THE EFFECT OF YOGA PRACTICE ON MINDFULNESS, RESILIENCE, AND PSYCHOLOGICAL WELL-BEING

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

THE EFFECT OF YOGA PRACTICE ON MINDFULNESS, RESILIENCE, AND PSYCHOLOGICAL WELL-BEING

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There is a growing interest in yoga practice as a mind and body science, however positive psychology field lack research regarding yoga's effects. The purpose of this research was to investigate the effect of yoga practice and practice frequency on mindfulness, resilience, and psychological well-being constructs related to positive psycholgy. Additionaly, the relationship between mindfulness, resilience, and psychological well-being was investigated. The research was conducted in a non-clinical sample (N = 137) comprised of yoga-experienced (n = 66) and yoga-naive (n = 71) participants from Istanbul, Turkey aged 22 to 58 (M = 33.4, SD = 9.48). Yoga-experienced participants were aged 22 to 54 (M = 33.3, SD = 8.10) and yoga-naive participants were aged 22 to 58 (M = 33.5, SD = 10.70). Participants fulfilled a Personal Information Form, Mindful Attention Awareness Scale (MAAS), Resilience Scale for Adults (RSA), and Ryff Scales of Psychological Well-Being (SPWB). Findings showed higher scores for psychological well-being and 'perception of the future' sub-dimension of RSA in yoga-experienced compared to yoga-naive participants. Higher scores for mindfulness, resilience, and psychological well-being was found in yoga-experienced participants with high practice frequency compared to low practice frequency. Additionaly, it was found that resilience and mindfulness predicted psychological well-being, and resilience contributed more to the variability in psychological well-being. Findings indicate that yoga practice could be an effective possible positive psychology intervention complementary to conventional

psychological interventions, especially in a non-Western culture. However, since some findings of this research are new to the literature, future research is needed.

Keywords*:* Positive Psychology, Yoga, Mindfulness, Resilience, Psychological Well-being

ÖZ

YOGA PRATİĞİNİN BİLİNÇLİ FARKINDALIK, PSİKOLOJİK DAYANIKLILIK VE PSİKOLOJİK ESENLİK ÜZERİNDEKİ ETKİSİ

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Bir zihin ve beden bilimi olarak yoga uygulamalarına artan bir ilgi vardır, ancak pozitif psikoloji alanında yoganın etkilerine ilişkin araştırmalarda eksiklik bulunmaktadır. Bu araştırmanın amacı, yoga pratiği ve uygulama sıklığının pozitif psikoloji ile ilgili bilinçli farkındalık, psikolojik dayanıklılık ve psikolojik esenlik yapılarına etkisini araştırmaktır. Ayrıca bilinçli farkındalık, psikolojik dayanıklılık ve psikolojik esenlik arasındaki ilişki araştırılmıştır. Araştırma, İstanbul, Türkiye'den 22 ile 58 yaşları arasında (O = 33.4, SS = 9.48) yoga deneyimli (n = 66) ve yoga deneyimsiz (n = 71) katılımcılardan oluşan klinik olmayan bir örneklemde (N = 137) yürütülmüştür. Yoga deneyimli katılımcılar 22 ile 54 yaşları arasında (O = 33.3, SS = 8.10) ve yoga deneyimsiz katılımcılar 22 ile 58 yaşları arasındadır (O = 33.5, SS = 10.70). Katılımcılara Kişisel Bilgi Formu, Bilinçli Farkındalık Ölçeği (BİFÖ), Yetişkinler için Psikolojik Dayanıklılık Ölçeği (YPDÖ) ve Psikolojik İyi Olma Ölçekleri (PİOÖ) doldurtulmuştur. Bulgular, yoga deneyimi olan katılımcıların psikolojik esenlik ve YPDÖ'nin ‘gelecek algısı’ alt boyutu için yoga deneyimi olmayan katılımcılardan daha yüksek puanlar aldığını göstermiştir. Yüksek uygulama sıklığına sahip yoga deneyimli katılımcılarda, düşük uygulama sıklığına sahip katılımcılara kıyasla bilinçli farkındalık, psikolojik dayanıklılık ve psikolojik esenlik için daha yüksek puanlar bulunmuştur. Ek olarak, psikolojik dayanıklılık ve bilinçli farkındalığın psikolojik esenliği yordadığı ve psikolojik dayanıklılığın tüm katılımcılarda psikolojik esenlikteki değişkenliğe daha fazla katkıda bulunduğu bulunmuştur. Bulgular, yoga uygulamasının, özellikle Batılı olmayan bir kültürde, geleneksel psikolojik

müdahalelere tamamlayıcı, etkili, olası bir pozitif psikoloji müdahalesi olabileceğini göstermektedir. Ancak, bu araştırmanın bazı bulguları literatürde yeni olduğu için ileride yeni araştırmalara ihtiyaç vardır.

Anahtar Kelimeler: Pozitif Psikoloji, Yoga, Bilinçli Farkındalık, Psikolojik Dayanıklılık, Psikolojik Esenlik

To my lifelong support system mom & dad

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Introduction

1.1 Theoretical Framework

Martin E.P. Seligman introduced the field of Positive Psychology (PP) to the psychology community in 1998 (Compton & Hoffman, 2019; Froh, 2004; Lee Duckworth, Steen & Seligman, 2005). As a new subfield of psychology, PP created a common ground for investigating healthy and adaptive strategies that contribute to the optimal functioning and well-being of individuals, communities, and societies and united many psychologists and researchers from differing scientific disciplines in such a search (Compton & Hoffman, 2019; Hendriks, 2018; Kim, Doiron, Warren & Donaldson, 2018; Rusk & Waters, 2013).

Since the establishment of PP field, there is a continuous growth in research regarding PP related topics and in publications related to PP (Donaldson, Dollwet & Rao, 2014; Hendriks, 2018; Rusk & Waters, 2013; Schui & Krampen, 2010). Some critiques made regarding PP research as being mostly conducted by researchers from Western countries with samples from Western countries and reflecting Western conceptualizations of well-being (Hendriks, 2018; Hendriks, Warren, Hassankhan, Schotanus-Dijkstra, Graafsma, Bohlmeijer & de Jong, 2018; Joshanloo, 2014; Kim et al., 2018; Schui & Krampen, 2010). However, as PP field began to be accepted by greater number of people from the scientific communities all over the world, the global representativeness of PP research also began to increase (Donaldson et al., 2014; Hendriks, 2018; Hendriks, Warren, et al., 2018; Kim et al., 2018).

Before the rise of PP, mental health was evaluated based on presence or absence of mental illnesses, the focus was on the negative indicators of mental health (Hendriks, 2018; Hendriks, de Jong & Cramer, 2017). However, with the rise of PP, it was understood that evaluating mental health based on absence of mental illnesses was not enough and the importance of considering the positive indicators of mental health such as presence of individual strengths, positive functioning, and well-being was understood (Hendriks, 2018; Hendriks et al., 2017; Keyes, 2007). PP field emphasizes

the importance of preventing mental illnesses besides treatment and it has a particular focus on what is positive and adaptive in life (Compton & Hoffman, 2019; Seligman, 2010; Seligman & Csikszentmihalyi, 2000).

However, PP just not only consider the positive aspects of individuals and their experiences but also consider the negative aspects (Gable & Haidt, 2005; Ng & Lim, 2019; Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001). Negative aspects of individuals and their experiences are seen as sources for understanding how individuals can positively adapt to adversities of life (Cohrs, Christie, White & Das, 2013; Lemay & Ghazal, 2001). Therefore, interventions of PP try to foster resilience of individuals for maintaining health and well-being in the face of an adversity (Cohrs et al., 2013; Joseph, 2015).

Particularly, PP field uses theoretically and empirically validated mind and body interventions that are aimed at fostering positive individual traits, positive cognitions, positive emotions, positive behavioral patterns, and positive relationships to enhance healthy functioning and well-being of individuals, societies, and communities (Alex Linley, Joseph, Harrington & Wood, 2006; Compton & Hoffman, 2019; Gable & Haidt, 2005; Hendriks et al., 2017; Lee Duckworth et al., 2005; Sheldon & King, 2001).

Many positive psychology interventions (PPIs) benefit from the knowledge and practices coming from Eastern philosophies (Hendriks et al., 2017; Hendriks, Warren et al., 2018) and operate through collectivistic pathways to enhance health and well-being of independent individuals (Hendriks, Warren, et al., 2018). PP field is particularly interested in knowledge and practices that are coming from Buddhist philosophy (Ivtzan & Lomas, 2016) because they share common goals: encouraging individuals to be aware of positive aspects of life, people, and themselves, alleviate suffering and enhance well-being (Cebolla, Enrique, Alvear, Soler & Garcia-Campayo, 2017; Kim-Prieto, 2016). Many PPIs integrate mindfulness practices that are coming from Buddhist philosophy (Hendriks, 2018; Hendriks et al., 2017; Ivtzan & Lomas, 2016). By increasing individuals' awareness of present moment experiences, mindfulness practices enhance individuals' positive experiences, therefore enhance well-being (Ivtzan & Lomas, 2016).

Despite the critiques regarding PP field as reflecting Western conceptualizations of well-being, research showed that PPIs are beneficial for enhancing well-being among non-Western cultures (Hendriks, Hassankhan, Schotanus-Dijkstra, Graafsma, Bohlmeijer & de Jong, 2018). PP field can easily adapt knowledge and practices that are coming from differing traditions and cultures; therefore, some PPIs might have more potential to culturally fit with the non-Western cultures compared to conventional psychological interventions (Hendriks, 2018; Hendriks, Warren, et al., 2018). Also, compared to conventional psychological interventions, PPIs are less complex, easily practiced, need less formal training for professionals, and cost-effective (Hendriks, 2018; Hendriks, Warren, et al., 2018; Schueller, 2010). Therefore, widening PP's global reach and PPIs' global applicability can contribute to access to mental health care in low and middle incomed non-Western countries (Hendriks, Warren, et al., 2018; Seligman et al., 2005).

Even though many PPIs benefit from the knowledge and mind-body practices coming from Eastern philosophies (Hendriks et al., 2017; Hendriks, Warren et al., 2018), research showed that PP field is ignorant of benefits of yoga practice and Hindu philosophy despite their common purposes (Hendriks et al., 2017). Yoga is a mind and body practice that is aimed at alleviating suffering (Agrawal, 2022; Pimple & Agrawal, 2020), building resilience against difficulties of life (Trulson & Vernon, 2019; Worby, 2002), enhancing healthy functioning and well-being (Agrawal, 2022; Devi, 2021; Pimple & Agrawal, 2020), and providing personal growth and meaning for life (Hendriks et al., 2017; Trulson & Vernon, 2019). Yoga's main purpose is self-realization for a meaningful life and the transformational path of yoga supports the development of positive individual traits, positive emotions, altruistic behaviors, positive functioning, and well-being (Rao, 2014; Trulson & Vernon, 2019).

Nowadays, yoga became a popular practice worldwide to enhance diverse aspects of physical and psychological health and well-being (Kaley-Isley, Peterson, Fischer & Peterson, 2010). Also, scientific interest on the benefits of yoga practice for treating and preventing physical and mental illnesses and enhancing health and well-being increased (Hendriks et al., 2017; Devi, 2021; Pimple & Agrawal, 2020; Trulson & Vernon, 2019). Research evidenced the yoga practices' positive effect on some constructs related to PP (Trulson & Vernon, 2019) such as mindfulness, resilience, and

psychological well-being (PWB). However, research on the direct relationship between yoga and PP found to be very scarce within the literature (Hendriks et al., 2017). Since yoga's popularity is increasing globally, PP needs to begin to integrate knowledge and practices that come from yoga tradition into PPIs (Agrawal, 2022; Hendriks, 2018; Hendriks et al., 2017). Because yoga practices have a huge potential for being complementary interventions to traditional psychological interventions, especially in non-Western cultures (Agrawal, 2022; Hendriks, 2018; Hendriks et al., 2017).

Therefore, in this research a PP framework was used to investigate whether yoga could be an effective possible PPI in a non-Western culture. The two samples of this research, namely yoga-experienced and yoga-naive, were choosen from a non-clinical population from Istanbul, Turkey to better examine the direct effect of yoga practice on several constructs related to PP in a non-Western culture.

1.2 Purposes of The Research

The literature indicated a relationship between the variables of this research: (1) yoga and mindfulness, (2) yoga and resilience, (3) yoga and PWB, (4) mindfulness and resilience, (5) mindfulness and PWB, (6) resilience and PWB, and (7) mindfulness, resilience, and PWB.

Therefore, the main purpose of this research is to examine the effect of yoga practice on mindfulness, resilience, and PWB in a non-clinical sample that is comprised from yoga-experienced and yoga-naive individuals from Istanbul, Turkey. Additionally, the effect of yoga practice frequency on mindfulness, resilience, and PWB is examined.

Moreover, based on the previous literature, it was found beneficial to investigate the relationship between mindfulness, resilience, and PWB in yoga-experienced and yoga-naive samples.

1.3 Research Questions and Hypothesis

The first question this research tries to answer to understand the effect of yoga practice on mindfulness, resilience, and PWB in a non-clinical sample that is

comprised of yoga-experienced and yoga-naive individuals is: ‘‘Do mindfulness, resilience, and PWB levels of individuals vary as a function of their yoga experience?’’. It is hypothesized that yoga-experienced individuals would have higher levels of mindfulness, resilience, and PWB than yoga-naive individuals.

The second question this research tries to answer to understand the effect of yoga practice frequency of yoga-experienced individuals on mindfulness, resilience, and PWB is: ‘‘Do mindfulness, resilience, and PWB levels of yoga-experienced individuals vary as a function of their yoga practice frequency?’’. It is hypothesized that yoga-experienced individuals with high yoga practice frequency would have higher levels of mindfulness, resilience, and PWB than yoga-experienced individuals with low yoga practice frequency.

The third question this research tries to answer to understand the relationship between mindfulness, resilience, and PWB is: ‘‘Do resilience and mindfulness predict PWB of individuals?’’. It is hypothesized that higher levels of resilience and mindfulness predict higher levels of PWB, and resilience contributes more to the increase in PWB.

1.4 Significance of The Research

As mentioned earlier, a PP framework was used to investigate whether yoga could be an effective possible PPI in a non-Western culture. To researcher’s knowledge, this is the first research in the literature that investigates the effect of yoga practice on mindfulness, resilience, and PWB and also the first research in the literature that investigates the relationship between mindfulness, resilience, and PWB in particularly yoga-experienced individuals. Therefore, it is believed that findings of this research could contribute to literature. Particularly, findings could contribute to PP research that considers the direct relationship between yoga and PP as well as PP research that considers the effects of PPIs in non-Western cultures.

