

The Lived Experience of a Yoga Practice ‘Off the Mat’: Key Qualitative Findings from a New Zealand Study of Yoga Practitioners

Wendy L. Reynolds¹, Elizabeth du Preez and Nigel K. Harris
Auckland University of Technology, Auckland, New Zealand

ABSTRACT

This study explored the influence of yoga on practitioners’ lives ‘off the mat’ through a phenomenological lens. Central to the study was the lived experience of yoga in a purposive sample of self-identified New Zealand practitioners (n=38; 89.5% female; aged 18 to 65 years; 60.5% aged 36 to 55 years). The study’s aim was to explore whether habitual yoga practitioners experience any pro-health downstream effects of their practice ‘off the mat’ via their lived experience of yoga. A qualitative mixed methodology was applied via a phenomenological lens that explicitly acknowledged the researcher’s own experience of the research topic. Qualitative methods comprised an open-ended online survey for all participants (n=38), followed by in-depth semi-structured interviews (n=8) on a randomized subset. Quantitative methods included online outcome measures (health habits, self-efficacy, interoceptive awareness, and physical activity), practice component data (tenure, dose, yoga styles, yoga teacher status, meditation frequency), and socio-demographics. This paper highlights the qualitative findings emerging from participant narratives. Reported benefits of practice included the provision of a filter through which to engage with life and the experience of self-regulation and mindfulness ‘off the mat’. Practitioners experienced yoga as a self-sustaining positive resource via self-regulation guided by an embodied awareness. The key narrative to emerge was an attunement to embodiment through movement. Embodied movement can elicit self-regulatory pathways that support health behavior.

KEYWORDS: embodiment, habit, interoception, mindfulness, movement practice, qualitative, self-regulation, yoga.

Yoga research is a subset of the holistic movement and contemplative practice research fields and sits adjacent to the interoception/embodiment fields. Within contemplative practices, meditation and yoga can be incorporated within the same study, and it can be challenging to establish how much of a yoga practice is, in fact, meditation. The use of the term ‘holistic movement practices’ does offer a method of separating movement from purely seated practices (Vergeer et al., 2021). As Vergeer et al. (2021) note, movement is an essential component of these practices. The additional contemplative components within such practices, including integrated yoga practices, can be identified as a subset within a participant pool in studies seeking to explore intra and inter-practice effects. The yoga *sūtras* (a classical Sanskrit yoga philosophy text consisting of 195 *sūtras* or verses) placed meditation at the heart of a yoga practice, and depending on one’s viewpoint, is either the aim or the outcome of a regular practice. For this study, participants defined their own yoga practice, with or without a seated meditation component, so as to not restrict the narrative.

¹ Corresponding Author: An Acupuncturist, Yoga Researcher, and a Teacher of Yoga, Meditation, and Pilates in the South Island of New Zealand. E-Mail: wendy.space2b@gmail.com

Preferably holistic movement practices should be studied in isolation rather than being combined together. For example, yoga and Pilates users have been combined in past research, particularly in national datasets looking at exercise participation (Sport New Zealand, 2020; Vergeer et al., 2017, 2018). Yet these two modalities have both a divergent history and practice focus. The question of whether the modality of movement matters, or whether a quality of mindfulness facilitates adherence and pro-health behaviors is an open debate, and it is hoped that this study's findings can add to this conversation.

The overarching research topic explored the idea that yoga may be an effective tool to enable a person to self-regulate in the direction of pro-health habits. Yoga 'off the mat' is a term used by practitioners and the media in reference to yoga's consequent effect on lives beyond the practice itself (Abrams, 2018). The experience of yoga's downstream impact is evidenced by studies demonstrating health benefits such as improved dietary habits (Alexander et al., 2013); increased physical activity beyond yoga (Bryan et al., 2012); improved social engagement via self-regulation of pain (Cramer, Lauche, Haller, Langhorst, Dobos, & Berger, 2013); and improved sleep (Lundholm et al., 2014). A self-regulatory influence on positive lifestyle choices, such as exercise (in addition to yoga) and diet, was supported by the 2016 industry survey of yoga practitioners (n=1,707) in the USA (Yoga Alliance & Yoga Journal, 2016). Research, albeit limited, on the experiences of long-term yoga practitioners adds support (Birdee et al., 2008; Ding & Stamatakis, 2014; Kiecolt-Glaser et al., 2011; Park et al., 2016; Penman et al., 2012). Sustained practice has a tendency to change practitioners' inherent motivation from physical (e.g. fitness and flexibility) to spiritual and stress relieving outcomes (Park et al., 2016). The present research explored yoga's scope of influence via the subjective experience of practice and practitioner narratives.

A proposed shift to parasympathetic dominance is a possible mediator by which a yoga practice may support adherence to a healthy lifestyle (self-regulation). Yoga has been shown to switch on the parasympathetic nervous system (PSNS), most commonly known as the rest and digest branch of the autonomic nervous system (Thayer & Sternberg, 2006). Thus, the premise that a long-term yoga practitioner will tend towards a parasympathetic state, with less sympathetic nervous system (SNS) activation, the contrasting 'fight, flight or freeze' mode of the autonomic nervous system. Yoga has an up-regulatory impact on the PSNS by increasing vagal or parasympathetic tone via activation of the vagus nerve (Thayer & Sternberg, 2006); resulting in a state of parasympathetic dominance. By impacting the PSNS—or, more specifically, the ventral vagal complex which calms and regulates our social engagement (Lucas et al., 2018)—yoga may positively change our relationship to both internal and external cues and thus our behaviors (Sullivan et al., 2018). Physical activity in general can improve vagal tone, though the modality can impart a varied response, such as a stress response after strength training (Figueiredo et al., 2015; Lujan & DiCarlo, 2013). One theory as to how yoga impacts this autonomic switch, is via a reduction in allostatic load; a term that has been defined as the workload required by the body to return to homeostasis when confronted by stress (Kawachi & Allostatic Load Working Group, 1997). In simple terms, yoga facilitates the return to optimal homeostasis (Streeter et al., 2012). This implies that yoga reduces the degree of stress response at a (neuro)physiological level, and the evidence does point towards a reduction in 'stress reactivity', as denoted by studies (n=22) reviewed by Pascoe et al. (2021) whereby cardiovascular and inflammatory biomarkers associated with stress responded positively to yoga.

Self-regulation is a wide-ranging concept incorporating emotions, physiology, and behavior, to name a few relevant themes. Self-regulation in the context of this study refers to the process underlying the ability to sustain pro-health behaviors or habits. Pro-health habits tend to be more unconscious or habitual, as a result of consistent learned and applied pro-health behaviors (K. S. Smith & Graybiel, 2016). Potentially, the yoga practice itself could be deemed a 'keystone habit,' defined by Duhigg (2014) as a singular habit that elicits a cascade or a "chain

reaction” of effects (p. 100). In other words, is self-regulation the flow-on effect that results from the practice of yoga?

An inherent link between self-regulation and behavior change was proposed by Audiffren and André (2014), whereby “both [the] adoption and maintenance of a new behavior draw on self-control resources” (p. 43). By applying Baumeister’s model of self-control to exercise physiology, the authors explain how a positive feedback loop between chronic (long-term) exercise and self-regulation provides a self-regulatory framework by which a movement practice strengthens practitioners’ self-control, and in turn supports ongoing adherence (Audiffren & André, 2014). In 2019, in collaboration with Baumeister, the authors presented their ‘integrated model of effortful control’ whereby they reasoned that the salience network – a neural network primed to respond to novel situations (Uddin, 2022)—was best aligned to effort management (André et al., 2019). While, following on from Vohs et al. (2012), Forestier et al. (2022) proposed the term ‘self-control fatigue’ as a temporary state due to insufficient energetic resources, lack of motivation, and/or cognitive capacity to enact a self-control behavior.

