7.0 STUDY III: EEFCT of YOGA BASED INTERVENTION ON PSYCHO-SPIRITUAL WELLBEING AMONG FRENCH PROFESSIONALS

7.1 INTRODUCTION

Burn-out and stress are present in up to a quarter of all professionals due to the demanding situation. Chronic occupational stress has a negative impact on many aspects of professionals' psychological and physical health, and it is a major cause for concern in the context of the workplace. There is a mountain of evidence that stress among professionals is the root cause of rising rates of depression, falling levels of job satisfaction, and increased levels of psychological distress (Vidotti et al., 2019). Further, emotion regulation is a significant psychological factor linked to professional well-being (Weilenmann et al., 2018). Furthermore studies have shown that professional participate in mindfulness training report higher levels of happiness and lower levels of stress (Chmielewski et al., 2021).There is a lot of potential in the study of spirituality in the fields of human resource management and organisational behavioral science.Workplace spirituality is a popular research topic that is gaining popularity and importance among professionals. In times of stress, spirituality is a major source of coping mechanisms. Professionals' work stress and behavioral/emotional outcomes may be mediated by their spiritual coping strategies (Perera et al., 2018). Further, professionals may experience mental and emotional exhaustion as a result of multitasking so many priorities. Because of the pressures, the incumbent is at a greater chance of burnout, stress, and maladaptive coping, all of which have the potential to have an impact not only on their own health and well-being but also on the quality of

their professional relationships and their output at work.However, the analysis of interventions for improving the mental health of professionals, it appears that cognitive-behavioral therapy, yoga, relaxation techniques, and mindfulness practises are beneficial.

The need for this study arises from the growing interest in understanding the impact of yoga-based interventions on psychological and spiritual well-being among adults. Yoga is a multi-faceted system of mind-body practises that includes physical postures, breathing exercises, techniques for deep relaxation, emotion regulation strategies, mindfulness techniques, meditation, and an increased sense of spiritual awareness.Yoga, an ancient Indian practice, has been widely adopted in Western cultures and is increasingly being used as a complementary therapy for various mental health conditions. However, despite the growing popularity of yoga, there is a lack of research specifically examining its effects on French professionals.French professionals, like many other professionals around the world, often experience high levels of stress and burnout due to the demands of their work and personal lives. Stress can have a negative impact on one's mental and physical health, and can lead to a number of conditions such as anxiety, depression, and insomnia. Therefore, finding effective ways to manage stress is crucial for maintaining overall well-being.Yoga, with its emphasis on physical postures, breathing techniques, and meditation, has been shown to have a positive impact on stress, anxiety, and depression. Additionally, yoga may also help improve emotion regulation, mindfulness, and spiritual well-being. Therefore, this study aimed to examine the effects of yoga-based training on psycho-spiritual well-being among French professionals, with the goal of providing evidence on the potential benefits of yoga for this population.

The hypothesis of this study is that French professionals who receive yoga-based training will experience significant improvements in their psycho-spiritual well-being, including a reduction

in stress levels, an improvement in their emotion regulation abilities, higher levels of mindfulness, higher levels of spiritual well-being, and higher levels of happiness. The study aims to test this hypothesis by comparing the levels of these variables in a group of French professionals who receive yoga-based training to a control group of French professionals who do not receive such training. By examining the differences in psycho-spiritual well-being between these two groups, the study aims to provide evidence for the effectiveness of yoga-based interventions in improving the well-being of French professionals.

7.2 SUBJECTS AND METHODS

7.2.1 Design

The design of the study was a two-group pre/post-intervention design, which meant that there were two groups of participants: an experimental group that received the yoga-based intervention and a control group that did not receive the intervention. The study included three data collection points, which were moments in time when data was collected from the participants. The first data collection point, Pre, was prior to the intervention. This served as a baseline measurement of the variables being studied, such as stress levels, emotion regulation, mindfulness, spiritual well-being, and happiness, for both the experimental and control groups. The second data collection point, Mid, was at the conclusion of the 8-week intervention. At this point, the experimental group had completed the yoga-based intervention, while the control group had not received any intervention. The third data collection point, Post, was a 3-month follow-up. This served to measure the sustainability of the changes observed at Mid.

7.2.2 Inclusion Criteria

- French professionals between the ages of 20-65 years

- Free from any physical or psychological conditions that would prevent them from participating in the yoga intervention
- Willingness to participate in the 8-week yoga program and attend at least 80% of the sessions
- Willingness to complete the questionnaires and provide informed consent
- No prior experience with yoga or similar practices

7.2.3 Exclusion Criteria

- Current participation in any other form of psychological or stress-reduction interventions
- Self-reported history of major medical or psychiatric disorders that would affect their ability to participate in the study.
- Pregnancy or planning to become pregnant during the study period
- Current or recent use of psychoactive medication

7.2.4 Sample Size Calculation

Using G=Power, we calculated the sample size needed for our study based on the variable of stress and the effect of yoga on reducing stress levels using a two-way mixed ANOVA design. The following parameters were used in the calculation:

- Effect size: Cohen's f = 0.25 (medium effect size) (medium effect size), derived from prior research on the effectiveness of yoga in reducing stress. Studies such as Cramer et al. (2018) and Riley & Park (2015) have reported significant reductions in stress levels through yoga interventions, justifying the medium effect size.
- Significance level (alpha): 0.05
- Statistical test: two-way mixed ANOVA

- Power (beta): 0.80
- Number of groups: 2 (yoga group and control group)
- Number of repeated measures: 3 (pre-intervention, mid-intervention and post-intervention)
- Allocation ratio: equal allocation (1:1)

Based on these parameters, GPower calculated that a sample size of 20 participants per group (total of 40 participants) would be required for our study to achieve a power of 0.80.To account for potential dropouts during the study, an additional 28 samples were added to the sample size calculation for a total of 68 participants (33 in the yoga group (one dropout due to change of location) and 34 in the control group).

7.2.5 Randomization

In this study, randomization was achieved through the use of sealed envelopes. This is a method where participants were assigned to either the experimental or control group by drawing the sealed envelopes. The researcher opened the envelopes and assigned the participants to the experimental or control group based on the name they drew from the envelope.

7.2.6 Recruitment of participants

Flyers were used to recruit participants by advertising the study in public places such as universities, hospitals, community centers, and libraries. This approach helped to reach a wide range of potential participants who were interested in the study and met the inclusion criteria. Snowball technique was also used to recruit participants. This technique was used by asking the participants who had already agreed to participate in the study to refer other individuals who met the inclusion criteria and were interested in the study. This approach helped to recruit

participants who were not reached by the flyers but were known to the participants who had already agreed to participate. Both techniques helped to recruit a diverse sample of participants who were interested in the study and met the inclusion criteria.

7.2.7 Procedure

Covering letter containing information about the aim of the study and an online version of the scales were shared with the sample population via electronic format. Google Form was created to collect the data for this study. The form included both the questionnaires measuring the psycho-spiritual well-being and demographic information such as age, gender, education level, occupation, and current physical and mental health status. The form was designed to be user-friendly and easy to complete. The questionnaires were in multiple-choice format, and the demographic information was collected through drop-down menus or open-ended questions. This method of collecting data using a Google Form allowed for easy, efficient, and cost-effective data collection, as it could be completed online and the data was automatically stored in an Excel file. Both the yoga and control groups completed the scales three times (at pre, mid, and post). The data were automatically and anonymously collected and stored in an Excel file by the Google Form for further analysis.

7.2.8 Measures

Perceived Stress Scale (Cohen et al., 1983)

The Perceived Stress Scale (PSS-10), developed by Cohen et al. (1983), is a widely used psychological instrument for measuring the perception of stress. This 10-item scale assesses the degree to which individuals perceive situations in their lives as unpredictable, uncontrollable, and overwhelming over the past month. Each item is rated on a five-point Likert scale, ranging from 0 (never) to 4 (very often). The scale includes questions like, “In the last month, how often

have you felt nervous and stressed?" and "In the last month, how often have you felt that things were going your way?" Positively stated items are reverse-scored, and the total score is obtained by summing all items, with higher scores indicating higher perceived stress. The PSS-10 is a reliable and valid tool that provides valuable insights into individual stress levels, making it suitable for use in diverse populations and research contexts.

Spiritual Health and Life-Orientation Measure (Gomez & Fisher, 2005)

SHALOM, Spiritual Well-Being questionnaire has scales for personal, communal, environmental, and transcendental spiritual well-being. In all there are 20 items, with five items for each of the four scales (Gomez & Fisher, 2005). To allow for self-ratings of these items using a five-point Likert scale, ranging from very low (rated 1) to very high (rated 5). This scale is comprised of 20 items—five items for each domain, asking respondents to evaluate how each item reflects their experience most of the time: personal (e.g. meaning in life), communal (e.g. love for other people), environmental (e.g. oneness with nature) and transcendental (e.g. oneness with God). Each item requires the respondents to consider: (a) How important the item is for optimal spiritual health, in their opinion? And (b) how this item reflects their daily personal experience?. SHALOM is a valid and reliable instrument for assessing spiritual health.

