirming relationships to power through personal examination in the second. Perhaps no clearer form of practice connects the workings of “divine” power on the body with the impetus for

⁴ Within the survey, respondents were asked to indicate what types of Christian applications they use more than once a week. They were given a list of several spiritual practices associated with Christian faith and asked to select which of the following fit with their use: “applications that help me in terms of prayer; applications that help me in terms of bible reading; applications that help me in terms of attending church; applications that help me in terms of fellowship; applications that help me in terms of worshipping God; applications that help me in terms of fasting; applications that help me in terms of journalling; applications that help me in terms of confession.”

personal examination than the use of spiritual applications—it demonstrates explicitly the connection between the omnipresence of God and the engaged spiritual practices of God’s followers. However, this underexamined intersection provides some unique insights for where everyday practice reflects and diverges from conceptual understandings.

For Foucault (*ibid.*), the intensive monitoring of daily practices was a significant concern by which individuals affect activities and movements within their own body, soul, and thoughts, in order to change themselves to attain a state of happiness, purity, wisdom, perfection, or immortality. In an interview, Foucault referred to these practices as the technologies of the self, explaining them as: “an exercise of self upon self by which one tries to work out, to transform one’s self and to attain a certain mode of being” (quoted in Fornet-Betancourt et al. 1987: 113). It marks, as many have argued, a shift away from technologies of domination in Foucault’s work, which largely began to focus on these technologies of the self and, in particular, practices of confession (Elden 2005; Deacon 2002).⁵ In shifting his research towards confession and away from disciplinary forms of power, Foucault became less interested in a singular examination on the modalities of power and towards the process by which particular truths are produced in and by surveilled subjects (Elden 2005: 39). Confession provided a way of framing the processes involved in the production of these truths: the means by which confessions come to constitute an essential form of self or identity and how these are formulated in negotiations over power. This emphasis continued Foucault’s (1988: 82) largely analytical approach towards power, in contrast to a general theory of power—that is, it focused not on what power is, rather it focused on the means by which power is exercised (Deacon 2002: 91). In this way confessional practices can be seen to form the basis for analyses of inclusionary forms of power, while panopticism can be seen as an analytical tool to make explicit exclusionary practices. The move towards technologies of the self is at least an acknowledgment of the limitations of disciplinary forms of power, indicating that these forms of power cannot exist without the complicity of their subjects.

While there are examples of spiritual applications focused on acts of “confession,” the majority of these are about routine practices of spirituality that only tangentially connect to what might properly be deemed forms of confession. For Foucault, confession is “an act by which the subject, in an affirmation of that which they are, binds themselves to this truth, places themselves in a relation of dependence toward the other and at the same time modifies the connection that they have to themselves” (cited in Elden 2005: 30). Bible reading, prayer, worship, and meditation reiterate a similar subject position to “divine power,” compelling subjects to see themselves as dependent upon God and serving to reinforce and then modify particular conceptions of self. Much as Strhan (2013: 233) notes, these applications allow people to “interrogate the ways their practices fall short of [wholehearted love and service of God] and seek to discipline their minds and desires to come closer to these ideals.” In this process, inward and outward states of being become subject to increased scrutiny, which encourages ongoing reflexive orientation towards the self (*ibid.*).

But it is important to note where these practices distinctly diverge from Foucault’s conception of confession. For Foucault, confession is clearly focused on interpersonal practices that require a person doing the confession and a hearer of said confession. Whereas historically this recalled a priest who would serve as the divine arbitrator of redemption, Foucault sees contemporary versions of this as more connected to psychoanalysts reiterating the need for change in relation to faults and limitations. It is in the act of confessing to power that the subject is redeemed—“to externalize one’s inner truths on a permanent basis, to others with greater experience, wisdom or seniority” (Deacon 2002: 96). This is, in Foucault’s (1988: 58) estimation, the main ritual relied upon for the production of truth in Western societies.