Chapter 2

Literature Review

2.1 Positive Psychology

In this section, the information gathered from relevant literature regarding PP is presented in the appropriate order.

2.1.1 What is positive psychology and why positive psychology?. PP is the scientific study of strengths, optimal functioning and well-being of individuals, communities, and societies (Alex Linley et al. 2006; Compton & Hoffman, 2019; Gable & Haidt, 2005; Hendriks et al., 2017; Hendriks, Schotanus-Dijkstra, Hassankhan, Graafsma & de Jong, 2018; Lee Duckworth et al., 2005; Sheldon & King, 2001). As a field, it uses psychological theory, research, and intervention techniques to investigate and understand the factors, processes and mechanisms that contribute to a good, well-lived, healthy, fulfilled, meaningful and flourishing life, as well as the obstacles that emerge when life is empty, unpleasant, fruitless, and meaningless (Alex Linley et al. 2006; Compton & Hoffman, 2019; Lee Duckworth et al. 2005). It is aimed at improving quality of life and well-being and treating and preventing pathologies with a particular focus on what is positive, adaptive and fulling in life (Compton & Hoffman, 2019; Seligman, 2010; Seligman & Csikszentmihalyi, 2000).

After World War II, the field of psychology mainly focused on negative indicators of mental health and diagnosis, and treatment of mental health disorders were at the center of attention, not much was done about prevention of mental illnesses (Gable & Haidt, 2005; Seligman & Csikszentmihalyi, 2000). Foundation of Veterans Administration and National Institute of Mental Health led to a particular focus on pathology within the field because psychologists found out that by researching pathologies and treating veterans, they could earn money (Seligman & Csikszentmihalyi, 2000). As a result, the field of psychology began to focus on people who suffer and how to alleviate their suffering (Gable & Haidt, 2005; Seligman & Csikszentmihalyi, 2000), a negative bias toward human experience dominated the field

(Compton & Hoffman, 2019; Seligman & Csikszentmihalyi, 2000), and positive aspects of human experience that make most people adjust well to difficulties of life and make life worth living were neglected (Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001). This particular focus on the negative also had an evolutionary basis; negative experiences are exceptions of human experience and disregarding them have direct and irreversible consequences for survival and reproduction (Baumeister, Bratslavsky, Finkenauer & Vohs, 2001; Gable & Haidt, 2005; Seligman & Csikszentmihalyi, 2000). On the other hand, positive experiences are typical for the human experience and mostly have indirect and reversible consequences for survival and reproduction (Baumeister et al. 2001; Gable & Haidt, 2005; Seligman & Csikszentmihalyi, 2000).

Before the war, psychology was aimed at ‘‘curing mental illness, making the lives of all people more productive and fulfilling, and identifying and nurturing high talent’’ (Seligman & Csikszentmihalyi, 2000, p.6). It was Martin E.P. Seligman who reminded the field its forgotten goals as in his American Psychological Association (APA) presidential speech in 1998 and announced the field of PP to the community (Compton & Hoffman, 2019; Froh, 2004; Lee Duckworth et al. 2005). In order to understand the full human experience, PP suggests consideration of both the positive and negative aspects of life, and people themselves (Gable & Haidt, 2005; Ng & Lim, 2019; Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001) as well as encouraging psychologists to broaden their perspective about ‘‘human potentials, motives, and capacities’’ (Sheldon & King, 2001, p.216). Accordingly, PP emphasizes the importance of helping people who are suffering, as much as people who are not (Seligman & Csikszentmihalyi, 2000), highlights that those who are suffering want more than removal of their suffering (Lee Duckworth et al. 2005) and believes that all people can flourish and thrive (Compton & Hoffman, 2019).

Positive psychologists focus on research and practices that foster positive emotions, positive individual traits, positive behavioral patterns, and positive relationships and this is not just beneficial for the treatment but also beneficial for prevention of mental health disorders as well as physical disorders (Compton & Hoffman, 2019; Lee Duckworth et al. 2005; Seligman, 2002; Seligman & Csikszentmihalyi, 2000). PP is aimed at compensating for the lack of balance in

research and practice between the negative and the positive aspects of human functioning and experience (Alex Linley et al. 2006; Compton & Hoffman, 2019). Positive psychologists and researchers try to combine their knowledge with what they already know about the diagnoses and treatment of mental health disorders to understand human experience with all its complexity (Alex Linley et al. 2006; Compton & Hoffman, 2019).

2.1.2 The history of well-being and positive psychology. How to achieve a good life is a question that many philosophers and psychologists have been trying to answer for a long time, to find an answer, they proposed different approaches for well-being and happiness (Compton & Hoffman, 2019). The two most prominent well-being approaches are the hedonic and eudaimonic views (Cooke, Melchert & Connor, 2016; Joshanloo, 2014; Ryan & Deci, 2001; Westerhof & Keyes, 2010).

The hedonic approach to well-being suggests that to have a good life one needs to maximize pleasure and minimize pain (Compton & Hoffman, 2019; Joshanloo, 2014; Lambert, Passmore & Holder, 2015; Ng & Lim, 2019; Peterson, Park & Seligman, 2005). Hedonism is the oldest tradition to well-being and happiness (Compton & Hoffman, 2019) and the earliest displays of hedonism are found in the Greek Cyrennaic school of philosophy (Lambert et al., 2015). The Greek philosopher Aristuppus of Cyrene (435-366 BCE) suggested that people's actions should be aimed at immediate sensual gratification and valued pleasures for the well-being of individuals (Peterson et al., 2005). Later, Greek philosopher Epicurus (342-270 BCE) promoted Epicurus school of thought (Epicureanism) and developed hedonistic ethics which suggesting that people are morally bounded to attend pleasurable activities and avoid painful ones (Peterson et al., 2005). In the Middle Ages, Christian philosophers criticized hedonism as being conflicted with religious beliefs of Christianity on avoiding sin and meeting God's wish (Compton & Hoffman, 2019; Peterson et al., 2005). However, Renaissance philosophers Erasmus (1466-1536) and Thomas Moore (1478-1535) defended that people being happy is what God wants (Peterson et al., 2005). Afterwards British philosophers Jeremy Bentham (1748-1832) and John Stuart Mill (1806-1873) utilized hedonism to developed Utilitarian school of thought

(Utilitarianism) and defended that people should attend actions that are good for the happiness of all human beings (Lambert et al., 2015; Peterson et al., 2005).

Hedonism is still a valid philosophical perspective on well-being in the modern Western world (Joshanloo, 2014; Peterson et al., 2005). The field of hedonic psychology investigates well-being in terms of subjective well-being (SWB) (Joshanloo, 2014; Koydemir, Sökmez & Schütz, 2020; Lambert et al., 2015; Ng & Lim, 2019; Ryan & Deci, 2001). SWB is about happiness and focuses on the presence of experiences of pleasure over displeasure and pain for increasing life satisfaction (Compton & Hoffman, 2019; Lambert et al., 2015; Ryan & Deci, 2001; Westerhof & Keyes, 2010). Ed Diener (1984) proposed a three-dimensional model to assess SWB: individual's satisfaction with life, the absence of negative affect, and the presence of positive affect (Joshanloo, 2014; Koydemir et al., 2020; Ng & Lim, 2019; Westerhof & Keyes, 2010).

According to eudaimonic approach, eudaimonia is a way of life where one strives to be better and actualize oneself by employing personal strengths and potentials and searches for meaning (Joshanloo, 2014; Lambert et al., 2015; Ng & Lim, 2019). Eudaimonic approach to well-being emphasizes the importance of personal strengths, human potentials, optimal functioning, and self-actualization for a good and meaningful life (Ng & Lim, 2019). The Greek philosopher Aristotle (384-322 BCE) is the first to use the term eudaimonia to refer a way of life, not an emotional state nor an emotion and rejected hedonistic pleasures due to their momentary nature (Compton & Hoffman, 2019; Joshanloo, 2014; Lambert et al., 2015). He suggested that through discovery of own potentials and virtues one can achieve a good and worthy life (Compton & Hoffman, 2019; Lambert et al., 2015; Westerhof & Keyes, 2010), thus believed that certain virtues signify a good character (Compton & Hoffman, 2019). According to Aristotle's virtue theory: courage, liberality, pride, friendliness, wittiness, justice, temperance, magnificence, good temper, truthfulness, shame and honor are twelve basic virtues leading a good character, therefore a good life (Compton & Hoffman, 2019). Early in the 20th century, philosopher and psychologist William James (1842-1910) was interested in investigating optimal functioning of individuals and suggested that to study optimal human functioning one needs to look at subjective experiences of individuals (Froh, 2004; Rathunde, 2001). While investigating the

relationship between optimal functioning and subjective experience, he made use of both positivistic and phenomenological methodology (Froh, 2004; Rathunde, 2001). His work later influenced humanist psychologists (Compton & Hoffman, 2019) and contributed to the development and growth of PP (Compton & Hoffman, 2019; Froh, 2004).

Many theories of humanistic psychology are rooted in the eudaimonic well-being approach (Lambert et al., 2015) and PP is heavily influenced by humanistic psychology (Compton & Hoffman, 2019; Hendriks, 2018). Humanists are interested in positive aspects of human experience (Compton & Hoffman, 2019) and investigate the healthy and adaptive human qualities that lead to a good and meaningful life (Compton & Hoffman, 2019; Froh, 2004; Lambert et al., 2015). Even though positive and humanistic psychology have common interests, their methods of investigation are different; PP mostly uses quantitative methods whereas humanistic psychology mostly uses qualitative methods for investigation (Compton & Hoffman, 2019; Froh, 2004; Hendriks, 2018). Early humanists were criticized for proposing theories that were lacking in empirical evidence (Hendriks, 2018; Lambert et al., 2015). However, nowadays the difference in methodology between two fields is diminishing (Compton & Hoffman, 2019).

One of the early theorists of humanistic psychology Alfred Adler (1870-1937) had a positive approach for human potential. Adler believed that social traits such as altruism, compassion, and friendliness are innate in all children and every child has the capacity to learn anything (Compton & Hoffman, 2019). He proposed that people's style of living and goals are oriented toward achievement (Lambert et al., 2015) and this orientation was motivated by social interests of individuals (Compton & Hoffman, 2019). Adler heavily influenced Abraham Maslow (1908-1970), the founder of humanistic psychology (Compton & Hoffman, 2019) who was the first to use the term PP in his book Motivation and Personality (Compton & Hoffman, 2019; Froh, 2004; Hendriks, 2018; Lee Duckworth et al., 2005). In the chapter *Toward a Positive Psychology*, Maslow pointed that the field of psychology neglected the positive aspects of human potential and experience and proposed a change in the focus of psychology (Froh, 2004; Hendriks, 2018). He systematically investigated people who were self-actualized for understanding healthy and adaptive characteristics for well-being (Froh,

2004; Lambert et al., 2015; Lee Duckworth et al., 2005) as he developed the hierarchy of needs and placed self-actualization as the highest need for full human functioning (Lambert et al., 2015). Similarly to Maslow, Carl Rogers (1902-1987) studied healthy and fully functioning self-actualized people that were open to both positive, and negative experiences (Lambert et al., 2015). Mihalyi Csikszentmihalyi (1934-present) created optimal experience theory which he illustrated by the concept of flow (Lambert et al., 2015). He defined flow as a subjective experience and a pleasant state where individuals engage in challenging activities that are compatible with their skills and talents, and deal with the situation through pursuing goals to find a meaning (Lambert et al., 2015; Slade 2010).

One of the influential contemporary theories of eudaimonic well-being was proposed by Carol Diane Ryff in 1989 (Lambert et al., 2015; Westerhof & Keyes, 2010). In her model of psychological well-being (PWB), Ryff proposed six dimensions of human actualization including autonomy, personal growth, self-acceptance, life purpose, mastery, positive relatedness for PWB of fully functioning individuals (Lambert et al., 2015; Ng & Lim, 2019; Ryan & Deci, 2001). In 2000 Richard Ryan and Edward Deci proposed another influential contemporary theory for eudaimonic well-being called self-determination theory (Lambert et al., 2015). Self-determination therapy proposed three basic psychological needs for well-being and optimal functioning of individuals; autonomy, competence, and relatedness (Cooke et al., 2016; Lambert et al., 2015; Ng & Lim, 2019; Ryan & Deci, 2001). Both theories consider individual, and social aspects for well-being and optimal functioning of human beings (Lambert et al., 2015). Corey L. M. Keyes also emphasized the importance of social optimal functioning and the complementary effect of social well-being for eudoimanic well-being (Lambert et al., 2015; Westerhof & Keyes, 2010). Keyes (1998) proposed five-dimensions for social well-being and functioning; social integration, social contribution, social coherence, social actualization, and social acceptance (Lambert et al., 2015).

Hedonic well-being emphasizes the importance of pleasures and positive feelings, whereas eudoimanic well-being emphasizes the importance of strengths, virtues, and positive functioning (Lambert et al., 2015; Joshanloo, 2014). Hedonic and eudaimonic approaches provided different frames for well-being and happiness,

however, when considered separately both missed important aspects of well-being (Lambert et al., 2015). As eudaimonic view only defines well-being for what it is and hedonic view focused on aspects to make people's lives better (Ryan & Deci, 2001), a complete framework for well-being is only provided with an integration of both approaches (Lambert et al., 2015).

The Authentic Happiness theory of well-being proposed by Seligman (2002) suggests that pleasure, engagement, and meaning are three pathways to happiness and a good life (Lambert et al., 2015). This theory forms the basis of PP and reflects the utilitarian, virtue, hedonic and eudoimanic approaches of well-being (Lambert et al., 2015). The 'Pleasant Life' is concerned with the positive subjective experiences of the past, present and future that evoke positive emotions (Lee Duckworth et al., 2005). To have a pleasant life, one needs to maximize the experience of positive emotions and minimize the experience of negative emotions as much as possible (Lee Duckworth et al., 2005; Lambert et al., 2015; Slade, 2010). Positive emotions related to past include contentment, satisfaction, and well-being (Lee Duckworth et al., 2005; Seligman & Csikszentmihalyi, 2000). Positive emotions related to present include the somatic pleasures that have ''immediate but momentary sensory delights'' (Lee Duckworth et al., 2005, p.635) and complex pleasures that ''require learning and education'' (Lee Duckworth et al., 2005, p.635). Positive emotions related to future include hope, optimism, and faith (Lee Duckworth et al., 2005; Seligman & Csikszentmihalyi, 2000). This kind of life reflects a hedonic well-being approach (Lambert et al., 2015). The 'Engaged Life' is concerned with the positive individual traits (Lee Duckworth et al., 2005; Seligman, 2004). To have an engaged life, one needs to identify character strengths, virtues and talents and use them as much as possible for gratification in work, love, friendship, play, and parenting (Lambert et al., 2015; Seligman, 2004; Slade, 2010). Positive individual traits include ''the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future mindedness, spirituality, high talent, and wisdom'' (Seligman & Csikszentmihalyi, 2000, p.5). This kind of life reflects eudoimanic well-being and virtue approaches (Lambert et al., 2015). The 'Meaningful Life' is concerned with the establishment, advancement, and maintenance of positive institutions (Compton & Hoffman, 2019). To have a meaningful life, one needs to use own strengths to serve

and belong to something larger than themselves (Lee Duckworth et al., 2005; Lambert et al., 2015; Seligman, 2004; Slade, 2010). It is believed that positive emotions and positive individual traits could only develop and grow with the presence and support of positive institutions (Lee Duckworth et al., 2005; Seligman, 2004). Positive institutions include healthy and strong families, communities and work environments that support and cherish its citizens (Compton & Hoffman, 2019; Lee Duckworth et al., 2005) by cultivating ‘‘responsibility, nurturance, altruism, civility, moderation, tolerance, and work ethic’’ (Seligman & Csikszentmihalyi, 2000, p.5). This kind of life reflects a utilitarian approach (Lambert et al., 2015).

