

*‘It’s just survival, I suppose.’*

**Hatha yoga, mindfulness, and balance:**

**A mixed-method study with older women in the UK.**

A report presented to the Faculty of Health and Life Sciences, Coventry University,  
towards the degree of Master of Science in Psychology.

By

Agnieszka Czarnecka<sup>1</sup>

Total word count: 9994 words

Coventry, 24<sup>th</sup> of March 2017

---

<sup>1</sup> Student ID: 6554154

## Table of Contents:

Acknowledgements.....	3
Abstract.....	4
Introduction (1).....	4-15
Materials and Method (2).....	15-20
Research design (2.1).....	15-16
<i>Observational settings (2.1.1)</i> .....	15-16
Participants (2.2).....	16-17
Procedure (2.3).....	17
Intervention: Yoga Programme (2.4).....	17-19
Assessments (2.5).....	19-20
<i>Mindfulness (2.5.1)</i> .....	19
<i>Emotional well-being (2.5.2)</i> .....	19-20
Quantitative results (3) .....	20-22
Qualitative results (4) .....	22-40
Data Collection (4.1).....	22-22
Procedure (4.2).....	23-24
Qualitative Analysis (4.3).....	24-25
<i>Focus on mindfulness (4.3.1)</i> .....	25-31
<i>Focus on balance (4.3.2)</i> .....	31-35
<i>Focus on emotional wellness (4.3.3)</i> .....	35-40
Discussion (5) .....	40-45
Conclusion (6) .....	45
References.....	46-51
Appendices.....	52-102

## **Acknowledgements**

This thesis is dedicated to the group of lovely ladies who participated in the study. Without their dedication to the practice of yoga, it wouldn't have been possible to conduct this study.

## **Abstract**

*Background:* As both the number of older people and the average life expectancy increases worldwide, an important question arises: can psychological and physical well-being be sustained in later life?

*Methods:* 7 older women (aged  $M=71.29$ ,  $SD=6.80$ ) participated in weekly yoga sessions for 15 weeks, and completed pre- and post-intervention assessments. Mindfulness was assessed using the Freiburg Mindfulness scale; emotional well-being using the Scale of Positive and Negative Affect Scale (SPANES); and balance using a qualitative observational methodology. In addition, semi-structured post-intervention interviews were conducted with 4 participants.

*Results:* A Wilcoxon signed ranks test revealed significant improvements in mindfulness and emotional affect scores, while subjective measures of postural balance suggested that the participant's balance had improved post-intervention.

*Conclusion:* Findings suggest that yoga may be a viable method to increase mindfulness, emotional well-being, and postural balance in independent older people. Further studies could explore the effect of increased mindfulness and its relationship with postural balance further, possibly broadening our understanding of the underlying mechanism of improved balance in older people.

## **1. Introduction**

There are now 11.6 million people aged 65 or over living in the UK, and the percentage of older people in the UK population has steadily increased since the 1970s, reaching 17.7% in 2015 (Office for National Statistics 2016). It is estimated that by 2040, nearly one in four people (24.2%) will be aged 65 or over (Office for National Statistics 2016). This growing proportion of older people driven by falling fertility rates and longer life

expectancy indicates that the UK has an ageing population.

Unfortunately, longer living does not always correspond with quality of living, as many older people experience a decline in physical functioning, which can negatively affect their psychological well-being and quality of life. Apart from common age-related morbidities, one of the major risk factors that older people face is the increased risk of an accidental fall, associated with frailty and poor postural balance. Falls, even those that don't result in injury, are disabling and strongly associated with negative physiological outcomes including activity constraint, loss of independence, and increased morbidity and mortality (Albert, 2014). The psychological implications of falls may include isolation, fear of falling again, and depression. (Albert, 2014) These implications also have wider negative consequences, placing an economic burden on healthcare services.

Given that optimum health is achieved by 'a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity' (WHO 2004), the need for research that moves beyond pathology and towards identifying interventions that help to achieve optimal physical and psychological states while preventing disease is imperative. While many types of preventative interventions – including resistance and aerobic exercises – have been previously studied and found to be associated with improvements in older people's functioning (Fiatarone et al. 1990; Leenders et al. 2013), many of them focus solely on the physical aspects of functioning and well-being. To date, the effectiveness of yoga as a preventative intervention that targets both the physical and mental aspects of wellbeing has been comparatively less studied, particularly with older participants.

Therefore, this study's objective was to research the potential of yoga to provide an accessible intervention that would be enjoyable while helping older people adopt

independence- and wellbeing-maintaining behaviours.

### ***Defining Yoga***

Yoga, an ancient spiritual system, has been used for thousands of years in Eastern cultures to help cope with health problems. Yoga is often translated as ‘a union’, referring to a unity of body, mind and spirit (Iyengar 1993).

The ultimate purpose of yoga philosophy according to Patanjali, the author who systematised the original source of yoga philosophy in *The Yoga Sutras*, is ‘chitta vrtti nirodhah’ that can be translated as ‘suppression of the fluctuations of consciousness’ (Iyengar 2005:4). According to Patanjali (Iyengar 2005) the suppression of the fluctuation of consciousness, or stilling the mind can be achieved by following a specific 8-stage yogic path consisting of: yama, niyama, asana, pranayama, prathahara, dharana, dyana and samadhi. The first two stages encompass ethical guidelines followed by asana (physical postures) and pranayama (controlled breathing techniques), and a series of meditative stages that together aim at achieving optimum health, self-improvement and self-realisation. The practice of asana is considered a foundational stage of a wider yoga philosophy by various original yogic sources including *Hatha Yoga Pradripika* (Rieker 1992). This ancient text advocates step-by-step progression through the stages of yoga, and considers the first two stages concerning ethical behaviour as the obvious foundation for the subsequent stages. The practice starts from attempting to perfect the postures, i.e. gain control over the physical body, and progresses towards more subtle practices such as pranayama and the subsequent stages. The asana practice often referred to as Hatha yoga, is currently the most popular form of yoga taught and practiced in the West.

Hatha yoga practice integrates the physical practice of postures (asanas) with regulated breathing and focused attention. As well as focus on asanas and breathing, a fundamental

component of an effective Hatha yoga practice is awareness of moment-to-moment sensations (e.g. Iyengar 2005; Desikachar 1999). In addition, a non-judgmental attitude toward one's limitations is encouraged during the practice, which is intended to promote self-acceptance and awareness of the dynamic nature of existing personal physical boundaries.

For the purposes of this study, the physical practice of Hatha yoga will be referred to simply as 'yoga'.

### ***Yoga in the present day***

Recently, yoga has become increasingly popular in the West particularly among young and middle-aged women, and has been widely offered at gyms, yoga studios and health clubs. Yoga has simultaneously received a lot of attention from the scientific community. Its status in clinical settings was advanced considerably especially by Kabat-Zinn and his colleagues' research into the development of an intervention that included elements of yoga and other contemplative practices to reduce stress (see the Mindfulness Stress Reduction Programme: Kabat-Zinn et al. 1992). Since then, researchers have extensively studied the impact of yoga on physical health, showing that yoga may improve a number of health conditions. Results of recent studies showed that yoga hold promise for improving cardiovascular disease and type 2 diabetes (Innes, Bourguignon, and Taylor 2005), arthritis (Büssing et al. 2012) and cancer survivors' well-being (Culos-Reed et al. 2012). A vast amount of research also supports claims that yoga has physiological benefits, including improved strength (Greendale et al. 2002; Haslock et al. 1994), mobility and flexibility (DiBenedetto 2005; Garfinkel 1994).

In addition to physiological effects, yoga has been shown to alleviate psychiatric conditions such as depression (Uebelacker et al. 2010), anxiety (Cramer 2013), and post-

traumatic stress disorder (Meyer et al. 2012; Telles, Singh, and Balkrishna 2012). It has also been shown that yoga may produce immediate psychological benefits including lowering anxiety (West et al. 2004; Michalsen et al. 2005; Gupta et al. 2006) and improving quality of life and spiritual well-being (Moadel 2007).

Compared with the growing literature on yoga with younger and middle-aged participants, relatively few studies have researched the effect of yoga on older people specifically. Among published studies with older participants, the majority focused on physical well-being, establishing a strong relationship between yoga practice and improvement in physical health (for a comprehensive literature review, see Patel, Newstead and Ferrer 2012). For example, recent studies have shown that yoga significantly improves cardiopulmonary fitness, specifically by reducing blood pressure and respiration rate and increasing breath-holding duration (Fan and Chen 2011; Lau, Yu and Woo 2015). The effect of improved respiratory functions was also present in other studies, including Bezerra et al. 2014, and Santaella et al. 2011. Other studies have noted improved gait speed and general mobility (Tiedemann 2013; Kelley et al. 2014), as well as improved endurance and muscle strength (Fan and Chen 2011; Lau, Yu and Woo 2015). In addition, one study showed that self-reported pain level decreased significantly in yoga participants suffering from rheumatoid arthritis (Bosch et al. 2009). Other studies reported improved flexibility (Fan and Chen 2011; Lau, Yu and Woo 2015; Oken et al. 2006; Grabara and Szopa 2015; Farinatti et al. 2014) and postural balance in response to yoga participation (Oken et al. 2006; Fan and Chen 2011). Relatively few studies have investigated the psychological effect of yoga on older participants, and have focused on cognitive functions as well as overall well-being, nevertheless also showing measured improvement (Gothe and McAuley 2015; Hariprasad et al. 2013).

Two recent studies of the effect of yoga on older people are particularly noteworthy in terms of their methodological excellence and their focus on the psychological dimensions of health. In one robust randomized controlled study, 135 healthy older adults practiced yoga for 6 months and their quality of life scores, as compared to exercise and control group participants, significantly improved in response to the intervention (Oken et al. 2006). Another study of note is a recent randomized controlled trial assessing 120 older adults on quality of life (QOL) and sleep measures pre- and post- yoga intervention (Hariprasad et al. 2013). The results showed that the yoga group's QOL and sleep scores improved significantly in response to high doses of yoga practice (daily for one month, and weekly until third month). Although the results of these studies are promising, one of the main limitations of these and many other similar studies is a lack of a detailed description of the yoga intervention, which makes the studies difficult to replicate or compare across studies. In addition, combining the practice of asanas with formal meditation and stand-alone pranayama practices in these and many other studies may be considered another limitation, due to the possibility of these additional practices having confounding effects. As a result, it is difficult to tell which component of yoga (whether asana, meditation or pranayama) is related to changes in well-being. Nevertheless, the recent literature on yoga suggests that yoga may provide a wide spectrum of health benefits in practitioners of all ages.

### **Possible mechanisms underlying the psychological benefits of yoga**

#### *Mindfulness*

One of the proposed mechanisms to explain the beneficial effect of yoga is the mindfulness component of the practice. The concept of mindfulness has its roots in Buddhist practices, in which focused attention and awareness of the present moment are

actively cultivated. Mindfulness is commonly understood to be the state of focused attention and awareness of what is taking place in the present moment. Since Kabat-Zinn's development of the Mindfulness Stress Reduction Programme (MSRP) that combines the elements of meditation, visualisation and yoga (1992) there has been a growing interest in mindfulness in the research community. Kabat-Zinn was among the first to operationalise the term for use in clinical settings, defining it as 'moment to moment awareness', encompassing paying attention on purpose, in the present moment, and non-judgmentally (Kabat-Zinn 1990: 2). Kabat-Zinn and his colleagues were also among the first to study the effect of mindfulness meditation on psychological well-being. They found that the practice of mindfulness meditation over an 8-week period and after a 3-year follow-up significantly reduced anxiety levels (Kabat-Zinn et al. 1992; Miller, Fletcher and Kabat-Zinn 1995). Since then it has been found that mindfulness also promotes emotional regulation by increasing one's awareness of his or her emotional states (Cohen-Katz et al. 2005). In addition, it was suggested that mindfulness promotes mood regulation by fostering self- acceptance and thus promoting overall well-being (Cohen-Katz et al. 2005).

Although it is well-known that the practice of mindfulness meditation increases the levels of mindfulness (Carmody and Baer 2008; Nyklicek and Kuijpers 2008), relatively little is known about the impact of other contemplative practices, such as yoga, on this skill. The practice of yoga emphasises focused attention and non-judgmental awareness of feelings, sensations and perceptions in the present moment, meaning that developing mindfulness is an integrated component of an authentic yoga practice. This is reflected in the practice of yoga postures and movement sequences, in which a mindful awareness of present experiences is emphasised and encouraged by slowing down the movements and paying close attention to the bodily sensations. Indeed, the physical movement in yoga provides

a rich source of mindfulness experiences by offering the opportunity to focus on present-moment interoceptive cues (Kolk 2006).

Since yoga encourages the development of mindfulness, it is possible that enhanced mindfulness or altered perceptions of inner sensations and outer phenomena due to yoga practice will, in line with previous research, impact the practitioner's affect and their overall emotional well-being. In addition, it is likely that increasing awareness of bodily sensations from regular yoga will help practitioners increase awareness of their muscle tone and joint position. In turn, this may help the practitioners to recognise and alter habitual positioning of their bodies, which may improve control over muscle tension and overall posture in day-to-day living (Krucoff et al. 2010). Thus, it seems likely that increased body-awareness, an important aspect of mindfulness, will impact the yoga practitioner's postural balance both inside and outside the yoga class.

It is possible that psychological benefits arising in response to yoga practice, including improved emotional well-being and balance, may be partially mediated by the changes in psychological perspective and improved body-awareness that result from increased mindfulness.

#### *Physical movement and neurological explanation*

Traditionally it was thought that yoga practices, including physical poses, breath work and meditation, reduce mental tensions through strengthening voluntary muscles and increasing control over the involuntary or autonomic nervous system (Vahia, Vinekar and Doongaji 1966). Indeed, Kolk (2006) demonstrated that the therapeutic effect of yoga is at least partially due to the therapeutic nature of movement-based practice such as Yoga,

Tai Chi, and other mind-body traditions. Kolk (2006) presented neurobiological evidence that physical movement utilised during those practices regulates the nervous system's responsiveness to stress in patients suffering from post-traumatic stress disorder. It was suggested that these physical therapies may help to 'rewire' the brain to moderate emotional stress and reactivity, suggesting that there may be a place for mind-body interventions in Western psychotherapeutic models, which currently do not include them.

### *Biological explanation*

Although it was previously established that yoga significantly decreases heart rate, systolic and diastolic blood pressure (Selvamurthy et al. 1998; Damodaran et al. 2002; McCaffrey 2005), and inflammation (Pullen 2008), while also reducing responsiveness to stress, it is only recently that research has revealed the effect of yoga on biological processes that drive the improvement of health and overall well-being. Specifically, it has been shown that yoga down-regulates the hypothalamic-pituitary-adrenal axis and in turn the sympathetic nervous system (the 'fight or flight' part of the autonomic nervous system), which controls the response to stress (Ross and Thomas 2010). This in turn activates the parasympathetic nervous system (or the 'rest and digest' part of the autonomic nervous system), which has a calming effect on the central nervous system. It is hypothesized that this effect is achieved via direct stimulation of the vagal nerve, a cranial nerve which interfaces with the parasympathetic control of the heart, lungs and digestive tract (Innes, Bourguignon, and Taylor 2005).

In addition, multiple studies have reported that the down-regulating effect of yoga on the stress responses of the HPA axis and sympathetic nervous system (SNS) is linked to decreasing cortisol (Michalsen et al. 2005; West et al. 2004) and blood glucose (Gokal et al. 2007; Khatri et al. 2007) as well as norepinephrine and epinephrine levels

(Selvamurthy et al. 1998). These findings are important because repeated firing of the HPA axis and SNS may lead to dis-regulation of those systems and ultimately to the development of disease, including diabetes, cardiovascular disease, and autoimmune disorders as well as depression (McEwen 2000; Michalsen et al. 2005).

Further biological evidence for the beneficial effect of yoga comes from research showing that the practice of yoga postures leads to substantial increases of GABA, the main inhibitory neurotransmitter responsible for the reduction of neuronal excitability in the brain, which in turn helps to regulate and calm the activity of the nervous system (Streeter et al. 2012).

### **Rationale for the present study**

The present study sought to build on the existing literature investigating the effects of yoga on older people. Although the previous research has demonstrated the beneficial effect of yoga on various dimensions of physical and mental well-being, there is relatively little known about whether yoga affects levels of mindfulness, which is an important correlate with emotional well-being (see, for example, Gallegos et al. 2012).

Although some preliminary research studies have suggested that yoga increases mindfulness in young and middle-aged people (Conboy, Wilson, and Braun 2010; Shelov, Suchday, and Friedberg 2009) this effect has yet to be confirmed in older people. Therefore, the present study's aim was to establish whether increased mindfulness in response to yoga is also present in older adults (adults aged 65+). In addition, as the aforementioned studies used objective quantitative research methods only, the participants' subjective experience and the subtle ways in which increased mindfulness is noticeable in their day-to-day lives haven't been explored to date. Therefore, the qualitative approach of this study may provide a better understanding of how yoga-

related changes to mindfulness improve the participants' lives.

Thus, the present study sought to increase our understanding of the potential benefits of yoga as a therapeutic intervention for older individuals. While yoga has proven effective in randomized controlled trials and other experimental studies with the use of standardized questionnaires, objective measures may only partially reflect participant experience. To date only a few qualitative studies have examined yoga study participants' own perceptions of their overall physical and emotional wellness, with only two studies investigating the perceived benefits of yoga practice in older participants (Alexandera, et al. 2012; Patel et al. 2011). In addition, to date only one qualitative study addressed the issue of postural balance specifically (Patel et al. 2011).

The combination of quantitative and qualitative methodology was chosen for three reasons. Firstly, the sample size from which quantitative data was collected was very small (N=7), indicating that the results should be interpreted with caution and supplemented with another type of data. Secondly, a rich dataset that would include participants' personal reflections of their lived experience of yoga could be obtained. Thirdly, insight about the underlying mechanisms of the beneficial effect of yoga on elderly people's wellbeing that went beyond the insight offered by standardized questionnaire could also be obtained.

In addition, and in line with the previously discussed original yogic literature, it was decided that the present study's intervention designed for beginner practitioners will consist of the foundational practice of postures with regulated breathing only ('Hatha yoga'). This contrasts with many previous studies, which utilize interventions that include other variables such as stand-alone pranayama or meditation practices that could confound the results.

The present study draws upon the findings of the previous experimental studies investigating the effect of yoga on mindfulness and various aspects of well-being in an adult population. In this study, it is hypothesised that the measures of mindfulness, emotional well-being and postural balance will improve in older participants in response to the intervention. In addition, the qualitative part of the research was expected to provide insight on the ways in which mindfulness, postural balance, and emotional wellness improved and impacted the participant's day-to-day lives.

## **2. Materials and methods**

### *2.1 Research design*

The present study involved a 15-week Yoga Programme (YP) intervention, which consisted of one 60-minute class per week. A mixed method design combining quantitative results with qualitative findings was used.

For the quantitative part, a semi-experimental pre-post repeated measure design with no control group was used. Time was the independent variable, which had two levels: T1, before the intervention; and T2, after the intervention. There were two ordinal dependent variables, Mindfulness and Emotional Well-being, which were measured using a battery of standardized questionnaires.

In addition, postural balance and various aspects of well-being were assessed using a combination of qualitative methodology i.e. semi-structured interviews and the researcher's recorded observations described below.