Spiritual applications allow users to externalise inner “truths”—about their prayer activities, their routines and amount of Bible reading, their daily practices of worshipping God, and more. However, the need to

⁵ Elden (2005: 39) further describes this shift as a productive failure in that it diverged from Foucault’s original plan for the series on the history of sexuality.

provide these truths to others with greater experience, wisdom, or seniority is less clear. Unlike the SoulPulse survey mentioned earlier, feedback mechanisms or expected practices set by “others” are not fully as evident in use as Foucault’s description of confession might anticipate. There is no “corporate” or communal practice clearly evident, despite many applications building more social features into their apps. At present, these have been largely individually focused processes. Though these may become more social later as well as diverge from the confessional expectations of Foucault, they do render visible a means to increase self-knowledge and thereby allow for the appropriate “care for oneself” (Fornet-Betancourt et al. 1987). It is this self-knowledge derived from the use of technology, and more specifically how spiritual applications participate in this, to which we now turn.

Quantifying the Self and Spirituality

Self-monitoring has a long history and numerous practices devoted to it, often with the aid of technological devices, from simple analogue practices such as frequency counting journals and personal diaries to more recent use of digital devices (see Bakardjieva and Gaden 2012; Hiemstra 2001; Wheeler and Reis 1991). The use of digital applications to track different aspects of everyday practices is often seen as more reliable, particularly as digital applications can either randomise or automatise the time when users would be asked to measure the specified aspects of mood, activity, or behaviour. These have also extended such practices beyond the limited scope of athletes or those requiring psychological care—self-monitoring has now become available to everyone who owns a digital device (Singer 2011). This tracking can be seen to conform to “cultural expectations concerning the importance of self-awareness, reflection and taking responsibility for managing, governing oneself and improving one’s life chances” (Lupton 2016: 115).

Most such activities are described as the “quantification of the self,” which involves collecting everyday activities and turning them into data, and then both visualising and giving feedback on those data (Whitson 2013). The phrase “quantification of the self” was coined by *Wired* writers Kevin Kelley and Gary Wolf (2009) to focus on how people use technologies to quantify (aspects of) their everyday experience. This can take multiple forms, as Paul McFedries (2013) explains, with some people quantifying their every activity in daily life and others monitoring only those activities they find most important. This can produce a significant amount of data, producing a “collective picture of a social body,” such as one’s physical well-being, which can then inform the composition and application of policies on a macro level (Whitson 2013: 167). The feedback received regarding chosen, quantified aspects of a user’s life can be compared to others or against personal expectations, thereby allowing a significant influence on future behaviour.

These quantifying practices have developed in line with the significant growth of mobile device use, which has made this both simpler and more readily available. Smartphone ownership has coincided with a proliferation of health- and lifestyle-focused smartphone applications (Chen, Bauman, and Allman-Farinelli 2016). The devices and their applications appear to have had a bigger effect on user motivation and self-efficacy than conventional means of communication; for instance, Aguilar-Martínez et al. (2014) argue that people have more successfully lost and maintained their weight by self-monitoring their food intake and activities with digital devices. In the United States, over fifty per cent of smartphone users are said to have downloaded a fitness or health application (Krebs and Duncan 2015). As such, the significance of self-monitoring cannot be overlooked.

Research into the quantification of self has primarily focused on health and lifestyle tracking, including menstrual cycles, weight loss, and sleep tracking (Aguilar-Martínez et al. 2014; Chen, Bauman, and Allman-Farinelli 2016; Dennison et al. 2013). However, more academic examinations of spiritual applications are far less than these health and lifestyle tracking applications, despite some news media suggesting that such apps have changed the religious landscape (see Kuruvilla 2013) and have given way to new forms of prayer, meditation, and Bible reading (Turner 2015). Arguably, academic research has been difficult because of several factors, including the wide range of subjective experiences and

perspectives (on the part of religious participants) which do not lend themselves to easy conceptualisations nor are made easily measurable, and responses that are very prone to social desirability biases (see Buie and Blythe 2013).⁶