Later on, Martin Seligman updated his authentic happiness theory by adding two more pathways to happiness and developed a model for well-being called PERMA (2011) (Lambert et al., 2015). In PERMA, as ways to achieve happiness and good life P signifies pleasure, E signifies engagement, R signifies positive relationships, M signifies meaning and A signifies accomplishment (Lambert et al., 2015; Rashid, 2015; Seligman, 2010). Like his authentic happiness theory, his new model PERMA reflects utilitarian, virtue, hedonic and eudoimanic approaches of well-being (Lambert et al., 2015).

Before the rise of PP, the presence or absence of mental illnesses determined whether someone was mentally healthy; mental health has been assessed along a polar continuum where one end represented the presence and the other represented the absence of mental illnesses (Hendriks, 2018; Hendriks et al., 2017; Lambert et al., 2015). However, the rise of PP changed the notion of mental health by emphasizing the idea that the absence of mental health disorders does not equal positive mental health (PMH) (aka mental well-being) (Hendriks, 2018; Hendriks et al., 2017) and curing mental illnesses is not enough for a mentally healthier population (Keyes, 2007). Mental health started to be seen as a complete state that entails the presence of individual strengths and positive functioning, as well as the absence of mental illnesses (Keyes, 2007) and promoting strengths, optimal functioning and well-being of individuals, communities and societies gained importance (Alex Linley et al. 2006; Compton & Hoffman, 2019; Gable & Haidt, 2005; Hendriks et al., 2017; Hendriks, Schotanus-Dijkstra, et al., 2018; Lee Duckworth et al., 2005; Sheldon & King, 2001).

In 2004, the World Health Organization (WHO) defined mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to his or her community’’ (World Health Organization, 2004, p. 12). This definition of reflects the importance of well-being, effective functioning of an individual, and effective functioning of a community for PMH (Westerhof & Keyes, 2010) and shows that PMH is not just about the absence of mental illnesses (Keyes, 2007). The Dual-Factor Model of Mental Health developed by Peter J. Greenspoon and Donald H. Saklofske in 2000 and the Two Continua Model developed by Corey L. M. Keyes and Shane Lopez in 2002 indicate mental health and mental illness are independent measures that correlate and suggest that individuals with pathological or no pathological symptoms can experience high or low levels of well-being (Hendriks, 2018; Hendriks et al., 2017).

The two continua model of well-being suggests that PMH is a complete state and could only be assessed through consideration of mental health with mental illnesses (Compton & Hoffman, 2019; Keyes, 2007). According to Keyes and Lopez (2002), PMH contains three dimensions of well-being including emotional, psychological, and social well-being (Hendriks, 2018; Hendriks et al., 2017; Westerhof & Keyes, 2010). Emotional well-being consists of positive affect and quality of life and shows the degree of positive emotions people feel (Compton & Hoffman, 2019; Hendriks et al., 2017; Keyes, 2007). PWB consists of self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others and resembles positive psychological functioning of individuals (Compton & Hoffman, 2019; Hendriks et al., 2017; Keyes, 2007). Social well-being consists of social acceptance, social actualization, social contribution, social coherence, and social integration and reflects positive social functioning of individuals (Compton & Hoffman, 2019; Hendriks, 2018; Hendriks et al., 2017; Keyes, 2007). According to Keyes and Lopez’s classification system individuals with high emotional, psychological, and social well-being along with low mental illness resemble completely mentally healthy and flourishing individuals (Compton & Hoffman, 2019; Lambert et al., 2015; Westerhof & Keyes, 2010). Flourishing individuals feel good about their lives and positively function as do not show any signs

of psychopathology (Compton & Hoffman, 2019; Lambert et al., 2015; Westerhof & Keyes, 2010). Individuals with high well-being and high mental illness symptoms are struggling, individuals with low well-being and high mental illness symptoms are floundering, and individuals with low well-being and low mental illness symptoms are languishing (Compton & Hoffman, 2019). The two continua model of well-being combines hedonic well-being and psychosocial facets of eudomainoc well-being approaches to define PMH and flourishing individuals (Lambert et al., 2015; Westerhof & Keyes, 2010). What Keyes and Lopez refer as flourishing aligns with WHO's definition of PMH (Westerhof & Keyes, 2010).

2.1.3 Positive psychology as a growing field. In 1998, Martin E.P. Seligman introduced PP to the psychology community (Compton & Hoffman, 2019; Froh, 2004; Lee Duckworth et al., 2005). Positive psycholosy as a new subfield established a common ground for investigating healthy and adaptive well-being strategies for individuals and societies as it allowed many psychologists and researchers from varying areas to be united in such a search (Compton & Hoffman, 2019; Hendriks, 2018; Kim et al. 2018; Rusk & Waters, 2013). Since the emergence of PP, numerous PP conferences, congresses, seminars and summits held globally (Compton & Hoffman, 2019; Hendriks, 2018). To gather people who are interested in PP, The International Association of Positive Psychology (IPPA) and the European Network of Positive Psychology (ENPP) were established **(**Hendriks, 2018).

In their bibliometric analyses of 1128 PP related publications, Schui and Krampen (2010) found that applied psychology - particularly clinical and health psychology - was the most preeminent subfield of psychology in literature. Likewise, Donaldson et al. (2014) detected that applied psychology - particularly clinical/counselling psychology, organizational psychology, school psychology and youth/developmental psychology - was the most preeminent subfield of psychology within the 565 non-empirical PP related publications. In their quantitative analysis of 18.401 PP related publication, Rusk and Waters (2013) found that multidisciplinary psychology, applied psychology, social psychology, and clinical psychology were the predominant subfields of psychology in literature. It was also detected that most of the PP related publications were produced by the fields outside of psychology, such as

management, psychiatry, neuroscience, education, public health, social sciences, sport sciences, and business. These findings show the multidisciplinary nature of PP research and how the field is interconnected to various other scientific disciplines besides psychology (Compton & Hoffman, 2019; Donaldson et al., 2014; Hendriks, 2018; Kim et al., 2018; Rusk & Waters, 2013).

PP is a wide discipline that encompasses various topics of research from different scientific fields mentioned above (Compton & Hoffman, 2019; Rusk & Waters, 2013). In their bibliometric analyses, Schui and Krampen (2010) found that well-being, happiness, quality of life, life satisfaction, positive personality traits and mental health were the most researched topics within PP related publications. Rusk & Waters (2013) detected an increase in the investigation of PP related topics such as well-being, happiness, life satisfaction, optimism, and use of PP terms in their quantitative analysis. They found that new topics such as mindfulness, gratitude, resilience and post-traumatic growth and other new terms related to PP was entering the field. In their systematic analysis of 1336 PP related publication, Donaldson et al. (2014) found that well-being, character strengths, hope, gratitude, resilience and growth were the most researched topics. Kim et al. (2018) detected that well-being, life satisfaction, positive-negative affect, happiness, depression, health, gratitude, resilience, and personality were the most researched topics in their systematic analysis of 863 PP related publication. Additionally, they found that PP research is not just about the positive topics, it also includes research on the negative topics such as psychological disorders and social problems. Like Rusk and Waters (2013), Kim et al. (2018) also found that new topics related to PP such as mindfulness, post-traumatic stress and growth, recovery were entering the field. As a new field, PP covers many topics (Kim et al., 2018; Rusk & Waters, 2013; Schui & Krampen, 2010) and creates new lines for research (Kim et al., 2018; Rusk & Waters, 2013).

In terms of research characteristics, findings reveal that PP mostly uses quantitative research methods and cross-sectional and correlational designs in empirical research. Schui and Krampen (2010) found that 86% of the 1128 PP related publication were empirical studies and 85% of these studies used quantitative methods for research. Donaldson et al. (2014) found that 58% of the 1336 PP related publication were empirical, 78% of these studies used quantitative methods and 77% of the

empirical studies used cross-sectional design. They also pointed that within the initial years of the field, conceptual and theoretical articles published more frequently, however this changed after the year 2006 and empirical research started to dominate the field. Kim et al. (2018) found that 78.8% of the empirical studies used quantitative methods, 74.9% used cross-sectional design, 72.7% used correlational design and 84.6% used individual-level analysis. PP provides empirical evidences for its concepts and theories and by doing so increases the influence of the field within the scientific community of psychology.

During the 20th century many articles, books, textbooks and handbooks established in the realm of PP (Hendriks, 2018). Many academic journals dedicated special issues to PP and several journals were developed specifically for the field as the Journal of Positive Psychology, the Journal of Happiness Studies, the Journal of Happiness and Well-Being, and the International Journal of Well-being (Compton & Hoffman, 2019; Hendriks, 2018). In bibliometric analyses, Schui and Krampen (2010) found a yearly continuous increase in the amount of PP publications since 2000; in particular, the numbers of publication were increased by 100 to 200 each year between 2002 and 2008. In their analysis, Rusk and Waters (2013) found that 86% of 18.401 PP related publication in PsychINFO published after 1998 and 2300 of them published in 2011. Additionally, they found that citable PP related publications only constituted 1.5% of the total literature in PsycINFO in 1998, however this percentage increased to 4.4% in 2011 with a 2.64 aggregate impact factor. In their systematic analysis, Donaldson et al. (2014) found that averagely 14.2 studies between 1999-2003, 74.5 studies between 2004-2007 and 161.2 studies between 2008-2013 published yearly. These findings about the growth of PP related literature indicated the acceptance of PP as a new scientific field by many and increasing significance of researching topics related to positive human functioning (Donaldson et al., 2014; Hendriks, 2018; Rusk & Waters, 2013; Schui & Krampen, 2010).

Some critics claimed that all fields of psychology were overly influenced by North American culture and strongly reflected Western forms of living (Hendriks, 2018; Joshanloo, 2014). In his analysis of six APA journals, Arnett (2008) found that research in psychology were ruled by American psychologists. He also found that 93% to 95% of the research samples were from Westernized countries and 68% of the

samples were from the United States. He detected that the samples of the research only represented the 5% to 7% of the world's population. The field of PP also criticized as being strongly influenced by American and neglecting influences of culture in terms of happiness and well-being (Hendriks, 2018; Hendriks, Warren et al., 2018; Joshanloo, 2014; Kim et al., 2018; Schui & Krampen, 2010). In their bibliometric analyses, Schui and Krampen (2010) found that 94.5% of the PP related publications were written in English and came from Western countries. They detected that 74.5% of the publications' authors were institutionally affiliated with North America (U.S. and Canada). Whereas the researchers found a small percentage of %5.5 for the PP related publications that came from non-Western countries. Schui and Krampen's (2010) finding for the PP field being dominated by North American authors is in line with Arnett's (2008) finding for the field of psychology as being dominated by American psychologists. Initially, the field of PP developed mostly in Western countries, however there is a growing evidence for the greater global representation of PP research (Donaldson et al., 2014; Hendriks, 2018; Hendriks, Warren, et al., 2018; Kim et al., 2018). In their systematic analysis of PP related publications, Donaldson et al. (2014) found that the research in PP generated across 46 countries. They identified that 77% of the publications were from English-speaking Western countries and 60.7% were written by authors from North America (U.S. and Canada). **A**nalysis done by Kim et al. (2018) included PP related publications from five continents and 63 countries. They detected that 78% of the PP related publication samples were from Western countries and 41% of the publications' sample were from United States. When findings of the analysis were compared, it is to be concluded that interest in PP research is growing all around the world and international representation of the field is promising.

2.1.4 Positive psychology interventions. PPIs are theoretically, and empirically validated techniques and exercises aimed at cultivating positive feelings, behaviors, and cognitions to enhance well-being (Hendriks, 2018; Hendriks, Schotanus-Dijkstra, et al., 2018; Ng & Lim, 2019; Schueller, 2010).

Seligman's well-being theory of PERMA influenced Chris Peterson to protocolize positive psychotherapy (PPT) (Rashid, 2015). PPT systematically

strengthens individual's positive resources such as positive emotions, engagement, positive relationships, meaning and accomplishments (PERMA) (Rashid, 2015). Some PPIs that were developed as part of PPT are ''Using Your Strengths'', ''Three Good Things/Blessings'', ''Orbituary/Biography'', ''Gratitude Visit'', ''Active/Constructive Responding'' and ''Savouring'' (Slade, 2010, p.9). In 'Using Your Strengths' exercise, individuals identify their five finest strengths by filling Values in Action Inventory of Strengths (VIA) and explore new ways to use them more frequently in their daily life (Seligman, Steen, Park & Peterson, 2005; Schueller, 2010; Slade, 2010). In 'Three Good Things/Blessings' exercise, individuals write down three things that went good every day and provide an explanation for their goodness (Seligman et al., 2005; Schueller, 2010; Slade, 2010). In 'Orbituary/Biography' exercise, individuals write a paper about what they would like to be most remembered for after their death (Slade, 2010). In 'Gratitude Visit' exercise, individuals write and deliver a gratitude letter to someone they have never thanked before (Rashid, 2015; Seligman et al., 2005; Schueller, 2010; Slade, 2010). In 'Active/Constructive Responding' exercise, individuals respond actively and constructively to good information they receive from people as active-constructive responding involves reacting in a positive manner (Rashid, 2015; Schueller, 2010; Slade, 2010). In 'Savoring 'exercise, every day individuals try to intensify or elongate the pleasurable experiences by focusing their attention and not rushing them, then they write a reflection about how the experiences went and felt (Schueller, 2010; Slade, 2010). All of these PPIs in PPT proven to be effective for enhancing well-being, they help individuals to regulate their emotions and improve their self-evaluations in multiple settings by educating them on how to utilize positives and negatives (Rashid, 2015).