#### *2.1.1 Observational settings*

Postural balance was assessed by the researcher, who observed and recorded participant performances of five yoga postures and sequences that pose a particular challenge to one's balance. Table 3 (Appendix 1) presents detailed descriptive notes of participant performance after the end of the first three and last three classes (classes 1-3 and 13-15). The researcher observed two participants at a time during the class and noted any points relating to the quality of balance achieved in each pose (e.g. after the first class, participants 1 and 2 were observed; and after the second class, participants 3 and 4 were observed, and so on). Observations were recorded immediately after the class and later compared for differences in performance between the first 3 weeks and the final 3 weeks of yoga intervention.

## *2.2 Participants*

Participants were recruited from a senior community service centre based in London, through leaflet advertisements as well as the centre's staff who informed existing service-users about the upcoming yoga study. Out of 16 participants who expressed interest in participating, ten (n=10) met inclusion criteria and were enrolled. The inclusion criteria were as follows: being a female of age 65 or over, being physically independent, having a good command of the English language, and having had no regular yoga practice experience in the last 12 months prior to the commencement of the study. The participants' characteristics are displayed in Table 1. Written informed consent was obtained from all the participants before the commencement of the study, at which point the participants were also briefed about the purpose and nature of the study. In accordance with the ethical research requirements the participants were also informed about the data protection procedure, including the fact that all their data will be

anonymised, securely held in a password-protected file, and destroyed after 12 months from the date of completion of the study.

The class size was kept intentionally small, which was important to ensure that all participants were given adequate attention and guidance during the class, and that they perform all the exercises safely and to the best of their ability. As three participants (N=3) dropped out in the first week of the study, only the remaining seven participants (N=7) completed the YP intervention and the quantitative questionnaire (33% attrition rate). In addition, four participants consented to participate in the post-intervention interview (N=4). At the completion of the YP the participants were debriefed and invited to continue participating in the weekly yoga classes free of charge, which were offered by the researcher.

### *2.3 Procedure*

The study received ethical approval from the Psychology Ethics Committee. All eligible participants completed a battery of questionnaires one day prior to their first yoga session. The same questionnaires were administered to the same participants again 1- 5 days after the completion of the yoga intervention, at which point four participants were also interviewed in person about their yoga experience. The interviews took place at the community centre's meeting room and were recorded using iPhone 5 technology.

### *2.4 Intervention: Yoga Programme*

The weekly yoga classes were led by the researcher who is a long-term yoga practitioner and a certified yoga instructor with previous experience of teaching yoga to senior people. The yoga programme incorporated Hatha yoga postures adapted to the participant's physical capabilities, which were performed standing as well as sitting on a

chair. As detailed in Table 4 (Appendix 2), the class included six phases:

1. Connecting with the breath
2. Warm-up
3. Modified Sun Salutation (Surya Namaskara)
4. Standing and balancing poses
5. Hip-openers and forward bends
6. Restorative, and final relaxation

The classes were sequenced over time and gradually included more poses as the participants gained experience and confidence. Appendix 2 presents the yoga class description, including all postures performed in full by participants from week 5 onwards.

Every session commenced with a few minutes of sitting in stillness and focusing attention on slowing the breathing rate, and on any physical sensations arising at that moment. This was followed by a warm-up made up of a series of circular dynamic movements. Next, a standing warm-up was performed, followed by a modified Sun Salutation (Surya Namaskara), which consists of a set of poses linked together to form a continuous flow. During this part of the class, the participants were encouraged to focus on linking the breath with the movement to energise the body but also to facilitate one-pointed concentration. After the Sun Salutation, gentle preparatory movements initiating each static pose were performed to stimulate circulation and prepare the body for holding a specific standing pose. Here, the emphasis was again on linking movement with breath, by initiating each new movement with breathing as well as on keeping breathing slow and regular whilst holding a specific pose. Each standing pose was held for no more than 2-3 seconds to eliminate the risk of straining, and participants were encouraged to monitor their physical sensations and stay within their comfortable range of movement.

After standing poses, a set of seated movements and poses were performed, focusing on the lower part of the body. Finally, restorative forward bends were performed, followed by a few minutes of relaxation.

## 2.5 Assessments

### 2.5.1. Mindfulness

Mindfulness was measured with a short form of *The Freiburg Mindfulness Inventory (FMI)*, which consists of 14 items that characterise the respondent's experience of mindfulness. The scale has a high internal consistency (Cronbach's Alpha = 0.86) as well as high test-retest reliability (Walach et al 2006). The scale uses a 4-point Likert-type scale, which measured the frequency of a given experience. The choice of answers ranged from "Rarely" and "Occasionally" to "Fairly often" and "Almost always". Example items include "I sense my body, whether eating, cooking, cleaning or talking" and "I accept unpleasant experiences" (a copy of the scale can be found in Appendix 4).

### 2.5.2. Emotional well-being

Emotional well-being was measured by the *Scale of Positive and Negative Experience (SPANE)*. The scale is formed of 12 single-worded items, out of which 6 describe positive feelings and 6 describe negative feelings. For both positive and negative items, three are broad in meaning (e.g. 'good' or 'bad') and three per subscale are more specific (e.g. 'angry' or 'contented'). The SPANE scale uses a 5-point Likert-type scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree). It was shown that the scale has a high internal consistency (Cronbach's alpha = 0.81 to 0.89) and a high test-retest reliability (Diener 2010). A scale itemised with single words makes the tool accessible

for older people, who may tire from reading faster than younger people (a copy of the scale can be found in Appendix 4).

### 3. Quantitative Results

Out of 10 participants admitted into the study, two (N=2) withdrew due to schedule conflicts with their hospital appointments, and one (N=1) withdrew due to a limited command of the English language. All the remaining participants (N=7) who completed the study were female and aged 65-80 (M=71.29, SD=6.80). Attendance of weekly classes ranged from 86.6% to 100% with a mean adherence rate of 91.6%. No injury or adverse events occurred during the intervention. Additional demographic characteristics of the sample are summarized in Table 1.

**Table 1.** Demographic characteristics of the sample

Demographic	N/(%) / M (SD)
<b>Age</b>	71.29 (SD=6.80)
<b>Gender</b>	
Female	7 (100%)
Male	0
<b>Ethnicity</b>	
White British	4 (57.1 %)
Asian	3 (42.9 %)
<b>Marital status</b>	
Married	2 (28.6 %)
Single	2 (28.6 %)
Divorced	2(28.6 %)
Widowed	1 (14.2 %)
<b>Experience of yoga</b>	
None	5 (71.4 %)
Attended classes (ceasing at least 12 months earlier)	2 (28.5 %)
<b>Health condition</b>	
Arthritis	4 (57.1 %)
Osteoporosis	2 (28.6 %)
Bone fracture	1 (14.2 %)
High blood pressure	3 (42.9 %)

Low blood pressure	1 (14.2 %)
--------------------	------------

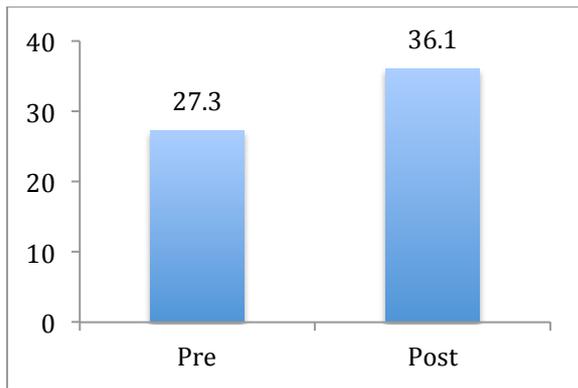
The quantitative results were analysed using non-parametric test primarily because of the use of ordinal data as well as a small sample size, and the possibility of abnormal data distribution. Differences were considered significant at  $p < 0.05$ . As summarized in Table 2, a Wilcoxon signed-rank test of two dependent samples showed a statistically significant difference between T1 and T2 in levels of mindfulness ( $z = -2.201$ ,  $p = 0.028$ ). In addition, a strong effect size was reported ( $r = -0.83$ ). The test also revealed a significant difference between the baseline and post yoga programme assessments in Positive/Negative feeling scores ( $z = -2.201$ ,  $p = 0.028$ ), and a strong effect size was observed ( $r = -0.83$ ).

As shown in Fig. 1 and Fig 2. Mindfulness and Emotional Well-being levels significantly increased after the intervention.

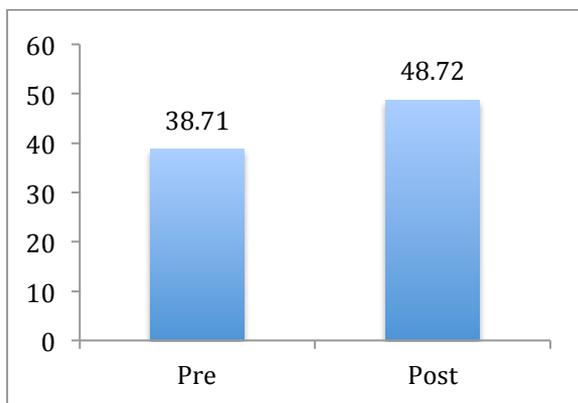
**Table 2.** Pre- and post-intervention score differences with effect sizes

Measure	Pre-Yoga Mean (SD) / Median	Post-Yoga Mean (SD) / Median	% Difference	Wilcoxon Signed- ranks (p value)	Effect size: Pearson's $r^*$
The Freiburg Mindfulness Inventory (FMI)	27.3 (SD=3.90) / 27.0	36.1 (SD=6.36) / 38.0	32.4 %	$z = -2.201$ ( $p = 0.028$ )	$r = -0.83$
The scale of Positive and Negative Experience (SPAN)	38.71 (SD=8.78) / 38.0	48.72 (SD=5.21) / 50.0	25.8 %	$z = -2.201$ ( $p = 0.028$ )	$r = -0.83$

\*Calculated using z scores (Rosenthal, 1991, p.13)



**Fig. 1.** Self-reported mindfulness levels before and after the yoga intervention. Values are mean  $\pm$  SE.



**Fig. 2.** Self-reported Positive/Negative feeling levels before and after the yoga intervention. Values are mean  $\pm$  SE.

## 4. Qualitative Results

### 4.1. Data Collection

The qualitative data was collected through semi-structured face-to-face individual interviews with the four eldest participants (N=4, Mean age = 76.75) within 1 week post-intervention (for the transcribed interview data please refer to Appendix 10). The interviews lasted between 35-55 minutes. A semi-structured interview schedule comprised of several broad topics of interest was prepared prior to the interview meetings (for the interview schedule, please refer to Appendix 7), and included open topics about the participants' experience of yoga in general, and prompts about whether they had

noticed any changes specifically with regard to their balance and emotional well-being. The participants were encouraged to talk in detail about the topic of interest and any new points arising during the course of the meeting. The interview was then transcribed using a Jeffersonian system of transcription notation (Jefferson 2004) and the raw data was used for the subsequent analysis.

#### *4.2. Procedure*

Data was analysed using the Interpretative Phenomenological Analysis (IPA) technique as guided by Smith and colleagues (Smith, Flowers and Larkin 2009). An IPA was chosen because it embraces a holistic approach to the individual's experiences and recognizes their interrelatedness with the outer world. This makes the IPA method especially suited to exploring lived experience of objective phenomena, such as changes in physical well-being. The method follows the double hermeneutics principle, which aims to capture the meaning through the description and interpretation of the participant's account of their experience. Thus, a detailed analysis of each subjective case experience or the idiographic approach was employed.

The analytical process follows a number of steps according to Smith and his colleagues' guidelines (Smith, Flowers and Larkin 2009). Firstly, the transcript is read with the focus on locating the extracts from which the participant's constructed meaning could be extracted, and those extracts are then used as the basis for the analysis. The interview transcript is then re-read several times and the initial descriptive comments are noted on the left margin of the page. Secondly, the interpretative ideas are being formed and then noted on the right margin. Thirdly, those ideas are then grouped into themes with the aim to capture the wider meaning of the particular topic under discussion. Fourthly, all the other cases are evaluated following the above process, and all the emergent themes are

then analysed across cases and screened for shared commonalities. Themes that share common features are then grouped under much broader themes or superordinate themes. Next, a master table of themes is created presenting superordinate themes, themes and the associated data source (for the master table, please refer to Appendix 8). Lastly, based on this table, a narrative analysis is subsequently created.

Some of the themes, which were considered irrelevant to the topic under investigation or under-represented in the data, were grouped under 'Miscellaneous' superordinate theme.

#### 4.3. *Qualitative Analysis*

The following analysis of the lived experiences of four older woman who attended weekly yoga classes for 15 weeks was conducted through close investigation of the emerging superordinate themes. Over the course of analysis, the researcher identified three emerging superordinate themes, with the first one identified as *Focus on Mindfulness*. The theme investigated the impact of yoga on the participants' mindfulness, which was categorised into three sub-themes as follows: 'Enhanced concentration and appreciation of the here-and-now', 'Acceptance and coping with unpleasant experiences', and 'Increased body-awareness'. The second theme, identified as *Focus on Balance*, investigated perceived changes to postural balance in the participant's day-to-day living. The third and final superordinate theme was summarised as *Focus on Emotional Wellness*, bringing together the participants' reflections on the impact of yoga on several dimensions of their emotional wellness. The following two sub-themes were identified: 'Increased interest in learning' and 'Positive outlook: Yoga seen as a health-preservation and disease-prevention strategy'.

The following section presents the participants' detailed accounts of their experience of the yoga programme, and the researcher's interpretation of those accounts. The emergent

themes indicate that the participants felt that yoga had increased their moment-to-moment awareness or mindfulness, while improving their postural balance and emotional wellness. The participants' real names are changed to protect their confidentiality, and the use of ellipses (...) indicates text omitted for brevity.

#### 4.3.1. Focus on mindfulness

##### ***'Enhanced concentration and appreciation of the here-and-now'***

The feeling of improved concentration and appreciation of the present moment was shared among most participants. Sarah associated her increased concentration with the ability to relax and to slow herself down. She described how she became more interested in what is around her and was able to focus her perception on what she is doing and seeing in a given moment, without becoming distracted by other things:

*Since I have been coming to the yoga in the last few weeks I also found I am more relaxed and I am more interested in looking at things as you go along, and I am not caring about anything else, I am just concentrating on what I can see. It makes me feel more relaxed (...) I am just concentrating on what I am doing. I am not interested in what is around, I am just being positive [in] mind and concentrating on things. (2-8:74)*

Sarah seemed to indicate a relationship between feeling more relaxed in response to yoga practice and becoming more receptive and interested in her day-to-day activities. As Sarah became more interested in looking at things with 'fresh eyes', it seems that she felt greater appreciation of her immediate reality, which in turn helped her to stay relaxed and positive.

For Ellie, the improvement in concentration is specifically related to the way that the

yoga class is structured. She stated:

*I find that it helps my concentration. Because when I do the class, I really concentrate for the whole hour. (...) You've got to do it right, and so you've got to concentrate, eh? And it is really good for your concentration. That is what I think. (2-4:94)*

The fact that the class is one hour long, where the emphasis is on precision of movement, seems to be the main driver behind Ellie's focused attention during the class. The participant seemed convinced that this element of the yoga practice improved her concentration in general.

Later in the interview, Ellie elaborated on the effect of yoga on her ability to concentrate, stressing that her enhanced concentration allowed her to let go of any concerns about the past and future, to appreciate the present more:

*Well, because when you concentrate, you [do] not... I mean I do try to meditate as well.... The thing is, what we do [is] we overthink backwards and forwards, 'oh, what happened yesterday, what will happen tomorrow, or...', and we don't get in touch with our self, hm? (...) When you do yoga for that hour, you [are] just doing yoga for that hour, hm? You are not yesterday or tomorrow, hm? And I think it helps when you get [yoga], because you get an hour of having your mind blank. Your mind is blank isn't [it]? When I am doing yoga with you my mind is blank. I am just trying to do what you are doing and I am not thinking. I am in [the] moment. If you live in [the] moment I think that helps your brain. (118-126:98)*

In this section Ellie emphasised her conviction that people spend too much time thinking about their past and future, which causes them to lose touch with the immediate reality of the present moment. She pointed this out by saying, '(...) we overthink backwards and forwards, 'oh, what happened yesterday, what will happen tomorrow, or...', and we don't get in touch with our self, hm?' She then indicated that yoga classes enabled her to stay connected with her activity during that hour, without being concerned with the past or

future. She used the expression, ‘your mind is blank’ repeatedly, as if to emphasise the importance of emptying the mind from worries and unnecessary distractions to promoting good health. The use of the “mind blank” expression might signify a need for the removal of disturbing mental content, that in turn ‘helps your brain’ and ultimately emotional well-being.

Another participant also attempted to explore the wider implication of the yoga practice on her life. July contrasts the calming effect of the yoga practice with stressful, fast-paced living, and its possible adverse effect on one’s health:

*I am really pleased that I did it because it does calm you down, slows you down, because we all, I think, in this life, especially in the city, [are] busy; we have a very fast life, we are rushing about somewhere fast and our body can’t handle it – you’ve got to slow yourself down sometimes. It is health; that is why a lot of people can’t get, you know, a lot of things [are] wrong [with them]. (132-136:91)*

Even though July did not explicitly explain what is so important about slowing down, when she talks about people rushing, she seems to be implying that they might be missing something of importance in that rush. Did July perhaps have in mind a present moment that she lost? Instead of exploring this, perhaps due to an inability to express her thoughts verbally, July jumped immediately to consequences of such a hectic lifestyle by pointing out that ‘our body cannot handle it’. What July perhaps implies is that in the process of slowing down, one has an opportunity to lead a more balanced and healthy life.

### ***‘Acceptance and coping with unpleasant experiences’***

The slowing and calming effect of yoga is also explored with regard to the ability to accept unpleasant external or internal life events. For example, when asked about the emotional impact of the yoga programme, Sarah responded:

*I just don't care [if] some people may say rude things sometimes. Another time I would answer back, but I don't now; I take it with a pinch of salt now and let it fly over, I am just calmer, definitely. (102-104:78)*

Sarah described how she became less reactive to stressful social situations, which she attributed to the calming effect of her yoga practice. She expressed the way she now deals with unpleasant social situations metaphorically, as 'letting it fly over', i.e. not taking it in personally. There is a sense of a conscious decision underpinning her newly more accepting and positive attitude.

The theme of greater acceptance of unpleasant situations in a social context is also explored by other participants. When asked about any emotional implications of the yoga practice Ellie responded:

*The thing about doing this [yoga] is that you have a moral code: be in harmony with the universe. Don't look forward, don't look back. I have no fear. (...) Don't look forward, don't look backwards. You know, if someone annoys you, you've got to let go – you've got to let go of the past, haven't you. (191-195:101)*

By relating the practice of yoga to leading a more harmonious and ethical life, it seems that Ellie implied a possible relationship between doing yoga and a feeling of compassion towards oneself and others.