Freiburg Mindfulness Inventory (Trousselard et al., 2010)

Mindfulness was measured on unidimensional factor, i.e. being present using the Freiberg Mindfulness Inventory (FMI). The 14-item self-reported questionnaire uses a 4-point Likert scale rating from 1 (Rarely) to 4 (Almost always). Scores range from 14 to 56, with higher scores indicating higher levels of mindfulness. This scale has robust psychometric properties, the internal reliability scores (Cronbach's alpha) was.86 (Trousselard et al., 2010).

Subjective Fluctuating Happiness Scale and Subjective Authentic-Durable Happiness Scale (Dambrun et al., 2012)

The scale consisting of 23 items (Dambrun et al., 2012) to assess these two types of Happiness: 10 items of the scale are related to the domains of Subjective Fluctuating Happiness (SFHS) and 13 items deal with the dimension of Subjective Authentic-Durable Happiness (SA-DHS). Fluctuation refers to the degree of change in Happiness overtime (e.g., "I have times when I swing from moment sof total bliss to much less satisfying moments") indicate how much they agreed (7) or disagreed (1). Authentic-Durable Happiness, refers to assess the current state of Happiness (e.g.,"fulfilment") on a 7-point scale, ranged from1 (very low) to 7 (very high). A single composite score for Happiness was computed by averaging responses to the 13 items (SA-DHS) and 10 items (SFHS) separately. Higher scores reflecting greater SFHS and SA-DHS. The reliability of this scale was satisfactory (SFHS; $\alpha = .92$) and (SA-DHS; $\alpha = .95$).

Satisfaction at work &importance of Spirituality-Religions

Visual analogue scale of 1–10 was used to indicate, how happy the person at present with your job and the level of Satisfaction at work. The ten-point scale is ranged from 1 (very low) to 10 (very high). One end (very low) corresponds to a very low regular level of satisfaction at work, and the other end (very high) corresponds to a very high regular level of satisfaction at work. Participants rated their level of Satisfaction at work for the last 3 months between these two extremes. The importance of Religion ("Please indicate how important religion is in your life") and Spirituality ("Please indicate how important spirituality is in your life"), which were assessed on five-point Likert scales (from 1 = very low to 5 = very high).

7.2.9 Intervention

Intervention Development

The yoga intervention was carefully designed to integrate the principles and practices of Raja Yoga, Hatha Yoga, Bhakti Yoga, Karma Yoga, and Jnana Yoga, creating a holistic framework to address psycho-spiritual well-being. This multi-dimensional approach not only drew from the wisdom of ancient yogic traditions but also aligned seamlessly with contemporary psychological insights, offering a balanced approach to external actions (Bahiranga Sadhana) and internal introspection (Antaranga Sadhana).

Philosophical Foundations and Cultural Integration

Western psychology, rooted in the Judeo-Christian tradition, often equates the mind with the spirit or soul, focusing on mental health through cognitive, behavioral, and emotional frameworks. In contrast, Indian psychology, deeply influenced by ancient traditions like Hinduism, Jainism, and Buddhism, treats the mind as a tool to be disciplined, transcended, and integrated. Practices such as samyamana (concentration, meditation, and absorption) and samadhi (union or self-realization) regulate mental fluctuations (chitta vrittinirodhah), fostering transcendence and holistic well-being.

While Western psychology emphasizes intrapsychic optimization and emerging trends like positive psychology, mindfulness, and emotional intelligence, Indian psychology complements these with its meta-theoretical framework, integrating ego deconstruction, altruism, and selfless work to achieve inherent freedom and happiness. Modern bio-psycho-social models, along with their spiritual extensions, resonate with the holistic approach of yoga by emphasizing biological, psychological, social, and spiritual dimensions. This intervention effectively bridged these

frameworks, introducing participants to the eightfold path of Raja Yoga, where external practices (Bahiranga Sadhana) and internal practices (Antaranga Sadhana) converge to quiet the mind and promote psycho-spiritual well-being.

Raja Yoga and Its Non-Sectarian and Scientific Nature

Raja Yoga, as articulated by Swami Vivekananda and rooted in the Yoga Sutras of Patanjali, provided the foundation for this intervention. Its structured and scientific framework progresses systematically from external disciplines—ethical guidelines (Yamas) and personal observances (Niyamas)—to internal practices such as concentration (Dharana), meditation (Dhyana), and absorption (Samadhi). These practices aim to calm the mind (Chitta Vritti Nirodha), steady the senses (sthiramindriyadharanam), and lead to the highest state of blissful realization of the true self (Asamprajnyata Samadhi).

Ancient texts like the Bhagavad Gita, Yoga Vasistha, and the Upanishads reinforced this philosophy, describing yoga as the calming of the mind and alignment with a higher purpose—whether through devotion to Ishwara (God) or a self-determined goal. The universal and non-religious principles of Raja Yoga ensured its accessibility to individuals from diverse cultural and professional backgrounds, making it particularly relevant for French professionals.

Integrated Yogic Practices in the Intervention

The intervention included a comprehensive blend of Raja Yoga, Hatha Yoga, Bhakti Yoga, Karma Yoga, and Jnana Yoga:

Raja Yoga emphasized self-discipline, mental clarity, and spiritual growth through ethical principles, meditative focus, and inner awareness.

Hatha Yoga provided physical readiness through asanas and pranayama, laying a foundation for deeper spiritual practices.

Karma Yoga trained participants in selfless action and external engagement, fostering discipline and a sense of duty. The distinction between Karma as Bahiranga Sadhana (external practice) and Yoga as Antaranga Sadhana (internal practice) is central to understanding the complementary roles of action and introspection in achieving psycho-spiritual well-being. Karma Yoga, as a form of Bahiranga Sadhana, emphasizes selfless action and external engagement, training individuals to act without attachment to results while cultivating discipline, humility, and a sense of duty. These practices establish a stable foundation, preparing the mind for deeper introspection. In contrast, Antaranga Sadhana focuses on inner transformation through practices such as Dharana (concentration), Dhyana (meditation), and Samadhi (unity). These internal disciplines, rooted in Patanjali's Yoga Sutras, aim to regulate mental fluctuations (chitta vrittis), foster self-awareness, and align the individual with their higher self. Together, these approaches create a comprehensive framework for addressing the physical, mental, emotional, and spiritual dimensions of well-being. Jnana Yoga encouraged intellectual exploration and self-reflection, helping participants balance the dynamics of ego and soul.

Bhakti Yoga supported emotional regulation by cultivating acceptance, self-awareness, and mastery of emotional expression.

This integration created a framework that addressed the physical, mental, emotional, and spiritual dimensions of well-being, demonstrating how Karma Yoga’s external focus and Raja Yoga’s internal focus work together to guide the mind toward a spiritual direction.

Intervention Structure and Practical Applications

The intervention spanned eight weeks, with sessions held once a week on Friday evenings and all day Saturdays. Each 12-hour session featured warm-up exercises, breathing techniques, meditation, and reflective workshops. The three modules covered key yogic teachings and practices:

Module 1: Introduced the foundational principles of yoga, including the Five Bodies Theory, Yamas, and Niyamas. Karma Yoga workshops explored the Tri-Guna theory (Tamas, Rajas, Sattva), and stories such as "The Old Lady" emphasized inner happiness.

Module 2: Focused on Raja Yoga's meditative practices and Bhakti Yoga's emotional regulation. Participants engaged in yogic walking, MEMT (Mastering Emotions Technique), and vibrational awareness through the "Emoto" presentation.

Module 3: Highlighted Jnana Yoga's intellectual exploration and the Purusharthas (Dharma, Artha, Kama, Moksha). Practices included laughing yoga, advanced asanas, and meditative silence. Workshops on life stages and goals provided a deeper understanding of personal and professional growth.

Interactive stories like "The Four Wives," "Renki the Elephant," and "The Two Wolves" made learning relatable, while meditative practices like Trataka (candle gazing) and Osmotic Meditation deepened introspection.

Outline description of intervention described below. Further detailed description of the session content, , is provided in Appendix IV.