Interoception and embodiment research provides an internal lens on how a yoga practice may support adherence to pro-health habits. Interoception is simply (as the term suggests) the perception of one’s internal space; a ‘felt-sense’ or neural sensation-map of the body (Craig, 2002). Basically, a map “connecting ... body to brain to behavior and thought” (Cameron, 2001, p. 708). Mehling (2020) asserts that one of the key processes at work within mind-body practices is a maturation of interoceptive awareness. Indeed, in an earlier study, Mehling (2011) suggested that mind-body practitioners are motivated to practice due to their predisposition to being embodied. Embodiment or body awareness represents the experience of interoception, or the conscious felt sense of being (embodied) versus the unconscious (neural) mapping of the internal landscape (interoception) (Mehling et al., 2011). As such embodiment—or the awareness of interoception—best aligns with the experience of practice. Embodiment can be linked to pro-health behaviors simply by attuning to the body’s needs from a health perspective and acting in accordance with the attainment of those needs (Cook-Cottone, 2016). What seems promising is that embodiment may be a means towards an internal appreciation of how one’s body moves, versus how one looks, and thus support adherence to movement from an intrinsic experience (Cox, Ullrich-French, Tylka, & McMahon, 2019).

Whilst this study was undertaken prior to the COVID-19 pandemic era, it is worth considering the current changing landscape of yoga accessibility. The proliferation of online movement class options since the pandemic does provide an opportunity for researchers and health/exercise providers to offer online movement to a wider population. Data on the number of downloads of yoga and meditation/mindfulness apps globally provides direct evidence of their popularity. For example, in the first half of 2021 (up to 21 June) three of the four most popular apps were meditation platforms, equating to 19.4 million downloads versus 5.2 million for the most popular yoga app (Buchholz, 2021). It is likely that the increased popularity of meditation is due to it being accessible regardless of movement limitations, both with respect to appealing to a larger section of the population, and ease of use, with less need for space and equipment.

Research exploring the health benefits of online delivery is sure to expand, but the increased accessibility and affordability is already evident. As Brinsley et al. (2021) noted, whilst an in-person yoga class environment provides connection, and access to individual attention; online yoga is cost-effective, convenient within the context of practitioners’ work/life commitments, and offers both privacy and autonomy, with the added advantage of facilitating a home practice. One factor that may positively impact movement adherence is the nudge towards prioritizing health that Singh et al. (2022) call the ‘silver lining’ of the pandemic, with an increased health autonomy or ‘health consciousness.’ The experience of yoga practitioners offers a unique lens through which to observe this ‘health consciousness’ in action.

Methods

Design

It was our aim to not impose a practice on participants, but to instead design a research protocol that captured data from yoga practitioners in the context of their own lives and practice. The protocol used a ‘real-world’ setting, rather than requiring participants to engage in a specific yoga intervention (Linnebank et al., 2018). In effect, the participants defined their yoga practice; the only stipulation being that participants deemed yoga to be their primary movement practice.

The design priority was selecting a methodology that would enable the subjective experiential narrative to emerge, both at an individual level and across the dataset, such that it “brings out into the open that which is ... concealed” (G. B. Smith, 2007, pp. 93–94). Accordingly, a qualitative methodology—interpretive phenomenology—was the chosen approach, enabling subjective experience to be brought to the surface via “rigorous and extensive use of ... first-person insight” (Lutz & Thompson, 2003, p. 49). A specific branch of phenomenology espoused by the German philosopher Martin Heidegger (1889-1976) was selected due in part to Heidegger’s view—outlined in one of his most well-known texts ‘Being and Time’ (published in 1927)—that through language (or narrative) we can access the essence of remembered ‘being,’ or a memory of being in the moment (Heidegger, 1993). As yoga provides an opportunity to reconnect with the present moment and a state of simply ‘being,’ the Heideggerian approach was considered an appropriate fit for this study. From an historical perspective, Heidegger seems uniquely positioned for the study of an Eastern philosophy (yoga) from a Western perspective, given that he was pivotal in the acceptance of non-Western philosophical thought (Ellis, 2018). Further support for this methodological choice is the acceptance of a researcher fully embedded in their research topic as a positive ‘meaning-making’ tool. Making sense of participants’ experiences requires an awareness of ‘intersubjectivity,’ defined by J. A. Smith et al. (2022) as a “shared, overlapping and relational ... engagement in the world” (p. 13), that facilitates our understanding of others.

Participants: Sampling

The eligibility criteria were based on a self-selected adult cohort (aged 18 to 65) with a committed yoga practice (minimum 6-months tenure). For inclusion, practitioners considered their yoga practice to be their primary mode of physical activity or exercise. Those with a yoga practice tenure of at least 2-years are considered to be long-term practitioners in the literature (Kiecolt-Glaser et al., 2011; Satin et al., 2014). Purposive sampling was employed at yoga studios located around New Zealand offering a range of yoga styles on their schedules. This strategy was aimed at accessing a population relevant to both the research topic and the design (non-restrictive with respect to practice), to capture a range of experiential narratives. Sampling from this perspective is aimed towards accessing sufficient “experiential data sources” to understand the phenomenon under study, rather than a specific quantitative target (van Manen, 2014, p. 353). An information sheet was emailed to all prospective participants prior to signing a consent form, detailing the purpose of the research, the requirements of the study, and privacy protection including anonymization of all data. Participants were given the opportunity to withdraw at any point during the data collation phase and did not receive any compensation for partaking in the research.

Participants: Demographics

A total of 38 eligible participants took part in the study. All completed the online survey, after which a subset of 20% (n=8) were randomly selected to be interviewed from the lowest (6-months to 2-years; n=4) and highest (>10-years; n=4) practice tenure categories. Table 1 provides all participant baseline characteristics, plus those for the interview cohort. To note, numbers by ethnic group are not equal to the cohort (i.e., >38) as the survey accommodated self-identification with more than one ethnicity. Likewise, the numbers by employment type equated to >38, as participants could select more than one option (or provide their own answer) to represent their individual work/home/study context. The majority of participants (n=34/38; 89.5%) were females, with 36 to 55-years being the dominant age (n=23/38; 60.5%), and 78.9% (n=30/38) identifying as European with a tertiary education. More than six additional ethnicities featured, including those within the 'other' category (American, Australian, and Spanish). Most (n=27/38; 71.1%) were in paid employment, with 10.5% (n=4/38) self-employed. A further 7.9% were currently studying while either working or at home with children.

Table 1
*Sociodemographic Characteristics of Participants**

Baseline Characteristic		Full Sample (n=38)	Interviewees (n=8)
Gender	Female	34	6
	Male	4	2
Age group	18-25	1	
	26-35	7	2
	36-45	10	2
	46-55	13	2
	56-65	7	2
Ethnic group(s) (Self-identification)	Prefer not to answer	1	
	New Zealand Māori	2	2
	New Zealand European	27	6
	Other European	3	
	Samoan	1	1
	Cook Island Māori	1	
	Tongan	1	1
	South East Asian	1	1
	Chinese	1	
Other	6		
Highest academic qualification	Prefer not to answer	1	
	Finished primary school	1	1
	Finished secondary school	1	1
	Apprenticeship, diploma, trade certificate	4	
	University Entrance/Bursar/Scholarship	1	
	Bachelor degree or higher	16	4
Employment	Postgraduate diploma / degree or higher	14	2
	Working in paid employment (or away temp)	27	5
	Housework, looking after children/other	4	2
	Not in paid work and looking for a job	1	
	In education - or on holiday	1	
	Combination of work and study	2	1
	Self-employed/Own business	4	
	Retired	1	1
	At home mum and studying	1	

Note. *Only those categories selected by participants are displayed.

Participants: Data collation

All participants completed an online survey, while a 20% subset were invited to partake in the virtual face-to-face interviews. This interview cohort were randomized from the lowest (6-months to 2-years) and highest (>10-years) practice tenure categories. The eight interviews (of 25 to 72-minutes duration) explored participants' experience of their primary movement practice (yoga), and whether they perceived any relationship between the practice and their health and/or lifestyle. A direct comparison of emergent themes from the interviewees' experiential accounts with online responses (across the full cohort) enabled cross-checking or triangulation. Refinement of coding using both verbatim transcriptions and audio-recordings of the interviews (produced via a virtual teleconference platform) provided the nuance of narrative tone to the collaborative interaction or 'jointly constructed reality' that interview data represents (Rapley, 2004). In addition, comparison of the automated transcripts and audio recordings enabled correction of errors due to participants' accents.