Sarah also emphasized how she gained the ability to actively take control of her own mental states and deal effectively with difficult emotions, through application of the relaxation skills she learnt through yoga: *"Yeah, relaxation really calms you down; you know how to calm yourself right down. Because all sorts of things happen. You get very tense or you get a bit nervous or whatever, you know, it helps to really calm you right down."* (107-109:90)

Other participants shared the view that the calming effect of yoga helps them to deal with life difficulties, such as needing to go hospital, and dealing with pain. For Sarah, feeling calm in a hospital setting was a wholly new and surprising experience, as she stated in her interview: *“It [yoga] is so slowing, slow down, calm. I had to go to a hospital yesterday and I was really calm, I couldn’t believe how calm I was, you know, I think it makes me more calm, not worry about things.” (14-15:74)*

For July, visits to hospital had often involved painful interventions, and in her interview she shared how yoga techniques had helped to ease her pain and accept whatever situation she now finds herself in:

*It is not so much that when you relax it makes the pain better, but it eases it, you know, it is not quite [as] intense you know; when you go to a hospital they are putting needles in you, they say don’t look up, I just relax into it, like that, and I learnt it through yoga, just relax into whatever they doing, it is quiet (...) It makes it easier, [laughs] (77-80:89)*

July seems to imply a greater acceptance of whatever is happening to her, which she attributes to the skill of calming herself down which she learnt through yoga. It appears that this new skill has improved the participant’s ability to emotionally self-regulate in the face of stressful experiences.

When she spoke specifically about the pain, she explained that although it is very difficult to relax while in pain, it is possible to ease it through breathing and relaxation:

*It is very relaxing. Sometimes when you are in pain, it is very hard to relax, so if you can sort of breathe into, to the, hm (...) you know, it can help you relax a lot, so... And if you are in pain, that is one of the most difficult times to relax, when you are in pain, you know. I don’t like taking painkillers, I will take them if I have to, but you know, then you can relax better but, yeah, it helps a lot (41-45:87)*

Here July tried to elaborate on the ways she relaxes herself when she is in pain. This passage suggests that the participant has learnt and implemented the yogic breathing technique outside of the class, as a way to soothe herself when in pain without the need to rely on pharmacological help.

***‘Increased body-awareness’***

Heightened body-awareness and attention to bodily movements were also reported in response to yoga programme. July commented:

*I realised you only think about different parts of the body when they hurt, when you are in pain. You don't think about those that aren't in pain, do you? You don't think about your feet if your feet aren't hurting you, you don't think about your head [or] arms if they are not hurting. You only think about it when you are in pain [laughter]. (83-87:89)*

When July spoke about the feelings in her body she became very enthusiastic, as if wanting to stress how important this self-discovery was for her. Her explanation that before attending yoga classes she had only noticed her body parts when they hurt her implies greater attention to all her body parts now, even when they don't hurt, i.e., an increase in bodily awareness overall.

Later in the interview, July explained that through yoga she had come to think about her movements and her breathing a lot more than she used to:

*When you go along the road, you got to think, you got to think about your movement a lot more. You think about your movement a lot more, don't you, when you do yoga. You know, you think about it. You think about your breathing more, whereas you don't think about it, do you, when you (...) don't do [yoga]. (123-127:91)*

July appeared to gain greater awareness of her body by applying the focused attention

learnt in the yoga classes. This in turn allowed her to ‘feel’ her body better. The result of this enhanced focus seemed to be a better ability to sense her body and her breathing and navigate in space.

Another participant also shared how yoga made her notice her movement more closely, especially while walking. When Sarah was asked whether she had noticed any difference in her day-to-day living in the past 15 weeks she responded:

*When walking I watch it, and make sure my feet come up higher. I can’t trip it down, I tried to lift my feet higher when I walk along curbs a lot, the pavement broken, I am trying my best. (72-74:76)*

It seems that Sarah too started paying more attention to how she moves her body in space. When she said: ‘I can’t trip it down, I tried to lift my feet higher’, she indicates that her focus is centred on avoiding a fall, and she achieves this by ‘watching’ or paying careful attention to her movements, particularly while walking.

The emphasis on focused attention, considered an important component of mindfulness, and its relationship with balance is apparent in the last couple of passages and will be explored more fully in the following theme.

#### *4.3.2. Focus on balance*

All of the participants expressed their view about the beneficial effect of yoga on their sense of balance, even without being prompted explicitly to talk about this topic. Sarah expressed that she noticed the positive change in her balance especially during walking:

*“I think my balance is a lot better. When I walk a lot, sometimes I notice when I put one foot over the other foot whereas now I get more of a balance, you know what I mean? So I walk slowly.” (57-59:76)*

It seems that, for Sarah, balance is related to slowing her movement down and paying close attention to how she moves in space. She also noticed that her balance improved since she had been attending the yoga class, as she notes an increased ability to keep an upright position: *“Since I have been coming to yoga. I find I have not been falling over one side, sometimes indoors I sort of trip, things like that, whereas now at least when I get up the stairs, one two three, push myself up”* (90-92:77). Ellie also commented that her balance improved, in that she noticed being less wobbly during her tasks at home: *“Indoors I notice it, because I have got a little flat you know, and I’ve got books on the floor, this and the other, I am always doing this, stepping, and I find that I can keep my balance now. (...) I don’t wobble that much.”* (63-67:96).

All participants eagerly shared their thoughts on the ways in which they felt their balance had improved. For example, Ellie commented that standing yoga poses, where one puts pressure on the legs, forces one to keep one’s balance during the practice, which she felt had driven the improvement of her balance in general:

*I think yoga helps. Well, you're doing all the exercises when you put pressure on the legs aren't you, and you also, you got to keep your balance. (...) These ones [referring to ‘Warrior I’ and ‘Mountain’ poses], you still got to make sure you don't fall over. And all those. When I first did that one [demonstrating ‘Warrior 1’] I was wobbling and now I can do it. It has helped my balance.* (69-74:96)

As Ellie spoke about various standing poses, she used gestures, instead of the names of the poses, to describe the poses that had helped to improve her balance. She suggested that challenging one’s own balance through standing poses such as “Mountain” or “Warrior I” pose, which require one to stand either with the feet very close or wide apart and in line with each other, helped improve her balance in general.

The view that the practice of standing poses improves balance was also indicated by

Penny who observed her standing poses practice and how they improved over time:

*I noticed the other day, when you stand like that [showing 'Warrior 1' pose] or that I think it is a bit better than before. Before, I couldn't do it at all. (...) I never worried before but I knew I couldn't do it. But now I try and I think I did manage the... [showing the 'Tree' pose]. Before I could not. (94-100)*

Later in her interview, Penny also emphasised her new ability by contrasting her own performance with other less able people in the class:

*Some people, they can't do it, (...) balance, balance you know, they can't do it, and I did, I did. I want to do it, and I won't say I can't, if I know I can't, you know, this leg is a problem, I will hold like that and I will do it. (88-91:83)*

Here, Penny expressed her eagerness and enthusiasm to do all the poses, despite her limitations. The participant explains that she attempts every posture by adapting it to her current ability, in which there is a sense of accomplishment about being able to try her best, and to do better than others.

The view that standing poses such as Warrior I help to improve balance is also shared by July. She pointed out that it is the focus on grounding through the feet and legs while doing those poses that allows her to maintain balance and minimise wobbling about: *'It [referring to Warrior I pose] gives you [a] much better start, more better grounded, rather than wobbling about all over the place, you know. (69-70:88)*

By saying that the standing poses 'give you a much better start,' July seemed to imply that through practice of those poses she learnt the foundations of good posture, which is a foundation of good balance.

The participant then continued to explore this topic further by providing examples of

keeping her balance when standing on the bus and walking down the street using learnt yoga techniques:

*Well, posture you see, (...) when you get on the bus you have a wide stand, if you stand like that [feet apart] you have [a] much stronger [position]. If you stand like that [feet closer together], you could wobble about, if you just stand like that [wider feet], then you binge into the jerking like a bus. Things like that. There is lots of posture, there is lots of things to remember to help [keep] you from falling over, because the pavements are terrible, you can trip, I still trip over sometimes [laughs], but it does help a lot. (60-67:88)*

When July referred to the particular challenge to her balance when “*the pavements [were] terrible*”, she was likely referring to her recent accidental fall, which she attributed to the uneven surface of the pavement. She seems to be referring back to this experience to stress how important good posture is to maintain balance, particularly when the external circumstances and facilities are not ideal.

At another point in her interview, July also commented that what enhanced her balance was the ability to slow her movement, to relax and to maintain good posture:

*When you are at home, you are much more careful. (...) When you take your time, slowing your body down. It slows your body down because if you rush about, that is when you fall. So you do slow your body down, and also on buses, the buses are very dangerous you know, [laughs] so you learn how to stand better, you know, keep your posture, yeah yeah, you learn how to sort of keep your posture, how to relax. (50-55:88)*

As July spoke about having particular difficulty with her balance when she had to stand on a bus, she commented that ‘the buses are dangerous’, which resonates with what she said previously about pavements. It seems that the participant perceives the world around her as unfriendly to the needs of the elderly, and therefore the practice of yoga, where she can learn to deal with some of the external obstacles, seems even more important.

Other participants noted other ways in which their balance improved. For example, Ellie

suggested that the improvement was an effect of both enhanced concentration and exercise:

*I think it is both: the concentration and the exercise. No, when I am doing that, I don't know whether you need to concentrate to keep your balance, someone told me you did, hm? I am not sure, hm? Well, you need to concentrate not to fall over when you do yoga, don't you? When you do it, not to wobble [laughs], I am still not perfect on one leg, [but] I have definitely improved. (77-81:97)*

The participant first seemed to question the effect of improved concentration on her balance, but then sounded convinced as she gave a practical example: 'Well, you need to concentrate not to fall over when you do yoga, don't you?' She also made the point that to perform balance-challenging poses, one needs to make sure one doesn't wobble, and wobbling, she noticed, has definitely reduced for her.

#### *4.3.3 Focus on emotional wellness*

##### ***'Increased interest in learning'***

Among the emotional benefits of the yoga practice, most participants shared an increased interest in things and willingness to learn new things. For example, Sarah pointed out that through the practice of yoga she had become more interested in whatever she was doing throughout her day: '*I am interested in what I am doing and I think it is because it's meditation, the mind. I think so. (24-25:74)*'

Others also explored the theme of learning. July commented that as she learnt more about the body and proper movement in a yoga class, she applied this knowledge to other situations, which helps her function more effectively in her everyday life. This is reflected in her following comment, '*sometimes when you are doing something you*

*remember certain ways you shouldn't, the things you shouldn't do, some ways you turn, some ways you move that would aggravate you know, aggravate. So you learn a lot" (46-48:87).*

For Penny, learning involved watching the instructor and the other yoga participants and trying to replicate what they did. The participant described how, by observing others in the class, she became motivated to repeat what they do and do her best.

*When I listen to you, then I want to copy what you are talking [about], and things like that, I was listening to you. And then I follow you and try to listen. Listening but also seeing what other people are doing, I was just watching really, then I thought they can do it, I know my age but, the other people can do it, why don't I try then? (103-107:84)*

The presence of other people in the class seems important to Penny, who felt encouraged to follow others and explore her own physical capabilities. Despite her advanced age, Penny felt that since other people in the class could do the more complex exercises, there is no reason that she shouldn't be able to do them too. It appears again that for Penny the social aspect of yoga, involving observing, coping, and comparing herself with others, is an important factor in the yoga class experience. It also seems that the social aspect of the yoga motivated the participant to stay active and challenge herself beyond what she thought would be possible at her age.

In another part of her interview, Penny also commented that the social element of the yoga practice was an important contributor to her enhanced emotional well-being:

*Being happy, that I do yoga, I do this, staying at home, thinking, stressing – I come out, meet people, rather than stress, get out, meet people and learn more, learn more, many things I didn't know. (...) I think every day, every minute, I learn something from other people, still I am learning, I think. (65-68:82)*

Penny indicated that through learning yoga within a group setting, she learnt new things,

which has allowed her to stay more positive and happier, and perhaps cope better with her worries. There is also a sense of pride in the participant, who appears to derive her happiness from learning new skills.

***‘Positive outlook: Yoga seen as a health-preservation and disease-prevention strategy’***

Despite the yoga programme being relatively short in duration, and new to most participants, the practice was perceived as an antidote to the participants’ current or future age-related ailments. There was a sense of hope and trust that keeping up their yoga practice would have a beneficial effect on the participants’ future health. Ellie expressed this, for example, by describing how yoga helped her to recover from her recent hip injury, occurring just a few weeks before the start of the intervention:

*Well, I broke my pelvis last year, hm, was it last year? And have been recovering, and it [yoga] has given me more confidence, and I can, and you know, I was a bit, what’s the word, I am more confident, it has made me more confident in walking, it has made me more confident, and I keep thinking that I am getting everyday a little bit better. It helped me, it helped my confidence. And also my balance. (11-16:94)*

It seems that Ellie’s increased confidence played a significant role in her everyday functioning, and particularly after her recent hip injury. She emphasized the word ‘confidence’ by repeating it a few times within a short time-span, as if she wanted to stress how important it is to her to feel sure of herself, which in turn has a positive effect on how she thinks about her future. She expressed her positive outlook in the following passage, ‘I keep thinking that I am getting everyday a little better’.

Penny also expressed her positive feeling about the future explicitly by saying: ‘*As I am moving I think [it] is good for me, I will get less problem[s]*’ (38-39:81). Later on in the interview, Penny elaborated further by expressing a belief that keeping her yoga practice

going would have positive implications for her well-being in future:

*It makes a difference because I am doing the exercises. I feel better, I think it can be in my mind, it can be my mind, I am thinking, If I keep going [with the yoga], it will be good for me. If I don't do anything, sit all day and eat, it might be worse then. If I use it (referring to the body) I think it is very good. (134-137:85)*

In this passage, Penny first attributed her improved well-being to her yoga practice, later adding that the improvement might be also related to the way that she thinks about the practice. By stating that ‘it can be my mind I am thinking, if I keep going [with the yoga], it will be good for me’, the participant expressed her belief that yoga will help her maintain the health benefits she has gained, and prolong her well-being. She further elaborated that it is the movement or the “use” of the body in yoga that affects her well-being.

Other participants also shared the conviction that yoga helps to maintain long-term health, and can prevent health problems in the future. One participant stated this explicitly: *‘I think yoga (...) and all those sorts of things and any type of exercise is a very good prevention ... before you get ill. You know, before you get these things’ (91-93:89).*

The feeling that yoga prevents ill-health is shared by other participants too. Ellie expresses it in the following way:

*I am getting strength in my leg. This exercise, you know, (...) when you get older, you get stiff, you know, and so you are using... you are lifting your legs and open your body more when you do yoga, don't you. You are opening yourself up. I think any exercise is really good for me. (144-147:99)*

The importance of “using the body” reappears in this passage, and Ellie considers this to be the beneficial aspect of the yoga practice. Although for Ellie the benefits of yoga

seems similar to the benefits of exercising in general, there is also a sense that yoga, by opening the body, does something more than merely exercising it. Perhaps the metaphor that Ellie used implies that through the opening of the body, one opens oneself up to a greater sense of well-being, whether physical or emotional.

The practice of yoga is seen not only as a means to prevent ill-health, but also as a way to prepare for a necessary medical intervention. July explained how the past 15 weeks of yoga practice helped her prepare for an operation on her arm, scheduled for just before Christmas:

*I have got to say the last 15 weeks have really felt good. I feel like I have built myself up to this operation, which I am not looking forward to, [laughs], nobody does, do they, but I just think when I built myself up to, you know, going through it, [to] get over the other end... (127-130:91)*

Although the way in which yoga helped July 'build herself up' for the operation is not immediately obvious from the passage above, there is a sense that this 'building up' involved mental and perhaps also physical preparation for the procedure. At the same time July expressed feelings of anxiety mixed with hope when she contrasted not looking forward to the operation with her hope to 'get over the other end'. (Her hope was realised, as the group saw when July returned to the yoga class 6 weeks after her operation).

While all participants shared the belief that yoga helps them to maintain and sustain health in some way in the long term, one participant said explicitly that yoga may have a survival value. Ellie believed that through learning to 'open up' the body through yoga practice, one gains confidence that shows through open body language, which may have a protective value against intimidating obstacles such as unanticipated groups of youths on the street. When asked whether she had noticed anything within the last 15 weeks of yoga

practice, Ellie replied:

*I have noticed (...) and I was walking like that [showing her spine curled in] and I had to say, oh you give, you know, you have to show yourself, because you give yourself away by body language. Hm? (...) If you do that, stick that out (showing the front of her pelvis), stick your female pelvis out, and a dog won't come near you, because you are.. you know.. more confident. It does help you. The way you stand tells you a lot about yourself, doesn't it, when I am walking along and there are youths on the pavement I now never walk away from them I go right through them and say "Excuse me", because you've got to (...) you've got to be (...) you've got to be... haven't you, you mustn't be meek! When you are standing like this you are showing that you are not, are you? [showing open chest and standing straight position] (...) It's [referring to yoga] got to help, isn't? People can get through life... It is just survival, I suppose, you could say. Hm? You see, I think about things like this. (149-174:99-100)*

During this part of the interview, Ellie used a lot of gestures and other body language to illustrate what she meant. She stood up confidently, straighten up through the spine and the head and while rolling her shoulders back she pushed her chest and hips slightly forward in a way that she learnt in the yoga classes. There was a sense of pride when she talked about becoming confident enough to cross through a group of youths. She concluded with the more general statement, **“People can get through life... It is just survival, I suppose, you could say”**. The point Ellie was perhaps making is that as one ages, life becomes more threatening. As well as internal threats to health, older people must also face increased external threat. Therefore, the projection of confidence and open body language, which she learnt through yoga, seems to have been interpreted as a crucial survival strategy for Ellie as she goes about her life.

## **5. Discussion**

The present study's main objective was to investigate whether a 15-week yoga intervention programme would affect levels of mindfulness, balance and emotional well-

being in older female participants. In addition, the study aimed to find out how potential changes in mindfulness and emotional and physical balance came about, and whether they affected the participants' overall well-being.

The results of quantitative analysis, despite the small sample size, suggested a significant improvement in participants' mindfulness and emotional well-being. The effect size for both outcomes was large, indicating that the yoga programme intervention might have elicited meaningful improvement in both outcome measures.

These findings are consistent with the small number of other recent studies on the effect of yoga on mindfulness. One study in particular is noteworthy for its rigorous methodology. In this randomised controlled trial, 46 participants took part in an 8-week yoga intervention and completed the full version of The Freiburg Mindfulness Inventory (FMI) prior to and following the intervention (Shelov, Suchday, and Friedberg 2009). The results showed significant improvement in mindfulness in a sample of young and middle-aged adults. The present study represents the first time that older people (aged over 65) were assessed for changes in mindfulness in response to the yoga intervention.

The qualitative findings supported these quantitative results, and a comparison of the two types of data revealed cross-validity of the participant's responses regarding many aspects of mindfulness and emotional well-being. This is shown in participant comments about heightened body awareness and increased concentration levels, appreciation of the present moment, and greater acceptance of unpleasant situations following their yoga practice. Most participants also attributed the improvement in their postural balance to heightened body awareness, especially the feet, and increased concentration to the ability to slow their movements down. All participants pointed specifically to the role of yoga

standing poses, which they thought particularly contributed to their enhanced posture and balance.

The participant's comments regarding their improved balance were further supported by the author's observational notes. A comparison of the notes from the first three classes with those from the last three classes (summarised in Table 3 in Appendix 1.) confirmed a moderate improvement in postural balance in all participants.

In addition, the qualitative results suggested that various aspects of well-being had improved in participants post yoga intervention. The positive outlook, in which participants saw yoga as a health-maintenance and illness-prevention strategy, was among the most widely cited perceived benefit of the yoga. Two participants commented that yoga had helped them recover from injury faster, while for others yoga was perceived as a strategy to prevent disease or a way to 'build oneself up' before an operation. Another aspect of well-being that participants perceived was an increased interest in learning yogic techniques, and applying their learning to other situations, particularly stressful or unpleasant ones. Hospital visits were the most commonly mentioned situations, during which yoga relaxation techniques were applied by participants to calm themselves down or to ease pain. The ability to use calming yogic techniques appears to be an important aspect of the skill of mindfulness, which, while evolving over the yoga intervention, allowed the participants to regulate their emotions and cope better with day-to-day stresses and anxieties. As previously noted, the skill of mindfulness has been linked with better self-regulation and emotional equilibrium (Cohen-Katz et al. 2005).