Field of PP benefits from mind and body interventions to expand individuals' personal strengths, positive emotions, life satisfaction, personal growth and meaning (Hendriks et al., 2017). PPIs are not limited to techniques and exercises within the PPT, there are also other techniques and exercises that were embraced as a PPI (Hendriks, 2018). Some interventions accepted by PP field include forgiveness, compassion, and mindfulness exercises (Hendriks, 2018; Hendriks et al., 2017; Hendriks, Warren, et al., 2018). Especially, many PPIs include mindfulness exercises

and PP takes advantage of Buddhist philosophy for increasing well-being (Hendriks, 2018; Hendriks et al., 2017).

Many systematic reviews and meta-analyses conducted by researchers on the effectiveness of PPIs. In their meta-analysis of 51 controlled studies that include both clinical and non-clinical populations, Sin and Lyubomirsky (2009) found that PPIs are effective in enhancing well-being and alleviating depressive symptoms. Later, Bolier, Haverman, Westerhof, Riper, Smit and Bohlmeijer (2013) also conducted a meta-analysis and investigated 39 randomized controlled studies that include clinical and non-clinical samples. They found that PPIs are effective in improving SWB and PWB and reducing depressive symptoms. In their meta-analysis of 68 randomized controlled studies that include only non-clinical populations, Koydemir et al. (2020) found that PPIs are effective in enhancing SWB and PWB. They also investigated the studies that targeted both types of well-being and found that these PPIs are more effective than the PPIs that targeted only one type of well-being. Chakhssi, Kraiss, Sommers-Spijkerman and Bohlmeijer (2018) conducted a systematic review and meta-analysis of 30 controlled studies that include only clinical samples and detected that PPIs are effective in increasing well-being and decreasing depression and anxiety in clinical populations with psychiatric and somatic disorders. Also, Geerling, Kraiss, Kelders, Stevens, Kupka and Bohlmeijer (2020) conducted a systematic review and meta-analysis of 16 controlled studies that contain only clinical populations with severe mental illnesses. They found that PPIs are effective in enhancing well-being and reducing psychopathology, particularly for alleviating major depressive disorder symptoms in comparison to other psychopathologies. In all of these systematic reviews and meta-analyses, effect sizes for the outcome variables found to be small to moderate (Bolier et al., 2013; Chakhssi et al., 2018; Geerling et al., 2020; Koydemir et al., 2020; Sin & Lyubomirsky, 2009).

Moreover, there are systematic reviews and meta-analyses on the effectiveness of multi-component positive psychology interventions (MPPIs), interventions that contain at least three PP exercises (Hendriks, Schotanus-Dijkstra, et al., 2018). Hendriks, Schotanus- Dijkstra et al. (2018) investigated the efficacy of MPPIs. In their systematic review and meta-analysis of 37 randomized controlled studies that include clinical and non-clinical samples, they found that MPPIs are effective in enhancing

SWB and PWB and alleviating symptoms of depression and anxiety. They compared MPPIs with single component PPIs and detected that MPPIs have larger effect on SWB , PWB and depression, however this difference was at the minimum level. Later on, Hendriks, Schotanus-Dijkstra, Hassankhan, de Jong and Bohlmeijer (2019) also conducted a systematic review and meta-analysis on the efficacy of MPPIs and researched 50 randomized controlled studies that contain clinical and non-clinical samples. They found that MPPIs are effective in improving SWB and PWB and reducing symptoms of depression and anxiety. Effect sizes for the outcome variables of these two studies found to be small to moderate (Hendriks, Schotanus-Dijkstra, Hassankhan, de Jong, et al., 2019; Hendriks, Schotanus-Dijkstra, et al., 2018). All of these findings show that single and multi-component PPIs are effective in enhancing well-being both in clinical and non-clinical populations.

The concepts of happiness and well-being differ across cultures (Compton & Hoffman, 2019; Joshanloo, 2014). Western European and North American cultures are considered as Western cultures (Hendriks, Warren, et al., 2018). In Western cultures, conceptualizations of well-being and happiness are based on individualistic ideals and principles of hedonism, the self is considered as a fixed entity that has clear boundaries, and the importance of self-enhancement is emphasized (Joshanloo, 2014). Well-being and happiness are achieved through individual processes that enhance autonomy, independence, and environmental mastery (Compton & Hoffman, 2019; Joshanloo, 2014). However, in Eastern cultures, conceptualizations of well-being and happiness are mostly based on ideals of collectivism and eudaimonic principles, the self is considered as a small part of the collective and the cosmos and the importance of self-transcendence is emphasized (Joshanloo, 2014; Ng & Lim, 2019). Well-being and happiness are achieved mostly through social processes that foster social harmony, interdependence, and adjustment to environment (Compton & Hoffman, 2019; Joshanloo, 2014; Ng & Lim, 2019). Asian and South American cultures are considered as Eastern cultures (Hendriks, Warren, et al., 2018). Eastern perspectives of well-being and happiness have been criticizing Western perspectives to be self-focused, not to value suffering and to neglect social aspects of well-being (Joshanloo, 2014).

As mentioned earlier, the field of PP has been criticized for neglecting influences of culture and reflecting heavily Western cultures' perspective on well-

being and happiness. The PP field started to develop in Western countries (Hendriks, Warren, et al., 2018), therefore it is not a surprise that the field was influenced by Western cultures. PPIs are known to be aimed at increasing individuals' well-being, however most of them achieve this through collectivistic pathways that are aimed at enhancing interdependent relationships to increase well-being of independent individuals (Hendriks, Warren, et al., 2018). PP and PPIs are strongly influenced by Chris Peterson and M.E. Seligman's work on the VIA Classification of Character Strengths and Virtues (Hendriks, 2018; Rashid, 2015). To create VIA, they reviewed classical texts from eight different traditions to describe strengths and virtues that enable human flourishing (Hendriks, 2018). They benefited from Buddhism, Hinduism, Confucianism, Taoism, Judaism, Christianity, Islam, and Athenian philosophy (Hendriks, 2018). Today, many PPIs integrate knowledge and mind-body exercises that are entrenched in Eastern philosophies (Hendriks et al., 2017; Hendriks, Warren, et al., 2018). Despite the critics made for the PP field as being too Western-centric and heavily hampering Western conceptualizations of well-being and happiness, PPIs are helpful for enhancing both hedonic and eudaemonic well-being (Hendriks, Warren, et al., 2018; Ng & Lim, 2019).

Hendriks, Warren, et al. (2018) conducted a bibliometric analysis to investigate how Western-centric or ''WEIRD'' (Western, Educated, Industrialized, Rich, Democratic) PPIs are. The researchers analyzed country of origins of the studies, participants' education statuses, originating countries' level of industrialization, level of income and political regimes. The study included 188 randomized controlled studies that contain single and multi component PPIs from 24 different countries. In their analysis, the researchers found that 78.2% of the randomized controlled studies on the effectiveness of PPIs were conducted in Western countries that are highly industrialized, rich, democratic and filled with educated people. However, they also found a substantial increase in the number of randomized controlled studies from non-Western countries since 2012. Between the years 1998-2012, the ratio of non-Western randomized controlled studies to Western randomized controlled studies was 1:13.3, however, this ratio decreased to 1:2.5 between the years 2012-2017. Between the years 2012 and 2014, once again, indicating that the interest PP has been promising global

growth. Hendriks, Warren, et al. (2018) findings support this trend and show that the field of PP is becoming less Western-centric.

There are few studies that considered the effect of culture for the effectiveness of PPIs. To detect the effectiveness of PPIs that are conducted in non-Western countries, Hendriks, Hassankhan, et al. (2018) carried out a systematic review and meta-analysis of 28 randomized controlled studies that contain single and multi-component PPIs. The studies included were conducted among clinical and non-clinical populations. The researchers found that single and multi-component PPIs conducted in non-Western countries are moderately effective in enhancing SWB and PWB and largely effective in reducing symptoms of depression and anxiety. However, when they compared MPPIs with single component PPIs, they could not detect a significant difference in effectiveness. They also investigated whether the region of origin of the studies was a significant moderator. When effectiveness of single and multi-component PPIs conducted in non-Western countries were compared with PPIs conducted in Western countries, larger effect sizes were found for non-Western studies. They explained this difference in effectiveness mostly by the lower quality of non-Western studies. Like Hendriks, Hassankhan, et al. (2018), Hendriks, Schotanus-Dijkstra, et al. (2018) and Hendriks, Schotanus-Dijkstra, Hassankhan, de Jong, et al. (2019) also found larger effect sizes for MPPIs that are conducted in non-Western countries. Hendriks, Schotanus-Dijkstra, et al., (2018) detected larger effects on SWB, PWB and anxiety, whereas Hendriks, Schotanus-Dijkstra, Hassankhan, de Jong, et al. (2019) detected larger effect on anxiety. Likewise, these two studies suggested that the difference in effectiveness is mostly due to the low quality of the non-Western studies.

Besides the lower study quality, there are other possible explanations for the larger effect sizes of PPIs in non-Western countries. PPIs can be efficiently adapted to different cultural backgrounds because they allow integrating knowledge and practices from spiritual and religious traditions (Hendriks, 2018; Hendriks, Warren, et al., 2018). In their bibliometric analysis, Hendriks, Warren, et al. (2018) found that PPIs that include life review and spiritual activities are used more often by non-Western countries. Also, many PPIs operate through collectivistic pathways to achieve individual well-being (Hendriks, Warren, et al., 2018). Therefore, PPIs are more likely to culturally fit with the non-Western countries than traditional psychological

interventions (Hendriks, 2018; Hendriks, Warren, et al., 2018). Another explanation for the larger effect sizes for PPIs in non-Western countries might be the cultural fitness of the interventions (Hendriks, Warren, et al., 2018). In some of the non-Western countries access to mental health care is limited (Hendriks, 2018; Hendriks, Warren, et al., 2018). Especially, if the country's income level is low or middle, the people who are in need of mental health care cannot access any psychological treatment due to high costs and scarcity of well-trained professionals (Hendriks, 2018; Hendriks, Warren, et al., 2018). In non-Western countries people might be more eager to benefit from PPIs due to the limited access to mental health care (Hendriks, 2018). Therefore, the larger effect sizes for PPIs in non-Western countries might be explained by the novelty of the interventions (Hendriks, 2018). As mentioned earlier, PPIs include many types of mind and body interventions from different cultural traditions and have a potential to provide culturally sensitive interventions (Ng & Lim, 2019). When compared with traditional psychological interventions, PPIs are less complex, can easily practiced by professionals with less formal training and are cost-effective (Hendriks, 2018; Hendriks, Warren, et al., 2018; Schueller, 2010). Therefore, PPIs can extent access to mental health care in low- and middle-income countries and complement to traditional psychological interventions in non-Western countries (Hendriks, Warren, et al., 2018; Seligman et al., 2005).

2.2 Yoga

In this section, the information gathered from relevant literature regarding yoga is presented in the appropriate order.

2.2.1 What is yoga and why yoga?. Yoga is an ancient spiritual practice that originated from Indian philosophy (Hendriks et al., 2017; Worby, 2002). Currently, it is not only recognized philosophically but as a mind and body science and a method for preventing and treating of physical and psychological disorders (Gaiswinker & Unterrainer, 2016; Gautam, Jain, Marwale & Gautam, 2020; Kaley-Isley et al., 2010; Worby, 2002). As a practice, method, and science, it has been influenced by many

traditions, including the five thousand years old ancient traditions, and by many cultures, including the modern cultures of today (Feuerstein, 2011; Perry, 2020).

Yoga is a Sanskrit term derived from the word of 'yuj' which has meanings of 'yoking' or 'joining' (Horovitz & Elgelid, 2015; Feuerstein, 2011; Perry, 2020; Worby, 2002). The term yoga represents an unitive discipline and a method for the mind, body and spirit (Barnett & Shale, 2013; Feuerstein, 2011; Horovitz & Elgelid, 2015; Worby, 2002). Yoga practice joins and unites the mind, body and spirit through physical postures (asanas), controlled breathing (pranayama), meditation (dyana), and deep relaxation techniques for gaining knowledge about the true nature of the self (Balasubramaniam, Telles & Doraiswamy, 2013; Feuerstein, 2011; Gaiswinker & Unterrainer, 2016; Worby, 2002). Yoga holds the belief that happiness lies within our true nature and can only be achieved through the discovery of our true selves that is free from the drives of the ego self (Feuerstein, 2011; Rao, 2014). Discovering the true self enables the mind and body, the matter and spirit, the ego and personality to transcend beyond the restrictions of the material world and leads toward true happiness (Feuerstein, 2011). Yoga also has an ethical approach towards others surrounding the self and promotes altruistic behaviors (Rao, 2014; Worby, 2002).

Yoga is a holistic, transformational, experiential, and therapeutic practice (Worby, 2002). It is a process oriented method for discovering the self and finding meaning in life (Worby, 2002). By regularly practicing yoga, people can discover non-functional habitual patterns of the mind and the body (Worby, 2002). Yoga practice creates an opportunity to experiment what is right, healthy, functional for the mind and the body and helps people to replace their non-functional habits with functional ones (Worby, 2002). It creates a strong foundation for the self, therefore increases one's flexibility and strength against life's challenges and builds resiliency (Worby, 2002).

It is a practice which can easily adapt itself to the needs of its practitioner (Perry, 2020; Worby, 2002). People in any gender, age, size, condition, flexibility, or health can practice yoga (Worby, 2002). Today, it's many forms are being practiced by many people in gyms, yoga studios, schools, health clubs, community centers, and hospitals to enhance different aspects of physical and psychological health and well-being (Kaley-Isley et al., 2010). Yoga continues to evolve and spread its influence all over the world today (Perry, 2020; Worby, 2002).

2.2.2 The history of yoga. It is not exactly known that when yoga tradition began, however it is assumed that the history of yoga dates back to 5000 years and more (Worby, 2002).

2.2.2.1 Pre-modern age (6.500 B.C.E. - 1.700 C.E.). Development of yoga in the pre-modern age can be grouped into eight sequential time periods: Pre-Vedic, Vedic, Brahmanical, Post-Vedic/Upanishadic, Pre-Classical/Epic, Classical, Tantric/Puranic and Sectarian (Feuerstein & Wilber, 2001a).

2.2.2.1.1 Pre-Vedic age (6500 - 4500 B.C.E.). In its beginnings, yoga was an oral tradition that is passed on from teacher to student (Worby, 2002). Earliest evidences of yoga tradition can be found in the artifacts of Indus-Sarasvati civilization in Northern India, these artifacts embody various yogic figures (Feuerstein, 2011; Öner, 2015; Worby, 2002).