Of the research available on spiritual apps, Bellar (2017) examined how evangelical Christians choose and use religious iPhone applications, focusing on how their expectations compare with their experience through in-depth interviews. She found that people choose and use applications based on the ease of use, convenience, reviews, and for their desire for Bible reading and encouragement. Further, she notes that people use these applications mainly for themselves and their personal relationship with God and only participate in a community when looking for reviews of applications. A study by Tkach (2014) accumulated and organised a database of more than thirty thousand religious apps in an effort to discover the market for them. While his work indicates some collective categories in which these applications may fall, there is no clear indication of how many people use them, how they have been used, and for which reasons. Hutchings (2017) examines the characteristics of two digital Bibles—that of YouVersion (discussed below) and Glo Bible, both of which are available as a mobile application and the latter of which includes a full software package. In his examination of these applications and in interviews with their developers, Hutchings (*ibid.*: 213) indicates that these can be seen as “persuasive technologies” that use “design principles to encourage greater Bible engagement.” This conception of persuasive technology suggests a gamifying of everyday spirituality, arguably present in the very practices of quantification (see Whitson 2013). Given the potential for new technology to affect everyday activities, this study draws upon these works to help understand more fully how applications have perhaps made or prompted new levels of everyday spiritual practices—complete with a spiritual awareness of self that has been made more accessible to a variety of Christians.

Applications and Christian Disciplines

Some forms of religious expression have been associated with psychological well-being. Although these associations might partly be coincidental, McCullough and Willoughby (2009) argue that these positive associations are mainly due to religion promoting self-regulation and self-control—they note that thirteen out of fourteen studies they examined indicate that religiousness is positively associated with self-control. Further, attaining and prioritising personal goals are often influenced by religious practice, as these may influence people’s motivation to obtain these goals by “sanctifying” or making these goals a “holy” pursuit (Mahoney et al. 2005). Within a Christian context, this is especially the case when these goals are inspired by their local church, their community, or by readings in the Bible. These types of goals—particular behaviours intended to improve Christian religious practice are described as disciplines—are meant to increase personal “Christlikeness.” MacArthur (1998) argues that these behaviours should be practised by all Christians, since they are synonymous with being obedient to God.

Through several different Christian disciplines, followers seek to become like Jesus, the perfect example of godliness, righteousness, and holiness. These stem from Biblical readings in which Christians are called to discipline themselves for the purpose of increasing their godliness and become more mature in their faith (Whitney 2014). It is important to note that these disciplines are practices and activities, not attitudes or character qualities. Whitney (*ibid.*) lays out several personal spiritual disciplines used in order to achieve spiritual growth, including Bible reading, prayer, worship, evangelism, service, stewardship, fasting, silence and solitude, journalling, and learning. Further, others such as Donahue (2002) note the importance of confession as a spiritual discipline. Christian worship is often seen as completed in conjunction with other Christians, most normally within church services and fellowship groups. As such, this research focuses on several specific disciplines that seem most accessible to spiritual apps, notably those of Bible reading, prayer, worship, fasting, journalling, confession, and attending church and fellowship.

⁶ A number of these issues were faced in this research in our construction of a survey measuring spiritual application use.

While these disciplines are seen as key practices by which Christians can be seen to mature or deepen their faith, the question for this study is how use of particular applications assists them in this pursuit. Certain applications serve to foster an engagement with specific Christian disciplines more than others. This is particularly true in terms of Bible reading, prayer, and forms of personal and/or collective worship. For instance, one of the most popular applications is YouVersion (www.youversion.com), a Bible reading app that has been downloaded over 290 million times. It lets one make and follow reading plans and receive daily notifications with the verse of the day amongst increasingly more Bible reading functions (Hutchings 2017; Turner 2015). Another Bible-focused application, The Bible in One Year app (which can also be received via email or read on the website [see www.bibleinoneyear.org]) provides Bible readings grouped together with a commentary provided by Nicky Gumbel, Vicar of Holy Trinity Brompton in London and developer of a Christian faith course called Alpha, and his wife Pippa. During the course of a year, a user will have read the entirety of the Bible if used every day. Bible Verses, Fighter Verses, and *Dagelijks Woord* (a Dutch language application) provide inspirational Bible verses to users on a daily basis. Other Bible-reading-focused applications, such as Bible! by Logos, Bible Verses, and Olive Tree feature potential for wide ranging commentaries, cross referencing, and analyses of the original Hebrew or Greek texts. Many of the Bible-reading applications do feature a means to check off each day that you have read the Bible and, depending on your choice, associated commentaries.