The implication of this is that yoga appears to offer the double benefit of reducing stress while also enabling active self-control of one's emotional state. This in itself has the

potential to enhance well-being and a sense of emotional independence, while reducing a person's reliance on other means to control stress or pain, including pharmacological drugs that can create a sense of dependence (for example: Fenton et al. 2010). Thus, yoga as a drug-free intervention appears to be an effective and relatively inexpensive strategy for improving quality of life in later life.

In addition, a couple of participants suggested that yoga has a survival value, in that the practice improved their mental and physical confidence, which helped them cope with threatening external situations. One participant gave the explicit example that yoga had increased her confidence, showing in her open body language and better posture, which allowed her to manage threatening situations such as needing to pass through a group of youths. Overall, the qualitative results suggest that through enhanced body-awareness, i.e. mindfulness, and improved postural balance, the participants experienced an improvement in well-being, showing up through a better posture, confidence, a more positive outlook, and an enhanced ability to cope with day-to-day stressors. In addition, the preliminary finding that yoga may enhance survival has important implications for the lives of older people, including the potential to elicit independence-maintaining behaviours through regular practice of yoga, and improving the quality of day-to-day living.

A particular strength of this study lays in the researcher's insight regarding yoga, which allowed her to design an effective intervention and conduct meaningful observations regarding the participants' experience. In addition, in contrast with many previous studies, the present study's intervention consisted of only Hatha yoga practice (incorporating asanas and pranayama) and did not include other possibly confounding

variables such as stand-alone pranayama or meditation practices. Therefore, it is likely that the results can be reliably attributed to the physical practice of yoga or Hatha yoga.

One obvious limitation of this study is the small sample size that limits the experimental power, which reduces the chance for the present experiment to detect a true effect. The sample size was, however, kept intentionally small for ethical and safety considerations, as explained earlier in this paper. For this reason, a mixed research method was used placing strong emphasis on the qualitative findings, with quantitative results acting more as supplementary evidence. Another limitation was the single-sex sample group of females only, which was decided upon for practical reasons. This limits the generalisability of the present study and does not provide an insight into gendered processes involved. Another limitation was the lack of a control group to control for potential confounding variables that could provide alternative explanations for the study's results. These confounding variables might include the social aspect of the intervention, pointed out by a couple of participants, as well as the effect of the particular yoga teacher and the ways in which she conducted and related to the group. Controlling for these variables would increase the reliability of the findings, but to date no study has undertaken the task, suggesting an avenue for future research. Future research could also further examine the relationship between mindfulness and balance using rigorous statistical methodology with a bigger sample size and a control group.

Despite the above-mentioned limitations, this study has provided original preliminary findings that suggest that even a relatively small dose of yoga may increase mindfulness, balance, confidence and overall well-being in older people, while potentially increasing their chances of survival. In addition, this study suggests that mindfulness, a key

component of yoga practice, may be one of the drivers behind improvement in balance and overall well-being in older people who practice yoga.

## **6. Conclusion**

Yoga has been used as a means to maintain a healthy lifestyle for thousands of years in Eastern cultures. In light of the increasingly ageing population, it is important to find an optimal preventative intervention model of healthcare in the West. This study suggests that yoga might be an effective intervention, helping to induce health-maintaining behaviours while enhancing mindfulness skills, balance and emotional well-being in older people. In addition, as it becomes more important to identify the specific ways in which yoga may help to maintain health, this study suggests that mindfulness may be one of the drivers behind improvements in overall well-being.

## References:

- Albert, S.M., King, J, Boudreau, R., Prasad, T., Lin, C. J., Newman, A. B. (2014) 'Primary prevention of falls: effectiveness of a state-wide program'. *American Journal of Public Health* 104 (5), 77-84
- Alexandera, G. K., Innes, K. E., Selfe, T. K., Brown, C. J. (2012) "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
- Bezerra, L.A., Melo, H.F. de Garay, A. P. (2014) 'Do 12-week yoga program influence respiratory function of elderly women?' *Journal of Human Kinetics* 43 (1) [online], 177-184. Available from <<http://dx.doi.org/10.2478/hukin-2014-0103>> [20 March 2017]
- Bosch, P. R., Traustadottir, T., Howard, P., Matt, K. S. (2009) 'Functional and physiological effects of yoga in women with rheumatoid arthritis: a pilot study'. *Alternative Therapies in Health and Medicine* 15 (4), 24-31
- Büssing, A., Ostermann, T., Lüdtkke, R., Michalsen, A. (2012) 'Effects of Yoga Interventions on Pain and Pain-Associated Disability: A Meta-Analysis'. *The Journal of Pain* 13 (1), 1-9
- Carmody, J., Baer, R. A. (2008) 'Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program'. *Journal of Behavioural Medicine* 31, 23-33
- Cohen, J. (1988) *Statistical power analysis for the behavioural sciences*. 2nd edn. Hillsdale, New Jersey: Lawrence Erlbaum Associates
- Cohen-Katz, J., Wiley, S., Capuano, T., Baker, D. M., Deitrick, L., Shapiro, S. (2005) 'The effects of mindfulness-based stress reduction on nurse stress and burnout: A qualitative and quantitative study'. part III. *Holistic Nursing Practice*, 19, 78-86
- Conboy, L., Wilson, A., & Braun, T. (2010) 'Moving beyond health to flourishing: The effects of yoga teacher training'. *The Scientific World Journal* 10, 788-795
- Coolican, H. (2014) *Research Methods and Statistics in Psychology*. 6th edn. New York: Psychology Press
- Cramer, H., Lauche, R., Langhorst, J., Dobos, G. (2013) 'Yoga for Depression: A Systematic Review and Meta-analysis'. *Depression and Anxiety* 30 (11), 1068-1083
- Culos-Reed, S., Mackenzie, M., Sohl, S., Jesse, M., Zahavich, A., Danhauer, S. (2012) 'Yoga & Cancer Interventions: A Review of the Clinical Significance of Patient Reported Outcomes for Cancer Survivors'. *Evidence-Based Complementary and Alternative Medicine*, 1-17

- Damodaran, A., Malathi, N., Patil, N., Shah, S., Marathe, S. (2002) 'Therapeutic potential of yoga practices in modifying cardiovascular risk profile in middle aged men and women'. *Journal of Association of Physicians of India* 50 (5), 633-639
- Desikachar, T. (1999) *The heart of yoga*. 1st ed. Rochester, Vt.: Inner Traditions International
- DiBenedetto, M., Innes, K. E., Taylor, A. G., Rodeheaver, P. F., Boxer, J. A., Wright, H. J., Kerrigan, D. C. (2005) 'Effect of a gentle Iyengar yoga program on gait in the elderly: an exploratory study'. *Archives of Physical Medicine and Rehabilitation* 86 (9), 1830-1837
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D-W., Oishi, S., Biswas-Diener, R. (2010) 'New well-being measures: Short scales to assess flourishing and positive and negative feelings'. *Social Indicators Research* 97, 143-156
- Fan, J-T., Chen, K. M. (2011) 'Using Silver Yoga exercises to promote physical and mental health of elders with dementia in long-term care facilities'. *International Psychogeriatrics* 23 (8), 1222-1230. Available from <<http://dx.doi.org/10.1017/S1041610211000287>> [20 March 2017]
- Farinatti, P. T., Rubini, E. C., Silva, E. B., Vanfraechem, J. H. (2014) 'Flexibility of the elderly after one-year practice of yoga and calisthenics'. *International Journal of Yoga Therapy* 24, 71-77
- Fenton, M.C., Keyes, K.M., Martins, S., Hasin, D.S. (2010) 'The Role of a Prescription in Anxiety Medication Use, Abuse, and Dependence'. *The American Journal of Psychiatry* 167 (10) 1247-53
- Fiatarone, M.A., Marks, E.C., Ryan, N.D., Meredith, C.N., Lipsitz, L.A., Evans, W.J. (1990) 'High-intensity strength training in nonagenarians: effects on skeletal muscle'. *JAMA* [online] 263 (22), 3029-3034. Available from <<http://dx.doi.org/10.1001/jama.1990.03440220053029>> [20 March 2017]
- Gallegos, A. M., Hoerger, M., Talbot, N. L., Moynihan, J. A., Duberstein, P. L. (2013) 'Emotional benefits of mindfulness-based stress reduction in older adults: the moderating roles of age and depressive symptom severity'. *Aging & Mental Health* 17 (7), 823-829
- Garfinkel, M. S., Schumacher, H. R., Husain Jr, A., Levy, M., Reshetar, R. A., (1994) 'Evaluation of a yoga based regimen for treatment of osteoarthritis of the hands'. *Journal of Rheumatology* 21 (12), 2341-2343
- Gothe, N. P., McAuley, E. (2015) 'Yoga and cognition: a meta-analysis of chronic and acute effects'. *Psychosomatic Medicine* 77 (7), 784-797
- Gokal, R., Shillito, L., Maharaj, S. R. (2007) 'Positive impact of yoga and pranayama on

- obesity, hypertension, blood sugar, and cholesterol: a pilot assessment'. *Journal of Alternative and Complementary Medicine* 13 (10), 1056-1057
- Grabara, M., Szopa, J. (2015) 'Effects of hatha yoga exercises on spine flexibility in women over 50 years old'. *Journal of Physical Therapy Science* 27 (2), 361-365
- Greendale, G., McDivit, A., Carpenter, A., Seeger, L. (2002) 'Yoga for women with hyperkyphosis: results of a pilot study'. *American Journal of Public Health* 92 (10), 1611-1614
- Gupta, N., Shveta, K., Vempati, R., Sharma, R., Bijlani, R. L. (2006) 'Effect of yoga based lifestyle intervention on state and trait anxiety'. *Indian Journal of Physiology and Pharmacology* 50, 41-47
- Hariprasad, V. R., Sivakumar, P. T., Koparde, V., Varambaly, S., Thirthalli, J., Varghese, M., Basavaraddi, I. V., Gangadhar, B. N. (2013) 'Randomized clinical trial of yoga-based intervention in residents from elderly homes: effects on cognitive function'. *Indian Journal of Psychiatry* 55 (3), 357-363. [online] Available from <<http://dx.doi.org/10.4103/0019-5545.116308>> [20 March 2017]
- Hariprasad, V. R., Sivakumar, P. T., Koparde, V., Varambaly, S., Thirthalli, J., Varghese, M., Basavaraddi, I. V., Gangadhar, B. N. (2013) 'Effects of yoga intervention on sleep and quality-of-life in elderly: A randomized controlled trial'. *Indian Journal of Psychiatry* 55, 364-368
- Haslock, I., Monro, R., Nagarathna, R., Nagendra, H. R., Raghur-am, N. V. (1994) 'Measuring the effects of yoga in rheumatoid arthritis'. *British Journal of Rheumatology* 33 (8), 787-788
- Innes, K. E., Bourguignon, C., Taylor, A. G. (2005) 'Risk indices associated with the insulin resistance syndrome, cardiovascular disease, and possible protection with yoga: a systematic review'. *Journal of the American Board of Family Practice* 18 (6), 491-519
- Iyengar, B. K. S. (1993) *Light on Yoga Sutras by Patanjali*. London: HarperCollins Publishers
- Iyengar, B. K. S. (2005) *The Illustrated Light on Yoga*. New Delhi: HarperCollins Publishers
- Jefferson, G. (2004) 'Glossary of transcript symbols with an introduction.' in *Conversation Analysis: Studies from the First Generation*. ed. by Lerner, G. H. Amsterdam: John Benjamins, 13-31
- Kabat-Zinn, J. (1990) *Full catastrophe living: using the wisdom of your body and mind to face stress, pain and illness*. New York: Delta
- Kabat-Zinn, J., Massion, A. O., Kristeller, J., et al: (1992) 'Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders'. *American Journal of Psychiatry* 149 (7) 936-943

- Kelley, K., Aaron, D., Hynds, K., Machado, E., Wolff, M. (2014) 'The Effects of a Therapeutic Yoga Program on Postural Control, Mobility, and Gait Speed in Community-Dwelling Older Adults'. *The Journal of Alternative and Complementary Medicine* 20(12), 949-954
- Khatri, D., Mathur, K. C., Gahlot, S., Jain, S., Agrawal, R. P. (2007) 'Effects of yoga and meditation on clinical and biochemical parameters of metabolic syndrome'. *Diabetes Research and Clinical Practice* 78 (3) 9-10
- Kolk, B.A. van der, (2006) 'Clinical implications of neuroscience research in PTSD., *Annals of the New York Academy of Science* 1071, 277-293
- Krucoff, C., Carson, K., Peterson, M., Shipp, K., Krucoff, M. (2010) 'Teaching Yoga to Seniors: Essential Considerations to Enhance Safety and Reduce Risk in a Uniquely Vulnerable Age Group'. *The Journal of Alternative and Complementary Medicine* 16 (8), 899-905
- Lau, C., Yu, R., Woo, J. (2015) 'Effects of a 12-week hatha yoga intervention on cardiorespiratory endurance, muscular strength and endurance, and flexibility in Hong Kong Chinese adults: a controlled clinical trial'. *Evidence Based Complementary Alternative Medicine* 2015,[online] 958727. Available from <<http://dx.doi.org/10.1155/2015/958727>> [20 March 2017]
- Leenders, M., Verdijk, L.B., Hoeven, L. van der, Kranenburg, J. van, Nilwik, R., Loon, L. J. C. van. (2013) 'Elderly men and women benefit equally from prolonged resistance-type exercise training'. *The Journal of Gerontology, Series A: Biological sciences and Medical Sciences* [online] 68 (7), 769-779. Available from <<http://dx.doi.org/10.1093/gerona/gls241>> [20 March 2017]
- McCaffrey, R., Ruknui, P., Hatthakit, U., Kasetsoomboon, P. (2005) 'The effects of yoga on hypertensive persons in Thailand'. *Holistic Nursing Practice* 19 (4), 173-180
- McEwen, B. S. (2000) 'Allostasis and allostatic load: implications for neuropsychopharmacology'. *Neuropsychopharmacology* 22 (2) 108-124
- Meyer, H., Katsman, A., Sones, A., Auerbach, D., Ames, D. and Rubin, R. (2012) 'Yoga as an Ancillary Treatment for Neurological and Psychiatric Disorders: A Review'. *The Journal of Neuropsychiatry and Clinical Neurosciences*, 24(2), 152-164
- Michalsen, A., Grossman, P., Acil, A., Langhorst, J., Ludtke, R., Esch, T., Stefano, G. B., Dobos, G. J. (2005) 'Rapid stress reduction and anxiolysis among distressed women as a consequence of a three-month intensive yoga program'. *Medical Science Monitor* 11 (12), 555-561
- Miller, J. J., Fletcher, K., Kabat-Zinn, J. (1995) 'Three-year follow-up and clinical implications of a mindfulness meditation-based stress reduction intervention in the treatment of anxiety disorders'. *General Hospital Psychiatry* 17 (3), 192-200

- Moadel, A.B., Shaw, C., Wylie-Rossett, J., Harris, M S., Patel, S. R., Hall, C. B., Sparano, J. A. (2007) 'Randomized controlled trial of yoga among a multi-ethnic sample of breast cancer patients: Effects on quality of life'. *Journal of Clinical Oncology* 25 (28), 1-9
- Nyklíček, I., Kuijpers, K. (2008) 'Effects of Mindfulness-Based Stress Reduction Intervention on Psychological Well-being and Quality of Life: Is Increased Mindfulness Indeed the Mechanism?' *Annals of Behavioural Medicine*, 35 (3) 331-340
- Oken, B.S., Zajdel, D., Kishiyama, S., Flegal, K., Dehen, C., Haas, M., Kraemer, D. F., Lawrence, J., Leyva, J. (2006) 'Randomized, controlled, six-month trial of yoga in healthy seniors: effects on cognition and quality of life'. *Alternative Therapies in Health and Medicine* 12 (1), 40-47
- Office for National Statistics. (2016) 'Overview of the UK population: February 2016'. Available from <<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/february2016>> [20 March 2017]
- Patel, N. K., Newstead, A. H., Ferrer, R. L. (2012) 'The effects of yoga on physical functioning and health-related quality of life in older adults: a systematic review and meta-analysis'. *Journal of Alternative and Complementary Medicine* 18 (10), 902-917
- Patel, N. K., Akkihebbalu, S., Espinoza, S. E., Chiodo, L. K. (2011) 'Perceptions of a Community-Based Yoga Intervention for Older Adults'. *Activities, Adaptation & Aging* 35 (2), 151-163
- Pullen, P. R., Nagamia, S. H., Mehta, P. K., Thompson, W. R., Benardot, D., Hammoud, R., Parrott, J. M., Sola, S., Khan, B. V. (2008) 'Effects of yoga on inflammation and exercise capacity in patients with chronic heart failure'. *Journal of Cardiac Failure* 14 (5 ), 407-413
- Rieker, H. U. (1992) *Hatha Yoga Pradipika*. London: Aquarian Press
- Rosenthal, R. (1991) *Meta-analytic procedures for social research*. London: Sage
- Ross, A., Thomas, S. (2010) 'The health benefits of yoga and exercise: A review of comparison studies'. *The Journal of Alternative and Complementary Medicine* 16 (1), 3-12
- Santaella, D. F., Devesa, C. R., Rojo, M. R. (2011) 'Yoga respiratory training improves respiratory function and cardiac sympathovagal balance in elderly subjects: a randomised controlled trial'. *British Medical Journal Open* 1 (1) [online] Available from <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3191432/>> [20 March 2017]

- Selvamurthy, W., Sridharan, K., Ray, U. S., Tiwary, R. S., Hegde, K. S., Radhakrishan, U., Sinha, K. C. (1998) 'A new physiological approach to control essential hypertension'. *Indian Journal of Physiology and Pharmacology* 42 (4) 205-213
- Shelov, D.V., Suchday, S., Friedberg, J.P. (2009) 'A pilot study measuring the impact of yoga on the trait of mindfulness'. *Behavioural and Cognitive Psychotherapy* 37, 595-598
- Smith, J.A., Flowers, P. and Larkin, M. (2009) *Interpretative Phenomenological Analysis: Theory, Method and Research*. London: Sage Publications
- 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
- Telles, S., Singh, N. and Balkrishna, A. (2012) 'Managing Mental Health Disorders Resulting from Trauma through Yoga: A Review'. *Depression Research and Treatment* 2012, 1-9
- Tiedemann, A., O'Rourke, S., Sesto, R., Sherrington, C. A. (2013) '12-week Iyengar yoga program improved balance and mobility in older community-dwelling people: a pilot randomized controlled trial'. *The Journal of Gerontology, Series A: Biological sciences and Medical Sciences* 68 (9) 1068-1075. Available from <<http://dx.doi.org/10.1093/gerona/glt087>> [20 March 2017]
- Uebelacker, L., Tremont, G., Epstein-Lubow, G., Gaudiano, B., Gillette, T., Kalibatseva, Z., Miller, I. (2010) 'Open Trial of Vinyasa Yoga for Persistently Depressed Individuals: Evidence of Feasibility and Acceptability'. *Behaviour Modification* 34 (3), 247-264
- Vahia, N.S., Vinekar, S.L., Doongaji, D.R. (1966) 'Some ancient Indian concepts in the treatment of psychiatric disorders'. *The British Journal of Psychiatry* 112 (492), 1089-1096
- West, J., Otte, C., Geher, K., Johnson, J., Mohr, D. C. (2004) 'Effects of Hatha yoga and African dance on perceived stress, affect, and salivary cortisol'. *Annals of Behavioural Medicine* 28 (2) 114-118
- Walach, H., Buchheld, N., Butenmuller, V., Kleinknecht, N., Schmidt, S. (2006) 'Measuring Mindfulness – The Freiburg Mindfulness Inventory (FMI)'. *Personality and Individual Differences* 40, 1543-1555
- World Health Organization (2004) [online] Available from <<http://www.emro.who.int/mei/mep/Healthsystemsglossary.htm>> {20 March 2017]