Table 7.1: Detailed Description of Friday Module 1

Time	Activity	Duration

5.00 – 7.30 PM	1. Presentation of the study & people & organization (rules) – Consent form	25’
	2. Main ideas	15’
	3. Yoga meaning and five bodies theory	10’
	4. Yogic Practice: Instant Relaxation Technique (IRT)	5’
	5. Star Workshop: connect participants to yoga & through yoga to their self & own life	15’
	6. Presentation – Model: The star of a successful life (R. Dilts)	5’
	7. Presentation of PPT “CHAMELEON”	10’
	8. Presentation of PPT “Game of PASSES”	10’
	9. Presentation of video sequence: The Legend of Bagger Vance	15’
7.30 – 8.30 PM	Dinner time	60’
8.30 – 10.00 PM	10. Story: “Awareness! The Secret of Happiness”	20’
	11. Practice: Yoga Nidra 1	60’
	12. Photos of rock & balloon: action in relaxation…fly and float…elevation, expansion	10’

Table 7.2: Detailed Description of Saturday Module 1

Time	Activity	Duration
7.30 – 8.30 AM	13. Morning Yogic Practices	60’
	14. Breathing exercises	
	15. Loosening exercises - Asana	
8.30 – 9.30 AM	Breakfast	60’
9.30 – 12.30 AM	16. Story: "The old lady" - where to find happiness!	40’

	17. Karma Yoga: Path of action and attitude at work	
	17.1 Presentation	40’
	17.2 Karma Yoga Workshop - Theory Tri-guna - Tamas, Rajas, Sattva	40’
12.30 – 1.45 PM	Lunch time	75’
1.45 – 6.00 PM	19. Walking in nature with 5 opened senses: Search for reality	60’
	20. Jnana Yoga: Path of intellect	
	20.1 Presentation	45’
	20.2 Jnana Yoga Workshop: Soul & Ego (R. Dilts)	45’
	BREAK	15’
	20.3 Jnana Yoga Workshop: Happiness Analysis	45’
	21. Story: "Attitudes and Lifestyles"	10’
	22. Story: "Swimology"	10’
	23. Yogic Practices - Meditation & silence	20’
	24. Conclusion	15’
	25. Follow up and commitment	10’

Table 7.3: Detailed Description of Friday Module 2

Time	Activity	Duration
5.00 – 7.30 PM	1. Welcome & Starter	45’
	2. Yogic Practices	
	2.1 Warm up - Stretching & relaxing movements	45’

	2.2 Review: Stay quiet & breathe + Alternating breathing	15’
	2.3 Osmotic Meditation 1 & 2 (Pr. S. Sharma)	30’
	3. Presentation of PPT "Reality Power 10": What do you see? Microcosm & Macrocosm	15’
7.30 – 8.30 PM	Dinner time	60’
8.30 – 10.00 PM	4. Story: The 4 wives - body, possessions, status, wealth, family and friends, soul	30’
	5. Trataka practices: Preparatory eye exercises & Jyoti Trataka	60’

Table 7.4: Detailed Description of Saturday Module 2

Time	Activity	Duration
6.00 – 7.30 AM	6. Morning Yogic Practices: Warm-up & stretching of the whole body + Movements	60’
8.30 – 9.30 AM	Breakfast	60’
9.30 – 12.30 PM	7. Story: Renki the elephant – emotion, express, and control	10’
	8. Raja Yoga: Path of willpower	
	8.1 Presentation	40’
	8.2 Raja Yoga Workshop: Yama-Niyama	40’
	9. Yoga Practices:	
	9.1 Yoga session: Breathing exercises, Loosening exercises, Asana (Set A – S-Vyasa)	60’
	9.2 Osmotic Meditation 3-4 (Pr. S. Sharma)	30’
12.30 – 1.45 PM	Lunch time	75’
1.45 – 6.00 PM	10. Practice: Path of evolution (yogic walking)	40’
	11. Bhakti Yoga: Path of emotion	
	11.1 Presentation	45’

	11.2 Bhakti Yoga Workshop: Asuri & Daiva	45’
	12. Practice: MEMT – MASTERING EMOTIONS TECHNIQUE (4 steps)	30’
	BREAK	15’
	13. Pranayama Practices	45’
	14. Story: The 2 wolves – fight between emotions	10’
	15. Conclusion	15’
	16. Follow up and commitment	10’

Table 7.5: Detailed Description of Friday Module 3

Time	Activity	Duration
5.00 – 7.30 PM	1. Welcome & Starter	45’
	2. Yogic Practices	
	2.1 Warm up - Stretching & relaxing movements (4 back practices)	45’
	2.2 Review: Stay quiet & breathe + Alternating breathing	15’
	2.3 Osmotic Meditation 5 & 6 (Pr. S. Sharma)	30’
	3. Presentation of PPT "Emoto": Effects of vibrations to the water	15’
7.30 – 8.30 PM	Dinner time	60’
8.30 – 10.00 PM	4. Mudras: Subtle and supra subtle energy	30’
	5. Candle light experiment for inner evocation (Pr. S. Sharma)	60’

Table 7.6: Detailed Description of Saturday Module 3

Time	Activity	Duration
7.30 – 8.30 AM	6. Morning Yogic Practices: Warm-up & stretching of the whole body + Movements	60’
8.30 – 9.30 AM	Breakfast	60’
9.30 – 12.30 AM	7. Laughing Yoga Practice	30’
	8. Four goals of life: dharma, kama, artha, moksha	
	8.1 Presentation of the Purusharthas – Why these 4 goals?	15’
	8.2 Goals of life Workshop - These goals and you	30’
	9. Yoga session: Breathing exercises - Loosening exercises - Asana (Set B – S-Vyasa)	60’
	10. Four stages of life – The meaning & direction of my life	
	10.1 Presentation	15’
	10.2 Four stages of life Workshop	30’
12.30 – 1.45 PM	Lunch time	75’
1.45 – 6.00 PM	11. Osmotic Meditation 7 & 8 (Pr. S. Sharma)	30’
	12. Inputs: Links with Karma Yoga path	
	12.1 Holistic process (P. Papillon, YIC, 2007)	20’
	12.2 Other models	30’
	BREAK	15’
	13. Stories: Wealth & knowledge – Starfish - the eye’s bird - If	20’
	14. Parameters are taken	40’
	15. Star Workshop	60’
	16. Conclusion – Certificate	30’
	17. Follow up and commitment	10’

7.3 RESULTS

The data collected from the study were analyzed using the statistical software R. The data were presented as mean and standard deviation (Mean [SD]). A two-way mixed ANOVA was used to analyze the data, with time (pre, mid, and post) as the within-subject factor and groups (yoga vs control) as the between-subject factor. The normality of the data was verified using the Shapiro-Wilk test, and assumptions of sphericity were verified using Mauchly's test. In cases where the assumptions were violated, the Greenhouse-Geisser correction was applied. The homogeneity of variances was also assessed using Levene's test of homogeneity of variance. Additionally, the homogeneity of covariances was assessed using Box's test of equality of covariance matrices. This was done to ensure that the variances and covariances of the groups were similar, and that the data met the assumptions of the ANOVA.

Table 7.7: Demographic details of the participants

Group		**Control**	**Yoga**	**p**
Age	Mean (SD)	47.8 (9.5)	50.3 (7.2)	0.241
Satisfaction at Work	Mean (SD)	6.2 (1.9)	5.8 (2.1)	0.363
Importance of religion	Mean (SD)	2.7 (1.5)	2.4 (1.2)	0.394
Importance of Spirituality	Mean (SD)	3.8 (1.3)	3.7 (1.5)	0.780
Gender	Female	21 (61.8)	26 (78.8)	0.209
	Male	13 (38.2)	7 (21.2)	
Marital Status	Single	7 (20.6)	4 (12.1)	0.400
	Divorce	5 (14.7)	9 (27.3)	
	Married	21 (61.8)	19 (57.6)	
	Separated	1 (2.9)		
	Widower		1 (3.0)	

Table 7.7: Demographic details of the participants

Group		**Control**	**Yoga**	**p**
Education Level	Bac +2	7 (20.6)	6 (18.2)	0.411
	Bac +3	3 (8.8)	5 (15.2)	
	Bac +4	5 (14.7)	5 (15.2)	
	Bac +5	11 (32.4)	12 (36.4)	
	Bac +8	3 (8.8)		
	Baccalaureate	3 (8.8)	5 (15.2)	
	Lower than Baccalaureate	2 (5.9)		
Position	Supervisor	8 (23.5)	9 (27.3)	0.829
	Manager / executive	18 (52.9)	15 (45.5)	
	Top / senior executive	8 (23.5)	9 (27.3)	

Table 7.8: Means and standard deviations for a function of a 2(group) X 3(time) design

	Pre		Mid		Post	
Variables	**M**	**SD**	**M**	**SD**	**M**	**SD**
Reappraisal						
Yoga	29.85	6.83	34.52	4.60	33.45	5.44
Control	30.18	7.09	30.71	5.97	30.24	5.61
Suppression						
Yoga	12.79	4.69	12.85	4.53	12.27	4.64
Control	12.29	4.69	11.94	4.66	11.53	3.78
Mindfulness						
Yoga	38.91	6.66	44.55	5.37	42.70	6.31
Control	38.94	6.46	38.79	6.40	39.21	7.50
Stress						
Yoga	20.27	5.52	16.42	4.23	16.30	5.74
Control	20.53	7.13	20.47	5.97	19.94	6.55
Spiritual AM						
Yoga	17.35	2.30	17.91	1.85	17.75	1.97
Control	16.21	2.69	16.18	2.42	16.07	2.71
Spiritual BM						
Yoga	13.13	2.93	14.49	2.56	14.25	2.65
Control	13.36	2.89	13.52	2.75	13.42	3.11
Authentic Happiness						
Yoga	4.17	1.25	4.86	0.78	4.85	0.94
Control	4.31	1.16	4.31	1.06	4.44	1.06
Fluctuating Happiness						
Yoga	3.67	1.14	3.10	1.13	3.12	0.97
Control	3.95	1.40	3.81	1.64	3.58	1.30

Note:M and SD represent mean and standard deviation, respectively.