This quantifiable or gamified feature is also available on some prayer-focused applications, such as Prayer Notebook (see prayernotebookapp.com), which allows one to set daily reminders in order to pray for the things that the user intended. These features are similarly available in PrayerMate (see www.geero.net/prayermate/), which adds the ability to include particular collects (daily prayers) from the Church of England, subscribe to online prayer newsletters, and synchronise with contacts and cloud based resources. The Jesuit-based application Pray as you Go (see www.pray-as-you-go.org) is designed primarily for listening while commuting, which includes Bible reading, sacred music, and thoughts to reflect upon or pray about. Laudate is focused on Roman Catholic users, with daily prayers, meditations, and scripture readings available based on the Roman Catholic lectionary.

These are just some of the many applications that can be used for the development of Christian disciplines. They serve a variety of purposes, though as these indicate, there is a predominance of applications focused on Bible reading (see Campbell et al.⁷ [2014]—described in this article as “sacred texts”) and prayer (often situated in the “lifestyle” category within app stores—see *ibid.*). Users of these applications come from a variety of denominational backgrounds, some with applications focused to that denominational affiliation (see Tkach 2014) and others that are more generally used. As noted, given that religious activities, particularly those focused on spiritual disciplines, tend to be positively associated with self-control, this research focuses on how the value of spiritual applications corresponds to these practices. In order to more fully examine this question, the research focuses on quantifiably examining the relationship between spiritual disciplines and perceived value of spiritual applications. On one hand, since the applications suggest a quantifiable or gamified feature in which disciplines are enhanced and thereby increase people’s (feelings of) self-control, people may consider the value of these applications positively. On the other hand, it is unclear whether people who are more spiritually disciplined are less likely to rely on the applications for their spiritual practices. Given this, our intention is to clarify the relationship between spiritual disciplines and perceived value of spiritual applications through exploratory research. Based on our review of the literature, we believe that spiritual disciplines and perceived value of spiritual application will correlate with each other positively. That is, the more a person practices spiritual disciplines, the more likely that person will see value in these spiritual applications.

⁷Campbell et al. (2014) focus on religious applications from a diversity of religions. A comprehensive typology of Christian applications is not available. The suggestion that most Christian applications focus on Bible reading and prayer is based on the observations of app store availability using the key search term “Christian” with additional terms such as “Faith” and “Spirituality.”

An International Survey

In order to understand the use of spiritual applications in the everyday lives of users and to examine if our conception is correct, an online survey was conducted. This approach, allowing for a more replicable and verifiable study as well as generalisation of the results (Babbie 2015), was thus considered suitable for this study. The survey was designed in Qualtrics and translated into five languages (i.e., English, French, German, Dutch, and Spanish) by native speakers. The participants were recruited through convenience sampling in April 2017 from over fifty Christian online forums and platforms worldwide, including Facebook, LinkedIn, and Instagram. They consisted of users who have installed at least one spiritual app on their smartphone or other digital device. In total 501 participants filled out the survey, among whom 315 fully completed all required responses on the questionnaire.

Four key variables were measured in the survey: perceived value of spiritual app as the dependent variable and spiritual disciplines, frequency of spiritual app usage, and app design as the independent variables. All four variables were measured on a seven-point Likert scale. Perceived value of the spiritual apps was measured in two ways. First, this was assessed by one general question asking how valuable the participants believe Christian apps are for developing and maintaining each religious activity (i.e., Bible reading, prayer, church attendance, fellowship with other Christians, worship, fasting, journalling, and confession). These eight religious activities were addressed in the literature as most essential for Christians (Hall, Meador, and Koenig 2008; Murray-Swank, McConnell, and Pargament 2007; White 2000). Then, a set of questions was listed regarding specific “help” provided by the spiritual app in relation to three aspects: utilitarian motivation, hedonic motivation, and social influence (Hsiao, Chang, and Tang 2016). Validated measurements in Hsiao, Chang, and Tang (ibid.) were adopted for this study with a total of eleven questions.