## **Appendices:**

1. Table 3: Changes in postural balance: observational notes by the researcher
2. Table 4: Description of the yoga sessions
3. Certificate of Ethical Approval
4. Blank questionnaires: (Freiburg Mindfulness Inventory and SPANE)
5. Participant's Information Sheet
6. Debrief
7. Interview Schedule
8. A master table with themes for the group
9. A copy of the draft feedback sheet from the researcher's supervisor
10. Interviews' transcripts

## Appendix 1. Changes in postural balance: observational notes by the researcher

**Table 3.**

(\*1 = ‘Tree pose’ (1-leg stand), \*2 = ‘Mountain’ pose (standing with feet together and arms extending up), \*3= ‘Chair’ pose, \*4 = ‘Warrior I’ pose, \*5 = ‘Sun Salutation’)

Participant's ID	1-3rd yoga class	13-15th yoga class
1	*1 did not attempt this pose because of her hip replacement. *2 was able to perform the pose but looked wobbly. *3 performed the pose but looked wobbly and needed a chair to hold on to. *4 performed the pose but looked a bit wobbly. *5 performed all movements but momentarily lost her balance at the transitional movement from Warrior 1 to a Mountain pose.	*1 did not attempt this pose because of her hip replacement. *2 was able to hold the pose for at least 3 seconds and looked steady. *3 was able to perform the pose and hold for 3 sec. without using the chair. *4 was able to perform the pose steadily without wobbling. *5 was able to perform the whole sequence steadily.
2	*1 was able to hold the pose momentarily with the help of a chair. *2 was able to perform the pose but felt quickly tired from extending the arms up. *3 performed the pose. *4 performed the pose but looked a bit wobbly. *5 performed all movements but momentarily lost her balance at the transitional movement from Warrior 1 to a Mountain pose.	*1 was able to hold the pose for 3-5 sec. without chair. *2 was able to hold the pose for at least 3 seconds. *3 was able to perform the pose and hold for 3 sec. *4 was able to perform the pose steadily without wobbling. *5 was able to perform the whole sequence steadily.
3	*1 was unable to perform the pose at all. *2 was unable to place feet together, instead she placed them hip-distance apart. *3 performed the pose with the help of a chair. *4 performed the pose but held it for less than 1 second and looked a bit wobbly. *5 performed all movements but lost her balance at times and had to hold on to a chair.	*1 was able to hold the pose for 1-3 sec. *2 was able to keep the feet very close to each other and able to hold the pose for at least 3 sec. *3 was able to perform the pose and hold for 3 sec. *4 was able to perform the pose steadily without wobbling. *5 was able to perform the whole sequence steadily without holding on to a chair.
4	*1 was able to hold the pose momentarily with the help of a chair. *2 was able to perform the pose extending only 1 arm up but looked wobbly (unable to move the other arm at all due to arthritis). *3 performed the pose extending only 1 arm up. *4 performed the pose with one arm extending up, but looked a bit wobbly and hold on to chair at times. *5 performed all movements but lost her balance at time and had to hold on to a chair.	*1 was able to hold the pose for 2-3 sec. *2 was able to perform the pose steadily with 1 arm extending up and able to hold the pose for 3 sec. *3 was able to perform the pose with 1 arm extending up and hold for 3 sec. *4 was able to perform the pose steadily without wobbling. *5 was able to perform the whole sequence steadily without holding on to a chair.
5	*1 was able to hold the pose for 3 sec but looked a little wobbly. *2 was able to perform the pose confidently. *3 performed the pose confidently. *4 performed the pose but looked a bit wobbly and held on to a chair at times. *5 performed all movements relatively smoothly.	*1 was able to hold the pose for 3 sec. steadily. *2 was able to perform the pose confidently. *3 performed the pose confidently. *4 performed the pose steadily and confidently, and was able to hold it for 3 sec. *5 performed all movements smoothly and confidently.
6	*1 was able to hold the pose with the help of a chair. *2 was able to perform the pose but looked a bit wobbly. *3 performed the pose but looked wobbly. *4 performed the pose but looked a bit wobbly. *5 performed all movements relatively smoothly with the exception of the transition from Warrior 1 to Mountain pose.	*1 was able to hold the pose for 3 sec. relatively steadily. *2 was able to perform the pose confidently. *3 performed the pose confidently. *4 performed the pose steadily and confidently, and was able to hold it for 3 sec. *5 performed all movements smoothly and relatively confidently.

7	<p>*1 was able to hold the pose with the help of a chair. *2 was able to perform the pose relatively confidently. *3 performed the pose but looked a bit wobbly. *4 performed the pose but looked a bit wobbly. *5 performed all movements relatively smoothly with the exception of the transition from Warrior 1 to Mountain pose.</p>	<p>*1 was able to hold the pose for 1-3 sec. *2 was able to perform the pose confidently. *3 performed the pose confidently. *4 performed the pose steadily and confidently, and was able to hold for 3 sec. *5 performed all movements smoothly and relatively confidently.</p>
---	--	--

**Appendix 2. Table 4:** Description of the yoga sessions

Class Stages	Type	Time	Yoga poses
<b>1. Connecting with the breath</b>	Siting	3 min	Siting with the eyes closed, with the hands on the belly and chest: Focus on slowing and deepening the breath.
<b>2. Warm-up</b>	Siting	6 min	Upper body stretches: Circular movements of head, neck, shoulder, arms and waist --> "Cat stretches": Alternate rounding and arching the spine (3x) --> "Gate" pose (Parighasana): lateral stretch (1x, Held) --> Rolling down the spine (3x)
	Standing: dynamic	9 min	Rolling down the spine (3x) --> Circular movements of ankles, knees and hips --> Spinal Twists (6x), Reaching arms over head (3x) --> Lateral Side bend (1x) --> Modified standing "Cat stretches" (Parighasana) (3x), "Chair" pose (Utkatasana) (1x) --> Warrior I (Virabhadrasana 1) (1x)
<b>3. Modified Sun Salutations</b>	Standing: dynamic	9 min	"Mountain" pose (Tadasana) --> Arms up --> "Half forward bend" (Ardha Uttanasana) pose --> Modified "Cat stretches" (Parighasana) --> "Chair" pose (Utkatasana) --> "Mountain" pose with arms up (Tadasana) --> "Warrior I" pose (Virabhadrasana 1) --> "Mountain" pose (Tadasana) (4x)
<b>4. Standing &amp; balancing poses</b>	Standing: dynamic and static	12 min	"Tree pose" (Vriksasana) (2x, Held) --> "Goddess squat" pose (Utkata Konasana) (3x dynamic, 1x Held) --> "Goddess squat" (Utkata Konasana) pose with a lateral side bend (1x, Held) --> "Warrior II" pose (Virabhadrasana 1) (1x, Held) --> "Triangle" pose (Trikonasana) (1x, Held) --> "Revolved Triangle" pose (Parivritta Trikonasana) (1, Held) --> "Wide leg forward bend" pose (Prasaritta Padottanasana) (1x, Held)
<b>5. Hip &amp; Leg stretches, Forward bends</b>	Siting	12 min	Hip joint rotation --> Knee to chest stretch (3x) --> Hamstrings stretch & flexion (4x) --> Ankles rotation --> Hip opening forward bend (1x, Held) --> Sited Twists (1x, Held) --> Wide leg forward bend (1x, Held)
<b>6. Restorative &amp; Final relaxation</b>	Siting	8 min	Modified "Reclining bound angle" pose (Badha Konasana) (1x, held) --> "Reclining bound angle" with a forward bend (1x, held) --> reconnecting with breathing --> Relaxation

## Appendix 3. Certificate of Ethical Approval



### Certificate of Ethical Approval

Applicant:

Agnieszka Czarnaeka

Project Title:

Yoga practice as an intervention for enhancing well-being in elderly woman who live on their own: Effect on feeling of loneliness, emotional stability, dietary patterns, moderation, liveliness, general health and everyday feeling.

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

18 July 2016

Project Reference Number:

P45131

**Appendix 4.** Blank questionnaires: (Freiburg Mindfulness Inventory and SPANE)

**The purpose of this inventory is to characterize your experience of mindfulness.**

**Please use the last 30 days as the time-frame to consider each item.**

*Please choose only one answer and put an X under the answer that you think most nearly applies to you.*

	Rarely	Occasionally	Fairly Often	Almost Always
1. I am open to the experience of the present moment				
2. I sense my body, whether eating, cooking, cleaning or 1 talking.				
3. When I notice an absence of mind, I gently return to 1 the experience of the here and now.				
4. I am able to appreciate myself.				
5. I pay attention to what's behind my actions.				
6. I feel connected to my experience in the here-and-now.				
7. I accept unpleasant experiences.				
8. I am friendly to myself when things go wrong.				
9. I watch my feelings without getting lost in them.				
10. In difficult situations, I can pause without immediately reacting				
11. I experience moments of inner peace and ease, even when things get hectic and stressful.				
12. I am impatient with myself and with others.				
13. I am able to smile when I notice how I sometimes make life difficult.	,			
14. I see my mistakes and difficulties without judging them.	,			

**Please think about what you have been doing and experiencing during the past four weeks.**

*Then report how much you experienced each of the following feelings, using the scale below. Please choose only one answer and put an X under the answer that you think most nearly applies to you.*

	Very Rarerly or Never	Rarely	Sometimes	Often	Very Often or Always
1. Positive					
2. Negative					
3. Good					
4. Bad					
5. Pleasant					
6. Unpleasant					
7. Happy					
7. Sad					
9. Afraid					
10. Joyful					
11. Angry					
12. Contented					



### **Participant Information Sheet**

**A research project investigating the effect of 15-week long yoga programme on well-being in seniors.**

Faculty of Health and Life Sciences,

Coventry University

#### **Introduction**

I would like to invite you to participate in this project, which is concerned with seniors' well-being and how the regular practice of yoga affects general health.

#### **Purpose of the project**

The project is part of my final year of my Master degree in Psychology course at the Coventry University. I hope that this project will add useful information for healthcare professionals about the benefits of regular yoga practice and make yoga more accessibly and available for older people.

#### **Why have I been chosen?**

You have been chosen because you expressed interest in taking part in this study and the yoga programme.

#### **Do I have to take part?**

No, the participation in the study is voluntary.

#### **What will I have to do if I agree to take part?**

1. We arranged a mutually convenient time to meet with you, through Mr. J.K., at the following address: ()

2. There will be two interviews with myself, one at the start of the project on Tuesday and one more at the end of 15 week period, during which I will ask you to fill in a series of questionnaires. Each sitting is expected to last no longer than one hour.
3. After that, you will be invited to participate in weekly 60 min. yoga class that will run for 15 consecutive weeks.
4. When I have completed the study I will produce a summary of the findings which I will be more than happy to send you if you are interested.

### **How much of my time will participation involve?**

The time to fill in questionnaires should take no more than one hour at the start of the programmes and one hour after 15-week period. (2 hours in total)

### **Will my participation in the project remain confidential?**

Yes, your name will not be recorded on the questionnaires and the information will not be disclosed to other parties. Your responses to the questions will be used for the purpose of this project only. You can be assured that if you take part in the project you will remain anonymous. In addition, the data collected will be held securely as per Data Protection Act (1998). It will be encrypted and securely stored on Coventry University network, where it is backed-up and protected by College security systems. After a period of 1 year the data collected will be destroyed.

### **What are the advantages of taking part?**

You may find the project interesting and enjoy your participation in a 15-week long yoga course. In addition, through answering questions about your feelings and attitudes, you might find out interesting things about yourself. Once the study is finished it could provide important information to healthcare professionals and make yoga more tailored and accessible to seniors.

As a thank you for taking part in this study, you will be invited to participate in a weekly yoga class after the study completes. The classes will run on an on-going basis and will be free of charge.

### **What are the risks associated with this project?**

Firstly, yoga practice involves physical exercises. Like any other exercise, yoga can have some risk. To minimise the risk it is recommended to get your GP's advice before starting a practice and also letting the researcher /yoga teacher know of any of your concerns or physical limitations. Secondly, yoga practice will also involve some meditative exercises. Most people enjoy them, but some may find them quite emotional.

### **Do I have to take part in the study?**

No, your participation in this project is entirely voluntary. You are not obliged to take part, you have been approached as a member of the () community centre with a view that you might be interested in taking part, this does not mean you have to.

If you do not wish to take part you do not have to give a reason and you will not be contacted again. Similarly, if you do agree to participate you are free to withdraw at any time during the project if you change our mind.

However, if you decide to withdraw from the programme after the programme has started, you are kindly asked to let the researcher know no later than on **30<sup>th</sup> of August 2016**. This will allow the researcher to offer your place to other person interested in participation in the yoga programme.

### **Who has reviewed this study?**

This project was reviewed and approved by the Coventry University ethics committee.

### **What happens now?**

If you are interested in taking part in the study you will be asked to complete a response slip (Participant Consent Form). Once I have received the slip I will ask you to fill in questionnaire and then participate in the yoga class. If you decide you would rather not participate in this study you need not return the response slip to me. Simply ignore this letter and no further contact will be made.

### **Key contact details of researcher and supervisor:**

**Researcher:**

Agnieszka Czarnecka, Coventry University, UK

Email: [czarneca@uni.coventry.ac.uk](mailto:czarneca@uni.coventry.ac.uk)

Phone: 0777-195-1832

**Supervisor:**

Dr. Anthony Lawrence, Coventry University, UK

Email: [hsx065@coventry.ac.uk](mailto:hsx065@coventry.ac.uk)

**Appendix 6. Debrief****DEBRIEF**

Thank you for participating in the study and taking part in the yoga programme. The purpose of this study is to assess the effect of yoga practice on well-being in senior woman. This study is important because it will inform healthcare professionals about mental health benefits of regular practice of yoga and contribute valuable knowledge about this holistic mind-body discipline.

In this study we asked participants to answer various questionnaires related to emotional regulation, affect and balance. We expect to find increase in all psychological a well

being measures. If you would like to learn more about this topic I can give you some references.

Do you have any questions about this study? .....

When you were doing the study what did you think the study was about?

.....

Was there any part of the study that was difficult?

.....

What would you change about the study?

Again, thank you for your participation in our research. If you have any questions you can ask me now or you can contact myself at :[czarneca@uni.coventry.ac.uk](mailto:czarneca@uni.coventry.ac.uk) at a later date. If you would like to receive a copy of the results we can e-mail them to you at the end of the study.

**Researcher:** Agnieszka Czarnecka, Coventry University, Department of Psychology and Behavioural Science

## **Appendix 7. Interview Schedule**

### **i. GENERAL**

1. Can you tell me what was your experience of yoga like for you in the last 15 weeks? (*Possible prompts: How do you feel after the practice, Have you noticed anything different in the way you feel/ When did you notice it?*)
2. Have you noticed any changes to your physical well-being? (Possible prompts: Can you give me an example)

### **ii. BALANCE**

1. Have you noticed any changes in your sense of balance over the last 15 weeks? (*Possible prompts: if yes, can you tell me more about it? How and when you noticed the change? Can you give me some examples from your day to day life*)
2. When did you first notice a difficulty in your balance? (*Possible prompts: How did it affect your day-to-day life?*)
3. (If balance improved) How do you think yoga helped your balance? (*Possible prompts: in what way yoga exercises helped your balance? Which part of the class/ pose made the difference?*)

### **iii. EMOTIONAL WELLNESS**

1. In the last 15 weeks have you noticed any changes to how you feel on an emotional level? (*Possible prompts: have you noticed any difference in the way you react to stress / relate to other people / when you are on your own/ your mood. Can you give me an example from your day-to-day life?*)

### **iv. FEEDBACK**

1. Which element of the class you enjoyed most/least?
2. How the class could be improved?

**Appendix 8. A master table with themes for the group**

<p><b>1. Focus on Mindfulness</b></p>
<p><i>Increased body awareness</i></p>
<p><i>S: When walking I watch it, and make sure my feet come up higher. I can't trip it down, I tried to lift my feet higher when I walk along curbs a lot, the pavement broken, I am trying my best. (77-79)</i></p>
<p><i>J: (...) and I realised you only think about different parts of the body when they hurt, when you are in pain. You don't think about those that aren't in pain, do you? You don't think about your feet if your feet aren't hurting you, you don't think about your head, arms if they are not hurting. (MINDFULNESS) You only think about it when you are in pain haha. (85-88)</i></p>
<p><i>P: More movement, I can now better reach to something, like my back scratch – I think it helps. Exercise yoga like that – that you can reach on the back. And you can bend it more, all those things helps (83-85)</i></p>
<p><i>J: (...) but also when you go along the road you got to think you got to think about your movement a lot more. You think about your movement a lot more don't you when you do yoga. You know, you think about it. You think about your breathing more whereas you don't think about it do you when you, you know what I mean, when you don't do it (124-128)</i></p>
<p><i>Enhanced concentration and appreciation of here and now</i></p>
<p><i>S: Since I have been coming to the yoga in the last few weeks I also found I am more relaxed and I am more interested in looking at things as you go along, and I am not caring about anything else, I am just concentrating on what I can see. It makes me feel more relaxed (2-5) (...) I am just concentrating on what I am doing. I am not interested in what is around, I am just being positive mind and concentrating on things. (8-9)</i></p>
<p><i>E: I find it that it helps my concentration. Because when I do the class, I really concentrate for the whole hour, you've got to do it right, and so you've got to concentrate, uh? And it is really good for your concentration. That is what I think (2-4)</i></p>
<p><i>J: I am really pleased that it does calm you down, slows you down, cos we all, I think in this life, especially in the city, busy, we have a very fast life, we are rushing about somewhere fast and our body is, can't handle it, you've got to slow yourself down sometimes. It's health, that is why a lot of people can't get, you know, a lot of things is wrong. (133-137)</i></p>

*E: Well, because when you concentrate , you not, I mean I do try to meditate as well. The thing is what we do we overthink backwards and forwards, oh what happened yesterday what will happened tomorrow or and we don't get in touch with our self hm? And when you do yoga for that hour you just doing yoga for that hour hm? You are not yesterday or tomorrow. Hm? And I think it helps when you get it (yoga) because you get an hour of having your mind blank. Your mind is blank isn't ? When I am doing yoga with you my mind is blank. I am just trying to do what you are doing and I am not thinking. I am in a moment. If you live in a moment I think that helps your brain (118-126)*

*E: You know I travelled a lot when I was younger around the world. And, when you get up every day you cant think about yesterday or tomorrow. All you think about, you are in India or somewhere and you are really in a moment! And what happens you are in a moment and is so always all these people all these good things in harmony come towards you cos you are , you are there now. (126 - 131)*