Table 7.9: Anova 2(group) X 3(time) interaction

Variables	2 (Yoga vs Control) X 3(Pre vs Mid vs Post) Interaction	Between(Yoga vs Control)		
		Pre	Mid	Post
Reappraisal	F(1.78,115.8) = 4.25, p = 0.02, eta2[p] = 0.061	0.848	0.0048	0.0202
Suppression	F(2,130) = 0.08, p = 0.93, eta2[p] = 0.001	0.67	0.42	0.47
Mindfulness	F(2,130) = 10.37, p = <0.0001, eta2[p] = 0.138	0.984	0.00018	0.0435
Stress	F(2,130) = 4.6, p = 0.012, eta2[p] = 0.066	0.87	0.0022	0.0186
Spiritual AM	F(2,130) = 1.27, p = 0.28, eta2[p] = 0.019	0.0658	0.0016	0.0053
Spiritual BM	F(2,130) = 3.85, p = 0.024, eta2[p] = 0.056	0.75	0.14	0.25
Authentic Happiness	F(1.82,118.01) = 5.6, p = 0.006, eta2[p] = 0.079	0.653	0.019	0.101
Fluctuating Happiness	F(2,130) = 1.59, p = 0.21, eta2[p] = 0.024	0.377	0.043	0.106

Table 7.10: Pair wise comparison 2 (group) X 3(time)

Variables	Within(Yoga)			Within(Control)		
	Pre-Mid	Mid-Post	Pre-Post	Pre-Mid	Mid-Post	Pre-Post
Reappraisal	0.00048	0.028	0.645	1.	1.	1.
Suppression	1	1	1	1	1	1
Mindfulness	<0.0001	0.002	0.182	1.	1.	1.
Stress	0.002	0.002	1.	1.	1.	1.
Spiritual AM	0.16	0.43	1.	1.	1.	1.

Variables	Within(Yoga)			Within(Control)		
	Pre-Mid	Mid-Post	Pre-Post	Pre-Mid	Mid-Post	Pre-Post
Spiritual BM	0.002	0.011	1.	1.	1.	1.
Authentic Happiness	0.00061	0.006	1.	1.	1.	0.753
Fluctuating Happiness	0.006	0.023	1.	1.	0.114	0.699

7.3.1 Stress

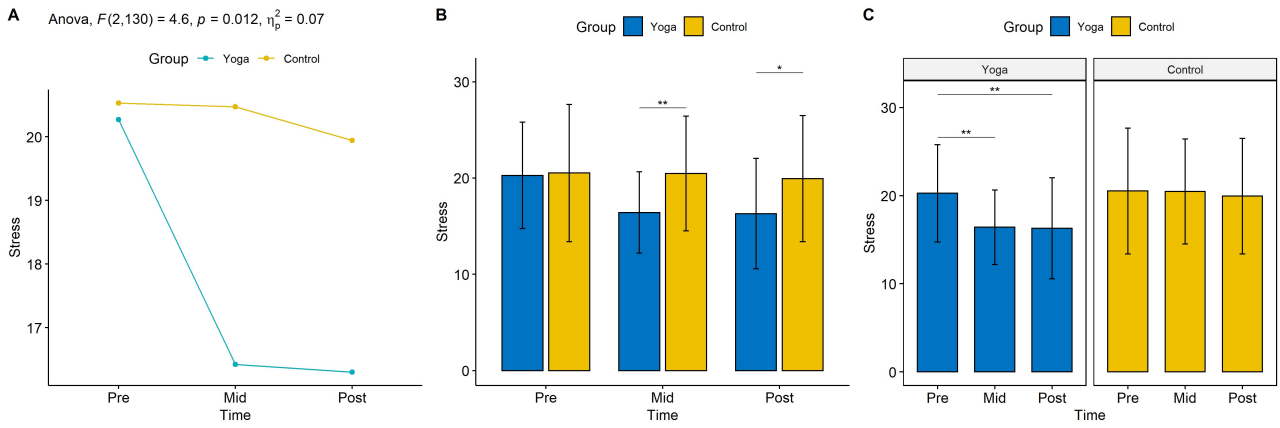

Figure 7.1: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Stress)

There was a statistically significant interaction between the groups and time on Stress, F(2, 130) = 4.60, p < 0.012, partial eta2 = 0.066. The main effect of time showed a statistically significant difference in mean Stress,at the different time points F(2, 130) = 6.46, p < 0.002, partial eta2 = 0.090. The main effect of group showed that there was statistically significant difference in mean Stress between groups F(1, 65) = 4.74, p < 0.033, partial eta2 = 0.068. Considering the Bonferroni adjusted p-value (p.adj), it can be seen that the simple main effect of group was, significant at mid (p < 0.002) and significant at post (p < 0.019), not significant at pre (p < 0.870). There was a statistically significant effect of time on Stress for Yoga group (p < 0.001). It can be observed that there was a statistically significantly different, the mean Stress between Pre to Mid time points (p < 0.002) and Pre and Post time points(p < 0.002) following the Yoga. Howeverthere was no statistically significantly different, the mean Stress between Mid and Post

time points following the Yoga (p < 1.000). Further, there was no statistically significant effect of time on Stress for Control group (p < 0.797).

7.3.2 Reappraisal

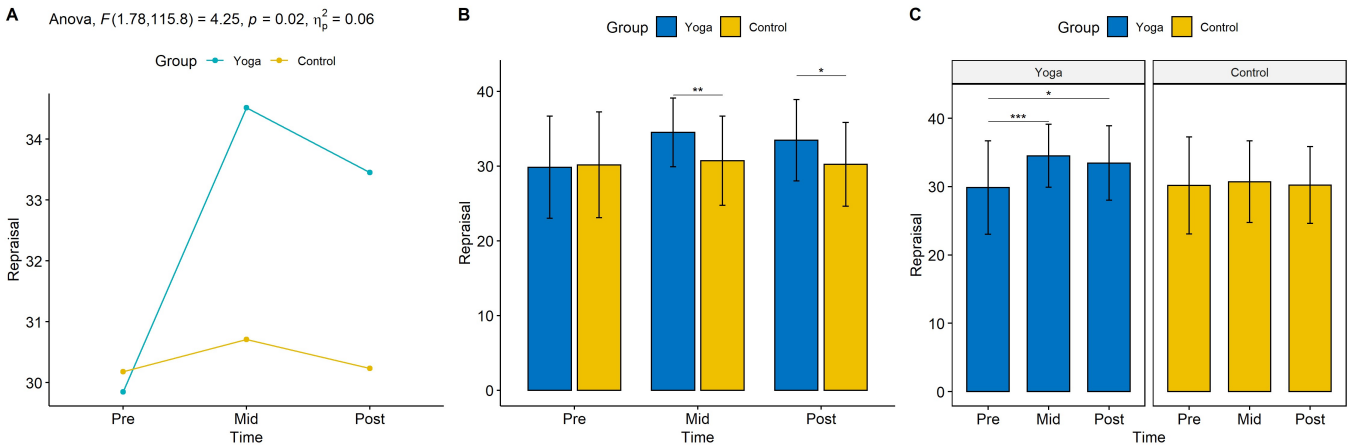

Figure 7.2: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Reappraisal)

There was a statistically significant interaction between the groups and time on reappraisal, F (2, 130) = 4.25, p < 0.016, partial eta2 = 0.061. The main effect of time showed a statistically significant difference in mean reappraisal, at the different time points F(2, 130) = 6.05, p < 0.003, partial eta2 = 0.085. The main effect of group showed that there was no statistically significant difference in mean reappraisal between groups F(1, 65) = 3.68, p < 0.060, partial eta2 = 0.054. Considering the Bonferroni adjusted p-value (p.adj), it can be seen that the simple main effect of group was significant at mid (p < 0.005), post (p < 0.020) and not significant at pre (p < 0.848) , There was a statistically significant effect of time on Reappraisal for Yoga group(p < 0.001). Furthermore, it can be observed that there was a statistically significantly different, the mean Reappraisal from Pre to Mid time points (p < 0.001) and Pre to Post time points (p < 0.028). However there was no statistically significant effect of time on Reappraisal for Control group (p < 0.865).