Given the researcher's own yoga experience, and thus immersion in the subject matter, the inclusion of an interview guide (Table 2) established consistency of approach and content. But it also prevents the researcher's own interests circumventing the research aims or, crucially, pre-empting or even forestalling a participant's narrative. Semi-structured interviews keep the focus narrow and aligned to the research topic (Rubin & Rubin, 2012). To facilitate the trustworthiness of the data, it was crucial to record and transcribe the practitioner's own words, in order to access the practice experienced by the practitioner, not a researcher-led endeavor. Thus, whilst the interview guide ensured all questions were asked, the interview process remained open to the flow of natural conversation (or as natural as it could be given the subject-research dynamic). The goal being to capture vivid experiential examples to bring the narratives to life (Rubin & Rubin, 2012). The use of follow-up questions when appropriate invited subjective nuance, or "shades of meaning" to unfold (Rubin & Rubin, 2012, p. 105), while being cognizant of the potential for the researcher to drive the narrative.

Table 2

Interview Guide

How would you describe your yoga practice?

Can you recall what the initial motivation was to go to yoga?

What motivates you to maintain your practice?

What is it about yoga/the gym that keeps you coming back?

Do you set yourself an intention when you go to your mat?

Was there a point in time, or a defining moment, when you knew this practice had become a regular routine for you?

What are the biggest impacts of your practice?

Do you think your practice supports your lifestyle and/or your health?
 If so, in what ways do you feel supported?

If you were to project your mind forward, how do you see your practice in say 5-10 years from now?

Feel free to share anything else that comes to mind when you think of your practice and yoga.

Analytical Strategy

Coding and thematic analysis was guided by the interpretive phenomenological methodology: a process of systematic coding of participant transcripts to uncover themes, using verbatim quotes (or vignettes) that best illustrate participants' process of making sense of their experience (Frost et al., 2010). This focus on participants' words is an evidence-based technique, in that the evidence (the narrative source) for coding and resultant themes can be explicitly recorded. It is by increasing the reliability of qualitative analysis, that the utility of the hermeneutic circle comes to the fore. As Pillow (2010) notes, self-reflexivity lays bare the role of the researcher, not only in data analysis, but throughout the research process, from defining the question(s), to the research setting. The embedded etic (or researcher) concepts "represent the ... [lens] through which the researcher perceives facts and phenomena in the field under scrutiny" (Kelle, 2004, p. 449), and defined the initial coding schema. The final stage of coding offers a more visual mapping across and within themes (and subthemes) to consider emic (participant) concepts or patterns emerging across the cohort—or "shared cultural understandings" (Atkinson & Coffey, 2001, p. 811)—and establish any inconsistencies or convergence with respect to the researcher's own frame of reference.

Engaging with the data iteratively over an extended period of time provided space between the data collation and stages of analysis, enabling a more objective researcher stance. Connection with interviewees who shared narratives that resonated more closely to the researcher's personal experience of practice had faded by the time the initial coding took place. In addition, the process of literature review provided an external lens through which to interpret the analysis and assign names to themes and categories. An Excel worksheet recorded the initial coding process, made up of four stages: (i) selection of text from the written transcript, with the source interview question; (ii) assignment of a one-word code to capture the essence of the selected text, such as access, balance, or diet; (iii) listening to the audio recording of the interviews, to consider any nuances of the conversation that may re-contextualize the selected text; and (iv) initial ideas of themes across the sourced dataset.

In practical terms, a thematic framework offers a structure to codify individual experiences, in this instance moving from a narrow (text selection) to a broad (thematic) lens. Ulin et al. (2005) describe a process of data reduction as a distillation to uncover the "essential concepts and relationships" (p. 160) visible from a broad perspective, though the term 'reduction' seems contrary to the expanded viewpoint by which overarching ideas may emerge. In the final interpretative stage refinement of themes supported a shift from analysis towards data interpretation, resulting in a broader categorization (Bathmaker, 2020). The full analysis of verbatim quotes was informed by the assignment of yoga tenure, teacher status, and source of the quote (interview/survey). Themes were reduced into four main categories that best captured inter-participant narratives of their experiences—or "recurring aspects of meaning" (van Manen, 2014, p. 352)—whilst keeping in mind the context of the study. At this juncture, a peer review enabled a cross-check of the source data with the assigned categories and themes/subthemes, to confirm that themes represented participant responses.

Results

Across all participants, 47.4% (n=18/38) practiced at one yoga studio, with three participants—two of which were teachers—having access to their own studio. A third of all participants (34.2%; n=13/38) noted that they practiced at home; and practiced at more than one studio (31.6%; n=12/38). Teacher status was not correlated to the use of more than one studio, with just over half of participants using multiple studios (58.3%; n=7/12) having trained as a teacher. With respect to the style of yoga practiced, the full range recorded by participants in order of popularity (number of mentions) was as follows: yin (25), vinyasa/flow (18),

Bikram/hot (18), yin-yang (12), nidra (12) prānāyāma or breath control/practice (10), power vinyasa (9), hatha (8), Ashtanga (5), hot flow (4), restorative (2), own practice (2), and then a variety of other styles only mentioned once, for example, yoga therapy, inversions, and body balance (described as a Pilates/yoga combined class). It is interesting to note that the most common practice was yin, a style that is passive and meditative with minimal movement.

Nidra shows up as a style of yoga, albeit it is a meditation, providing an indication that participant definitions of yoga encompassed an integrated practice. Overall, 68.4% (n=26/38) of participants practiced meditation (or yoga nidra): comprising 62.5% (n=5/8) of the interview cohort and 73.3% (n=22/30) of the survey cohort. Nidra had the most mentions (12) for meditation style. Other styles recorded were: guided (10), mindfulness (4), meditation during a class (3), vipassana (3), and sound meditation (2). Meditative styles that had a single mention were breathing, open-eyed and transcendental, with one participant simply stating that they used a variety of meditation techniques, without any further clarification. The guided meditation classes included examples were participants clarified that their meditation practice was simply that offered during other yoga classes, and the use of meditation apps. This data provides a window into the lived yoga practice of participants, with the vast majority of participants integrating multiple styles of yoga into their practice. All but one of the interviewees (7/8) had at least three yoga styles in their repertoire, with the exception being a pure Ashtanga practitioner. Likewise, only 10% (n=3/30) of participants who only completed the survey practiced just one style of yoga, with 13.3% (n=4/30) practicing two styles.

Participant Themes

Across the findings, four categories emerged from the participant narrative: impact, denoting the experiential downstream or flow-on effects of a yoga practice; health behavior to capture the interrelationship between yoga and pro-health habits; a practice category to collate participant responses that discussed the practice itself, rather than the consequences of a practice; and the internal landscape category as a repository for shared examples of an inner experience. Specific participant quotes have been anonymised, either by a pseudonym for those participants who completed both an online survey and an interview (the interview cohort) or by a number for those who only completed the survey.

The impact category had the largest number of coded items, resulting in four themes: off the mat, mind-body, self-awareness, and balance, which best illustrate the key effects of yoga, as experienced by the participants. These impact themes provide an overall description of a practice that connected and balanced participants' mental and physical experiences both on and off the mat, whilst providing a different perspective on their lives, and influencing their actions. The development of self-awareness was experienced as an integral part of yoga's impact by the participants.

Four health behavior themes captured practice adherence strategies, examples of the practice facilitating pro-health habits (diet and physical activity themes) and the application of yogic tools gained from the practice in participants' lives. These last two illustrated opposing directions of action. Firstly, the practice acting as a facilitator of health behavior; and secondly, the participants actively applying yogic strategies off the mat. The practice category collated participants' commitment to yoga and their changing practice, their sense of community, and access to yoga. Finally, two internal landscape themes captured examples of embodiment and presence. This fourth category illuminated two contrasting elements of a lived yoga practice, as being a combination of internal and external experiences.