Spiritual disciplines were measured by asking how often the participants engage in each of the eight religious activities mentioned above. All eight constructs have a Cronbach’s alpha of .691, suggesting a relatively acceptable lower bound for reliability (Nunnally 1978). Out of the questions, an equal-weighted factor was constructed as a proxy of spiritual disciplines. Next, frequency of spiritual app use was measured by one question with the options from “very rare” to “very often.” Perceived app design was measured by four questions with respect to whether the app was seen as user-friendly; engaging and entertaining; encouraging spiritual growth; and informative for each religious activity. These dimensions were suggested by Piper (2016) and Turner (2015) as important aspects for application design. Equal-weighted factors were constructed from these four dimensions as a proxy of perceived app design. All factors are with a Cronbach’s alpha above .70, suggesting a good reliability. Last but not least, the participants were asked what kind of spiritual applications they use and their demographic information (e.g., age, gender, education, nationality).

The final sample consists of 315 valid participants, 126 male (40 per cent) and 189 female (60 per cent). Their ages range from 17 to 76 (mean = 39.51, SD = 16.17). Over 90.89 per cent of participants completed a college education or higher (n = 255). In total, 16 nationalities are identified in the sample. The majority come from the Netherlands (n = 144, 45.71 per cent), UK (n = 79, 25.08 per cent), USA (n = 38, 12.06 per cent) and Canada (n = 22, 6.98 per cent). In terms of digital devices use, 302 participants claim using a smartphone on a daily basis (mean = 5.88, SD = 1.208), while 165 participants (mean = 4.2, SD = 1.7) and 12 participants (mean = 5.17, SD = 2.04) use a tablet and smartwatch, respectively.

With respect to the denomination, Anglican/Episcopal (n = 82, 24.1 per cent), Reformed (n = 63, 18.5 per cent), and Evangelical (n = 59, 17.4 per cent) are listed as the top three, followed by Non-denominational (n = 28, 8.2 per cent) and Baptist (n = 26, 7.6 per cent). Nineteen respondents chose the option “Other,” and specified their denomination as Nederlands Gereformeerd, Presbyterian Church in America, and Evangelical Missionary Church of Canada. Fifteen respondents are Pentecostal (4.4 per cent), 7 respondents are United/Merged denominations (2.1 per cent), 4 respondents are Methodist (1.2 per cent),

3 respondents are Lutheran (0.9 per cent) and 3 respondents are Presbyterian (0.9 per cent). Six respondents (1.8 per cent), however, reported “I don’t know” to the denomination question.

Table 1 presents the ten most indicated Christian applications used on a weekly basis by the participants. As noted, these predominantly correspond to Bible reading and prayer applications.

Table 1. Ten Most Used Christian Apps by Respondents

Christian App (used more than once per week)	Number
YouVersion	166
Bible In One Year	35
Daily Prayer	29
Bible! by Logos	26
Laudate	21
Pray As You Go	20
Bible Verses	18
Olive Tree	16
PrayerMate	11
<i>Dagelijks Woord</i>	10

Table 2 shows the usage of spiritual applications for different disciplines on a weekly basis. The majority ($n = 262$) use the apps for reading the Bible. They also found the apps with a high value for this purpose (mean = 5.56, SD = 1.43) and are positive about the application design (mean = 5.13, SD = 1.15). Worship ($n = 84$) and prayer ($n = 81$) are two other important disciplines supported by the use of spiritual apps and recognised as highly valuable by the participants. On the other hand, church attendance and the practice of confession are disciplines hardly mentioned in relation to application use. Fasting is not seen as a discipline supported by application use by any participants.

Table 2. Descriptive Statistics for Spiritual App Usage

Spiritual Disciplines	Usage (Weekly Basis) Number	Perceived Value		App Design	
		Mean	SD	Mean	SD
Bible reading	262	5.56	1.431	5.13	1.152
Worship	84	5.06	1.653	4.79	1.337
Prayer	81	5.52	1.517	4.81	1.328
Fellowship	29	4.59	1.881	3.97	1.675
Journalling	22	5.05	1.914	4.06	1.336
Church attendance	6	4.83	1.329	4.63	0.971
Confession	6	5.67	0.816	3.92	1.722