7.3.3 Suppression

There was no statistically significant interaction between the groups and time on Suppression, F(2, 130) = 0.08, p < 0.927, partial eta2 = 0.001. The main effect of time showed no statistically significant difference in mean Suppression, at the different time points F(2, 130) = 0.79, p <

0.457, partial eta2 = 0.012. The main effect of group showed that there was no statistically significant difference in mean Suppression between groups F(1, 65) = 0.61, p < 0.436, partial eta2 = 0.009.

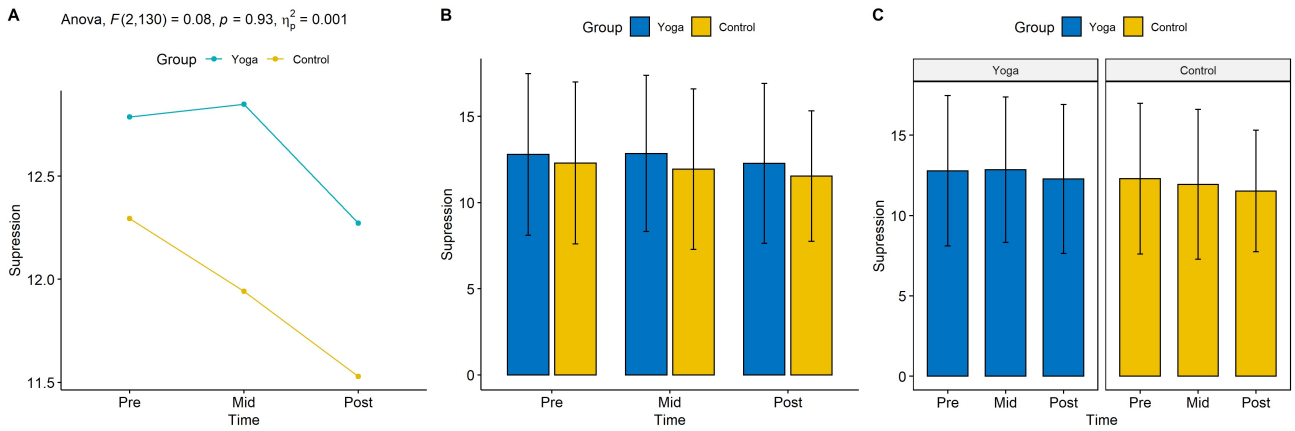

Figure 7.3: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Suppression)

7.3.4 Mindfulness

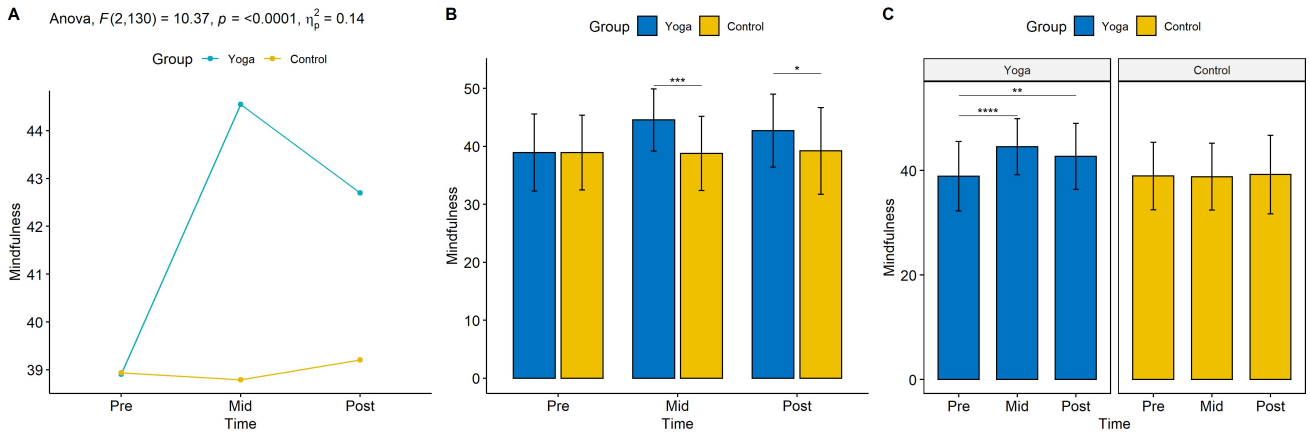

Figure 7.4: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Mindfulness)

There was a statistically significant interaction between the groups and time on Mindfulness, F(2, 130) = 10.37, p < 0.000, partial eta2 = 0.138. The main effect of time showed a statistically significant difference in mean Mindfulness, at the different time points F(2, 130) = 9.89, p < 0.001, partial eta2 = 0.132. The main effect of group showed that there was statistically

significant difference in mean Mindfulness between groups F(1, 65) = 4.80, p < 0.032, partial eta2 = 0.069. Considering the Bonferroni adjusted p-value (p.adj), it can be seen that the simple main effect of group was, significant at mid (p < 0.001) and post (p < 0.043) , not significant at pre (p < 0.984). There was a statistically significant effect of time on Mindfulness for Yoga group (p < 0.001). Further, can be observed that there was a statistically significantly different, the mean Mindfulness from Pre to Mid time points (p < 0.001) and Pre to Post time points (p < 0.002)following the Yoga. However there was no statistically significantly different, the mean Mindfulness between Mid and Post time points(p < 0.182) following the Yoga. Further, there was no statistically significant effect of time on Mindfulness for Control group (p < 0.893).

7.3.5 Spiritual (ideal)

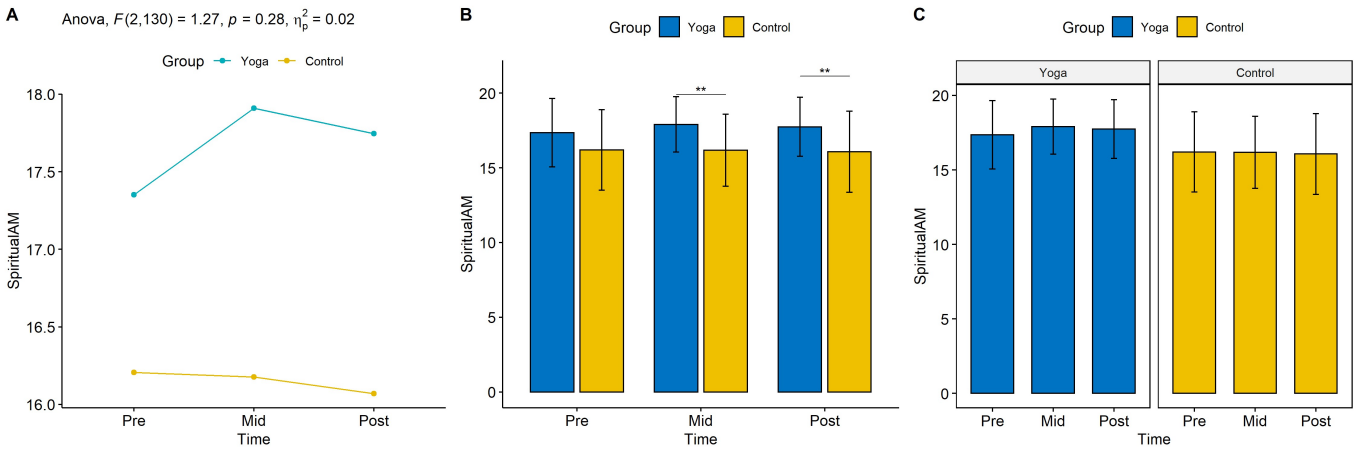

Figure 7.5: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Spiritual (ideal))

There was no statistically significant interaction between the groups and time on Spiritual(ideal), F(2, 130) = 1.27, p < 0.284, partial eta2 = 0.019. The main effect of time showed no statistically significant difference in mean Spiritual(ideal),at the different time points F(2, 130) = 0.85, p < 0.431, partial eta2 = 0.013. The main effect of group showed that there was statistically significant difference in mean Spiritual(ideal) between groups F(1, 65) = 8.36, p < 0.005, partial eta2 = 0.114. Considering the Bonferroni adjusted p-value (p.adj), it can be seen that the simple main effect of group was significant at mid (p < 0.002) and significant at post (p < 0.005) , not significant at pre (p < 0.066). There was no statistically significant effect of time on Spiritual(ideal) for Yoga group(p < 0.084).and Control group(p < 0.906).