*E: I always call it being in harmony with the universe or something like that. Only you loose it a lot, don't you. Because when I am doing my yoga I am not using my brain. I am not, I am just in the moment. (132-134)*

*E: Also, the thing about doing this is that you have moral code, be in harmony with the universe. Don't look forward don't look back. I have no fear. (.) Don't look forward don't look backwards. You know, if someone annoys you you've got to let go..you've got to let go of the past, haven't you. (.) Yoga and meditation is connected isn't? (191-196)*

#### *Acceptance and coping with unpleasant experiences*

*S: I just don't care as some people may say rude things sometimes. Another time I would answer back, but I don't now, I take it with a pinch of salt now and let it fly over, I am just calmer, definitely. (109-111)*

*J: It is not so much that when you relax it makes the pain better but it eases it, you know, it is not quite intense you know, when you go to a hospital they are putting needles in you, they say don't look up, I just relax into it, like that, and I learnt it through yoga, just relax into whatever they doing, it is quiet..it makes it easier hahah (78-82)*

*E: Also, the thing about doing this is that you have moral code, be in harmony with the universe. Don't look forward don't look back. I have no fear. (.) Don't look forward don't look backwards. You know, if someone annoys you you've got to let go..you've got to let go of the past, haven't you. (.) Yoga and meditation is connected isn't? (191-196)*

*J: It is very relaxing, sometimes when you are in pain, it is very hard to relax, so if you can sort of breath into to the hm, you know, it can help you relax a lot, so. and if you are in pain that is one of the most difficult times to relax when you are in pain, you know. I don't like taking painkillers, I will take them if I have to, but you know, then you can relax better but, yeah, it helps a lot (40-44)*

*J: Yeah, relaxation really calms you down, you know how to calm your self right down. Cos all sorts of things happen. You get very tense or you get a bit nervous or whatever, you know, it helps to really calm you right down. (114-116)*

*E: The way you stand tells you a lot about yourself, doesn't it, when I am walking along and there are youths on the pavement I now never walk away from them I go right through them and say "Excuse me" because you've got to..., you've got to be.. you've got to be...haven't you you mustn't be meek. When you are standing like this you are showing that you are not, are you? (showed open body position) (.) They say as well, that if you walk like that you are more likely to get mugged hm?(.) I suppose we are animals, it is horrible but you know. There is horrible people there and they recognize the weak. Hm (155-164) (.) It's got to help isn't? People can get through life.. It is just survival I suppose, you could say. Hm? You see I think about thinks like this. (173-174)*

*S: I think so, yeah, because it is so slowing, slow down, calm. I had to go to a hospital yesterday and I was really calm, I couldn't believe how calm I was, you know, I think it makes me more calm, not worry about things.(14-16)*

*J: Yeah, when you are at home, you are much more careful, hm (.), when you take your time, slowing your body down. It slows your body down because if you rush about that is when you fall. So you do slow your body down, and also on buses, the buses are very dangerous you know, haha, so you learn how to stand better, you know, keep your posture, (balance?) yeah yeah, you learn how to sort of keep your posture, how to relax (54-58)*

## **2. Focus on balance**

*P: I noticed the other day, when you stand like (like in Varior I pose with 1 leg back) that or that I think it is a bit better then before. Before I couldn't do it at all. But now like I leg one leg like (v1) I never worried before but I knew I couldn't do it. But now I try and I think I did manage the... Before I could not. But hm some people they cant do it, they cant do the thai chi, balance balance you know, they cant do it, and I did , I did. I want to do it, and I won't say I can't, If I know I can't you know this leg is a problem, I will hold like that and I will do it. But that thing I can't do really, but I think it is better then before (94-103)*

*S: I think my balance is a lot better. When I walk a lot, sometimes I notice when I put one foot over the other foot wheras now I get more of a balance, you know what I mean? So I walk slowly. (60-62)*

*S: Sine I have been coming to yoga. I find I have not been falling over one side, sometimes in-doors I sort of trip, things like that, whereas now at least when I get up the stairs, one two three, push myself up. I can get up quick, sometimes you just can't get up, say the phone rings, by the time you get up it is gone, I do one two three, (push sound) come up (the sofa) (95-99)*

*J: Yeah, when you are at home, you are much more careful ..hm, when you take your time, slowing your body down. It slows your body down because if you rush about that is when you fall. So you do slow your body down, and also on buses, the buses are very dangerous you know, haha, so you learn how to stand better, you know, keep your posture, (balance?) yeah yeah, you learn how to sort of keep your posture, how to relax (54-58)*

<p><i>J: when you get on the bus you have a wide stand if you stand like that (feet apart) you have much stronger (.), if you stand like that (feet closer together) you could wobbly about, if you just stand like that (wider feet) then you binge into the jerking like a bus. Things like that, There is lots of posture, yeah, there is lots of things to remember to help you from falling over, cos the pavements are terrible, you can trip, I still trip over sometimes haha, but it does help a lot. (65 -71)</i></p>
<p><i>J: Yeah yeah sort of hold on, cause it gives you much better start, more better grounded, rather than wobbling about all over the place you know. (70-71)</i></p>
<p><i>E: Now, yeah. Indoors I notice it, cos I have got a little flat you know, and I've got books on the floor this and the other I am always doing this, stepping and I find that I can keep my balance now. (.) I don't wobble that much. (63-67)</i></p>
<p><i>E: I think yoga helps. Well you're doing all the exercises when you put pressure on the legs aren't you, and you also, you got to keep your balance, even though I can't stand on one leg even when you do that one when you do this These ones, you still got to make sure you don't fall over. (V1, feet together). And all those. When I first did that one ( ) I was wobbling and now I can do it. It has helped my balance. (69-74)</i></p>
<p><i>E: I think it is both. The concentration and the exercise. No cos, when I am doing that, I don't know whether you need to concentrate to keep your balance, someone told me you did hm? I am not sure hm? Well you need to concentrate not to fall over when you do yoga don't you? When you do it, not to wobble haha, I am still not perfect on one leg, I have definitely improved (77-81)</i></p>
<p><i>S: Sine I have been coming to yoga. I find I have not been falling over one side, sometimes in-doors I sort of trip, things like that, whereas now at least when I get up the stairs, one two three, push myself up. (95-99)</i></p>
<p><i>J: Yeah, when you are at home, you are much more careful, hm,, when you take your time, slowing your body down. It slows your body down because if you rush about that is when you fall. So you do slow your body down, and also on buses, the buses are very dangerous you know, haha, so you learn how to stand better, you know, keep your posture, (balance?) yeah yeah, you learn how to sort of keep your posture, how to relax (50-55)</i></p>
<p><i>J: Well, posture you see, if you keep, (...), when you get on the bus you have a wide stand, if you stand like that (feet apart) you have much stronger. (0.3) if you stand like that (feet closer together) you could wobbly about, if you just stand like that (wider feet) then you binge into the jerking like a bus. Things like that. There is lots of posture, &lt;yeah&gt;, there is lots of things to remember to help you from falling over, cause the pavements are terrible, you can trip, I still trip over sometimes ha ha, but it does help a lot. (61-68)</i></p>
<p><i>E: I think it is both. The concentration and the exercise. No cos, when I am doing that, I don't know whether you need to concentrate to keep your balance, someone told me you did hm? I am not sure hm? Well you need to concentrate not to fall over when you do yoga don't you? When you do it, not to wobble haha, I am still not perfect on one leg, I have definitely improved (77-81)</i></p>

<b>3. Focus on emotional well-being</b>
<i>Interested in learning</i>
<i>S: I am interested in what I am doing and I think it is because it's meditation, the mind. I think so. (27- 28)</i>
<i>P: Being happy, that I do yoga, I do this, staying at home, thinking, stress ? – I come out, meet people, rather than stress, get out meet people and learn more, learn more many things I didn't know (...) I think every day every minute I learn something from other people, still I am learning I think. (70-74)</i>
<i>J: And sometimes when you are doing something you remember certain ways you shouldn't, the things you shouldn't do, some ways you turn, some ways you move that would aggravate you know, aggravate. So you learn a lot. (45-47)</i>
<i>P: Because I was watching other people they are doing it why don't I do it, I should try and when you said put your foot like that, and this (the back foot) more strong (in Vajrasana) and when I listen you, then I want to copy what you are talking, and things like that, I was listening to you. And then I follow you and try to listen. Listening but also seeing what other people are doing, I was just watching really, then I thought they can do it, I know my age but, the other people can do it why don't I try then (110- 119)</i>
<i>Positive outlook: Yoga seen as health preservation and disease prevention strategy.</i>
<i>J: If you are strong, cos when I have both my hips done they said to me you (recovered) really well, it took 6 months but right after that they said you did do really good recovery cos some people don't come (out). But I think what it was cos I built it up, I did all the yoga and tai chi and the rest of it before I went to hospital It might have made you know be able to recover much quicker afterwards if you know what I mean (100-105)</i>
<i>E: Even though I can't stand on one leg yet. haha. I think it is mental. It is because my right leg is not as strong as my left leg. (right side is where the pelvis broke). It was weak here, and I think I didn't (do 1 leg stand balance) because it hurts I can't put my leg down, you know, when you got a pain you don't put your leg down (bear weight on it). It was about 2 months before and it is getting back to, getting stronger. So it has helped my injury (16-21)</i>
<i>P: (...) as I am moving I think (it) is good for me, I will get less problem. (41-42)</i>
<i>P: It makes a difference because I am doing the exercises, I feel better, I think it can be in my mind, it can be my mind I am thinking, If I keep going, (keep doing yoga) it will be good for me. If I don't do anything, sit all day and eat, it might be worse then. If I use it (the body) I think it is very good. (149 - 152)</i>
<i>J: I think yoga (...) and all those sorts of things and any type of exercise is a very good prevention ... before you get ill. You know, before you get these things (92-94)</i>

*J: I have got to say the last 15 weeks have really felt good. I feel like I have built myself up to this operation, which I am not looking forward to, haha, nobody does, do they, but I just think when I built myself up to , ou know, going through it, get over the other end..(128-131)*

*E: Well, I(.) I broke my pelvis last year, hm was it last year? And have been recovering, and it has given me more confidence, and I can, and you know, I was a bit, what s the words, I am more confident, it has made me more confident in walking, it has made me more confident, and I keep thinking that I am getting everyday a little bit better. It helped me, it helped my confidence. And also my balance. (11-16)*

*E: I am getting strength in my leg. This exercise ... You know, when you get older you get stiff. You know, an so you are using , like you are lifting your legs and open your body more when you do yoga don't you. You are opening yourself up. I think any exercise is really good for me (144-147)*

*E: I have noticed (.) and I was walking like that (showing her spine curled in) and I had to say oh you give, you know, you have to show yourself, cos you give yourself away by body language. Hm? (...) if you do that, stick that out (showing the front of her pelvis), stick your female pelvis out, and a dog won't come near you, because you are .. you know.. more confident. It does help you. The way you stand tells you a lot about yourself, doesn't it, when I am walking along and there are youths on the pavement I now never walk away from them I go right through them and say "Excuse me" because you've got to (.) you've got to be (.) you've got to be...haven't you, you mustn't be meek! When you are standing like this you are showing that you are not, are you? (showing open chest and standing straight position) (...) It's (referring to yoga) got to help, isn't? People can get through life... It is just survival, I suppose, you could say. Hm? You see, I think about things like this. (149-174)*

*E: The way you stand tells you a lot about yourself, doesn't it, when I am walking along and there are youths on the pavement I never walk away from them I go right through them and say "Excuse me" because you've got to ..., you've got to be.. you've got to be...haven't you you mustn't be meek. When you are standing like this you are showing that you are not, are you? (showed open body position) (...) They say as well, that if you walk like that you are more likely to get mugged hm?(155-161) ...) It's got to help isn't? People can get through life (.) It is just survival I suppose, you could say. Hm? You see I think about thinks like this. (173-174)*

#### **4. Miscellaneous**

*S: I think it helped me a lot. In your arms. Just being on your own sometimes, being quite and relaxing. (A: Hmmm) I like it, yeah, (10-12)*

*J: I would really miss coming here, If I couldn't .. I am really glad I have been coming here, you know. I miss it when I have to... (1.5)s cause I won't be able to come next weeks of recovery so you know. I will miss it then haha, You miss it when you don't do it. you know. Oh yeah I really look forward to coming here, (28-32)*

*E: I still feel a novice. How long does it take to.. yeah No, I am sure I wouldn't do it would I mean you know, if I went oh I've got to go to yoga. Some people don't bother to go cause they don't want to do exercise. I don't ever feel I am not gonna go cause it is a bit hard. Hm? And I enjoy it, you know, a sense of achievement (110-114)*

*J: Well, not really cause my shoulders are getting worse cause of me (.) but it does help keep moving it, if I don't, you know, if you don't move it, it ceases up , doesn't it? (26-27)*

*J: Well, what it does it helps all the other joints, and your good arm, it strengthens it. Because when you got either one side bad , you need to strengthen the other side to support, you know what I mean? SO I need to use this arm to keep it going, the things I can't with that arm (with Arthritis) I use the other one. So it is quite good and it is very very good to keep your joints moving, you know, it does. It helps a lot, so. (35-40)*

**Appendix 9.** A copy of the draft feedback sheet from the researcher’s supervisor

<b>Abstract</b>	This is good
<b>Introduction</b>	<p>I think this sentence could be deleted and the sentence directly after this one looks like a much more appropriate starting sentence for your introduction. Start with this sentence.</p> <p>These author first initials are not required unless this is a different Albert 2014 from the previous one.</p> <p>Once again do not use first initials for ordinary citations – the exception is when two studies have different authors with the same date and surname, only then should the first initials be cited.</p> <p>This, as an indirect citation should be cited as “(Kolk 2006)”</p> <p>Good</p> <p>If Kolk is the direct source and active demonstrator of the point you are making in this sentence then cite Kolk directly as “Kolk (2006 demonstrated that the therapeutic effect...” - if he or she is just somebody who is generally summarizing evidence from other sources then your current indirect citation is fine.</p> <p>I presume you mean Vahia et al? Might be worth making that clear to avoid confusion with Kolk</p>
<b>Method</b>	<p>Its best to refer to it as a “likert-type” scale as a true Likert scale is expressed in terms of agreement with a statement rather than frequency.</p> <p>Should be .20, .50 and .80</p> <p>I’m not sure that with two data points – pre and post a ‘trend’ could be established anyway so might be worth deleting this comment.</p>
<b>Results</b>	<p>Previously you mentioned cohen’s d, but here you report an r effect size; however, the formula for converting a z-score to an r is <math>r = z / (\sqrt{N})</math>, which when I calculate it on your data gives <math>r = -.83</math> for this particular result. How did you calculate your r? Also you will need to report the</p>

	<p>effect size class distinctions previously for r instead of Cohen's d.</p> <p>Once again if <math>N=7</math> and your z is -2.201 then r would be the same as the one I reported above = 0.83</p> <p>An alternative strategy for these kinds of loose themes is to simply report them under a 'Miscellaneous' Super-Ordinate theme, and that might be more faithful to the data. Ommitting them is rather draconian!</p> <p>Fine but for emphasis sake it can also be useful to use an indent of say half an inch for the whole participant quote – this strikingly delineates participant talk from author writing.</p> <p>Not any major comments to make here as you do a really good job of reporting the findings and its clear that it worked very well for your participants.</p>
<b>Discussion</b>	<p>We need to clarify this given the results for r are different between my estimate and yours. On my estimate the effects were large and this is consistent with getting significance with a small sample size.</p>
<b>General Comments</b>	<p>Overall very solid writing throughout – I have not commented on minor spelling issues. We do need to clarify the effect size reporting though.</p>

**Appendix 10.** Interview transcripts  
**Participant 1**

1 Researcher (A): So I wanted to ask you how would you describe the last 15 weeks?

2 Participant (S): Since I have been coming to the yoga in the last few weeks I also found  
3 I am more relaxed and I am more interested in looking at things as you go along, and I  
4 am not caring about anything else, I am just concentrating on what I can see. It makes  
5 me feel more relaxed, let's put that way.

6 A: And where did that feeling come about do you think?

7 I am just concentrating on what I am doing. I am not interested in what is around; I am  
8 just being positive mind and concentrating on things.

9 A: And do you relate it to yoga in a way?

10 S: Oh definitely, definitely. Oh <yeah>, I think it helped me a lot. In your arms. Just  
11 being on your own sometimes, being quite and relaxing. (A: Hmmm) I like it, <yeah>

12 A: Is it because of yoga exercises or?

13 S: I think so, yeah, because it is so slowing, slow down, calm. (.) I had to go to a  
14 hospital yesterday and I was really calm, I couldn't believe how calm I was, you know, I  
15 think it makes me more calm, not worry about things.

16 A: And do you feel that way just right after the class or (.)

17 S. All the way through the class, all the way through the class! Especially the breathing,  
18 when you close your eyes and you do a little bit of massage – it is a nice touch to it – ha  
19 ha ha!

20 A: Have you noticed any changes to your physical well-being?

21 S: I feel more slimmer, ha, more active ha ha and interested in things.

22 A: All right, when you say you feel more interested, can you tell me more about it?

23 S: Doing things indoors, one thing or another. Not that I leave it and can't be bothered. I  
24 do it all. I am interested in what I am doing and I think it is because its meditation, the  
25 mind. I think so.

26 A: So what have you been interested in doing recently?

27 S: Well, I have been running a few Christmas carols, I have been doing bits and pieces,  
28 things like that, things that I want to do, you know, going the allotment, I am  
29 concentrating on what I am doing and I am happy what I am doing.

30 A: That is great! On a mental level more, you are saying you are more happy ?

31 S: Oh yeah!

32 A: And on a physical level?

33 S: I feel good! Ha ha ha !

34 A: When you say you feel good?

35 S: I am happy with my life! Let's put it that way. The main thing is no pain, that means  
36 everything to me.

37 A: Because of the Arthritis?

38 S: No, that is all right. I had it done! I had my hip replacement, so there is no pain. Just it  
39 is a bit uncomfortable, that is all.

40 A: Have you noticed any changes in other physical aspects of well-being?

41 S: Loads of energy. I think that helped me a lot, even though I thought I don't need it,  
42 that is it. The quality of life, lets put it that way.

43 A: And specifically, could you think of any examples?

44 S: When I go upstairs I pull my knees up, I love dancing, but at the moment, I () But, I  
45 am happy, touch wood, I just feel happy that is all.

46 A: Have you noticed any other changes, including appetite?

47 S: I have had a very good appetite. I can't wait to do my cabbage ha ha! I have got  
48 cabbage tomorrow and a glass of Guinness!. Ha ha ha

49 A: Sounds very wintery! Ha ha

50 S: That is good! Yeah, Ha ha

51 A: So cabbage (.)

52 A: I remember you coming first to yoga and you have been quite well already

53 S: Yeah, I fixed the knee, I wanted a quality of life. No limping.

54 A: Have you noticed any changed in your balance?

55 S: A bit better. <Yeah>

56 A: In what situations do you notice the difference?

57 S: I think my balance is a lot better. When I walk a lot, sometimes I notice when I

58 put one foot over the other foot whereas now I get more of a balance, you know what

59 I mean? So I walk slowly. And in the bath, I can't sit in the bath, so I pour water in

60 the bath, and I slide in the bath and I have a shower, and I have a bar to hold on it.