The key participant themes were off the mat, adherence, and presence. Within the off the mat theme, two narratives emerged in reference to (i) an approach to life whereby yoga had changed the filter or lens through which participants viewed life, offering a change in perspective gained through yoga, or a 'yogic perspective;' and (ii) an influence of yoga on life

events, whereby yoga informed or guided interactions with the outside world. Thus, two subthemes of perspective and influence captured verbatim quotes (from both the interviews and open-ended survey responses). The use of yoga as a lens, or filter, through which to observe and/or move through life was a dominant concept within the perspective subtheme. In particular, the idea of ‘letting go’ or accepting elements outside of one’s control, such as: “I was fighting things more than embracing ... yoga teaches me to let go ...” (Amy); “Yoga helped me deal with a lot of things I was holding onto (*sic*), it has helped me to let go and to be able to move forward” (Participant 35); “I think yoga has enabled me to maintain a relaxed, non-judgmental, non-aggressive approach to stressful situations” (Evelyn).

The adherence theme refers to participant narratives that highlighted habitual strategies used to support practice adherence, including motivations to practice even when participants do not feel like it. In fact, responses to the question of why participants practiced yoga when they did not feel like it provided a glimpse into the subjective influence of yoga motivating participants to get on their mat. A common thread was the knowledge that yoga would provide a positive shift, or put simply: “Because I know I’ll feel better afterwards” (Participant 7). Also expressed as: “I may simply meditate or practice a restorative pose. But I will feel better for taking time for myself” (Participant 27).

An ability to notice patterns that could derail participants’ habitual practice emerged from the dataset, pointing towards the experience of a positive influence from yoga, particularly in shifting out of a negative physical or emotional state. The following examples speak to participants using their own prior experience of this influence to support practice adherence: “Sometimes I feel lazy, unmotivated, but this is the time I actually need the practice most” (Participant 6); “I certainly feel good afterwards ... if ... I think, ‘I’ll stay in bed this morning’, well I don’t let myself do that ...” (Libby). If I feel unwell, I don’t practice but if it’s just [in] my head then I try really hard to go. Because when I don’t like it, that feels like the time I need to go to get the benefits of slowing down and reducing my busy mind (Participant 34).

The presence theme captured the participants’ experience of a state of being present in the moment, or the act of re-focusing the mind, as revealed by the following quotes with descriptions of softening, spaciousness, quiet, and slowing down: “Mostly it’s around softening or creating space around something, a focus ... a honing of my attention ...” (Gwen); “... a space just for me where I look after myself and only have to think about me in that time” (Cleo); “[Yoga offers] space, time to yourself to slow down and go inwards” (Participant 8); “[Yoga is] a time for me to focus in a quiet contemplative way on just me and my body” (Participant 38); and “... yoga is the time when I can slow down and ... re-ground ... re-group ... re-focus ...” (Marsha).

Discussion

A research narrative is emerging around the utility of yoga as a self-regulatory tool, and this study hopes to contribute to the existing narrative, particularly with respect to the experience of yoga beyond the practice itself. There is a need for studies to consider interoception and health behavior (Sullivan et al., 2018). Whilst yoga research is complicated by the study of practices that are both yoga and/or meditation, the inclusion of movement (rather than just seated meditation) is a fundamental component relevant to this thesis, backed by the introduction of ‘holistic movement practice’ to define a research subset that captures the experience of, and attention to, movement (Vergeer et al., 2021).

The findings were considered as group experiential concepts, or participant constructs (J. A. Smith et al., 2022). The qualitative findings provide a window into the experience of the participants’ yoga practice. Two narratives emerged within the impact category: an approach to life whereby yoga had changed the filter or lens through which participants viewed life, or a change in perspective gained through yoga, or a ‘yogic perspective;’ and the influence of yoga

on life events, whereby yoga informed or guided interactions with the outside world. A health behavior category captured four themes of adherence, diet, physical activity, and yoga applied. The adherence theme captured strategies that facilitated a habitual yoga practice. Whilst two broader concepts related to the experience of practice and are a useful access point to the findings. The first, self-regulation, is the overarching concept guiding the study, with self-regulation considered in the context of pro-health habits (diet and exercise). The second, mindfulness, is a concept that features across holistic movement and contemplative practice research, and, in more practical terms, is a common term referenced within yoga classes. This discussion considers the wider narratives related to the themes presented in the previous section.

Internal Landscape: A Yogic Filter for Life

A common thread across the findings was a shift in mindset, particularly towards acceptance (of self and circumstance); a mindfulness concept (to follow on p. 168). Examples included a sense of yoga ‘putting life into perspective’ and also enlivening the experience. As one metaphor clearly illustrated: life had shifted from a two-dimensional experience to “3D” with “more shape and color.” The practice itself was used for the explicit purpose of a mindset shift, such as to relieve a low mood, or reset after a tough workday. An embodied self-awareness or ‘yogic perception’ highlighted by Funes Maderrey (2018) fits with the experience of noticing mental and physical shifts, both as a result of practice and in response to external situations. The 3D metaphor seems an apt expression of an embodied perception cultivated through practice, providing a sense of a heightened awareness of the ‘shape’ of the internal landscape.

The descriptions of directing an external action from an embodied internal space within the findings provide yet more qualitative evidence for a ‘yogic perception’ cultivated through practice, as denoted in the literature with respect to a changed perspective to dietary behaviour (Ross et al., 2016). A change in mindset or ‘a better frame of mind’ from which to make health decisions, indicative of emotional self-regulation, was specifically noted by Ross et al. (2016) and matched in this study’s findings. Sala et al.’s (2020) meta-analysis of a mindful approach to health behaviors off the mat (or rather ‘off the meditation cushion,’ given that less than 4% of the studies recorded yoga practice data) found that ‘acting with awareness’ was the key facet of mindfulness predictive of pro-health actions. A theory that fits with that of Roche (2018), whereby awareness is linked to self-regulation. It seems reasonable to predict that acting with an embodied awareness (a ‘yogic perception’) would improve the chances of self-regulating.

Pro-Health Habits: “Yoga Opened that Door”

The interrelationship between behavior and habit is rooted in consistency, thus pro-health habits result from the consistent application of pro-health behaviors (K. S. Smith & Graybiel, 2016). The literature suggests that automaticity (efficiency) and adherence co-exist (Rhodes & Sui, 2021). Indeed, habit did feature within the findings with the practice compared to simply brushing your teeth or getting out of bed, representative of an automatic act that you “just kind of do” without the need to consider options. The automaticity or habitual nature is borne out of repetition, facilitated by a context that supports the desired behavior, or a “goal-conducive context” (Williamson & Wilkowski, 2021, p. 19). Perhaps, rather than practice frequency being the measure of consistency, the commitment to the practice itself, the environment within which the practice (and pro-health behaviors) take place, and the identity formed ‘on the mat’ are all acting both separately and in combination to create a yoga adherent. In addition, self-identification can influence behavior (Quaye et al., 2021; Rhodes & Sui, 2021).

In this study, the practice itself emerged as a consistent behavior. The simple fact that yoga is considered to be a ‘practice’ may facilitate consistency. Indeed, Patanjali’s Yoga Sūtra 1.14, as translated by Shearer (1982) suggests that consistency and commitment are essential to the practice: “The practice of yoga will be firmly rooted when it is maintained consistently and with dedication over a long period” (p. 92). Even the Sanskrit for practice, *abhyāsa*, can be translated as “diligent practice, the effort to stay with something” (Roy & Charlton, 2019, p. 319), indicative of commitment.

The Experience of Self-Regulation

Looking at self-regulation from a motivation perspective offers an interesting access point to the findings. Recommendations proposed by Forestier et al. (2022) to enhance self-regulation research include the use of motivational conflicts, such that participants’ specific goals, or motivators, are taken into account. The authors illustrate this with an example of testing self-control in relation to diet by the use of participants who actually want to eat healthier. In other words, studying regulation fatigue, and conversely regulation endurance, within a context where participants are emotionally engaged. This fits well with this study’s participants, who were fully engaged with their yoga practice, and with Baumeister and Vohs’ (2018) assertion that self-control depletion is reduced if the choice aligns with one’s preferences.