7.3.6 Spiritual (lived experience)

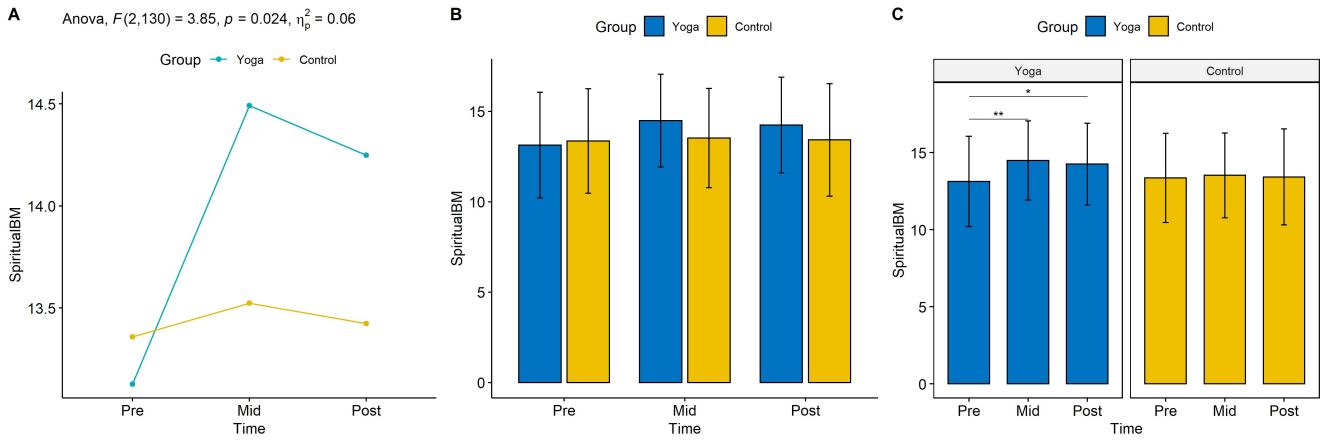

Figure 7.6: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Spiritual (lived experience))

There was a statistically significant interaction between the groups and time on Spiritual (lived experience), F(2, 130) = 3.85, p < 0.024, partial eta2 = 0.056. The main effect of time showed a statistically significant difference in mean Spiritual (lived experience),at the different time points F(2, 130) = 5.78, p < 0.004, partial eta2 = 0.082. The main effect of group showed that there was no statistically significant difference in mean Spiritual (lived experience) between groups F(1, 65) = 0.67, p < 0.414, partial eta2 = 0.010. Considering the Bonferroni adjusted p-value (p.adj), it can be seen that the simple main effect of group was not significant at pre (p < 0.746) , not significant at mid (p < 0.141) and not significant at post (p < 0.247) There was a statistically significant effect of time on Spiritual(lived experience) for Yoga group(p < 0.000). It can be observed that there was a statistically significantly different, the mean Spiritual (lived experience) between Pre to Mid time points (p < 0.002) and between Pre and Post time points(p < 0.011).following the Yoga. However there was no statistically significantly different, the mean Spiritual (lived experience) between Mid to Post time points following the Yoga (p < 1.000). On the other hand, there was no statistically significant effect of time on Spiritual (lived experience) for Control group(p < 0.887).

7.3.7 Authentic Happiness

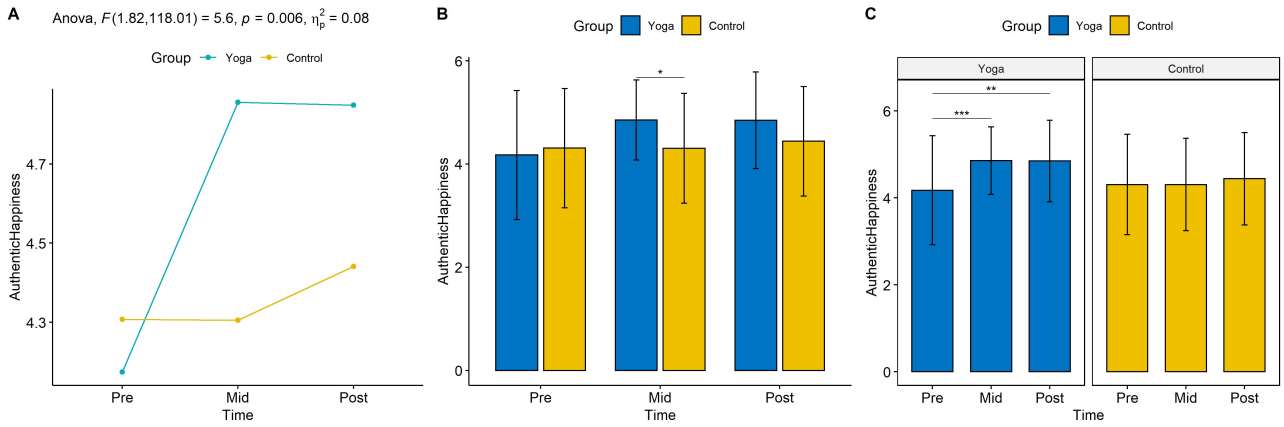

Figure 7.7: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Authentic Happiness)

There was a statistically significant interaction between the groups and time on Authentic Happiness, F(2, 130) = 5.60, p < 0.005, partial eta2 = 0.079. The main effect of time showed a statistically significant difference in mean Authentic Happiness, at the different time points F(2, 130) = 8.12, p < 0.001, partial eta2 = 0.111. The main effect of group showed that there was no statistically significant difference in mean Authentic Happiness between groups F(1, 65) = 1.49, p < 0.227, partial eta2 = 0.022. Considering the Bonferroni adjusted p-value (p.adj), it can be seen that the simple main effect of group was significant at mid (p < 0.019) and, not significant at pre (p < 0.653), and post (p < 0.101) There was a statistically significant effect of time on Authentic Happiness for Yoga group (p < 0.001). It can be observed that there was a statistically significantly different, the mean Authentic Happiness between Pre to Mid time points(p < 0.001) and Pre to Post time points(p < 0.006) following the Yoga. However, there was no statistically significantly different, the mean Authentic Happiness between Mid and Post time points following the Yoga (p < 1.000). Furthermore, there was no statistically significant effect of time on Authentic Happiness for Control group(p < 0.484).

7.3.8 Fluctuating Happiness

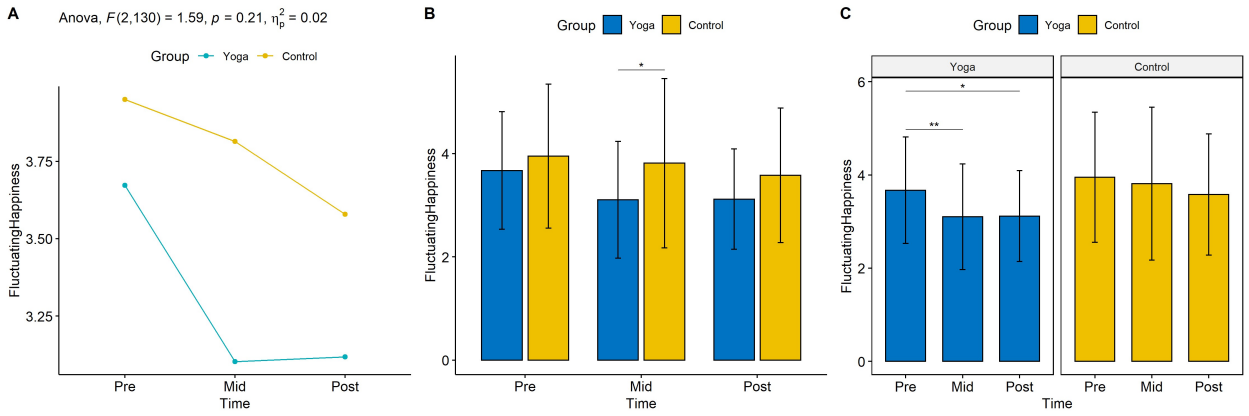

Figure 7.8: Comparative Analysis of Yoga and Control Groups on Reported Outcomes Over Time (Fluctuating Happiness)

There was no statistically significant interaction between the groups and time on Fluctuating Happiness, F(2, 130) = 1.59, p < 0.208, partial eta2 = 0.024. The main effect of time showed a statistically significant difference in mean Fluctuating Happiness, at the different time points F(2, 130) = 7.81, p < 0.001, partial eta2 = 0.107. The main effect of group showed that there was no statistically significant difference in mean Fluctuating Happiness between groups F(1, 65) = 2.97, p < 0.089, partial eta2 = 0.044. Considering the Bonferroni adjusted p-value (p.adj), it can be seen that the simple main effect of group was significant at mid (p < 0.043) and not significant at pre (p < 0.377) and post (p < 0.106). There was a statistically significant effect of time on Fluctuating Happiness for Yoga group (p < 0.001). It can be observed that there was a statistically significantly different, the mean Fluctuating Happiness between Pre to Mid time points (p < 0.006) and Pre to Post time points (p < 0.023) following the Yoga. However, there was no statistically significant difference between the Mid and Post time points for Fluctuating Happiness following the Yoga (p < 1.000). Furthermore, there was no statistically significant effect of time on Fluctuating Happiness for Control group (p < 0.112