61 A: So instead of standing?

62 S: I pour water in the bath, put a bubble bath in it, then I step over and I have my

63 shower, than I have a bar to hold on so I can sit around, I thought when I had it done,

64 I didn't think I'll be able to put my leg over, but I can. Before the knee operation this

65 wasn't possible. (.) People can't believe it, they see my dance! I went to () for my

66 birthday, and they couldn't believe cause in their country they don't live very old,

67 they die about 60, but they couldn't believe I was 80, doing all this business, dancing

68 (h) ha ha ha, they haven't seen it before.

69 A: That is really impressive. And I am also impressed when I see you, you have so much

70 energy.

71 A: Balance, can you recall any other situations when you feel more in balance?

72 S: When walking I watch it, and make sure my feet come up higher. I can't trip it down,

73 I tried to lift my feet higher when I walk along curbs a lot, the pavement broken, I am

74 trying my best. And then, the only thing I noticed is the problem, I have got a step when

75 I go to my house, (.) I got a ramp but I have to hold on to a wall, to get myself into  
76 balance, the stair and all is fine, you know (0.3)

77 A: But have you had a problem with balance before?

78 S: No, only when I had my knee and hip done. But I do feel better do be honest. I feel  
79 different.

80 A: It would be nice to explore what is the difference?

81 S: The attitude to life ( changed). It has helped me, definitely.

82 A: In terms of emotional well-being, have you noticed any changes in how you react to  
83 difficult situations?

84 S: Many years ago, I would be nervous, and all that ha ha, most my years now come up  
85 my confidence, now when that lift yesterday, 14 storey high, I was just good! I couldn't  
86 believe it, everyone was looking at me. I didn't get into a lift in the library, now I have  
87 confidence to go on that lift.

88 A: Where is this confidence coming from, you think?

89 S: Maybe this (yoga), I don't know!

90 S: Sine I have been coming to yoga. I find I have not been falling over one side,  
91 sometimes in-doors I sort of trip, things like that, whereas now at least when I get up the  
92 stairs, one two three, push myself up. I can get up quick, sometimes you just can't get  
93 up, say the phone rings, by the time you get up it is gone, I do one two three, come up é

94 A: So is it strength?

95 S: Yes, strength! Cause nothing is worse when you feel weak, so <yeah> (.) I remember  
96 when I was 6 stone, weight 6 stone, I had a kidney stone, I had no appetite, the thought  
97 of food made me sick. I really thought that I will get better, so I was baking cakes, ha ha

98 A: Do you like sweets?

99 S: I had two custard tarts this morning, nice cup of tea, ha ha, I am happy with my life  
100 now, touch wood!

101 A: Have you noticed any other aspects of your life changing in the past 15 weeks?

102 S: I just don't care as some people may say rude things sometimes. Another time I  
103 would answer back, but I don't now, I take it with a pinch of salt now and let it fly over,  
104 I am just calmer, definitely.

105 A: And finally, is there any feedback you would like to give, what did you like most  
106 about the class and what did you like least?

107 S: That one when I go that way (twisting) ha ha ha I love that one cause it is the one I  
108 used to do with weight training, <yeah>, it feels like you are twisting your hips, yeah I  
109 like that one.

110 A: And those that you don't like that much?

111 S: Standing up ones, I want to push my legs right back. Ha ha ha I am used to sitting in  
112 the chair.

113 A: So you prefer sitting.

114 S: I prefer sitting and do exercise like that. <Yeah>. I like those when you bend over,  
115 you know, when you bend down. Putting your legs backwards.  
116 I don't know why, but other than that I like that , it's very good.

117 A: Do you think you would like to go to classes in a long term?

118 S: Oh yeah, definitely!

119 A: Is yoga the only exercise you do?

120 S.: No, I also do Monday exercise. That is a lot of moving about.

121 A: And how do you find it compared to yoga?

122 S: It is about the same but I think yours is more drifting away so to speak, you know, I  
123 feel like I am on a ship , ha ha, it is more relaxing, smooth, the other one is more like  
124 bum bum bum bum , got the music going and it is all to a bit.

125 A. Ah, so it is more like aerobic (.)

126 S: That is it. Yeah (1). I met this lady the other day, she said she fell over and broke her  
127 leg. And she was going in the pool, she was told to go on a swimming pool. (.) Whatever  
128 you do to keep you active is good. I love shopping for food. I love it! I can't wait to go  
129 around Tesco! Ha ha ha!

130 S: The most important aspect is relaxation, being in your mind, definitely. Don't care  
131 about other things that worry you, you know; you are pushing them away,

132 A: Cos you are more in a present moment?

133 S: Oh yeah. Relaxing. I don't have any (worries) touch wood, but hm, <yeah>, it is nice  
134 to relax, I can't wait to get my holly leaf on the door, I cant wait to do my decorations ha  
135 ha ha, love candles, sitting with a scented candles and have TV on.

136 A: So you live on your own?

137 S: I live on my own but my son is on tomorrow.

138 A: So you are not feeling lonely.

139 S: No no no, Not at all, I love being on my own. And I love being with my family but, I  
140 like going for a coffee, I have a cappuccino and I read a paper, (.) I have lots of other  
141 friends to go out, some of them I go out for a meal, but I also like my own company. I  
142 like shopping on my own.

143 A: Thank you for your sharing!

1 **Participant 2.**

2 Participant (P): I really enjoyed the classes. And I want to carry on as well. And I think  
3 my lifestyle changed, I feel more active you can say, I am proud really that at my age I  
4 am doing so many different things. And I say to my family, like my daughter in law she  
5 was asking me what do I do, before my grand son living with me, now he is in a  
6 university, and now is myself in the house, she asked me how I spend my time, and my  
7 grand son asked me, I said I am doing the same things when he was at home. I go yoga,  
8 I go exercise, tai chi, swimming, all kind of this things, I am busy myself. I really like  
9 that, keeping myself busy.

10 Researcher (A): So it sounds as if you have a lot of energy.

11 P: Sometimes, although I feel I have no energy, but I want to finish my work (.) I am not  
12 very young any more, but still, I want to learn more, I want to see more, I want to do  
13 more (.)

14 A: I wanted to ask you about your own experience specifically in the last 15 weeks  
15 because yoga programme lasted 15 weeks I am curious how you felt so I will ask you a  
16 few questions and leave you all the space to talk about if you don't mind. How would  
17 you describe your experience of doing yoga in the last 15 weeks?

18 P: I have never done yoga in my life, I heard it, but I never saw, but I was thinking  
19 different way really, that you have to sit for along time, like this and this, first time I saw  
20 I enjoy it. It is not very hard, (A: Not very hard) No, I don't think so, no. I mean yes,  
21 some things are difficult for me, otherwise it is quite nice really, it is a new experience.

22 A: So you haven't done yoga before.

23 P: No. not even Thai Chi, (.) I also do Friday morning Thai Chi.

24 P: Nearly the same you can say, but I think more movement I think, Thai chi I think  
25 more movement, but nearly some point are same.

26 A: Is it standing or on a chair?

27 P: No, stand up. Stand up we do. (.) There is a sitting exercise here we do on Monday

28 A: Do you attend that one too?

29 P: I do Mondays, I do dance on Tuesdays, yoga with you, and today I miss this one

30 today the lady didn't come, I do Thursdays as well.

31 A: And how does it compare to yoga, how do you feel after yoga?

32 P: I think I need a little bit more help in yoga, (.) I like exercises every day. Any kind of

33 exercise.

34 A: That is fantastic, sounds like you keep active. Have you notice any change to your

35 physical well being since you started yoga?

36 P: I think so, physical change, yeah, because I had been here, if you do the exercises like

37 that (wrist's rotations) it is more movement, and you feel better, but thanks God I

38 haven't got any serious problems my knees or back or something like that, but as I am

39 moving I think I is good for me, I will get less problem, but I do get problem like that

40 (she moved her hands) I can't do for a long time, but I do try, not hurting or something,

41 but I do get tired like that. But after the Thai chi or yoga, or what ever, I can't feel tired

42 at all, I am not like that, I don't feel that OMG!, I never say that "What the day I had". I

43 enjoy it. When I want to go out I will go out as well.

44 A: So are you saying that through exercise, yoga exercise you get more energy?

45 P: I think so. I feel like that. Because my feeling is like this is good for me, and I am

46 getting more energy. Like this, I have been keeping on, if I keep on all kind of exercise I

47 have been more move then..

48 A: Have you felt any other changes in other aspects of your life?

49 P: Nothing different to me. Because although I was not doing this exercise, I was doing

50 other exercise, I was working outside all my life, going and coming and working,

51 A: But that was before?

52 P: Actually I looked after my grand son when I was 55 and now I am 75 in September.

53 A: I remember when we first met you told me that your grand son was moving to

54 university. I was wondering how you feel that sudden change.

55 P: I don't want to go down to depression. I don't want to go there and I got to my same

56 routine, when he was here, but I anted I should go home before he comes in the house, I

57 wan to welcome him. I want to get things ready for him, and I don't want to rush, and if

58 he is there, and I have to make something for him, but I feel more comfortable if I go

59 home change, relax, and if he come (1.5) Now I am only a little bit lonely, I miss him,

60 and I go to sleep early, because it is dark, and a clock gone behind and sometimes half

61 past 7 I go to bed to sleep. (.) I feel lonely, but otherwise I do the same things as I did

62 before. I think enjoyment I got. Enjoyment I got. Again I enjoy doing the things and I

63 am proud I can do it.

64 A: Where do you think you got the enjoyment from?

65 P: Being happy, that I do yoga, I do this, staying at home, thinking, stress? – I come out,

66 meet people, rather than stress, get out meet people and learn more, learn more many

67 things I didn't know, even swimming I could do before but still I think every day every

68 minute I learn something from other people, still I am learning I think.

69 A: Absolutely, I can see that.

70 P: I don't know how to saw, how to knit how to, but still something I never knew

71 because (.)

72 A. To summarise, you talk about yoga and its impact you said more movement

73 P: More movement, I can now better reach to something, like my back scratch – I think

74 it helps. Exercise yoga like that – that you can reach on the back. And you can bend it

75 more, all those things helps.

76 A: Any other examples maybe when you do things at home?

77 P: I am scared to climb the chair to clean the window, I am scared. That's why I don't  
78 do it, and I never done before.

79 A: What is it that you are scared of? Is it balance?

80 P: I got a balcony, balance yeah! (.) I am scared to climb up the chair; I don't want to  
81 fell down! And when I am coming from my house, by the stairs, I am scared can't come  
82 by my own.

83 A: How do you find your balance compare to 15 weeks ago?

84 P: I noticed the other day, when you stand like that or that I think it is a bit better then  
85 before. Before I couldn't do it at all. But now like 1 leg one leg like I never worried  
86 before but I knew I couldn't do it. But now I try and I think I did manage the...(A: the  
87 tree pose? I have noticed you were standing for a few seconds) Before I could not, Thai  
88 chi was not a problem, they are a little bit different. But hm some people they cant do it,  
89 they cant do the Thai chi, balance, balance you know, they can't do it, and I did, I did. I  
90 want to do it, and I won't say I can't, If I know I can't you know this leg is a problem, I  
91 will hold like that and I will do it. But that thing I can't do really, but I think it is better  
92 then before (.)

93 A: When did you first noticed any difficulty with your balance?

94 P: In the beginning, first 2 lessons.

95 A.: And in your life?

96 P: I don't think I had a habit like that. I m thinking nothing is difficult. (.) But I am  
97 scared because my aunty fell down, she was doing the curtain and she climbed and she  
98 got a problem in her leg and this and that and she made me feel scared, 6, 7 years ago,  
99 and I said I don't want the same things, if I climb on the chair, if I fell down nobody is  
100 there to look after me,

101 A: Why do you think your balance improved?

102 P: Because I was watching other people they are doing it why don't I do it, I should try  
103 and when you said put your foot like that, and this (the back foot) more strong and when  
104 I listen you, then I want to copy what you are talking, and things like that, I was  
105 listening to you. And then I follow you and try to listen. Listening but also seeing what  
106 other people are doing, I was just watching really, then I thought they can do it, I know  
107 my age but, the other people can do it why don't I try then. And if I can't reach this leg  
108 here, I can do a little bit low, and I know you mentioned as well, if you can't do like on  
109 the back here, we can do a little bit to the front and down. That is how I was learning.  
110 Like breath in breath out, some people are doing it in a different way, but I try to see  
111 your one, (.) Anyway that is my habit I think, I want to listen and I want to see.

112 A: You talked about balance and physical changes, I wonder whether you notice any  
113 specific change in your emotional well being?

114 P: Like when my grandson went, I was very emotional really, I am thinking even more  
115 before when I was with him before, when he live me I will be with myself here, (1)  
116 Sometimes I am scared if something happen to me if I am ill who will look after me, like  
117 this. Otherwise no problem. I have good neighbours.

118 A: Do you think yoga had any impact on how you cope with the distress, loneliness?

119 P: I don't want to be going there, I am not distressed; I want to find out something to do  
120 it, or talk to my friend. I don't want to go more emotional with things, you know, you  
121 will get hurt more, if you are more emotional, with anything. I don't want to be talking  
122 about emotional. I don't want to think that I miss him that nobody there in the house,  
123 A.:And finally do you have any feedback what you liked most in the class and what you  
124 didn't like that much.

125 P: Do you think there will be a little bit more difficult yoga? (A: Would you like that?) I  
126 can try, I can try? Cause I was thinking, they sit on the floor and do like that, it might be  
127 difficult for me to be sitting on the mat because before I was doing a lot at home then I  
128 was putting my hands on the floor and I was getting up. Because I am big, you know.  
129 But now I just scroll, put my hands on the sofa and I get up. But yoga on the floor might  
130 be a little difficult for me. If I sit down then I need a chair something to get up. In other  
131 class people were using 2 chairs instead of doing on the floor, like that.

132 A: How did the practice affected the Arthritis?

133 P: It is better really, it is not painful or something, but  
134 it makes a difference because I am doing the exercises, I feel better, I think it can be in  
135 my mind, it can be my mind I am thinking, If I keep going, (keep doing yoga) it will be  
136 good for me. If I don't do anything, sit all day and eat, it might be worse then. If I use it  
137 (the body) I think it is very good.

138 P: Positive, I am not going into negative, never.

139 A: Thank you for your time.

1 **Participant 3.**

2 Researcher (A) How have you felt over the last 15 weeks? How would you describe  
3 your experience of coming to yoga in the last 15 weeks?

4 Participant (J) Yeah, very, very good. Yeah (.) But there is a lot of things I live only  
5 around the corner so it is nice and handy and 2 o'clock is a much better time, because  
6 when you have Arthritis in wherever it, especially in my shoulders as well, it is always  
7 worse first thing in the morning. When you have been asleep you have been laying (.)  
8 you probably lay in a funny position, so you feel very (.) your bones feeling a bit (A:  
9 stiff?) yeah first thing in the morning, it takes quite a long time to get moving and get  
10 ready. So afternoon and evening class is much better for me. If they are early in the  
11 morning it is a bit of a rush you know, so 2 o'clock is a really nice time. And ah it is  
12 nice, you know, so (.) was really enjoying it because I missed my yoga, I used to go to a  
13 really nice class, it was in Bow, not long way, but it wasn't around here, and I went to  
14 this woman who did it for years you know, she had done it with people with disabilities  
15 as well, you know so, she was for years and then they put the price up and people  
16 couldn't go, and people stopped going so they cut the class. So I was really upset, when  
17 it happened but (.) So since then some of the yoga classes, I can't do very hard yoga  
18 where you have to lay on the floor you know that kind of thing, that is a little too  
19 difficult at the moment, when you are much older you know, and (.3) so that is why this  
20 class is really nice, because you do it, you can hold the chair, lean on the chairs and that  
21 is very helpful, isn't, because it is a class for older people, isn't it, this one. It is not just  
22 a normal yoga class. Do you do other classes like that? (.) Cause when you have any  
23 disabilities it is a bit difficult, yeah , so (0.5)

24 A: Have you noticed any changes to your physical well-being after these 15 weeks, any  
25 changes?

26 J: Well, not really cause my shoulders are getting worse cause of me (.) but it does help  
27 keep moving it, if I don't, you know, if you don't move it, it ceases up, doesn't it? Yeah  
28 (.) and (.) I would really miss coming here, If I couldn't (.) I am really glad I have been  
29 coming here, you know. I miss it when I have to (1) cause I won't be able to come next  
30 weeks of recovery so you know (.) I will miss it then haha, You miss it when you don't  
31 do it, you know. Oh yeah, I really look forward to coming here.

32 A: How moving your body in yoga affected your condition of Arthritis? Have you  
33 noticed any changes?

34 J. Well, what it does it helps all the other joints, and your good arm, it strengthens it.  
35 Because when you got either one side bad, you need to strengthen the other side to  
36 support, you know what I mean? So I need to use this arm to keep it going, the things I  
37 can't with that arm (with Arthritis) I use the other one. So it is quite good and it is very  
38 very good to keep your joints moving, you know, it does. It helps a lot, so.

39 A: When you say it helps a lot, could you give me some examples maybe in your home,  
40 what is the effect when you actually help your body moving?

41 J: It is very relaxing, sometimes when you are in pain, it is very hard to relax, so if you  
42 can sort of breath into to the hm (.) you know, it can help you relax a lot, so. And if you  
43 are in pain that is one of the most difficult times to relax when you are in pain, you  
44 know. (.) I don't like taking painkillers, I will take them if I have to, but you know, then  
45 you can relax better but, yeah, it helps a lot, it helps a lot. It helps you relax it help  
46 you... And sometimes when you are doing something you remember certain ways you  
47 shouldn't, the things you shouldn't do, but (.) some ways you turn, some ways you move  
48 that would aggravate you know, aggravated. So you learn a lot. Yeah (.)

49 A: So in what circumstances do you feel that, when you at home?

50 J: Yeah, when you are at home, you are much more careful (.) hm. (.) when you take  
51 your time, slowing your body down. Ti Chi does the same thing too. It slows your body  
52 down because if you rush about that is when you fall. So you do slow your body down,  
53 and also on buses, the buses are very dangerous you know, ha ha, so you learn how to  
54 stand better, you know, keep your posture, yeah yeah, you learn how to sort of keep  
55 your posture, how to relax, I would say it was a really good experience, but then I have  
56 been doing it a long long time. I have been doing it for 20 years. I started 20 years ago,  
57 but I have gaps in between, I had a lot of gaps in between but, this one is <so>  
58 convenient for me, cause this is just around the corner so I hope you don't close it (.)  
59 A: I am interested about what you said about that it helps you with your balance?  
60 J: Oh <yeah, yeah> (A: Would you like to give me some more examples?) Well, posture  
61 you see, if you keep, Ti Chi does it as well, when you get on the bus you have a wide  
62 stand, if you stand like that (feet apart) you have much stronger. (0.3) if you stand like  
63 that (feet closer together) you could wobbly about, if you just stand like that (wider feet)  
64 then you binge into the jerking like a bus. Things like that. There is lots of posture,  
65 <yeah>, there is lots of things to remember to help you from falling over, cause the  
66 pavements are terrible, you can trip, I still trip over sometimes ha ha, but it does help a  
67 lot.  
68 A: So it is the posture, you described the Warrior posture (.)  
69 J: Yeah, yeah, sort of hold on, cause it gives you much better start, more better  
70 grounded, rather than wobbling about all over the place, you know. <So>, cause I do go  
71 out a lot, I like to go out. I used to like laying on the floor when we did the relaxation on  
72 the floor (.) you can just relax in to a posture, but (.) very, very good relaxation,  
73 otherwise <yeah> (.)

74 A: Did you mention also, in terms of relaxation and the pain, would you like to explain a  
75 little bit more how it works?