*2.2.2.1.2 Vedic age (4500 - 2500 B.C.E.)***.** The Vedas, Vedic hymns, created by seer-poets reflects yoga tradition and Indian spirituality in this period and they are the foundations of Hinduism (Feuerstein, 2011). The four Vedas created to yield wisdom are the Rig-Veda, the Yajur-Veda, the Sama-Veda and the Atharva-Veda (Feuerstein, 2011). Between those Vedas, the Rig-Veda (Knowledge of Praise) that consisted of 1028 hymns in Sanskrit had been the most influential one (Feuerstein, 2011) and its creation dates back to 3000 B.C.E (Feuerstein, 2011; Feuerstein & Wilber, 2001a). The Rig-Veda hymns reflects the culture of Indus-Sarasvati civilization (Feuerstein, 2011). The beginning of the Vedic Age is marked by the withering of the Sarasvati River in Northern India (Feuerstein & Wilber, 2001a). Tectonic movements and changes in the climate withered the powerful Sarasvati River in 1900 B.C.E, where Indus-Sarasvati civilization and many other settlements located (Feuerstein, 2011; Feuerstein & Wilber, 2001a). Yamunâ River and Sutlej River, tributaries of Sarasvati River, began to pour their waters into the Ganges and settlements along the Sarasvati River began to move into the banks of the Ganges River (Feuerstein & Wilber, 2001a). The withering of the Sarasvati River and the arrival of Vedic Aryans to Northern India

demolished the Indus-Sarasvati civilization (Feuerstein, 2011; Feuerstein & Wilber, 2001a). A war happened between Indus-Sarasvati civilization and Vedic Aryans, this war appears in the writings of the epic Mahâbhârata and marks the ending of the Vedic Age (Feuerstein & Wilber, 2001a). A date of 3102 B.C.E. thought for the war, however new findings show that the probable date is around 1700 B.C.E (Feuerstein, 2011; Feuerstein & Wilber, 2001a). Earliest evidences of yoga tradition can also be found in the sacrificial rituals of the Vedic Aryans (Feuerstein, 2011; Worby, 2002). Vedic yoga, in other words Archaic Yoga, was exercised during these sacrificial rituals (Feuerstein, 2011; Worby, 2002). The Vedics believed that through these ceremonies they create a connection between the visible and invisible worlds, a connection between the matter and spirit (Feuerstein, 2011; Worby, 2002). The aim of the Vedic Yogi masters, who are called seers, was to transcend the restrictions of the senses and the mind so they could achieve a peaceful inner space, a spiritual awakening (Feuerstein, 2011; Worby, 2002).

*2.2.2.1.3 Brahmanical age (2500 - 1500 B.C.E.)***.** With the collapse of Indus-Sarasvati civilization and the relocation of the Vedic Aryans to Ganges River area revealed a new culture which is based more on religiosity and Brahmanic priests swayed this period (Feuerstein & Wilber, 2001a). The scriptures of Brahmanas, Aranyakas and Sutra created during this era (Feuerstein & Wilber, 2001a). The Brahmanas contained religious and mythical beliefs and the rituals of the clergy (Feuerstein & Wilber, 2001a). The Aranyakas covered rituals of the forest-dwelling ascetics. The Sutra featured legal-ethical affairs and arts-humanities (Feuerstein & Wilber, 2001a).

*2.2.2.1.4 Post-Vedic/Upanishadic age (1500 - 1000 B.C.E.)***.** The scriptures of Upanishads marks this period, they are created against the strict religious-mythical beliefs and rituals of the Brahmanic priests (Feuerstein & Wilber, 2001a). The Upanishads are displayed a psycho-spiritual tradition that is built on internalized ritualism by renunciation of worldly goods, essentially, they clarified what was previously narrated in the Vedas (Feuerstein & Wilber, 2001a). In famous Katha-Upanishad (Secret Teaching of the Kathas), people who have wisdom quit worldly

pleasures and goods and follow God by practicing adhyatma-yoga, the inner self Yoga (Feuerstein, 2011). The adhyatma-yoga aims at uniting the senses and the mind, so one could achieve a peaceful inner space and realize oneself (Feuerstein, 2011). However, it is believed that one needs to be blessed to have this realization, an effort to achieve it is just not enough (Feuerstein, 2011).

2.2.2.1.5 Pre-Classical/Epic age (1000 - 100 B.C.E.). Indian psycho-spiritual and religious-philosophical traditions clashed and merged with each other simultaneously and this evolved the Indian culture (Feuerstein & Wilber, 2001a). Deep studies have been made on two important aspects of life: the Samnyasa ‘‘renunciation’’ and the Dharma ‘‘acceptance of social obligations’’ (Feuerstein & Wilber, 2001a). The creation of the epic Mahabharata, where the eight-teen-day war between the Pandavas and the Kauravas and its aftermath is narrated, finished during this period (Feuerstein, 2011; Feuerstein & Wilber, 2001a). Also, the epic Ramayana created during this period (Feuerstein, 2011). One of the earliest evidences of yoga tradition can be found in the Bhagavad-Gita (Lord’s Song) embedded in the Mahabharata epic (Feuerstein, 2011; Feuerstein & Wilber, 2001a). The Bhagavad-Gita narrates the dialog between the Pandava prince Ardunya and the God’s man Krishna; Ardunya rejects the battle because sees teachers and friends among the enemy forces and Krishna tries to persuade him to execute his job as a warrior (Feuerstein & Wilber, 2001a). The teaching of the Bhagavad-Gita is that real power comes from one’s benevolent actions that restrain the manipulations of the ego that favoring the evil (Worby, 2002). Roots of Pre-Classical/Epic Yoga can be found in the teachings of Moksha-Dharma (Liberation Teaching) embedded in the Mahabharata epic (Feuerstein, 2011). During this period, also various Upanishads that present yoga teachings were created, the most important ones were the Shvetashvatara-Upanishad and the Maitrayaniya-Upanishad (Feuerstein, 2011). Most of the yoga schools of this period instructed various techniques for deep meditation and deep meditation was aimed at transcending the mind-body duo toward self-realization (Worby, 2002). The emergence of Jainism and Buddhism falls into this age (Feuerstein & Wilber, 2001a).

2.2.2.1.6 Classical age (100 B.C.E. - 500 C.E.). The classical yoga schools of Indian culture emerged during this period (Feuerstein, 2011; Feuerstein & Wilber, 2001a). However, classical age is marked by the famous Yoga-Sutra (Aphorisms of Yoga) of Patanjali (Feuerstein, 2011), where he depicts the eight paths of classical yoga, which is also called the Raja Yoga (Worby, 2002). Classical yoga displays a dualistic philosophy, Patanjali believed that every individual is a combination of matter and spirit, however proposed that yoga preserves the absolute purity of the soul by separating the two (Feuerstein, 2011; Öner, 2015). With the emergence of classical yoga, the body started to be seen as a temple that shelters the spirit, therefore should be looked after (Worby, 2002). In that sense classical yoga differs from Vedic and Pre-classical forms of yoga where the unity of the mind and the body emphasized (Feuerstein, 2011; Öner, 2015). The end of this period goes along with the descending of the dynasty Gupta (Feuerstein, 2011). Under Guptas arts and sciences bloomed in India and their tolerance for other religions established a ground for the growth of Buddhism in Indian soils (Feuerstein, 2011). With the emergence of Mahayana Buddhism, active dialogue between Buddhists and Hindus began during this period (Feuerstein, 2011).

2.2.2.1.7 Tantric/Puranic age (500 - 1300 C.E.). Emergence of the scriptures Tantras marks this period (Feuerstein, 2011; Feuerstein & Wilber, 2001a). Tantras belong to the tradition of Shaktism and contain teachings of Tantrism that are based on the synthesis of distinctions and similarities found within the thousands years of knowledge (Feuerstein, 2011; Feuerstein & Wilber, 2001a). Shakti means ‘power’ and indicates the spiritual energy, a goddess energy, behind the everything created and Tantrism is about attracting that energy through yoga (Feuerstein, 2011). By the first millennium C.E, Tantras spread all around India and influenced Hinduism, Buddhism and Jainism (Feuerstein & Wilber, 2001a). In total 192 Tantras found that belong to this age and the ones that are known by many people are the Kula Arnava Tantra (Tantra of the Kula Ocean) and the Mahanirvana Tantra (Tantra of the Great Extinction) (Feuerstein, 2011). Tantrism also influenced the emergence of Hatha-Yoga (Forceful Yoga) and Hatha-Yoga-Pradipika (Light on the Forceful Yoga) (Feuerstein, 2011). The Gheranda-Samhita (Compendium of Gheranda), and the Shiva-Samhita

(Shiva's Compendium) scriptures also created in this time (Feuerstein, 2011). This age is also called the Puranic Age due to the creation of Puranas, the encyclopedic compilations on philosophical, mythical, and ritualistic knowledge (Feuerstein, 2011; Feuerstein & Wilber, 2001a). Puranic tradition dates back to the Vedic Age and it is mentioned in the Atharva-Veda (Feuerstein, 2011). In total 18 major Puranas found and the most famous one is the Bhagavata-Purana (Feuerstein, 2011).

2.2.2.1.8 Sectarian age (1300 - 1700 C.E.). This period is marked by the Bhakti movement, a revolution that is based on religious devotionalism (Feuerstein & Wilber, 2001a). Two significant sectarian communities played role in this movement, namely the Vaishnavas and the Shaivas (Feuerstein & Wilber, 2001a). The Shaivas created the scriptures of Agamas (Traditions), the Vaishnavas created the scriptures of Samhitas (Compendiums) and these are significant resources for the yoga tradition (Feuerstein, 2011).

2.2.2.2 Modern age (1.700 C.E. - present). The modern age is started by the downfall of the Mughal Empire in the beginning of the eighteenth century (Feuerstein & Wilber, 2001a). An increase in the appearance of European nations in Indian politics followed this collapse and Queen Victoria became the Empress of India in 1880 (Feuerstein & Wilber, 2001a). The queen's interest in Indian culture attracted the attention of the West and yoga started to found its place within the Western cultures (Feuerstein & Wilber, 2001a). With the beginning of the colonial period in India, yoga tradition began to transform and modern forms of yoga for health and well-being started to emerge gradually (Shaw & Kaytaz, 2021). The international physical culture movement and Indian nationalism against colonization heavily influenced this transformation (Shaw & Kaytaz, 2021).

Yoga renaissance began with Swami Vivekananda (1863-1902) (Feuerstein & Wilber, 2001a; Horovitz & Elgelid, 2015; Perry, 2020; Shaw & Kaytaz, 2021; Worby, 2002). He born into an upper-class family with the name Narendranath Datta and went to schools of British's where he received a Western type of education (Horovitz & Elgelid, 2015). In his eighteen he met with the guru Ramakrishna and upon guru's death appointed himself as a swami with the name Swami Vivekananda (Bliss of

Discrimination) (Horovitz & Elgelid, 2015). He revised the Yoga-Sutra of Patanjali and emphasized that religious authority lies within the individual (Shaw & Kaytaz, 2021). His form of religious yoga was a mixture of Indian spirituality and Western esotericism (Shaw & Kaytaz, 2021). In his participation in a gathering of Parliament of Religions in Chicago in 1893, he introduced his form of yoga to the Americans and this initiated the yoga renaissance in India and in the West (Feuerstein & Wilber, 2001a; Horovitz & Elgelid, 2015; Perry, 2020; Shaw & Kaytaz, 2021; Worby, 2002). After his speech at the parliament, he travelled around and wrote books to spread yoga tradition (Horovitz & Elgelid, 2015; Worby, 2002). His famous book Raja Yoga (1986) influenced many people (Shaw & Kaytaz, 2021).

The start of the physical culture movement which defended the importance of physical fitness by performing sports like athletics, gymnastics and bodybuilding in Europe in nineteenth century caused Indian males to be seen as physically weak, feminine, and morally corrupted by British colonial rulers (Shaw & Kaytaz, 2021). British rulers regulated their school system in India by placing physical exercise regimes used in the West such as gymnastics and calisthenics to their curriculums by 1920s (Shaw & Kaytaz, 2021). Physical education began to gain importance in India and this contributed the understanding of human nature being composed by three layers as mind, body and spirit (Shaw & Kaytaz, 2021). Later on, British rulers also added yoga asanas and other indigenous physical exercises to their curriculums to increase the interest of the natives, however these exercises were not seen as yoga at those times (Shaw & Kaytaz, 2021). Physical culture movement progressively aligned with the Indian nationalism, Indians started to empower their bodies to be able to withstand the control of ‘‘the colonial body’’ and reactivated indigenous physical exercises such as martial arts and yoga asanas (Shaw & Kaytaz, 2021).

The growth of physical culture movement and its acceptance by the elites of India brought an end to the traditional hatha yoga practice at the end of the nineteenth century (Horovitz & Elgelid, 2015). To maintain and breed some aspects of the traditional hatha yoga, some Indian teachers gathered and reviewed the practice in the 1930s (Horovitz & Elgelid, 2015; Shaw & Kaytaz, 2021). Traditional hatha yoga practice involves difficult and dangerous exercises that are unsafe to perform without a guru supervisor, therefore the teachers removed some of these exercises from the

practice, replaced them with exercises from Indian wrestling and Western gymnastics and consequently created yoga asanas (Horovitz & Elgelid, 2015). In traditional hatha yoga, asanas are used for preparation to the central focus of the practice, namely the pranayama and dyhana, however Neo-Hatha yoga relies densely on the asanas (Horovitz & Elgelid, 2015). Today in the modern world, 'Hatha Yoga' refers many styles and forms of yoga that are heavily focused on the body and rely on yoga asanas (Horovitz & Elgelid, 2015; Shaw & Kaytaz, 2021). When yoga came to American soils in the late nineteenth and early twentieth centuries it was seen as a spiritual and philosophical practice (Perry, 2020). However, this changed by the influences of the European physical culture movement and Indian nationalism and modern postural yoga started to emerge during the twentieth century in India (Shaw & Kaytaz, 2021). Yoga started to be seen as a physical practice in the West in the mid-twentieth century and this contributed to globalization of yoga (Shaw & Kaytaz, 2021).