7.3.9 Hierarchy of Variables in Response to the Yoga Intervention

The study identified stress, mindfulness, and reappraisal as primary variables of interest, demonstrating significant group-by-time interactions and higher effect sizes, highlighting their high responsiveness to the yoga intervention. Stress (F(2,130)=4.60,p=0.012,ηp2=0.066F(2,130)

= 4.60, p = 0.012, \eta_p^2 = 0.066) emerged as a critical indicator of the program's effectiveness, with notable reductions over time in the yoga group. Similarly, mindfulness (F(2,130)=10.37,p<0.0001,ηp2=0.138F(2,130) = 10.37, p < 0.0001, \eta_p^2 = 0.138) and reappraisal (F(2,130)=4.25,p=0.016,ηp2=0.061F(2,130) = 4.25, p = 0.016, \eta_p^2 = 0.061) reflected significant improvements in cognitive and emotional regulation. Secondary variables such as authentic happiness (F(2,130)=5.60,p=0.005,ηp2=0.079F(2,130) = 5.60, p = 0.005, \eta_p^2 = 0.079) and spiritual (lived experience) (F(2,130)=3.85,p=0.024,ηp2=0.056F(2,130) = 3.85, p = 0.024, \eta_p^2 = 0.056) demonstrated moderate effect sizes, indicating broader benefits to participants' sense of fulfillment and spiritual connection. However, tertiary variables like fluctuating happiness and suppression showed minimal changes, suggesting they may require longer intervention durations to yield significant results.

7.4 DISCUSSION

This study examined the effect yoga-based training on psycho-spiritual wellbeing among French professionals. Our findings suggest that after 8 weeks of yoga-based training found significant reduction in stress, boosted emotion regulation, enhanced mindfulness, augmented spiritual wellbeing, and improved happiness among French professionals.

Emotion Regulation

The results of this study suggest that participating in yoga may have a positive impact on an individual's ability to reappraise a situation, as measured by a statistically significant increase in reappraisal from the pre to mid and pre to post time points for the yoga group. Reappraisal is a cognitive process that refers to the ability to reframe or reinterpret negative thoughts and emotions in a more positive or constructive way. These findings suggest that the practice of yoga may help individuals develop or enhance this skill. The other finding is that there was no significant difference in suppression between the groups. Suppression is a cognitive process in which a person tries to actively avoid thinking about certain thoughts, emotions or memories.

We found that cognitive appraisal, one of two emotion regulation strategies measured, enhanced for the yoga but not control group. The effect of group was significant, meaning that participation in the yoga group was significantly related to an enhancement in cognitive appraisal compared to the control group. This finding was consistent with our hypotheses that yoga would have a positive effect on emotion regulation. Contrary to our hypotheses, suppression skill of emotion regulation was not found to be statistically significantly related to yoga based intervention. Descriptive statistics revealed suppression domain of emotion regulation a downward trend following yoga based training, although this effect did not reach statistical significance. It is also possible that suppression is not significant in the intervention because it is

a response-focused strategy whereas reappraisal is an antecedent- focused strategy (Gross, 2014). We tentatively conclude that the down-regulation of negative emotional responses following yoga training might be based on antecedent- focused strategy by accepting detection of negative emotional cues rather than response-focused strategy, which fosters subsequent integrative cognitive processing. Further, yoga training, which emphasizes non-judgmental awareness and healthy engagement with emotions (Hayes and Feldman 2004), individuals learn to genuinely experience and express their emotions rather than suppress them (Bridges et al. 2004), thus leading to better emotional outcomes.

Mindfulness

The positive result of the participants reporting greater levels of mindfulness is consistent with the expectation that yoga would have a positive effect on mindfulness. Many studies have shown that regular yoga practice can be associated with improved mindfulness and well-being. Yoga can improve mindfulness in several ways. The primary features of yoga-based training involve paying attention to the breath, the body and the movement which in turn promotes mindfulness (present moment awareness). Mindfulness promotes the acceptance of negative internal states and helps to experience open and receptive attitude towards the demanding condition (Kabat-Zinn, 1990; Shapiro, Carlson, Astin, & Freedman, 2006; Teasdale, 1999).

Stress

Stress is a natural response to challenging situations, but chronic stress can have negative effects on a person's physical and mental health, and can be particularly detrimental for professionals. The study found that a yoga intervention reduced stress levels in a group of professionals, but not in a control group. Many studies have found that yoga can help to improve overall well-being and reduce stress among professionals. For example, one study found that a 12-week yoga program resulted in significant reductions in stress among medical students, while another found

that a yoga program improved stress, anxiety, and depression among nurses. Yoga can be an effective method for reducing stress as it combines physical movement, breath work and meditation practices. Further, findings indicate the Yoga-based interventions can have positive effects on psychological and physiological markers of stress. Yoga can help to reduce stress by regulating the stress response, reduce physical symptoms of stress such as high blood pressure and heart rate, and by promoting relaxation and emotional balance. Additionally, practicing yoga regularly can help people develop coping mechanisms to deal with stress. Yoga can help to reduce the physiological and psychological effects of stress by promoting the release of endorphins, which are chemicals in the brain that act as natural painkillers and mood elevators. Yoga can also reduce the levels of stress hormones in the body, such as cortisol, and can improve overall feelings of well-being. Additionally, yoga has been found to improve overall mood, reduce anxiety and depression symptoms, improve sleep and increase self-esteem, all of these effects together can lead to a better management of stress.

Spiritual well-being

Spiritual well-being is an important aspect of overall well-being, and many professionals may benefit from incorporating spiritual practices into their lives. Incorporating spiritual practices into one's life can be an effective coping strategy for better professional mental health. Yoga incorporates several spiritual practices, such as meditation, pranayama (breathing techniques), and the use of chanting, that can help to foster spiritual well-being. Meditation and pranayama are thought to help individuals to focus their mind and achieve a deeper level of relaxation and inner peace. Chanting, which are repeated phrases or words, are used as a tool to help individuals focus their mind and achieve a state of contemplation. Additionally, some yoga traditions place an emphasis on ethical principles, such as non-violence and truthfulness, which can contribute to spiritual well-being by promoting a sense of inner peace and compassion. The practice of yoga

creates an environment for the mind to settle, allowing individuals to access deeper levels of consciousness, which can be helpful in developing spiritual insight. These principles can be integrated into yoga practice and can contribute to spiritual well-being by promoting a sense of inner peace and compassion. Yoga can also provide an opportunity to connect with oneself, to find inner stillness and peace, and to connect with something greater than oneself. It can help in developing one's inner self, understanding oneself more deeply, and connecting with one's inner values.

Happiness

The results of the present study indicate that the 8-week yoga intervention led to significant improvements in Authentic-Durable Happiness, as compared to the control condition. This finding is in line with previous research that has also reported positive effects of yoga on measures of well-being and happiness.One possible mechanism that may have contributed to the improvement in Authentic-Durable Happiness is the increase in mindfulness that has been reported to be associated with yoga practice. Mindfulness has been found to be positively associated with well-being and happiness, and it is possible that the mindfulness skills cultivated through the yoga intervention led to the observed improvement in Authentic-Durable Happiness. Another potential mechanism that may have contributed to the improvement in Authentic-Durable Happiness is the enhancement of emotional regulation. Yoga has been found to improve emotion regulation, which may lead to an overall improvement in mood and well-being. Moreover, the spiritual aspects of yoga may also have played a role in the improvement in Authentic-Durable Happiness. Yoga has been found to enhance spiritual well-being, which has been positively associated with happiness. The spiritual practices and discussions of the present study may have helped to foster a sense of meaning and purpose, which in turn may have led to the observed improvement in Authentic-Durable Happiness. It is also worth noting that yoga did

not show significant improvement in Fluctuating Happiness compared to control condition. This could be because Fluctuating Happiness more closely related to momentary and day-to-day experiences and moods which are less likely to be affected by an 8-week yoga intervention. Additionally, the Authentic-Durable Happiness may be more closely related to one's overall sense of well-being and satisfaction with life, which may be more amenable to change through an intervention such as yoga. In conclusion, the present study provides evidence that an 8-week yoga intervention can lead to significant improvements in Authentic-Durable Happiness in French professionals, and that this improvement may be due to a combination of factors, including increased mindfulness, enhanced emotional regulation, and enhanced spiritual well-being. Future research should continue to investigate the potential mechanisms that may underlie the effects of yoga on happiness and well-being.