76 J: Well, you it () up it makes the pain worse doesn't it.

77 It is not so much that when you relax it makes the pain better but it eases it, you know, it  
78 is not quite intense you know, when you go to a hospital they are putting needles in you,  
79 they say don't look up, I just relax into it, like that, and I learnt it through yoga, just  
80 relax into whatever they doing, it is quiet (.) it makes it easier ha ha. But as I say, I said  
81 that to my old yoga teacher whenever you are in pain it is very difficult to relax ha ha.  
82 And another things what we used to do, we used to go all around different parts of the  
83 body and make me think about different part s of the body. And I realised you only thing  
84 about different parts of the body when they hurt, when you are in pain. You don't think  
85 about those that aren't in pain, do you? You don't think about your feet if your feet  
86 aren't hurting you, you don't think about your head, arms if they are not hurting. You  
87 only think about it when you are in pain ha ha.

88 A: Did you like that exercise when you actually scan through your body?

89 J: Yeah, that is what I do. It is very relaxing. That is what I do when I do the 20 min  
90 relaxation. I don't always get right through it, 20 min is sometimes up, people don't get  
91 through it, you know what I mean ha ha, but yeah, I think oh my feet are fine (.) I think  
92 yoga and ti chi and all those sorts of things and any type of exercise is a very good  
93 prevention (.) before you get ill. You know, before you get these things. If you are  
94 strong, cause when I have both my hips done they said to me you (recovered) really  
95 well, it took 6 months but right after that they said you did do really good recovery cause  
96 some people don't come (.). But I think what it was cause I built it up, I did all the yoga  
97 and tai chi and the rest of it before I went to hospital It might have made you know be  
98 able to recover much quicker afterwards if you know what I mean. Cause when you go

99 (.) when you go a physiotherapist for example you do all these exercise you know they  
100 tell you what to do (.)

101 A: How do they compare the physio- versus yoga exercises?

102 J: Well, some of the things they tell you to do (like circular movements) They more  
103 focus on the joints. (.) People with breathing problems they find yoga helps them as  
104 well. It helps your whole body really.

105 A: I am interested in what you say it helps the whole body, do you think it also helps the  
106 emotional state?

107 J: Yeah, relaxation really calms you down, you know how to calm your self right down.  
108 Cause all sorts of things happen. You get very tense or you get a bit nervous or  
109 whatever, you know, it helps to really calm you right down.

110 A. Have you noticed anything specifically within the past 15 weeks? Any changes?

111 J: Oh yes, cause I look forward to it every week. The thing is I have been all the way  
112 through these operations you know that is the main thing and I keep thinking If I go  
113 though it if I go to ti chi, () and I go to this one, (1) They all do different things, but they  
114 all do the same you know the chinese , the movement ...(..)

115 A: How would you compare those other practices to yoga?

116 J: There is a lot of, they are quite similar but yoga is originally from India isn't ? (1) All  
117 the postures are very, very similar. Mountain pose, Warrior pose (0.5) balance. I used to  
118 be able to do it.

119 A: You mentioned balance, it got better because of the last 15 weeks or because before  
120 you did other things or mix?

121 J: Mix I think.

122 A. Why has the balance improved you think?

123 J: Mind I think. Thinking about it, but also when you go along the road you got to think,  
124 you got to think about your movement a lot more. You think about your movement a lot  
125 more don't you when you do yoga. You know, you think about it. You think about your  
126 breathing more whereas you don't think about it do you when you, you know what I  
127 mean, when you don't do it. I have got to say the last 15 weeks have really felt good. I  
128 feel like I have built myself up to this operation, which I am not looking forward to, ha  
129 ha, nobody does, do they, but I just think when I built myself up to, you know, going  
130 through it, get over the other end (.)

131 A: Yeah, you're doing so well in the class.

132 J: Yeah, I have done a lot of it before (.) I am really please that I did it because, it does  
133 calm you down, slows you down, cause we all, I think in this life, especially in the city,  
134 busy, we have a very fast life, we are rushing about somewhere fast and our body is,  
135 can't handle it, you 've got to slow yourself down sometimes. It s health, that is why a  
136 lot of people can't get, you know, a lot of things is wrong. (.) Although with the Arthritis  
137 it is within my family so I would probably have got it anyway because it is hereditary,  
138 you know. But that is the thing you can not do anything about but you can help it to  
139 make things better, can't you, ease, you know, make it easier for yourself I suppose, that  
140 is all we can do.

141 A: Do you think the Arthritis condition affects balance as well?

142 J: Yes it does, because you have it on one side, you know, you can do everything this  
143 side but the left side (.) yes, it's got to affect you a bit, without you realise it. Particularly  
144 when I had done one hip I hardly could walk, I was limping. So you of course have one  
145 leg, put all your energy on that leg your left hip, cause my right hip was so bad (1.5)

146 A: We were talking about physical balance, I was wondering how did that start, when  
147 did you first notice any difficulty with your balance?

148 J: Well I imagine it happened a very long time, when I was mainly on the bus, I  
149 suddenly begin to think about it, cause when you are jerking about you know, be on a  
150 good stand, wide stand, get myself coordinated you know, although, because my  
151 balance, as you get older your balance does a bit, it is not as good as when you are  
152 young, you know, so you have to watch it, you know what I mean so (.) I have been in a  
153 lot of pain in the past 15 weeks, is it? (.) But I was in a lot of pain before that I came  
154 here so, but it does help, yeah I've got to say it does help (.)

155 A: And in emotions?

156 J: Well if you have to go through operations, hospitals, you sort of relax into it, you  
157 know. (.) I remember once I had a very painful injection in my shoulder, there are a lot  
158 of injections in my shoulder (1)

159 A: Are you saying that you react in a calmer way to whatever comes?

160 J. <Yeah>

161 A: What do you like and dislike most in the class?

162 J: When they got out the mobile phones that is the bit I don't like. In a class like that,  
163 cause it suppose to be quiet, isn't it, you know so you don't want those rings ha ha ha,  
164 most teachers just tells them to switch them off. What I like about it is that it is nice to  
165 be around the corner, the time, and (.) all the exercises you do, you know, it is just nice  
166 (1) I like the people that come here as well, it is quite a nice class, isn't it. You get some  
167 people who wonder in and out, but some of them do have something with dementia so,  
168 you know, you don't know, it might happene to you one day. That must be terrible ah,  
169 but she was trying. I looked at her, (about the woman with dementia). One of the things I  
170 like about here is the integration, you know, you've got all the Muslim, Indians mixed in  
171 English people so all. Everyone mixes together (.)

172 A: How you deal with living on your own?

173 J: I like living on my own. The problem happens when you got to go to the hospital

174 because you have no one to come around (.)

175 A: Thank you so much for your time

#### Participant 4

1 Researcher (A): What was your experience in the past 15 weeks?

2 Participant (E): I find it that it helps my concentration. Because when I do the class, I really

3 concentrate for the whole hour, (.) you've got to do it right, and so you've got to

4 concentrate, uh? (.) And it is really good for your concentration. That is what I think.

5 You have got to concentrate for the whole hour, hm? You also make sure we are

6 doing it properly as well so, you need to insure you are doing it properly. And I

7 have got to concentrate on exactly what you are doing, and so for the whole hour

8 I am using my concentration, which is good.

9 A: So how do you think having more concentration would impact the other

10 aspects of your life?

11 E: Well, I ... I broke my pelvis last year, hm (.) was it last year? And have been

12 recovering, and it has given me more confidence, and I can, and you know, I was

13 a bit, what s the words, (.) I am more confident, it has made me more confident in

14 walking, it has made me more confident, and I keep thinking that I am getting

15 everyday a little but better. It helped me, it helped my confidence. And also my

16 balance. Even though I can't stand on one leg yet, haha (h) I think it is mental. It is

17 because my right leg is not as strong as my left leg. (right side is where her pelvis

18 broke). It was weak here, and I think I didn't (do 1 leg stand balance) because it

19 hurts. I can't put my leg down, you know, when you got a pain you don't put your

20 leg down. It was about 2 months before and it is getting back

21 to, getting stronger. So it has helped my injury.

22 A: How did the injury happened? If you don't mind (.)

23 E: Nope. I was looking after my sister who has now gone into a care home and I

24 was not getting any sleep, I wasn't getting (.05) I wasn't getting any rest and I was so

25 no escape and my sister was waning at me everyday and I couldn't see the end  
26 of my rope. (0.5) I got to the end when I couldn't take it anymore.

27 A: Emotionally?

28 E: And physically because I wasn't getting any sleep. And I just said I am going,  
29 cause my sister went, and I came to London went for a walk and I was plumped by  
30 the dogs, and I prayed to God that I get out of the situation I had been for about four  
31 years, and I was never gonna do anything, I couldn't even go outside because my  
32 sister in the garden, she said oh I can't get up! You know, I didn't have any (0.3) I  
33 couldn't even read a paper. It was a nightmare.

34 A: So you were taking care of her?

35 E. Yeah! And she lived way outside London and I couldn't get to my flat, so I came  
36 home and I went for a walk and I was by a canal, and I don't know what had  
37 happened, I think God knot me over ha ha, cause I couldn't stand it anymore. I think  
38 if you wanna get out of the situation sometimes you have an illness or something  
39 like that to get you away from the situation. So to get out of my situation I broke  
40 my pelvis. Ha ha ha.

41 A. Maybe it is an unconscious wish?

42 E. Yes so it was a subconscious wish that I felt over. So I can't look after my  
43 sister.

44 A: So this happened on the street?

45 E: Do you know () basin? I was walking and then I was going up some  
46 steps, and I just...I fell over and I hit my and it was some stair and I hit my head  
47 wow I went Ouch!é And someone said could you help me these people walking by  
48 I don't remember saying it. And I lean against the bridge and I (0.5) It has to heel  
49 itself. So here I am.

50 A: So you mentioned that your balanced improved after yoga..

51 E. I think I must have lost my balance when I fell over actually. I was very tired. I  
52 was sleeping about 2h a night! Exhausted. Hm. Anyway, thank God it is all over  
53 now. She is in a care room.

54 A: Is the improvement in balance connected with concentration or physical  
55 strength?

56 E: I think it is something to do with the fact that I don't put my other leg down  
57 properly. Still. I am trying to do it now, I don't think I put this bit of my foot  
58 down. I am trying to do that now. I am trying to put m foot, I am trying to (.)  
59 improve my walking. And when I first did it, I was exhausted just walking a little  
60 way because you can't do any exercise for a couple of months and you get very  
61 weak. You are loosing your muscles when you get older very fast (.)

62 A: You said that your balance improved ?

63 E. Now, yeah. Indoors I notice it, cause I have got a little flat you know, and I've got  
64 books on the floor this and the other I am always doing this, stepping and I find  
65 that I can keep my balance now. (.)

66 A: In what way did your balance improve you think?

67 E: I don't wobble that much.

68 A: But is it because you pay more attention, or you feel stronger or?

69 E: I think yoga helps. Well you re doing all the exercises when you put pressure  
70 on the legs aren't you, and you also, you got to keep your balance, even though I  
71 can't stand on one leg even when you do that one when you do this, these ones,  
72 you still got to make sure you don't fall over. And all those.

73 When I first did that one I was wobbling and now I can do it. It has helped my  
74 balance.

75 A: I am interested in your interpretation about how this improved. Is it through  
76 the increased concentration you talked about?

77 E: I think it is both. The concentration and the exercise. No, cause, when I am doing  
78 that, I don't know whether you need to concentrate to keep your balance,  
79 someone told me you did hm? I am not sure hm? Well, you need to concentrate  
80 not to fall over when you do yoga don't you? When you do it, not to wobble ha ha,  
81 I am still not perfect on one leg, I have definitely improved. (.) I found that one  
82 quite good doing last week. I found that one really good.  
83 Because for my thigh this is where I am weak. I find that one really good for my  
84 thigh. (.)

85 A: What is your motivation for doing yoga?

86 E: My sister, she used to spend her life looking at the mirror like that (with the  
87 chin forward) and she got a collapsed (.) spine. And they said when they operated  
88 on her she had less muscles then anyone they ever met, cause she was always  
89 sitting with the line down. And I thought I don't want that to happened to me. I  
90 want to make sure that my muscles where my spine is to be strong to help my  
91 back up.

92 A: And how does the other exercise you do compare to yoga?

93 E: It s more vigorous, and you don't need to concentrate so much. It s not to a  
94 degree, perfect as yoga is. You see I worry to get right in yoga.

95 A: Is it worrying you?

96 E. No, not worried. I just want to get it right. You want to do it right. When you do  
97 yoga is more precise. Is it supposed to be? Yoga is more precise you got to try to  
98 get it right.

99 A: Have you noticed any other changes to your physical well-being?

100 E. It is hard to tell cause when you get, how do you know, because you don't know  
(.)

101 Cause when you do get older you get more tired. This is affect of life. I see young  
102 people and I think I never gonna get that energy. It sometimes annoys me when

103 someone really young who passes me and I have to tell myself that I've got to  
104 be realistic (.) I am better when I don't concentrate. You know, if I just enjoy the  
105 walk instead of trying to do it well. Hm? (.) If I am really looking at the trees and  
all 106 that I walk much better than if I am trying hard. If I am looking at the trees or  
the  
107 shops or the thing I am not so tired. It's when you (.) I think also tiredness and  
108 boredom is connected, is all very difficult, hm?

109 A: Have you noticed any change to your energy levels straight after the class  
110 E: No, maybe in a years time. I still feel a novice. How long does it take to (.) yeah.

111 No, I am sure I wouldn't do it would I mean you know, if I went oh I've got to go  
112 to yoga. Some people don't bother to go cause they don't want to do exercise. I  
113 don't ever feel I am not gonna go cause it is a bit hard. Hm? (.) And I enjoy it, you  
114 know, a sense of achievement. I have to get a good night sleep though. (0.2)

115 A: Any other changes?  
116 E: I feel optimistic most of the time. Hm? (.)

117 A: Have yoga affected your emotional well being in any way?  
118 E: Well, because when you concentrate, you not, I mean I do try to meditate as  
119 well. The thing is what we do we overthink backwards and forwards, oh what  
120 happened yesterday what will happen tomorrow or (.) and we don't get in touch  
121 with ourselves, hm? (.) And when you do yoga for that hour you just doing yoga for  
122 that hour hm? You are not yesterday or tomorrow. Hm? And I think it helps when  
123 you get it because you get an hour of having your mind blank. Your mind  
124 is blank isn't ? When I am doing yoga with you my mind is blank. I am just trying  
125 to do what you are doing and I am not thinking. I am in a moment. If you live in a  
126 moment I think that helps your brain. I am into yoga (.) You know I travelled a lot  
127 when I was younger around the world. And, when you get up every day you cant  
128 think about yesterday or tomorrow. All you think about, you are in India or

129 somewhere and you are really in a moment!é And what happens you are in a  
130 moment and is so always all these people all these good things in harmony come  
131 towards you, cause you are, you are there now. But it is hard to get back to it, hm? I  
132 know it is there, but you loose it. I always call it being in harmony with the  
133 universe or something like that. Only you loose it a lot, don't you. Because when I  
134 am doing my yoga I am not using my brain. I am not, I am just in the moment.

135 A: Do you think you bring that sort of feeling outside the class?

136 E: I do try, you know. Sometimes my sister winds me up and then I get all, you  
137 know, agitated. I am not, you know (.) sometimes you get agitated because you  
138 know, I am only a human. I try my best; I try my best to live in a harmony but  
139 sometimes I loose it ha ha !(h) I aspire, I can't do it, but I aspire to an ideal. I try  
not  
140 to dislike someone or hate someone cause it is going to ruin my brain. (.)

141 A: And how does it connect to the practice of being in a moment?

142 E: It is just like, what do they say. (1)

143 A: To summarise...

144 E: I am getting strength in my leg. These exercises, you know (.) when you get  
older  
145 you get stiff. You know, an so you are using, like you are lifting your legs and  
146 open your body more when you do yoga, don't you. You are opening yourself up. I  
147 think any exercise is really good for me.

148 A: You think this openness, how does it affect you, how do you feel after that?

149 E: Well it does, cause if you go on to a bad stage once, I have noticed (.) and I  
150 was walking like that (with the spine curled in) and I had to say, oh you give, you  
151 know, you have to show yourself, cause you give yourself away by body language.

152 Hm? (.)You know, opening up, also I've read that, you know, that if you, even a  
dog

153 will keep away from you if you do that (open up), stick that out (showing the  
154 pelvis), stick your female pelvis out, and a dog won't come near you, because you  
155 are (.) you know (.) more confident. It does help you. (0.2) The way you stand tells  
156 you a lot about yourself, doesn't it, when I am walking along and there are youths  
157 on the pavement I never walk away from them I go right through them and say  
158 "Excuse me!" because you've got to (.), you've got to be (.) you've got to be  
havent'  
159 you, you mustn't be mick. When you are standing like this you are showing that  
160 you are not, are you? (showing open body position) (.) They say as well, that if  
161 you walk like that you are more likely to get mugged hm? (.)  
162 A: It is terrible, isn't ?  
163 E: It is. I suppose we are animals, it is horrible but you know. There is horrible  
164 people there and they recognize the weak. Hm? (.) Let's not talk about this. Ha ha  
165 A: It is interesting what you are saying.  
166 E: I think that the body is really important, don't you? Also you don't know that  
167 you are observing all the time (.) When you meet someone, although you don't  
168 know it, you are reading their body language (0.5) When you used to meet up a lot  
169 of people you read their body language, some people are good at it, hm? And  
170 even if you don't know you are doing it, you do (.)  
171 A: And how do you think it helps you if your body language, that other people  
172 read your body language as someone confident? What impact it has on your life?  
7  
173 E: It's got to help isn't? People can get through life (.) It is just survival I suppose!  
174 you could say. Hm? (.) You see, I think about thinks like this.  
175 A: I like your thinking!  
176 A. Have you done any other exercises in the past 15 weeks?  
177 E: Yes, I have done the chair exercises on Mondays, starting a couple of weeks

178 before yoga.

179 A: Is there anything you like most and least in the class?

180 E: Oh, I don't know. Sometimes when you stand up you wish you could seat  
181 down, but that is life. We all want to seat down. Nothing, nothing that I can think  
182 of.

183 A: Any pose you like or dislike in particular?

184 E: I don't like that on (seated twist). I find it hard. I find it really hard. That is the  
185 one I really don't like. (.) Maybe it is because I think I am not doing it properly.  
186 It does hurt a bit. But maybe it means I should do it a bit more. But you cant say it,  
187 you cant say I don't like that. Maybe the one you don't like is the one you've got  
188 to do more? Ha ha maybe the one you don't like is the one you've got to do moreé,  
189 is that correct?

190 A: Is there anything else you would like to add?

191 E: I have enjoyed the conversation. I try my best. Also, the thing about doing this  
192 is that you have moral code, be in harmony with the universe. Don't look forward  
193 don't look back. I have no fear.. I remember that poem. You know, the innocent (.)  
194 (.) Don't look forward, don't look backwards. You know, if someone annoys you  
195 you've got to let go, you've got to let go of the past, haven't you. (.) Yoga and  
196 meditation is connected isn't?

197 A: How do you think it is connected?

198 E: It all comes in the same route.

199 A: Hm..

200 E: I like being on my own. You wanna relationship, you know but when you get to  
201 a certain stage you appreciate living on your own, is quite independent.

202 A: Cause you are living on your own. Do you?

203 E: I do, I've got one friend, Roger. My ex boyfriend.

204 (1)