Sri Yogendra (1897–1989) and Swami Kuvalayananda (1883–1966) were significant teachers who renewed yoga as a scientific physical practice that promote health and well-being in the twentieth century (Perry, 2020; Shaw & Kaytaz, 2021). Sri Yogendra created a simple yoga routine for his approximately one hour long yoga classes that focused on the body, from traditional hatha yoga practice and Western physical exercises (Shaw & Kaytaz, 2021). He defended that postures and their dose should be modified according to individual needs and each individual should maintain a particular flow of harmonious movement and breath (Perry, 2020; Shaw & Kaytaz, 2021). Unlike traditional yoga forms, his form of yoga was aimed at alleviating people's daily life stresses, not enlightenment (Shaw & Kaytaz, 2021). He altered the notion of yoga as a mystic and esoteric practice and the classic guru-student relationship by creating yoga classes for ordinary people to unite and practice for achieving health and well-being (Perry, 2020; Shaw & Kaytaz, 2021). In 1918, he established a yoga institute that is both a yoga school and health center in Bombay, India (Shaw & Kaytaz, 2021). In 1920, he visited America to popularize postural yoga therapy and opened a yoga institute in New York (Shaw & Kaytaz, 2021). In 1948, he opened an another yoga institute in Mumbai, India (Shaw & Kaytaz, 2021). His books Yoga Asanas Simplified (1928) and Yoga Personal Hygiene (1931) influenced the view of yoga as being a health and physical practice (Perry, 2020). Like Yogendra,

Swami Kuvalayananda was interested in the health and therapeutic benefits of the yoga practices, but unlike Yogendra, he scientifically investigated these benefits (Perry, 2020; Shaw & Kaytaz, 2021). He conducted researchers for the effects of yoga practices such as asanas and pranayama on ‘‘blood pressure, digestion, circulation, nerves, and respiration’’ (Perry, 2020, p.17). In 1924, he established the Kaivalyadhama Health and Yoga Research Centre in Lonavala, India and the journal of Yoga Mimamsa to issue his research findings (Perry, 2020; Shaw & Kaytaz, 2021). He promoted postural yoga as a model for physical education and initiated the founding of the Seth Gordhandas Seksaria College of Yoga and Cultural Synthesis, a school where yoga teachers educated and certified, in Lonavala, India (Perry, 2020).

Tirumalai Krishnamacharya (1888–1989) was also a significant teacher of modern postural yoga in the twentieth century (Perry, 2020). He developed a new form of hatha yoga by mixing knowledge and practices that are placed in the classical yoga texts, Indian gymnastics and military exercises (Perry, 2020). His form of yoga, today known as Ashtanga Vinyasa Yoga, focused more on the physical aspects of yoga, however did not left behind the philosophical and spiritual aspects that involve breath work and meditation (Perry, 2020; Worby, 2002). He viewed yoga asanas as a preparation for meditation where mind becomes still and emphasized the importance of breath during asana practices as a unifying bridge between the mind and the moving body (Perry, 2020). Krishnamacharya trained many teachers that are significant in the modern yoga tradition, namely Indra Devi, K. Pattabhi Jois, B.K.S. Iyengar and T.K.V. Desikachar, his son (Perry, 2020; Shaw & Kaytaz, 2021; Worby, 2002). All of his students popularized yoga tradition in the West in the second part of the twentieth century (Perry, 2020). Indra Devi was the first female student of Krishnamacharya from the West (Worby, 2002). She opened the first Hatha Yoga studio in the West in 1947 and continued to open yoga schools all around the world later on (Worby, 2002). In 1959, she published the book Yoga for Americans (Worby, 2002). K. Pattabhi Jois popularized Krishnamacharya’s form of yoga with the name Ashtanga Yoga and he introduced it to the Americans in 1975 (Worby, 2002). B.K.S. Iyengar created a yoga practice that heavily accounted the sensitivity of the body and emphasized the importance of correct skeletal alignment during asana practices (Worby, 2002). His precision for yoga practice influenced how yoga taught all around the world (Worby,

2002). In 1967, he published his book Light on Yoga and in 1973, Mary Palmer invited him to train in Ann Arbor, Michigan (Worby, 2002). T.K.V. Desikachar carried out his father's heritage and modernized it into Viniyoga (Worby, 2002). His first visit to America was in 1976. All of these teachers emphasized the physical aspects of yoga practice, however they never forget to emphasize its traditional origins in terms of spirituality and philosophy (Perry, 2020).

Emergence of modern postural yoga also caused yoga's spiritual aspect to be modernized by some during the twentieth century (Perry, 2020). Ramacharaka, namely William Walker Atkinson, was a best seller in the early twentieth century with his book Hatha Yoga: The Yogi Philosophy of Physical Well-Being (1930) (Perry, 2020). Ramacharaka's teachings was based on yoga's relationship with the nature, he utilized yoga as a mental and physical practice that is in harmony with the nature (Perry, 2020). Pursuing ''a natural state of health and well-being'' through controlling the mind with will power during physical practices was an important aspect of his teachings (Perry, 2020). Like Ramacharaka, Paramahansa Yogananda, author of Autobiography of a Yogi (1946), also emphasized the importance of discovering the connection between the mind, body and spirit through mental, physical and spiritual practices (Perry, 2020). He developed a muscle control technique that is based on using will power to energize muscles and focused heavily on meditation for achieving a state of health and well-being (Perry, 2020). Yogananda came to America in 1920 and established the Self-Realization Fellowship (SRF) in 1925 (Worby, 2002). In the late 1960s, interest in the yoga's spiritual aspect flourished. The band Beatles' interest in spiritual teachings of Maharishi Mahesh Yogi and Transcendental Meditation (TM) influenced the popularization and normalization of yoga (Perry, 2020; Worby, 2002). Their preference for TM over the drug LSD to expand their mind and discover themselves created a wind for meditation all over the world and researches on meditation started perform by scholars (Perry, 2020; Worby, 2002). During 1970s yoga became more and more popular in the West and began to seen as a practice that is good for both the physical and mental health (Perry, 2020). Lilias Folan who is the student of Swami Chidananda aired the program 'Lilias! Yoga and You' on PBS and carried yoga into people's homes (Perry, 2020; Worby, 2002). Many schools, studios and classes opened for the teachers and students and for the children, adults and elderly (Perry, 2020).

Today, yoga is seen as a mind and body science that promote physical as well as psychological health and well-being (Gaiswinker & Unterrainer, 2016; Gautam et al., 2020; Kaley-Isley et al., 2010; Shaw & Kaytaz, 2021). The international popularity of yoga is growing every day, in addition to the classical forms of yoga new forms are constantly evolving and being practiced in various environments like gyms, community centers, hospitals, colleges, corporate firms and yoga studios-schools-retreats-conventions (Horovitz & Elgelid, 2015; Kaley-Isley et al., 2010; Worby, 2002). In a research conducted in 2020, it is found that approximately 300 million people practice yoga and international yoga industry worths annually 88 billion dollars (Shaw & Kaytaz, 2021). Since 1980s yoga's popularity and reachability increased, therefore it became a profitable industry within the capitalist system and there has been some debates on this issue (Shaw & Kaytaz, 2021). However, yoga has a history of concurrently being an elite and counter-cultural practice, therefore it can provide an opportunity for escaping from the capitalist system if one wants (Shaw & Kaytaz, 2021).

2.2.3 The schools of yoga. Nowadays, variety forms of yoga are being practiced all around the globe. This variety is heavily due to the popularization of yoga by modernization of traditional yoga forms. Even though there are different schools, forms or types of yoga exist, it is good to keep in mind that all share a common ground and can be regarded as a whole (Feuerstein & Wilber, 2001a).

2.2.3.1 Traditional yoga schools. The traditional schools of yoga within the Hindu culture are as follows: Raja yoga, Karma yoga, Bhakti yoga, Jnana yoga and Hatha yoga. Despite their different teachings and practices, they all are aimed at transforming and actualizing the self, in other words self-transcendence (Feuerstein & Wilber, 2001a; Worby, 2002).

2.2.3.1.1 Raja yoga. Raja Yoga, known as Royal Yoga or Classical Yoga, is based on the Patanjali's form of yoga that is characterized with meditation and contemplation (Feuerstein & Wilber, 2001a, Worby, 2002). Patanjali provided a hierarchical map to cosmos and existence by depicting the eight paths for self-

transcendence in his Yoga-Sutra (Feuerstein & Wilber, 2001a; Feuerstein & Wilber, 2001b; Worby, 2002). He investigated the relationship between the self and the nature and emphasized the importance of ecstatic realization (samadhi) for liberation from the limits of the nature and transcending into a pure consciousness (cit) (Feuerstein & Wilber, 2001b). According to Patanjali's dualistic philosophy, the self is the psycho-physical organism that generate the consciousness and the nature is the unconscious human body which carries the conscious mind (Feuerstein & Wilber, 2001b). He claimed that a connection between the self and the nature exists and our ordinary consciousness (citta) is effected by their interaction (Feuerstein & Wilber, 2001b).

In order to transcend into a pure consciousness (cit) where the mind-body-spirit become a whole, one needs to follow the following eight paths according to Patanjali (Feuerstein & Wilber, 2001b; Worby, 2002):

1. Yamas: The attitudes of individuals' toward other beings, in other words Universal Laws or Ethics
2. Niyamas: The attitudes of individuals' toward themselves, their observances about themselves
3. Asanas: Physical postures
4. Pranayama: Breath control techniques
5. Pratyahara: Sense-withdrawal
6. Dharana: Concentration
7. Dhyana: Meditation
8. Samadhi: A state of Ecstasy, in other words Self-realization or Enlightenment

Each path is named as a limb by Patanjali (Worby, 2002). According to him, these eight limbs together constituted the body of yoga and these limbs could grow separately or evolve together towards samadhi (Worby, 2002).

Yamas are the roots of the yoga tree, they form the basis of yoga practice (Worby, 2002). They are aimed at managing human instincts and shaping social relationships with moral integrity (Feuerstein & Wilber, 2001b). Five moral obligations that constitute Yamas are Ahimsa (non-harming), Satya (truthfulness), Asteya (non-stealing), Brahmacarya (chastity) and Aparigraha (greedlessness) (Feuerstein & Wilber, 2001b). Ahimsa involves non-violence and compassion towards all-beings including the oneself; Satya involves honesty in thoughts and deeds of all

kind; Asteya involves not taking anything, material or moral, that does not belong to one's own; Brahmacarya involves doing everything in a balanced manner, basically it is a moderation of instincts; Aparigraha involves living a simple and content life with own possessions (Öner, 2015; Worby 2002).

Niyamas are the trunk of the yoga tree (Worby 2002). They are interested in yoga practitioners' inner world and aimed at creating a peaceful relationship with the self and the transcendental reality (Feuerstein & Wilber, 2001b). Five practices that constitute Niyamas are Shauca (purity), Samtosha (contentment), Tapas (austerity), Svadhyaya (self-study) and Ishvara-pranidhana (devotion to the Lord) (Feuerstein & Wilber, 2001b). Shauca involves internal and external cleanness and suggests that a clear mind is a prerequisite for a healthy body (Worby 2002). It is maintained through asanas, pranayama and shatkriya (yogic cleansing practices) such as neti (nasal wash), dhauti (gastrointestinal cleansing), basti (bowel cleansing), yogic diet (Worby 2002). Samtosha involves being happy with oneself and appreciating the things that are given (Feuerstein & Wilber, 2001b). It emphasizes the importance of being process oriented rather than goal oriented for enjoying the life (Worby 2002). Tapas involves practices that create a high, burning psychosomatic energy for yielding the mind-body awareness such as extended static movement, silence, fasting, resisting to the cold and heat (Feuerstein & Wilber, 2001b). Svadhyaya involves any study that enables exploration of the self and self knowledge could be achieved through investigating the traditional scriptures, chantings and prayers (Feuerstein & Wilber, 2001b; Worby, 2002). Ishvara-pranidhana holds the belief that we are not in control of everything and involves opening one's heart and devoting one's actions to the Lord for feeling wholeness (Feuerstein & Wilber, 2001b; Worby, 2002).

Asanas are the branches of the yoga tree (Worby 2002). They are aimed at creating a harmony between the mind and the body through physical postures that calm, strengthen and activate the body, that create an inner quietness for the mind (Worby 2002). Many poses created as a asana have names that reflect the evolution of the nature, animals, humans and other transcendental beings (Worby 2002). Asanas require stability, comfort and alertness of the body for obtaining a balance between ''ease and effort'' (Worby 2002). Asanas are closely tied to the breathing of the body, body movement is synchronized with the breath movement during asanas (Worby

2002). According to Patanjali, asanas create an aura for the mind by creating a stillness within the body and this opens the path for self-transcendence (Feuerstein & Wilber, 2001b).

Pranayama are the leaves of the yoga tree (Worby 2002) and prana (breath) is the life force of the body, life force of the yoga tree (Feuerstein & Wilber, 2001b). Concentrating on the body with prana is essential to the pranayama, breath control techniques involve regulation of the inhalations and exhalations such as prolonging, shortening or retenting the breath (Worby 2002). Pranayama increase the awareness for the connection between the mind and body and can even create a state of ecstasy (samâdhi) (Feuerstein & Wilber, 2001b). It is generally combined with the asanas for creating a mind-body awareness (Worby 2002).

Pratyahara is the bark of the yoga tree, it guards the yoga tree from the external threats and allows growing of the inner power (Worby 2002). It is achieved gradually in combination with practices of asana and pranayama (Feuerstein & Wilber, 2001b). The five senses start to turn inwards, as the senses become not affected by the external stimuluses the mind becomes more alive by the practice of Pratyahara (Feuerstein & Wilber, 2001b; Worby, 2002).

Dharana is the sap of the yoga tree (Worby, 2002). It involves keeping the mind in a stationary state without any distractions by creating a specified focus of attention such as a particular part of the body or an internalized external stimuli (Feuerstein & Wilber, 2001b). Dharana paws the path for the inner awareness (Feuerstein & Wilber, 2001b). Prolongation of the dharana leads to a state of dhyana (Worby, 2002).

Dhyana is the flowers of the yoga tree (Worby, 2002). It is a state of constant and deep concentration where the specified focus of attention fills the whole consciousness (Feuerstein & Wilber, 2001b; Worby, 2002). Through meditation the mind becomes quiet and still but also in alert, a gate opens to the whole consciousness and consequently the mind blossoms (Worby, 2002). The main aim of dhyana is to interrupt the flow of typical mental processes that maintain perceptual errors and illusions (Feuerstein & Wilber, 2001b).

Samadhi is the fruit of the yoga tree, it is the ultimate award of the practice of yoga (Worby, 2002). This ecstatic state appears when one is detached from the

ordinary consciousness and the subject and object of the deep meditation intertwine with each other (Feuerstein & Wilber, 2001b; Worby, 2002). Self-transcendence occurs through experiencing this unification of the mind and the body (Feuerstein & Wilber, 2001b).