An increased embodiment, or interoceptive awareness, gained through practice tenure, enabled a more body-centered approach to diet informed by how the body felt. This fits with Roche’s (2018) suggestion that self-regulation and an embodied mind may interrelate, and to Cook-Cottone’s (2016) ‘embodied regulation’ as a felt sense of being self-regulated; depicted by participants as a neutral zone, less driven by thoughts and emotion. A potential link between interoception and self-regulation features in the literature, with behavior change motivated by a mind-body drive towards homeostasis (Strigo & Craig, 2016). Study participants were inspired to move off the mat as a result of feeling more energized from practice, with an additional narrative around yoga facilitating other movement modalities through strength and mobility gains, and even enhanced breath capacity. This relates to Cramer, Quinker, Pilkington, Mason, Adams, & Dobos’ (2019) findings that equated additional exercise off the mat to practice frequency, though frequency was not a key practice component in the findings aside from the experiential data regarding a commitment to the practice itself. Adding to this narrative, embodied self-regulation was experienced by the Ashtanga practitioners in Ramirez-Duran et al.’s (2022) study, who described an embodied sense of well-being that included moving and ‘eating well.’ Plus, feeling connected to the body has been shown to be positively associated with physical activity levels (Paulson & Greenleaf, 2022).

The experience of yoga as a ‘reset’ to return to balance provided a glimpse into a specific example of self-regulating via the practice, including using the practice as a setpoint for the day, such as starting the day in a (more) positive mental and/or physical state. Self-regulation also captured findings associated with the application of yoga within daily life, including: the use of breathwork (*prānāyāma* in Sanskrit), and returning to the present moment in response to, or during, challenging situations. The application of yoga was experienced by practitioners with a range of practice tenures, including new practitioners, and thus the experience of self-regulation off the mat was not indicative of tenure. Adherence to the practice was informed by the experience of positive outcomes, being inspired by a sense of community, and by participants’ knowledge that lacking motivation was a sign that they needed to adhere to practice.

The Experience of Mindfulness

A number of themes related to mindfulness emerged from the data, namely: perspective off the mat, self-awareness, progression of practice, and attention. Lived examples of mindfulness included reference to actively being mindful during everyday scenarios, and more specifically, to being present, e.g. being in the ‘here and now;’ one of three aspects of mindfulness that has gained the most popularity (Lomas, 2016). This varied application of mindfulness off the mat was consistent with the findings of Cox, Brunet, McMahon, and Price (2021). Mindfulness was described as focusing, going inward, and accessing a quiet contemplation. More implicit descriptions included a non-judgmental attitude, and an acceptance of life (and one’s physical body) as it is. Acceptance being an example of mindfulness in action, or “a process of relating openly with experience” (Bishop et al., 2004, p. 233). Further mindfulness concepts included letting go and/or releasing expectations.

A desire to progress to a more integrated practice, or to increase the meditative component of practice, were both examples of practitioners’ developing their practice over time. A greater emphasis on meditation may reflect a transition towards a more spiritual or philosophical approach to the practice. Within the literature, a definition of spirituality that offers a useful representation of participants’ experiences was the integration of contemplation into the practice (Sarbacker, 2014). The literature also describes an increased focus on spirituality both with increased practice tenure (Cagas et al., 2022b; Park et al., 2016); in relation to practice frequency (Cartwright et al., 2020; Csala et al., 2021); and as practitioners commit to the practice and/or transition to the role of yoga teacher (Sarbacker, 2014; Wiese et al., 2019). Some teachers in the study were not actively teaching, with one reason being that the training was purely for the progression of their own practice. Similarly, a desire to progress towards more ‘self-designing’ of the practice was representative of a journey towards being a devoted practitioner, rather than a teacher to others. Liu et al. (2021) described a bidirectional journey from practitioner to teacher, and potentially a return to practitioner status when the role of business perhaps clashed with the sense of devotion to the practice.

The findings did not support an increase in spirituality according to teacher status, tenure, or practice frequency. Referring back to the Buddhist lineage of mindfulness, being drawn towards spirituality—or more specifically, towards “spiritual progress” (Lomas, 2016, p. 4)—adds in a further aspect of mindful awareness. Explicit reference to spirituality within the findings emerged, with descriptions of a spiritual dimension to life, or the development of ‘spiritual benefits,’ such as patience; benefits which acted as a motivator to prioritize the practice and thus facilitated adherence. Other descriptions offered examples of an ‘applied spirituality’ whereby yoga had infused participants’ lives with a feeling of spirituality (or universality) or provided a distinct experience of spirituality.

A point worth emphasizing is that mindfulness, within yoga, does not necessarily equate to seated meditation. Yoga can be experienced as a ‘moving meditation’ or ‘mindful movement’. Indeed, one ‘non-meditator’ shared that yoga provided the opportunity to practice being mindful, and two described the emergence of a spiritual side to their practice experience, pointing towards subtler outcomes purely from the movement practice. As Sarbacker (2014) noted (in line with the findings) the entry point to the practice can be the physical body, which is the locus for expanding towards a spiritual dimension.

Limitations

A clear study limitation is the lack of diversity of participants, though the baseline characteristics do match the current norm for published yoga studies. Efforts are being made to increase the diversity of research participants—amidst wider global equality activism—which will increase the relevance and reach of research, and hopefully further promote the practice of

yoga to a wider demographic. The findings were primarily based on the experience of females (85% of participants) which may have imparted a specific bias, though comparative to the published (female dominant) studies.

Another limitation is that of self-selection, which can positively bias the study findings. The participant pool is likely to be more open to discussion of the subtle outcomes of practice (such as spirituality) simply because: (i) they were interested enough in the topic to partake in the research, and/or (ii) the effects of their practice have influenced their lives. Not forgetting that the survey and interview questions themselves frame the discussion towards the effects of a yoga practice off the mat; in turn influencing the overall context within which themes emerge. In hindsight it would have been valuable to gather experiential data from those participants who felt yoga was not a supportive framework for diet and other exercise, and from the two participants who chose not to practice when they did not feel like it. This expansion of the framework within which data was gathered would have widened the conversation yet would have still been limited by the self-selection bias. The study design would have benefitted from seeking out a second participant pool, such as practitioners of a different, ideally ‘non-holistic’ movement practice, such as running or swimming, and capturing their experiences in comparison to yoga practitioners. Alternatively, seeking out participants who had tried yoga but not found any benefits off the mat would have offered a contrasting paradigm, though likely would prove challenging to recruit. As noted in detail in the methods, given the potential for implicit bias via the researcher’s own experience of yoga, or etic lens, the process of data collation (e.g., using an interview guide) and stagewise interpretation (including peer review) was specifically aimed at reducing this bias.

Finally, this study is not able to account for all mediators of behavior, such as social environment, though these were occasionally mentioned in participant narratives, such as taking time out from family to practice. As Lakoff and Johnson (1980) state, our experiences “are products of our interactions with [the practice] in our environment” or so-called “*interactional*² properties” (p. 177). The subjectivity of the experiential narrative, and the “physical and cultural environment imposes a structure on our experience” (Lakoff & Johnson, 1980, p. 230). As such, generalizability of findings is not possible. Yet, the container of a yoga practice is transferrable to other yoga populations, and even to other embodied movement practices, though the further the journey from the mat, the more limited the extent of transferability. Furthermore, it is not possible to differentiate whether the off the mat effects experienced (that participants assigned to their practice) are the result of other physical activity (aside from, or in combination with, yoga) and their dietary choices. The possibility that yoga is *not* a contributing factor to participants’ additional pro-health behaviors—given that yoga itself is a health behavior—is an alternative conclusion that cannot be excluded. Thus, although participants felt experience of yoga is that it offers a positive influence off the mat, these experiential findings are indicative of yoga’s impact, rather than evidence of an effect.

Implications

- Studies that incorporate embodiment techniques and interoceptive awareness would add to the literature on holistic movement practices.
- The potential of holistic movement practices to offer a supportive framework for embodied cognition is ripe for study, particularly with respect to behavior change. For example, it would be interesting to allow participants to practice a movement modality of their own choosing, yet with education on interoceptive awareness, in order to study the effect prior to, and after, embodiment has been incorporated.

² Emphasis (italics) as per the quote.

- The study of movement adherers is a worthwhile resource in the field of health behavior as it pertains to physical activity. This paper highlights the richness of qualitative data emerging from the lived experience of participants' personal movement preferences, and it is hoped that further qualitative studies can provide insights to support adherence for pro-health outcomes.