Possible Mechanism

One possible mechanism for the improvement in psycho-spiritual wellbeing among the yoga group may be through the regulation of stress-related hormones such as cortisol. Research has shown that regular yoga practice can lead to a decrease in cortisol levels and an increase in the anti-inflammatory hormone, dehydroepiandrosterone (DHEA) (Khalsa, 2008). This can lead to a reduction in stress and an improvement in overall psychological and physiological functioning. Another possible mechanism is through the enhancement of emotion regulation. Yoga has been found to improve emotional regulation through the cultivation of mindfulness and self-regulation skills (Garland et al., 2015). The practice of yoga can also increase the activity of the prefrontal cortex, which is responsible for emotional regulation, and decrease activity in the amygdala, which is responsible for the processing of negative emotions (Streeter et al., 2010). Additionally, yoga has been found to improve spiritual wellbeing through the cultivation of a sense of connection and transcendence (Kirkwood, 2013). The integration of breath, movement, and

meditation in yoga can create a sense of unity and inner peace, leading to an increase in feelings of meaning and purpose in life. Lastly, yoga has been found to improve happiness through the cultivation of positive emotions and the reduction of negative emotions (Chen et al., 2016). Yoga has been found to increase positive affect, decrease negative affect, and improve overall well-being. Additionally, the practice of yoga may have led to improvements in social support and social connectedness, which can have positive effects on mental health and wellbeing. Furthermore, the contemplative and meditative practices included in the yoga intervention may have led to improvements in cognitive flexibility, attention, and self-awareness, which can have positive effects on mental health and wellbeing. The self-regulation pathway is one possible mechanism by which yoga-based training may have led to improvements in psycho-spiritual wellbeing among French professionals. Yoga practices, such as asanas, pranayama, and meditation, have been shown to increase self-awareness and self-regulation abilities, allowing individuals to better manage their thoughts, emotions, and behaviors. This increased self-regulation may have helped participants in the yoga group to better cope with stress, improve their emotional regulation, and enhance their overall psycho-spiritual wellbeing. Additionally, yoga's emphasis on mindfulness and non-judgmental awareness may have helped participants to develop a more accepting and compassionate attitude towards themselves and others, further contributing to the improvement of their psycho-spiritual wellbeing.

Another possible mechanism of change is through the balance of the sympathetic and parasympathetic nervous system. Yoga practices, such as pranayama and asana, have been shown to have an effect on the autonomic nervous system, specifically the balance between the sympathetic and parasympathetic branches. This balance between the sympathetic and parasympathetic nervous system can lead to improved emotional regulation, decreased stress

levels, and overall better psycho-spiritual well-being. Additionally, studies have also found that regular yoga practice can lead to a decrease in heart rate variability, which is an indicator of improved autonomic balance. Therefore, it is possible that the yoga based training in this study led to an improvement in psycho-spiritual well-being through a balance of the sympathetic and parasympathetic nervous system.

The stress reduction pathway refers to the various mechanisms through which yoga-based training can reduce stress levels in individuals. One of the main ways in which yoga reduces stress is through its impact on the hypothalamic-pituitary-adrenal (HPA) axis, which is responsible for the body's response to stress. Yoga has been found to decrease activity in the HPA axis, leading to a reduction in the release of stress hormones such as cortisol. Additionally, yoga has been found to increase activity in the parasympathetic nervous system, which is responsible for the body's relaxation response. This increase in parasympathetic activity further contributes to the reduction of stress levels. Furthermore, yoga's emphasis on breathing and meditation techniques can also help to reduce stress by promoting relaxation and reducing the rumination of negative thoughts. Overall, the stress reduction pathway highlights the various physiological and psychological mechanisms through which yoga-based training can reduce stress levels, thus improving overall well-being.

In summary, the results of this study provide evidence for the effectiveness of yoga-based training in improving psycho-spiritual well-being among French professionals. The findings suggest that the 8-week yoga intervention led to significant reductions in stress, improved emotion regulation, enhanced mindfulness, and increased spiritual well-being and happiness compared to the control condition. These improvements may be due to a combination of several pathways, including self-regulation, changes in the balance between the sympathetic and

parasympathetic nervous systems, and reductions in stress. Additionally, the practice of yoga may have a cumulative effect on well-being, as the regular practice of yoga may lead to improved physical and mental health, increased self-awareness, and a greater sense of connectedness with oneself and the world.

Comparison of yoga-based interventions with adapted physical activity programs

Research indicates that both approaches share common mechanisms, such as reducing stress-related hormones like cortisol (Childs & De Wit, 2014) and promoting relaxation through regulated physical activity (Penedo & Dahn, 2005). However, yoga uniquely integrates mindfulness, breath control, and meditative practices, which address not only physical and psychological aspects but also psycho-spiritual dimensions of well-being (Khalsa, 2008; Shapiro, Carlson, Astin, & Freedman, 2006). While adapted physical activity programs have shown significant benefits for stress and anxiety (Rogerson, Wilding, Prudenzi, & O'Connor, 2024), yoga-based interventions may offer additional advantages by fostering emotional regulation, non-judgmental awareness, and spiritual growth (Kabat-Zinn, 1990; Garland, Gaylord, & Fredrickson, 2015).

Strengths of the study

One of the strengths of this study is the use of a randomized controlled design, which allows for a strong causal inference to be made about the effect of yoga on psycho-spiritual wellbeing among French professionals. Additionally, the use of multiple measures to assess psycho-spiritual wellbeing, including stress, emotion regulation, mindfulness, spiritual well-being, and happiness, adds to the robustness of the findings. Furthermore, the use of pre-post assessments and a 3-month follow-up, allows for the examination of both immediate and long-term effects of the yoga intervention. Anotherstrength of this study is the use of a yoga-based intervention that was specifically tailored to the needs of French professionals and included a variety of practices

such as *asanas, pranayama*, meditation, and self-reflection. This allows for a more comprehensive examination of the effects of yoga on psycho-spiritual wellbeing.

Limitations of the study

There are several limitations to the current study that should be considered when interpreting the results. One limitation is the small sample size. With only 67 participants, the study may not be generalizable to a larger population of French professionals. Additionally, the study only included French professionals and it is uncertain whether the results would be similar in other cultural groups. Another limitation is the potential for bias in self-reported measures. Participants may have been influenced by social desirability bias, leading to an overestimation of the effects of the yoga intervention. Furthermore, the study did not control for other lifestyle factors that may have affected the outcome measures, such as diet, exercise, and sleep patterns. In addition, the study did not include a control group that received a different form of intervention, such as a relaxation or exercise intervention, which would have allowed for a more thorough examination of the specific effects of yoga on psycho-spiritual wellbeing. Finally, the study did not assess the effect of yoga on other health outcomes, such as physical health, which could also have an impact on psycho-spiritual wellbeing.

Future Scope

Future research could explore the long-term effects of yoga-based interventions on psycho-spiritual wellbeing among French professionals. It would be beneficial to conduct a larger sample size and include a follow-up assessment to examine the maintenance of the effects over a longer period of time. Additionally, it would be valuable to investigate the specific components of the yoga intervention that may be most beneficial for improving psycho-spiritual wellbeing, such as specific *asanas, pranayamas*, or meditation techniques. Furthermore, it would be interesting to compare the effects of yoga-based interventions to other forms of interventions,

such as mindfulness or cognitive-behavioral therapy, to determine the relative effectiveness of each approach. Further, it would be beneficial to include additional measures of psycho-spiritual wellbeing such as self-compassion and self-transcendence in addition to the measures used in this study. In addition to the current measures used in this study, including self-reported questionnaires and demographic information, future studies could also incorporate physiological measures to further understand the impact of yoga on psycho-spiritual wellbeing. For example, measuring heart rate variability, cortisol levels, or brain activity through techniques such as electroencephalography (EEG) could provide a more comprehensive understanding of the physiological changes that occur as a result of yoga intervention. This could also help to identify specific physiological mechanisms that contribute to the observed changes in psycho-spiritual wellbeing.

7.5 CONCLUSION

In conclusion, this study investigated the effect of yoga-based training on psycho-spiritual wellbeing among French professionals. The results indicate that the 8-week yoga intervention led to significant reductions in stress, improved emotion regulation (reappraisal domain), enhanced mindfulness, increased spiritual wellbeing, and improved authentic-durable happiness compared to the control group. The study provides evidence for the effectiveness of yoga as a tool for promoting psycho-spiritual wellbeing among French professionals. However, further research is needed to investigate the underlying mechanisms and to explore the potential for using physiological measures in future studies. The findings of this study can be applied in various settings, such as workplaces, health care facilities, and educational institutions, to promote psycho-spiritual well-being among French professionals. Yoga-based interventions can be integrated into employee wellness programs, stress management programs, and mental health

services to improve overall well-being, reduce stress, and enhance emotional regulation among professionals. Additionally, health care professionals can use yoga-based interventions to support their clients in managing stress, emotional regulation, and overall well-being.