2.2.3.1.2 Karma yoga. Karma Yoga is about one's actions and believes that what one experiences in life is the result of one's actions (Feuerstein & Wilber, 2001b; Worby, 2002). Karma just not implicate actions that are evident but also implicate the inner approach toward actions (Feuerstein & Wilber, 2001b). Karma can be framed as a moral causation law where each individual is responsible from own actions and intentions (Feuerstein & Wilber, 2001b). Freeing one's actions from the ego centric motivations is the ultimate goal of the Karma Yoga, therefore transcending the ego leads to enlightenment (Feuerstein & Wilber, 2001b). Karma Yoga is also known as the path of service, one serves the Divine by sacrificing the ego self and this selfless service determines one's destiny in life (Feuerstein & Wilber, 2001b; Worby 2002).

2.2.3.1.3 Bhakti yoga. Bhakti Yoga is about one's heart felt love and devotion to the Divine, it is also known as the path of the heart and devotion (Feuerstein & Wilber, 2001b; Worby 2002). This loving attachment to the Divine enables liberation from the ego self and this leads to self-realization or enlightenment (Feuerstein & Wilber, 2001b). Bhakti Yoga practices involve prayers, rituals and meditations that worship the Divine (Feuerstein & Wilber, 2001b). It is aimed at transforming all kinds of emotions into unconditional and unlimited love (Feuerstein & Wilber, 2001b). Bhakti Yoga emphasizes the transcending power of love (Feuerstein & Wilber, 2001b).

2.2.3.1.4 Jnana yoga. Jnana Yoga is about forming an insight about one's perceptions, distinguishing between the real and unreal or right and wrong perceptions of the mind for self-realization (Feuerstein & Wilber, 2001b). It is known as the path of wisdom and knowledge (Feuerstein & Wilber, 2001b; Worby 2002). Through wisdom and knowledge one can achieve enlightenment according to Jnana Yoga (Feuerstein & Wilber, 2001b; Worby 2002). Self-knowledge lies at the core of the

Jnana practice because gaining self-knowledge raises wisdom and Jnana practices involve activities that help to maintain knowledge about one's own mind and body (Feuerstein & Wilber, 2001b; Worby 2002).

2.2.3.1.5 Hatha yoga. Hatha Yoga, known as Forceful Yoga, is heavily concerned with the physical body (Feuerstein & Wilber, 2001b; Worby 2002). Hatha Yoga suggests that the strengthening of the body yield strengthening of the mind and this leads to self-transcendence (Feuerstein & Wilber, 2001). Practices of asanas, pranayama, dhyana and relaxation constitute Hatha Yoga (Worby, 2002). Hatha Yoga is the most popular form of traditional yoga in modern times and evolved forms of hatha yoga commonly being practiced all around the world (Öner, 2015).

2.2.3.2 Modern yoga schools. Through the the physical culture movement and Indian nationalism, the traditional forms yoga, especially hatha yoga, began to be modernized by many and modern schools of yoga emerged. The most commonly practiced forms of yoga in the modern times are Ashtanga yoga, Sivananda yoga, Iyengar yoga, Bikram yoga, Viniyoga, Power yoga, Anusara yoga, Kripalu yoga, Ananda yoga, and Kundalini yoga.

2.2.3.2.1 Ashtanga yoga. K. Pattabhi Jois popularized Krishnamacharya's form of hatha yoga with the name Ashtanga Yoga and he introduced it to the Americans in 1975 (Worby, 2002). The main focus of this type of yoga is the body (Worby, 2002). In Ashtanga Yoga, postures together with the ujjayii breath are practiced sequentially in a dynamic rhythm and this heat creating flow is called Vinyasa (Worby, 2002). Through Vinyasas the body becomes more flexible and strong (Worby, 2002). Generally the speed of Ashtanga Yoga classes are fast and sometimes intense and difficult physical exercises are practiced within the classes (Worby, 2002).

2.2.3.2.2 Sivananda yoga. Swami Sivananda's teaching influenced the creation of Sivananda Yoga (Worby, 2002). Sivananda Yoga involves asanas, pranayama, dhyana, vedanta (positive thinking), relaxation and vegetarian diet (Worby, 2002). Twelve basic yoga postures create the flow of Sivananda Yoga (Worby, 2002).

2.2.3.2.3 Iyengar yoga. B.K.S. Iyengar is the creator of Iyengar Yoga, he was a student of famous Tirumalai Krishnamacharya (Worby, 2002). His form of yoga is heavily focused on the body (Worby, 2002). He emphasizes the importance of correct alignment during postures and believes that it is the foundation of yoga practice (Worby, 2002). The speed of Iyengar Yoga classes are generally slow due to the precision for posture alignments (Worby, 2002). In Iyengar Yoga, the postures are practiced for relatively longer time and can be repeated many times (Worby, 2002). When practicing, one can get use of yoga props such as blocks, belts, blankets and bolsters for obtaining a desirable pose alignment that is free from risks of injuries (Worby, 2002). Iyengar influenced many people all around the world and his form of yoga is practiced by many (Worby, 2002).

2.2.3.2.4 Bikram yoga. Bikram Choudhury created the Bikram Yoga, a style of yoga which is though and combative (Worby, 2002). Bikram Yoga is aimed at improving the condition of the body (Worby, 2002). A sequence of twenty-six postures practiced with ujjayii breath compose the Bikram Yoga and all postures are practiced two times for a valid time (Worby, 2002). The Bikram Yoga classes are held approximately at 100 degree heat to increase the sweating of the body and detoxification (Worby, 2002).

2.2.3.2.5 Viniyoga. T.K.V. Desikachar developed the Viniyoga by modernizing his father Tirumalai Krishnamacharya's form of yoga (Worby, 2002). Viniyoga involves a soft flow of postures that can be modified to suit for each person's individual needs (Worby, 2002). It is aimed at improving the body system, as well as the general health and well-being of individuals (Worby, 2002). Currently, it is mostly practiced for its therapeutic benefits (Worby, 2002).

2.2.3.2.6 Power yoga. Power yoga is created by Berly Bender Birch, who is an Ashtanga Yoga teacher (Worby, 2002). It is an American and modernized form of Ashtanga Yoga (Worby, 2002). Power Yoga enhances the strength and flexibility of the body, therefore holds similar goals with various physical sports (Worby, 2002).

Currently, many health centers suggest Power Yoga for individuals who want to switch from aerobics to yoga (Worby, 2002).

2.2.3.2.7 Anusara yoga. John Friend developed the Anusara Yoga, a form of yoga that is influenced from Hatha Yoga and biological mechanisms (Worby, 2002). Anusara Yoga targets both mental and physical alignment, it defends that while practicing one needs to approach the postures with grace and open heart (Worby, 2002). Anusara Yoga differs from Hatha Yoga because it adds an-spiritual aspect to the practice (Worby, 2002)

2.2.3.2.8 Kripalu yoga. Amrit Desai, who is the student of Indian Kundalini Yoga master Kripalvananda, is the creator of the Kripalu Yoga (Worby, 2002). Kripalu Yoga is composed from three phases that emphasize mental and physical alignment, harmony of the mind and the body (Worby, 2002). The first phase involves consciously aligning the inner practice of willpower with postures and breath (Worby, 2002). The second phase involves deepening in the postures through willpower and surrendering oneself to the flow of practice (Worby, 2002). The third phase involves deepening in the postures while deepening in the mind through meditation and giving oneself completely to the practice (Worby, 2002).

2.2.3.2.9 Ananda yoga. J. Donald Walters developed the Ananda Yoga, a form of yoga that is focused heavily on meditation (Worby, 2002). Ananda Yoga uses physical postures as a preparation for meditation and each posture is aimed at improving self -awareness and -knowledge (Worby, 2002).

2.2.3.2.10 Kundalini yoga. Yogi Bhajan created the Kundalini Yoga, a practice based on Tantrism (Worby, 2002). Kundalini Yoga is aimed at awakening the kundalini (serpent power) energy located in the spine base (Worby, 2002). To awaken the kundalini, postures, breathing techniques and chantings are practiced (Worby, 2002). Traveling of kundalini energy through the body yields to a spiritual awakening and unification of the mind and body (Worby, 2002).

2.2.4 The techniques of yoga practice. Uniting the mind, body, and spirit through physical postures, controlled breathing, meditation, and deep relaxation are common to most types of yoga practice (Balasubramaniam et al., 2013; Gaiswinker & Unterrainer, 2016). In this section, the following techniques of yoga practice will be explained under four headings: Physical Postures, Breath Control Techniques, Meditation Techniques and Deep Relaxation Techniques.

2.2.4.1 Physical postures. Physical postures in yoga practices are called Asanas. At first glance asanas may seem like physical exercises that are associated only with the physical body, however asanas also impact the psychological body by stimulating, energizing, and balancing each part of the physical body (Iyengar, 2021; Worby, 2002). The physical body is comprised from organs, bones, muscles, tissues and skin and the psychological body is comprised from nerves, brain and mind (Iyengar, 2021). Asanas help traveling of chemicals in and out the brain that sooth the nerves and this helps soothing of the mind (Iyengar, 2021). Through asanas the mind becomes calm, stable and perceptive and the body becomes relaxed, energized and healthy (Iyengar, 2021; Worby, 2002).

Asanas are not just physical postures that one can practice automatically, they involve use of intelligence in every step for the right practice (Iyengar, 2021). One needs to mindfully set up for the pose, come into pose and come out of the pose (Worby, 2002). In every pose one should display an action with a direction against gravity, body weight should spread evenly to the bones, muscles and joints and a space should created for the organs (Iyengar, 2021; Worby, 2002). By regular practice, one learns to instinctually combine the informations received from the action and perception organs (Iyengar, 2021), finds a balance between ease and effort and begins to be captivated by the meditative process of the asanas (Worby, 2002).

Seven basic positions of asanas are sitting, standing, forward bends, back bends, twists, inversions and reclining (Iyengar, 2021) and each have different effects for the physical and psychological body (Worby, 2002). Sitting asanas provide calmness, standing asanas improve vitality, back bends are uplifting, twists help intoxication, inversions enhance mental toughness and reclining asanas provide relaxation (Worby, 2002). In general, asanas are beneficial for many bodily systems

namely muscular, nervous, circulatory, respiratory, cardiovascular, digestive, reproductive and eliminative systems (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). The asanas renew the whole body, improve strength and flexibility, and enhance health and well-being (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021; Worby, 2002).

2.2.4.2 Breath control techniques. Breath control techniques in yoga practices are called Pranayama. Prana is translated as breath, however it is more than breath, it symbolizes the energizing life force within the breath and pranayama is about spreading this energizing life force all over the body (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). According to yoga tradition, prana circulates all over the body through a web of 72.000 energy routes called nadis (Sivananda Yoga Vedanta Centre, 2021) and pranayama is focused on opening the pingala nadi, the ida nadi and eventually the sushumna nadi for prana to flow (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). The pingala nadi heats up the body and the ida nadi cools down the body, when a balance occurred between the two nadis the most significant nadi in the body, namely the sushumna nadi, can be opened (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). The sushumna nadi carries the energizing life force up in the body and contributes to the enlightenment of the individual (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). The web of nadis corresponds to the central nervous system and the sushumna nadi corresponds to the spinal cord, the central pathway of the central nervous system that goes to the brain (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). The pingala nadi corresponds to the right nostril, the pathway of the sympathetic nervous system that goes to the left hemisphere of the brain (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). The ida nadi corresponds to the left nostril, the pathway of the parasympathetic nervous system that goes to the right hemisphere of the brain (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002).

The breath is the bridge between the mind, body and spirit trio and through breath control techniques one's awareness for the connection between those three increases (Worby, 2002). Breath control techniques include prolonging, shortening or retenting the inhalations and exhalations for regulation of the breath flow (Iyengar, 2021; Worby 2002). It is believed that the body gets rid of poisonous substances that

can damage its life by exhaling the breath and fulfills itself with the energizing life force that can prolong its life by inhaling the breath (Iyengar, 2021; Worby, 2002). It is also believed that inhaling the breath leads getting into contact with one's true self or soul and retention of the breath during inhalations helps one to merge with own soul by causing body to absorb the soul (Iyengar, 2021; Worby 2002). Basically, the inhalations generate the energizing life force, the retentions protect it and the exhalations extend its effects (Iyengar, 2021).

Practicing asanas prepares the body for taking in the prana. Like pranayama, asanas also open the blocked energy tunnels or the nadis (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). Generally, asanas and pranayama are combined with each other for creating awareness for the mind and the body (Worby, 2002). Coordinating the breath with the movements helps one to find a balance between ease and effort (Worby, 2002). Exhalations are generally used for coming into poses, whereas inhalations are generally used for coming out of poses (Worby, 2002). Concentrating on the breath through pranayama also helps one for going into a meditative state and prepares the mind and body for meditation, namely dhyana (Iyengar, 2021). Pranayama is beneficial for respiratory systems of the body, improve the elasticity and capacity of lungs for receiving oxygen into the body and removing carbon dioxide out of the body (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). Breath control techniques are also beneficial for the nervous system, they help calm and quiten the mind and the senses and increase capacity for concentration (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002).

2.2.4.3 Meditation techniques. Meditation is a technique where one deeply explores the mind and the consciousness and learns to control them through controlling the attention and awareness (Agrawal, 2022). Meditation techniques in yoga practices are called Dhyana. In dhyana, one concentrates on an object and monitors it, as the concentration deepens one starts to merge with the object and the separation between the subject and object of the meditation fades away (Worby, 2002). This unification happened through the meditation helps one to realize oneself or leads enlightenment (Worby, 2002). Dhyana is a meditative state where the specified focus of attention fills

the whole consciousness, it is a state of pure and extended consciousness (Feuerstein & Wilber, 2001b; Worby, 2002).

A categorization between meditation techniques can be made by the differences in the object of attention and the processes of focusing attention (Agrawal, 2022). In concentrative meditation one focuses all attention to a single object, point, idea, image or sound and if the attention slips to other stimulus pulls it back to the chosen focus of attention (Agrawal, 2022). This form of meditation is originated from Patanjali's form of yoga (Agrawal, 2022). In mindfulness meditation one tries to observe the things happening throughout the mind and the body at that present moment with an open, non-judgmental, non-controlling, and curious attitude (Agrawal, 2022). This form of meditation is originated from India, however Buddha is the person who popularized it in the name Vipassana (Agrawal, 2022). In transcendental meditation one focuses attention to a mantra and repeatedly recites it for deepening the state of mind toward transcendence (Agrawal, 2022). This form of meditation is developed by Maharshi Mahesh Yogi (Agrawal, 2022). In interpersonally oriented meditations one attempts to cultivate love, kindness, compassion, friendliness and goodwill toward others by focusing the attention on these feelings (Agrawal, 2022). This form of meditation is originated from ancient Indian Metta meditation (Agrawal, 2022). Other forms of meditation include focusing the attention on mantras, chantings, visualization and imagery, gaze, breath, physical sensations and emotions, or walking (Worby, 2002).