Conclusion

Rather than defining a yoga practice—or yoga prescription—this study explored an ‘embodied interpretation’ of a yoga practice (O’Brien-Kop & Newcombe, 2021); a practice experienced by participants situated within a modern day New Zealand context. Consequently, this design accommodated participants’ practice preferences, capturing experiential data that explored the influence of yoga in participants’ lives off the mat. The practice itself emerged as a key factor in yoga adherence. The self-regulation resulting from practice in turn facilitated an ongoing practice. In essence, a self-sustaining loop that integrated the mind and body in the direction of pro-health habits, with yoga being just one of those habits. Whilst there is a prominent discourse seeking to understand the factors at play within the practice, this study’s findings illuminated how integrated the practice is, both in terms of integration within participants’ lives, and with respect to the mind-body (or systemic) effects that do suggest a parasympathetic, and thus self-regulatory, shift as a result of practicing yoga.

The overarching aim of this study was to explore whether adherence to a yoga (movement) practice was experienced as a downstream positive self-regulatory influence on health behavior, within a small NZ population of self-identified yoga practitioners who shared their lived experience of the practice off the mat. The findings draw attention to the potential of embodied movement practices to facilitate pro-health behavior and habits, in the context of diet and physical activity. The majority of participants felt that their yoga practice facilitated pro-health habits; a self-regulatory benefit that may denote parasympathetic influence.

The value of these findings, and this study’s contribution to the wide-ranging fields of research within which yoga may sit, is that a yoga practice, and likely any holistic movement practice that integrates the mind and body, is a self-regulatory tool to support a shift towards pro-health behaviors. Indeed, finding a movement modality that resonates with an individual, especially one that is enjoyable, promotes adherence. The practice of being embodied, including noticing or feeling into the physical and mental experience, both during and after movement, has the potential to further enhance a shift towards self-regulated lifestyle choices. More specifically, this study adds to the current discourse within the interoception/embodiment research fields by providing an experiential lens that focused on the value of the *experience* of interoception, or being embodied, for pro-health behavior. The participants provided lived examples of acting with awareness (Sala et al., 2020), and self-regulating from an embodied mind (Roche, 2018), thus adding a subjective richness to these concepts.

Connecting with the experience of movement and the effects of movement, offers a different paradigm to promote pro-health lifestyles; one that aims to connect the individual with their own movement preferences. This connection offers a three-fold adherence model: connecting to a practice of one’s choosing; connecting to the mind-body sensations; and potentially, connecting to a social community who resonate with the same movement practice. More research designed to learn from the positive experiences of movement practice adherents, particularly exploring the transition to a committed practice, would further inform health promotion strategies by providing experiential data on health behaviors shifting to habits. By fostering embodiment, movement can potentially elicit self-regulatory pathways that support health, whilst providing a more ‘holistic’ experience for practitioners. The simple message, to attune to embodiment through movement, was the key narrative to emerge from this study.

Ethical approval

Approval for the study was provided by the Auckland University of Technology Ethics Committee (AUTEK), with annual progress reports submitted to AUTEK throughout the course of the project.

Funding Details

No funding was received for this doctoral research study.

Disclosure Statement

No financial interest or benefit has arisen from the direct applications of this research.

References

- Abrams, S. (2018). *Taking yoga off the mat for digital detox*. Medium. <https://medium.com/thrive-global/taking-yoga-off-the-mat-for-digital-detox-93b4afef4f7c>
- Alexander, G. K., Innes, K. E., Selfe, T. K., & Brown, C. J. (2013). “More than I expected”: Perceived benefits of yoga practice among older adults at risk for cardiovascular disease. *Complementary Therapies in Medicine*, 21(1), 14–28. <https://doi.org/10.1016/j.ctim.2012.11.001>
- André, N., Audiffren, M., & Baumeister, R. F. (2019). An integrative model of effortful control. *Frontiers in Systems Neuroscience*, 13(December), 1–22. <https://doi.org/10.3389/fnsys.2019.00079>
- Atkinson, P., & Coffey, A. (2001). Revisiting the relationship between participant observation and interviewing. In J. F. Gubrium & J. A. Holstein (Eds.), *Handbook of interview research* (pp. 801–814). SAGE Publications. <https://doi.org/10.4135/9781412973588>
- Audiffren, M., & André, N. (2014). The strength model of self-control revisited: Linking acute and chronic effects of exercise on executive functions. *Journal of Sport and Health Science*, 4(1), 30–46. <https://doi.org/10.1016/j.jshs.2014.09.002>
- Bathmaker, A.-M. (2020). Dealing with data analysis. In P. Thomson & M. Walker (Eds.), *The Routledge doctoral student’s companion: Getting to grips with research in education and the social sciences* (pp. 200–212). Routledge.
- Baumeister, R. F., & Vohs, K. D. (2018). Strength model of self-regulation as limited resource: Assessment, controversies, update. In *Self-regulation and self-control: Selected works of Roy F. Baumeister* (pp. 78–126). Routledge Taylor & Francis Group: World Library of Psychologists Series. <https://ebookcentral.proquest.com>
- Birdee, G. S., Legedza, A. T., Saper, R. B., Bertisch, S. M., Eisenberg, D. M., & Phillips, R. S. (2008). Characteristics of yoga users: Results of a national survey. *Journal of General Internal Medicine*, 23(10), 1653–1658. <https://doi.org/10.1007/s11606-008-0735-5>
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230–241. <https://doi.org/10.1093/clipsy.bph077>
- Brinsley, J., Smout, M., & Davison, K. (2021). Satisfaction with online versus in-person yoga during COVID-19. *Journal of Alternative and Complementary Medicine*, 27(10), 893–896. <https://doi.org/10.1089/acm.2021.0062>

- Bryan, S., Zipp, G. P., & Parasher, R. (2012). The effects of yoga on psychosocial variables and exercise adherence: A randomized, controlled pilot study. *Alternative Therapies in Health and Medicine, 18*(5), 50–59. <https://doi.org/10.1093/clipsy.bph077>
- Buchholz, K. (2021). *Yoga and meditation: The most popular yoga and mindfulness apps*. Statista. <https://www.statista.com/chart/22059/most-popular-yoga-and-meditation-apps/>
- Cagas, J. Y., Biddle, S. J. H., & Vergeer, I. (2022). Why do people do yoga? Examining motives across different types of yoga participants types of yoga participants. *International Journal of Sport and Exercise Psychology*. Advance online publication. <https://doi.org/10.1080/1612197X.2022.2090987>
- Cameron, O. G. (2001). Interoception: The inside story: A model for psychosomatic processes. *Psychosomatic Medicine, 63*, 697–710. <https://doi.org/0033-3174/01/6305-0697>
- Cartwright, T., Mason, H., Porter, A., & Pilkington, K. (2020). Yoga practice in the UK: A cross-sectional survey of motivation, health benefits and behaviours. *BMJ Open, 10*(1), Article e031848. <https://doi.org/10.1136/bmjopen-2019-031848>
- Cook-Cottone, C. (2016). Embodied self-regulation and mindful self-care in the prevention of eating disorders. *Body Image, December 2015*. <https://doi.org/10.1016/j.bodyim.2015.03.004>
- Cox, A. E., Brunet, J., McMahon, A. K., & Price, J. (2021). A qualitative study exploring middle-aged women’s experiences with yoga. *Journal of Women & Aging, 34*(4), 460–472. <https://doi.org/10.1080/08952841.2021.1944752>
- Cox, A. E., Ullrich-French, S., Tylka, T. L., & McMahon, A. K. (2019). The roles of self-compassion, body surveillance, and body appreciation in predicting intrinsic motivation for physical activity: Cross-sectional associations, and prospective changes within a yoga context. *Body Image, 29*, 110–117. <https://doi.org/10.1016/j.bodyim.2019.03.002>
- Craig, A. D. (2002). How do you feel? Interoception: The sense of the physiological condition of the body. *Nature Reviews Neuroscience, 3*, 655–666. <https://doi.org/10.1038/nrn894>
- Cramer, H., Lauche, R., Haller, H., Langhorst, J., Dobos, G., & Berger, B. (2013). “I’m more in balance”: A qualitative study of yoga for patients with chronic neck pain. *Journal of Alternative and Complementary Medicine, 19*(6), 536–542. <https://doi.org/10.1089/acm.2011.0885>
- Cramer, H., Quinker, D., Pilkington, K., Mason, H., Adams, J., & Dobos, G. (2019). Associations of yoga practice, health status, and health behavior among yoga practitioners in Germany: Results of a national cross-sectional survey. *Complementary Therapies in Medicine, 42* 19–26. <https://doi.org/10.1016/j.ctim.2018.10.026>
- Csala, B., Springinsfeld, C. M., & Köteles, F. (2021). The Relationship Between Yoga and Spirituality: A Systematic Review of Empirical Research. *Frontiers in Psychology, 12*, 1–17. <https://doi.org/10.3389/fpsyg.2021.695939>
- Ding, D., & Stamatakis, E. (2014). Yoga practice in England 1997-2008: prevalence, temporal trends, and correlates of participation. *BMC Research Notes, 7*, Article 172. <https://doi.org/10.1186/1756-0500-7-172>
- Duhigg, C. (2014). *The power of habit: Why we do what we do in life and business*. Random House Trade Paperbacks.
- Ellis, T. B. (2018). Indian and European philosophy. In B. Purushottama; Bilimoria, (Ed.), *Routledge history of world philosophies: History of Indian philosophy* (pp. 526–525). Routledge.
- Figueiredo, T. I., Willardson, J. E. M., Miranda, H. U., & Bentes, C. L. M. (2015). Influence of load intensity on postexercise hypotension and heart rate variability after a strength training session. *Journal of Strength and Conditioning Research, 29*(10), 2941–2948. <https://doi.org/10.1519/JSC.0000000000000954>