We further compared the practices of spiritual disciplines across gender, age, and education level, respectively. An independent t-test shows that the practice of spiritual disciplines was higher for men (mean = 4.36, SD = 1.434) than for women (mean = 4.031, SD = 1.441), $t(313) = 1.989$, $p = .048$, $d = .329$. Levene’s test indicates equal variances ($F = .002$, $p = .968$). In terms of age, older participants (age > 40, mean = 4.52, SD = 1.545) are observed to be more engaged in spiritual disciplines than younger participants (age < 40, mean = 3.866, SD = 1.287), $t(313) = 4.103$, $p < .001$, $d = .655$. Levene’s test indicates unequal variances ($F = 8.542$, $p = .004$), so degrees of freedom were adjusted from 313 to 277. Finally, within this sample, one’s education level does not result in significant difference for the practice of spiritual disciplines.

Results

To test the impact of three factors—practising spiritual disciplines, frequency of spiritual application use, and application design on perceived value of the spiritual applications, we conducted a series of ordinary least squares (OLS) regression analysis. As may be clear from Table 2, enough participants were found for only three of the disciplines defined in the study—Bible reading, worship, and prayer. As such, this relationship was tested only for each of these three disciplines. Assumptions for the OLS analysis (e.g., multicollinearity and heteroskedasticity) were all diagnosed and with no violations. The coefficient significance of the three factors for the models with and without controlling the demographic variables stayed the same. The regression results are presented in Table 3.

The results show that for participants who use applications for reading the Bible, the frequency of spiritual application use and the application design positively affect the perceived value of application use. However, the practice of spiritual disciplines is negatively associated with the perceived value of application use, implying that the more the participants engage in spiritual activities, the less they appreciate the application. Similar patterns are observed in the subsample with the respondents using spiritual applications for worship. The design of the application is found as a dominant deterministic factor of the perceived value of the application for all three forms of spiritual discipline, confirming the importance of developing user-friendly, entertaining, and informative Christian applications for encouraging spiritual growth.

Table 3. Regression Results

	Model 1 Bible Reading	Model 2 Worship	Model 3 Prayer
Constant	2.540*** (.399)	1.456* (.715)	.575 (.600)
Spiritual Disciplines	-.146** (.060)	-.027 (.112)	.153 (.093)
Frequency_ App Usage	.151*** (.035)	.056 (.063)	.100† (.058)
App Design	.534*** (.068)	.706*** (.114)	.751*** (.094)
<i>R squared</i>	.308	.353	.537
<i>F value</i>	38.337***	14.580***	29.820***
<i>N</i>	262	84	81

Notes: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.1$.

In addition, we examined the value of spiritual applications for servicing specific purposes. The results are presented in Table 4. “Maintain my faith rituals” is ranked as the most important value for using applications, followed by “learning more about my faith” and “reading the Bible.” All three purposes suggest a personalised response to applications in which users willingly respond to features designed to encourage particular spiritual practices—this suggests a more subtle promotion of (personally) desired spiritual behaviours. This is opposed to the more quantifiable or goal-oriented activities that may serve to quantify or even gamify spirituality—as is perhaps evident in how poorly ranked “set faith goals” was along with “self-monitor my faith activities” and “see my progress,” which were listed as the least recognised values.

Table 4. Value of Spiritual App

Ranking	App Value for	Mean	SD
1	Maintain my faith rituals	4.47	1.944
2	Learn more about my faith	4.20	2.009

3	Read the Bible	4.08	1.907
4	Increase spiritual self-awareness	3.95	1.936
5	Share content with others	3.89	2.122
6	Share my faith with others	3.36	2.091
7	Set faith goals	3.22	1.959
8	Remember prayer requests	3.20	1.953
9	Memorise Bible verses	3.08	1.934
10	Self-monitor my faith activities	3.06	1.757
11	See my progress	2.92	1.854

Discussion

The regression results regarding the impact of spiritual disciplines of the participants on the perceived value of spiritual applications did not coincide with our conjecture. Although we had predicted that the users would see significant value in the use of spiritual applications that are connected to their everyday spiritual practices, what we found was a difference in perceived value of the apps, the importance of app design, correlations with habitual use, and the value of encouragement.