- Forestier, C., de Chanaleilles, M., Boisgontier, M. P., & Chalabaev, A. (2022). From ego depletion to self-control fatigue: A review of criticisms along with new perspectives for the investigation and replication of a multicomponent phenomenon. *Motivation Science*, 8(1), 19–32. <https://doi.org/10.1037/mot0000262>
- Frost, N., Nolas, S. M., Brooks-Gordon, B., Esin, C., Holt, A., Mehdizadeh, L., & Shinebourne, P. (2010). Pluralism in qualitative research: The impact of different researchers and qualitative approaches on the analysis of qualitative data. *Qualitative Research*, 10(4), 441–460. <https://doi.org/10.1177/1468794110366802>
- Funes Maderey, A. L. (2018). An overview of classical yoga philosophy as a philosophy of embodied self-awareness. In B. Purushottama; Bilimoria, (Ed.), *Routledge history of world philosophies: History of Indian philosophy* (pp. 263–270). Routledge.
- Heidegger, M. (1993). *Basic writings from being and time (1927) to the task of thinking (1964)* (D. F. Krell (Ed.), Revised). Harper Collins Publishers.
- Kawachi, I., & Allostatic Load Working Group. (1997). *Heart rate variability*. <http://www.macses.ucsf.edu/research/allostatic/hearttrate.php#allostasis>
- Kelle, U. (2004). Computer-assisted qualitative data analysis. In C. Seale, G. Gobo, J. F. Gubrium, & D. Silverman (Eds.), *Qualitative Research Practice* (pp. 443–459). SAGE Publications. <https://doi.org/10.4135/9781848608191>
- Kiecolt-Glaser, J. K., Christian, L., Preston, H., Houts, C. R., Malarkey, W. B., Emery, C. F., & Glaser, R. (2011). *Stress, inflammation and yoga practice*. 72(2), 1–22. <https://doi.org/10.1097/PSY.0b013e3181cb9377.Stress>
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. The University of Chicago Press.
- Linnebank, F. E., Kindt, M., & de Wit, S. (2018). Investigating the balance between goal-directed and habitual control in experimental and real-life settings. *Learning and Behavior*, 46(3), 306–319. <https://doi.org/10.3758/s13420-018-0313-6>
- Liu, H., Huang, Y., Gao, M., & Stebbins, R. (2021). From serious leisure to devotee work: An exploratory study of yoga. *Leisure Studies*, 29(10), 2941–2948. <https://doi.org/10.1080/02614367.2021.1980087>
- Lomas, T. (2016). Recontextualizing mindfulness: Theravada Buddhist perspectives on the ethical and spiritual dimensions of awareness. *Psychology of Religion and Spirituality*, 9(2), 209–219. <https://doi.org/10.1037/rel0000080>
- Lucas, A. R., Klepin, H. D., Porges, S. W., & Rejeski, W. J. (2018). Mindfulness-based movement: A polyvagal perspective. *Integrative Cancer Therapies*, 17(1), 5–15. <https://doi.org/10.1177/1534735416682087>
- Lujan, H. L., & DiCarlo, S. E. (2013). Physical activity, by enhancing parasympathetic tone and activating the cholinergic anti-inflammatory pathway, is a therapeutic strategy to restrain chronic inflammation and prevent many chronic diseases. *Medical Hypotheses*, 80(5), 548–552. <https://doi.org/10.1016/j.mehy.2013.01.014>
- Lundholm, U. P., Anderze, A., Westerdahl, E., & Ko, M. (2014). Medical yoga: Another way of being in the world: A phenomenological study from the perspective of persons suffering from stress-related symptoms. *International Journal of Qualitative Studies on Health and Well-Being*, 9, Article 23033. <https://doi.org/10.3402/qhw.v9.23033>
- Lutz, A., & Thompson, E. (2003). Neurophenomenology. *Journal of Consciousness Studies*, 9–10, 31–52.
- Mehling, W. E. (2020). If it all comes down to bodily awareness, how do we know? Assessing bodily awareness. *Kinesiology Review*, 9(3), 254–260. <https://doi.org/10.1123/KR.2020-0021>
- Mehling, W. E., Wrubel, J., Daubenmier, J. J., Price, C. J., Kerr, C. E., Silow, T., Gopisetty, V., & Stewart, A. L. (2011). Body awareness: A phenomenological inquiry into the common ground of mind-body therapies. *Philosophy, Ethics, and Humanities in Medicine*, 6(1), Article 6. <https://doi.org/10.1186/1747-5341-6-6>

- O'Brien-Kop, K., & Newcombe, S. (2021). Reframing yoga and meditation studies. In S. Newcombe & K. O'Brien-Kop (Eds.), *Routledge handbook of yoga and meditation studies* (pp. 3–12). Routledge Taylor & Francis Group.
- Park, C. L., Riley, K. E., Bedesin, E., & Stewart, V. M. (2014). Why practice yoga? Practitioners' motivations for adopting and maintaining yoga practice. *Journal of Health Psychology, 21*(6), 887–896. <https://doi.org/10.1177/1359105314541314>
- Pascoe, M. C., J. de Manincor, M., Hallgren, M., Baldwin, P. A., Tseberja, J., & Parker, A. G. (2021). Psychobiological mechanisms underlying the mental health benefits of yoga-based interventions: A narrative review. *Mindfulness, 12*, 2877–2889. <https://doi.org/10.1007/s12671-021-01736-z>
- Paulson, G., & Greenleaf, C. (2022). “I feel empowered and alive!”: Exploring embodiment among physically active women. *Women in Sport and Physical Activity Journal, 30*(1), 27–34. <https://doi.org/10.1123/wspaj.2021-0058>
- Penman, S., Cohen, M., Stevens, P., & Jackson, S. (2012). Yoga in Australia: Results of a national survey. *International Journal of Yoga, 5*(2), 92–101. <https://doi.org/10.4103/0973-6131.98217>
- Pillow, W. S. (2010). “Dangerous reflexivity”: Rigour, responsibility and reflexivity in qualitative research. In P. Thomson & M. Walker (Eds.), *The Routledge doctoral student's companion: Getting to grips with research in education and the social sciences* (pp. 270–282). Routledge.
- Quaye, E. S., Mokgethi, K., & Ameyibor, L. E. K. (2021). Health Self-Identity–Based Motivations and Behavioral Intentions: A Predictive Model and Segmentation Analysis. *Social Marketing Quarterly, 27*(4), 347–369. <https://doi.org/10.1177/15245004211053853>
- Ramirez-Duran, D., Kern, M. L., & Stokes, H. (2022). More than a feeling: Perceptions of wellbeing in regular Ashtanga Yoga practitioners. *International Journal of Wellbeing, 12*(2), 88–113. <https://doi.org/10.5502/ijw.v12i2.2027>
- Rapley, T. (2004). Interviews. In C. Seale, G. Gobo, J. F. Gubrium, & D. Silverman (Eds.), *Qualitative research practice* (pp. 16–34). SAGE Publications. <https://doi.org/10.4135/9781848608191>
- Rhodes, R. E., & Sui, W. (2021). Physical Activity Maintenance: A Critical Narrative Review and Directions for Future Research. *Frontiers in Psychology, 12*, 1–13. <https://doi.org/10.3389/fpsyg.2021.725671>
- Roche, L. T. (2018). Yoga: A self-regulation process. *Yoga Mimamsa, 50*(1), 16–19. https://doi.org/10.4103/ym.ym_22_17
- Ross, A., Brooks, A., Touchton-Leonard, K., & Wallen, G. (2016). A Different Weight Loss Experience: A Qualitative Study Exploring the Behavioral, Physical, and Psychosocial Changes Associated with Yoga That Promote Weight Loss. *Evidence-Based Complementary and Alternative Medicine, 2016*. <https://doi.org/10.1155/2016/291474>
- Roy, R., & Charlton, D. (2019). *Embodying the Yoga Sutra: Support, Direction, Space*. Weiser Books (Red Wheel/Weiser).
- Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). SAGE Publications.
- Sala, M., Rochefort, C., Lui, P. P., & Baldwin, A. S. (2020). Trait mindfulness and health behaviours: A meta-analysis. *Health Psychology Review, 14*(3), 345–393. <https://doi.org/10.1080/17437199.2019.1650290>
- Sarbacker, S. R. (2014). Reclaiming the spirit through the body: The nascent spirituality of modern postural yoga. *Entangled Religions, 1*, 95–114. <https://doi.org/10.46586/er.v1.2014.95-114>

- Satin, J. R., Linden, W., & Millman, R. D. (2014). Yoga and psychophysiological determinants of cardiovascular health: Comparing yoga practitioners, runners, and sedentary individuals. *Annals of Behavioral Medicine : A Publication of the Society of Behavioral Medicine*, 47(2), 231–241. <https://doi.org/10.1007/s12160-013-9542-2>
- Shearer, A. (1982). *The Yoga Sutras of Patanjali*. Bell Tower (Random House).
- Singh, T., Mittal, S., Sharad, S., Bhanot, D., Das, S., Varma, R., Kaur, H., Merwal, U., Arya, Y. K., Verma, S. K., Jaiswal, A., & Bharti, B. K. (2022). The silver lining behind the dark cloud: Exploring the psycho-social factors impacting successful adaptation during the COVID-19 pandemic. *Journal of Pacific Rim Psychology*, 16, 1–18. <https://doi.org/10.1177/18344909221102207>
- Smith, G. B. (2007). *Martin Heidegger: Paths taken, paths opened*. Rowman & Littlefield Publishers.
- Smith, J. A., Flowers, P., & Larkin, M. (2022). *Interpretative phenomenological analysis: Theory, method and research* (2nd ed.). SAGE Publications.
- Smith, K. S., & Graybiel, A. M. (2016). Habit formation. *Dialogues in Clinical Neuroscience*, 18(1), 33–43. <https://doi.org/10.1192/bjp.75.309.298>
- Sport New Zealand. (2020). Active NZ 2019 Participation Report. <https://sportnz.org.nz/media/3639/active-nz-year-3-main-report-final.pdf>
- Streeter, C. C., Gerbarg, P. L., Saper, R. B., Ciraulo, D. A., & Brown, R. P. (2012). Effects of yoga on the autonomic nervous system, gamma-aminobutyric-acid, and allostasis in epilepsy, depression, and post-traumatic stress disorder. *Medical Hypotheses*, 78(5), 571–579. <https://doi.org/10.1016/j.mehy.2012.01.021>
- Strigo, I. A., & Craig, A. D. (Bud). (2016). Interoception, homeostatic emotions and sympathovagal balance. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371(1708). <https://doi.org/10.1098/rstb.2016.0010>
- Sullivan, M. B., Erb, M., Schmalzl, L., Moonaz, S., Noggle Taylor, J., & Porges, S. W. (2018). Yoga therapy and polyvagal theory: The convergence of traditional wisdom and contemporary neuroscience for self-regulation and resilience. *Frontiers in Human Neuroscience*, 12, Article 67. <https://doi.org/10.3389/fnhum.2018.00067>
- Thayer, J. F., & Sternberg, E. (2006). Beyond heart rate variability: Vagal regulation of allostatic systems. *Annals of the New York Academy of Sciences*, 1088(1), 361–372. <https://doi.org/10.1196/annals.1366.014>
- Uddin, L. Q. (2022). Functions of the salience network. In *Salience network of the human brain*. Elsevier Science & Technology.
- Ulin, P. R., Robinson, E. T., & Tolley, E. E. (2005). *Qualitative methods in public health: A field guide for applied research*. Jossey-Bass.
- van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Left Coast Press.
- Vergeer, I., Bennie, J. A., Charity, M. J., Harvey, J. T., van Uffelen, J. G. Z., Biddle, S. J. H., & Eime, R. M. (2017). Participation trends in holistic movement practices: A 10-year comparison of yoga/Pilates and t'ai chi/qigong use among a national sample of 195,926 Australians. *BMC Complementary and Alternative Medicine*, 17(1). <https://doi.org/10.1186/s12906-017-1800-6>
- Vergeer, I., Bennie, J. A., Charity, M. J., van Uffelen, J. G. Z., Harvey, J. T., Biddle, S. J. H., & Eime, R. M. (2018). Participant characteristics of users of holistic movement practices in Australia. *Complementary Therapies in Clinical Practice*, 31, 181–187. <https://doi.org/10.1016/j.ctcp.2018.02.011>
- Vergeer, I., Johansson, M., & Cagas, J. Y. (2021). Holistic movement practices: An emerging category of physical activity for exercise psychology. *Psychology of Sport and Exercise*, 53, Article 101870. <https://doi.org/10.1016/j.psychsport.2020.101870>

- Vohs, K. D., Baumeister, R. F., & Schmeichel, B. J. (2012). Motivation, personal beliefs, and limited resources all contribute to self-control. *Journal of Experimental Social Psychology, 48*(1), 943–947. <https://doi.org/10.1016/j.jesp.2012.08.007>
- Wiese, C., Keil, D., Rasmussen, A., & Olesen, R. (2019). Effects of yoga asana practice approach on types of benefits experienced. *International Journal of Yoga, 12*(3), 218–225. https://doi.org/10.4103/ijoy.IJOY_81_18
- Williamson, L. Z., & Wilkowski, B. M. (2021). What we repeatedly do: Evaluating the determinants and consequences of habit enactment during daily goal-pursuit. *British Journal of Psychology, 1–24*. <https://doi.org/10.1111/bjop.12524>
- Yoga Alliance & Yoga Journal. (2016, January 13). *2016 yoga in America study*. <https://www.yogaalliance.org/2016YogaInAmericaStudy>

Notes on Contributors

Dr Wendy L Reynolds is an acupuncturist, yoga researcher, and a teacher of yoga, meditation, and Pilates in the South Island of New Zealand. A theme that weaves its way through her work is a passion for creating space to be in balance, with a focus on the parasympathetic nervous system to support recovery and optimise health.

Assoc Prof Elizabeth Du Preez is a Senior Lecturer in Psychology and Neuroscience at AUT University in Auckland. She has a strong research and clinical practice background, having spent the last two decades training counselling and clinical psychologists in tertiary education programmes. She is particularly interested in providing professional development opportunities for psychologists to support them in navigating the changing world they practice in, in ways that are collaborative, and research based.

Prof Nigel K Harris is Dean of the Graduate Research School at AUT University. His research activity is centred on the improvement of health and wellbeing through exercise, with an emphasis on resistance training and high intensity interval training. The implementation of high intensity interval training in schools is a key recent research theme.

ORCID

Wendy L Reynolds, <https://orcid.org/0000-0003-4285-797X>

Elizabeth Du Preez, <https://orcid.org/0000-0003-3574-2541>

Nigel K Harris, <https://orcid.org/0000-0003-1737-487X>