First, the perceived value varied across application users. In terms of a within-group comparison, it appears that those persons who are highly committed mentally and motivated intrinsically—in other words those who most regularly and intensively practise spiritual disciplines—may not require or desire the (external) monitoring features made available through spiritual applications. This is evident from our demonstration that the more participants engage in spiritual activities, the less they appreciate the application (see Table 3, specifically model 1, negative coefficient for Spiritual Disciplines). Consequently, they do not consider the value of applications as high as others who were less intrinsically or personally motivated to practise spiritual disciplines. As such, this study confirms the value of using spiritual applications, but these are surprisingly less valuable for people already regularly practising spiritual disciplines—such people are less reliant upon forms of digital monitoring, quantification potentials, and gamifying spiritual practices.

Second, what is also clear is that application design is seen as a crucial success factor for spiritual application by the users, at least in terms of being user-friendly, entertaining, encouraging spiritual growth, and being informative. This value is independent of what the application may actually be used for (its purpose), demonstrating that users see design as a crucial component for spiritual value—a sort of spiritual app design aesthetic.

Third, the value of a spiritual application correlates with the habit of application use. For people who have a tendency to use the apps on a more routine basis and at a higher frequency, they also find the applications more important for their spiritual development.

Finally, in terms of what the apps were valued for, we found that users rely on the applications more for encouraging particular personal spiritual practices, such as maintaining faith rituals, than the self-tracking and monitory features that are present in these applications that a comparison with literature on the quantification of self might suggest.

Based on these results, a clearer picture of the use of these spiritual applications becomes visible. In contrast with more routine practices of quantifying the self or of gamifying everyday practices, spirituality does not fit clearly. While it may be that more spiritually mature or committed users do not value the use of the applications as much as others, the counterpart to this is also apparent: users less intrinsically motivated spiritually seem to value the use of these applications more. That is, the survey suggests to us that these technologies are a valuable mechanism for prompting users in a desired spiritual direction even

if they do not use or see more tallying features within these applications as valuable. In keeping with a Foucauldian description of a technology of the self, these applications do involve productions of particular truths—of spiritual intentions—but unlike confessions to a wiser and more experienced other, they are rather significantly personal. While users have the desire to follow and make new spiritually focused habits, this research indicates that they do so with limited reference to the sharing or connection capabilities that these technologies increasingly allow. Promptings for spiritual practices and data about personal experiences are rarely indicated to others, but instead are turned back to the users, in order to encourage personal spiritual habits.

Though divergent from the confessional expectations of Foucault, the use of these applications does render visible a means to increase self-knowledge and thereby allow for the appropriate “care for oneself” (Fornet-Betancourt et al. 1987). It is this self-knowledge derived from the use of technology that seems valuable and important for those who indicate that they are not practising spiritual disciplines as routinely as they might desire. Despite the presence of some gamifying features, what is apparent in the use of these applications is both how limited the “publicness” is of desired spiritual achievements and how users seem not to prioritise these types of features. This difference in practice leads us to understand the use of these technologies less in terms of self-monitoring and routinised surveillance. Instead, these applications are used to encourage and prompt spiritual practices, engagement, and awareness.

This orientation towards spiritual applications suggests a more paternalistic use of the technology, one which uses prompts to achieve an increase in desired spiritual practices rather than a continual or comparative self-monitoring. Encouraging notification texts and reminders to engage in spiritual disciplines of prayer, worship, or Bible reading (from what can be confidently described on the basis of this empirical work) seems to provide the user with what is most valuable from the application itself given the users’ appreciation for particular aspects of the application. In line with the description of nudging or libertarian paternalism that may be used to induce particular behaviours on a more widespread basis (see Sunstein and Thaler 2003; Thaler and Sunstein 2008), these seem to be chosen and desired by users to achieve spiritual goals—in what may be seen as a form of “self-paternalism.” This suggests a mode of governance that subtly promotes particular (personally) desired behaviours by prompting users towards responding to activities that they have purposely chosen for themselves—a departure from the confessional routines within later Foucauldian works. The more routine or habitual use of these applications is seen to increase both the desire to continue using the application and its perceived value, and these gentle nudges are able to keep users continually engaged. Of course, this study also suggests that the applications need a good design to achieve this personal prompting most effectively.

Conclusions

This exploratory analysis of spiritual applications highlights the fact that use is highly personal and self-focused. Given the nature of these applications, this is a rather unsurprising finding, but the differentiation between users suggests important distinctions between those with a more robust spiritual life and those who seem more reliant or desirous of technological assistance in their spiritual practices. Although this study does not address the larger contexts in which the use of spiritual applications may emerge, it is likely that the decision to use apps is motivated by relationships with other Christians and their examples of spiritual practices. From our observations of these applications, the religious practices they prompt align with anticipated and expected norms promoted in particular Christian circles. This suggests that there is a strong potential that the use of spiritual applications is based on and reinforces particular social norms and that spiritual engagement continues to produce subjectivities in line with critiques of religious power over the body. Though there is not a clear “master”—a wiser and more experienced person receiving these confessions of spiritual practice—the response to and affirmation of (divine) power reinforces the user’s subjectiveness to (divine) control.

These experiences and choices, however, suggest that we need to unpack the self-surveillance-oriented choices people make in relation to personal self-improvement. Clearly, some persons may be working to

improve their spirituality through the use of technology—both relying (and not) on its complicit forms of surveillance, monitoring, and categorisation—in order to achieve increased levels of self-control. In this context, the question becomes whether these forms of surveillance—self-imposed—are “subjecting or subjectifying” the user (Latour 2005: 231). It may be that the use of these apps, these practices of spiritual disciplines, are intentional moves towards a recreation of self and subjectivity that places the self in a new set of spiritual and social bonds. This focus suggests an orientation towards the agency of users—one that allows for the recognition by users that “freedom is getting out of a bad bondage, not an absence of bonds” (ibid.). To explore this orientation towards spiritual applications, however, would require a very different set of empirical methods.

Of course along with this, a number of questions and issues are not addressed in this exploratory research, and there are significant limitations to the empirical study. Further research is needed to see if the differences noted between more and less disciplined participants are sustainable across denominational lines or across cultural boundaries, or to explore further the reasoning behind how valuable the technology is to those who practice spiritual disciplines less frequently. The causes for this may be multiple and there may be a progression in spirituality, whereby over time and increased disciplinary practice, the importance of the technology for spiritual practice begins to wane. The survey itself was based on a sample of persons who do use these technologies and thereby already see the technologies as somewhat valuable at the outset. Future research can engage with churches and congregations more directly to see if there is the same variance between members given that a number of them may not use the technology at all. This would also indicate more clearly what applications might be more closely associated with what types of churches.

Likewise, the role of the application designer(s) and the use of data associated with these applications is not highlighted or explored in detail here. Further examination could and should look at how the prompting of these users both reflects the desires of the developers and/or the political economy in which these applications are made. It should also be noted that the idea of paternalism tends to focus on shifting practices by requiring little engagement—to make choosing the “wrong” path more difficult or the “right” path easier. There is a connection to be made here between how nudging behaviours are themselves yet another means for producing subjectivities in line with those of confessional practices, but our analysis suggests less routinisation and less interventionist strategies than at least we originally expected. The idea behind (this type of) paternalism is to make positive actions the default without much thought or engagement required of the user. In this case, the self-paternalism suggested by the use of these applications suggests a practice that is nudging or prompting users towards a specific spiritual discipline, but once this occurs, to follow the nudge the user has to shift into full engagement mode with a spiritual discipline.

The importance of this study and similar examinations of religiosity, technology, surveillance, and subjectivities lies on the intersections between everyday practices and social engagement and interaction. The sociologist Georg Simmel noted the way in which “the religious category permeates and molds social relationships” and that this is something made “tangible” in “the remarkable analogy between individual’s behavior toward the deity and his behavior toward society” (Frisby and Featherstone 1997: 156). Spiritual applications are one increasingly significant way in which Christians seek personal self-transformation through purposeful spiritual practices. To see the use of these apps as a form of self-surveillance helps illuminate the personal implications of these practices, with the self-paternalistic character of such practices potentially being informative about other routines of self-improvement that may not easily fit under the rubrics of self-quantification. These suggest the need to consider more fully the contexts under which these practices emerge and are completed and the need for a fuller engagement between surveillance scholarship and religious practice.

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