The mind and the body can benefit from all kinds of meditation techniques. During meditation brain activity slows down and this leads to calming of the mind (Worby, 2002). Also respiratory system slows down and this leads to deepening of the breath (Worby, 2002). Circulatory system becomes regulated and blood pressure decreases (Worby, 2002). These consequently lead to a decrease in mental and physical stress (Worby, 2002). The quality of sleep improves, therefore sleeping less becomes possible and the immune system of the body strengthens (Worby, 2002).

2.2.4.4 Deep relaxation techniques. Deep relaxation techniques are common to most types yoga practice and generally employed at the end of the yoga sessions for efficiently storing the vital energy gained through the practice (Sivananda Yoga

Vedanta Centre, 2021). They resemble the cooling systems of cars, they protect the motor from over-heating and be sure that the car works well (Sivananda Yoga Vedanta Centre, 2021). During deep relaxation the mind is still in alert, deep relaxation does not mean that mind can wander, however the effort to focus attention is minimized for resting the body and the mind (Worby, 2002). Deep relaxation gives the message to going easy, slowing down and refreshing the mind and the body and it is related to activation of the parasympathetic nervous system (Worby, 2002). It is beneficial for stress relief, tension relief, pain management, sleep regulation and overall health and well-being (Worby, 2002).

The basic relaxation technique of yoga practice is called Savasana. It is performed in a lying down position generally at the end of the yoga practice. While lying down with a natural flow of the breath, the body is relaxed systematically in coordination with the mind. The mind observes the thoughts that are coming in and out of the consciousness with a relaxed attitude. Savasana helps to soothe the nerves, creates calmness and quietness for the mind, helps to manage stress and tension within the mind and body, decreases insomnia, lessens migraines, lowers chronic fatigue syndrome symptoms and helps to recover from medical procedures and lingering illnesses (Worby, 2002). Another common relaxation technique of yoga practice is called Yoga Nidra or Yogic Sleep (Worby, 2002). Like Savasana, it is performed in a lying down position. While lying down, muscles in every part of the body are systematically stretched and squeezed, then released and relaxed (Worby, 2002). This process helps to release tension of the muscles and relaxes the mind and the body (Worby, 2002).

2.2.5 The benefits of yoga. Yoga is a holistic practice that is beneficial both for the mind and the body (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). According to yogic understanding being healthy does not necessarily mean that one is free from mental and physical ailments and good health and well-being could only be achieved through a harmonious and balanced connection between the mind and the every part and system of the body (Iyengar, 2021). Yoga is a healing practice which is a mixture of ‘‘physiotherapy, psychotherapy, and spiritual therapy’’ (Iyengar, 2021, p.262). Through yoga practice the body discovers its natural way of

functioning (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021) and educates the mind to be the operator of the body (Sivananda Yoga Vedanta Centre, 2021). According to yogic understanding, physical and psychological ailments corrupt the natural way of functioning of the mind and the body and yoga practice is aimed at restoring the mind and body into their natural states by employing proper physical postures, breathing, meditation and deep relaxation techniques (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021). Yoga teaches individuals that they are the masters of their bodies and minds and they are in the control of their environments and living conditions (Iyengar, 2021). Nowadays, yoga is practiced for keeping and improving the overall health and well-being and also practiced for preventing and treating many physical and mental illnesses (Gaiswinker & Unterrainer, 2016; Gautam et al., 2020; Iyengar, 2021; Kaley-Isley et al., 2010; Shaw & Kaytaz, 2021; Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). Yoga practice has proven to be beneficial for muscular, skeletal, circulatory, immune, respiratory, digestive, urinary, hormonal, reproductive, and nervous systems (Iyengar, 2021).

The physical body is comprised from muscles and bones, bones create the skeletal form of the body, they are connected with each other through joints, joints are held together by ligaments and muscles and muscles strain and relax for moving the bones (Iyengar, 2021). Yoga practice, especially asanas, improve the flexibility, strength, suppleness and endurance of the muscles, joints and bones by moving the body (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). One learns how to position the bones into the joints and muscles and how to leave a space for the organs to work properly (Sivananda Yoga Vedanta Centre, 2021; Worby, 2002). Learning the right posture alignment encourages alignment of the mind with the body (Worby, 2002). Yoga practice is effective in treating ailments that effect muscular and skeletal systems such as physical fatigues, muscle cramps, cervical spondylosis, osteoarthritis, rheumatoid arthritis, osteoporosis, backaches, hernia, scoliosis, kyphosis, and lordosis (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021).

The circulatory system is comprised from capillaries, veins and arteries (Iyengar, 2021). This system provides blood, oxygen and nutrients to the each part of the body, especially the heart and takes away the poisonous remnants out from the

each part of the body (Iyengar, 2021). Yoga practice, again especially asanas, massage the heart and improve circulation of blood (Iyengar, 2021; Worby, 2002). Yoga practice is effective in treating ailments that effect the heart and circulatory system such as cold extremities, varicose veins, high-low blood pressures, blocked arteries, angina and heart attack (Iyengar, 2021).

The immune system protects the body like a shield (Iyengar, 2021). It navigates through the body by blood that is composed from red and white blood cells (Iyengar, 2021). White blood cells protects the body from harmful micro-organisms and low number of white blood cells means low immune system (Iyengar, 2021). Immunity can be increased through practicing yoga. For example, yoga is effective in decreasing symptoms of AIDS (Iyengar, 2021) and cancer (Ross, Friedmann, Bevans & Thomas, 2012).

The respiratory system is comprised from the nose, throat, windpipe, bronchi and lungs (Iyengar, 2021). The air comes into the body through nose and throat, then goes into the windpipe and two bronchi and then fills the lungs (Iyengar, 2021). Through inhaling the body is filled with oxygen and through exhaling the carbon dioxide is thrown out of the body (Iyengar, 2021). Through yoga practice, especially pranayama, one learns to control the breath and voluntary control provides body an air that is richer in oxygen (Sivananda Yoga Vedanta Centre, 2021). This contributes to the renewal of the cells (Sivananda Yoga Vedanta Centre, 2021). Yoga practice is effective in treating ailments that effect the respiratory system such as asthma, sinusitis, breathlessness, colds, and bronchitis (Iyengar, 2021).

The digestive system is comprised from the mouth, gullet, and intestines (Iyengar, 2021). The food enters the body through the mouth, while traveling the body the food gets into contact with the substances released by the mouth, pancreas, gallbladder and liver and digested by these substances (Iyengar, 2021). During digestion nourishing substances are stored by the body if this system is healthy (Iyengar, 2021). Yoga practices helps the digestive system to run smoothly and are beneficial in treating ailments such as indigestion, acidity, constipation, diarrhoea, irritable bowel syndrome, duodenal ulcers, gastric ulcers and ulcerative colitis (Iyengar, 2021).

The urinary system is comprised from the kidneys, ureters, bladder, and urethra (Iyengar, 2021). The kidneys produce urine, the urine is transmitted by ureters to the bladder, the bladder is ejaculated from the body from the urethra and acid and electrolyte levels of the body is balanced (Iyengar, 2021). Yoga practices, especially asanas, are beneficial for this process and are effective in treating many urinary ailments such as incontinence (Iyengar, 2021).

The hormonal system provides the chemicals that navigate the functions of the body and thyroid gland, parathyroid gland, pituitary gland, pineal gland, adrenal gland, testes, ovaries and pancreas are responsible for the secretion of these chemicals (Iyengar, 2021). Practicing yoga helps the secretion of these hormonal chemicals, consequently keeps the mind and the body healthy (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021). Yoga practice is effective in treating ailments that effect the hormonal system such as diabetes, obesity and thyroid (Iyengar, 2021).

The female reproductive system is comprised from vagina, cervix, uterus, ovaries and fallopian tubes and the male reproductive system is comprised from testicles, penis, urethra and prostate (National Cancer Institute, 2022). The reproductive system is responsible from producing offspring (National Cancer Institute, 2022) and yoga practice helps the healthy functioning of this system (Iyengar, 2021; Worby, 2002). In women, yoga helps to regulate menstruation, decreases menstrual pain, lowers symptoms of menopause and is effective in treating leukorrhoea, menorrhagia, prolapsed uterus and infertility (Iyengar, 2021; Worby, 2002). In men, yoga helps the treatment of impotence and prostate problems (Iyengar, 2021; Worby, 2002). Yoga practice also improves the sex life by providing strength and flexibility for the whole body and the pelvic muscles (Worby, 2002). By improving circulation, yoga increases the sensitivity and responsiveness for an intercourse (Worby, 2002). By relaxing the mind and the body, yoga helps one to concentrate and be in the moment during an intercourse and this enhances the sex life (Worby, 2002).

The main part of the nervous system is the central nervous system, it is the body's control center and is comprised from the brain and the spinal cord (Iyengar, 2021). The autonomic nervous systems is comprised from the sympathetic and the parasympathetic nervous systems that informs the central nervous systems about the

involuntary actions of the bodily systems and organs (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021). Practicing yoga improves functioning of the nervous system by relieving tension and stress and provides revitalization (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021). The healthy functioning of the nervous system is vital because it controls every system within the body, it effects and is effected by the functioning of the other bodily systems (Iyengar, 2021; Sivananda Yoga Vedanta Centre, 2021). Yoga is effective in treating ailments associated with the mind and the nervous system such as headache, migraine, memory impairment, sciatica, irritability, insomnia, mental fatigue, anxiety, depression, bulimia, anorexia, alcoholism, drug addiction and epilepsy (Iyengar, 2021).

An ailment may be due to the unhealthy functioning of several systems within the body, therefore it is not possible to make a definite distinction for bodily systems associated with a specific ailment. Healthy or unhealthy functioning of each bodily system effects other bodily systems. Yoga's holistic approach improves the healthy and harmonious functioning of the physical and psychological body and increases overall well-being of individuals. As mentioned above, yoga practice has many beneficial effects and people practice yoga for many reasons. Some people practice it for getting rid of pain, tension and stress; some for strengthening the physical body; some for calming the mind and alleviating symptoms of depression and anxiety; some for discovering oneself and achieving personal growth; and some practice it for enhancing well-being and happiness. Evidence shows that people in the East often practice yoga for its psychological-physical-spiritual benefits, however people in the West often start to practice yoga for the physical benefits and as they continue to practice develop an interest for the holistic mind-body-spirit approach of yoga (Hendriks et al., 2017). When comparing physical and psychological benefits of a comprehensive yoga practice that include exercise, breath control, meditation, spirituality, and ethical components to an exercise-based yoga, Smith, Greer, Sheets, and Watson (2011) found that people practicing comprehensive yoga gained more physical and psychological benefits than people practicing an exercise-based yoga. Also, the frequency of yoga practice effects the physical, psychological, spiritual benefits of yoga (Park, Braun & Siegel, 2015; Ross et al., 2012 ; Telles, Sharma, Chetry & Balkrishna, 2021).

2.2.6 Yoga and positive psychology. Yoga is an unitive, holistic, and transformational mind and body practice which is aimed at: alleviating and/or removing psychological and physical ailments that cause suffering and prevent healthy functioning (Agrawal, 2022; Pimple & Agrawal, 2020); enhancing psychological, physical, and spiritual well-being (Agrawal, 2022; Devi, 2021; Pimple & Agrawal, 2020); building resilience against life's difficulties (Trulson & Vernon, 2019; Worby, 2002); providing personal growth (Hendriks et al., 2017; Trulson & Vernon, 2019); and increasing meaning in life (Hendriks et al., 2017; Trulson & Vernon, 2019). Yoga views health as a complete state and believes complete health cannot be achieved only through alleviation and/or removal of mental and physical illnesses (Iyengar, 2021). Scientific interest on the benefits of yoga practice increased in recent years as yoga became more popular in the West and started to be seen as a complementary intervention for treating-preventing mental and physical disorders and improving health and well-being (Hendriks et al., 2017; Devi, 2021; Pimple & Agrawal, 2020; Trulson & Vernon, 2019).

PP field benefits from mind and body interventions for enhancing individuals' personal strengths, positive emotions, healthy functioning, well-being, personal growth and meaning in life (Alex Linley et al., 2006; Compton & Hoffman, 2020; Gable & Haidt, 2005; Hendriks et al., 2017; Lee Duckworth et al., 2005; Sheldon & King, 2001). It views PMH as a complete state that is comprised from the presence of individual strengths and positive functioning, as well as the absence of mental illnesses (Keyes, 2007). It is aimed at treating and preventing mental health disorders and increasing overall well-being of individuals, communities, and societies (Compton & Hoffman, 2020; Hendriks et al., 2017; Lee Duckworth et al., 2005; Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001).

Today, many PPIs benefit from the knowledge and mind-body practices of Eastern philosophies (Hendriks et al., 2017; Hendriks, Warren, et al., 2018) and operate through collectivistic pathways to enhance well-being (Hendriks, Warren, et al., 2018). Particularly, many PPIs include mindfulness exercises and take advantage of Buddhist philosophy for increasing health and well-being (Hendriks, 2018; Hendriks et al., 2017). However, the PP field seems to neglect the benefits of yoga

practice and Hindu philosophy despite their common purposes of enhancing well-being, personal growth and meaning in life (Hendriks et al., 2017). In yoga a meaningful life is achieved through self-realization or ego-transcendence and the process of yoga for achieving a meaningful life supports the development of individual strengths, positive emotions, altruistic behaviors, personal growth, well-being, and healthy functioning of individuals (Rao, 2014; Trulson & Vernon, 2019). Research show evidence for yoga's effect in enhancing some constructs within PP (Trulson & Vernon, 2019), however the literature on the direct relationship between yoga and PP is very scarce (Hendriks et al., 2017). During a database search for a systematic review and meta-analysis about the effects of yoga on PMH among healthy adults, Hendriks et al. (2017) could only find three articles and one book where the relationship between yoga and PP is explored. Since yoga is gaining a worldwide popularity, PP should start to integrate yoga tradition into PPIs and view yoga as a complementary intervention to conventional psychological interventions (Agrawal, 2022; Hendriks, 2018; Hendriks et al., 2017). Compared to conventional psychological interventions that are costly and not easily accessed, yoga has a potential to be a culturally-fitting, cost-effective, and easy applicable PPI for non-Western cultures (Hendriks, 2018; Hendriks, Warren, et al., 2018; Schueller, 2010).

2.3 Mindfulness

In this section, the information gathered from relevant literature regarding mindfulness is presented in the appropriate order.

2.3.1 What is mindfulness and why mindfulness?. Mindfulness originated from Buddhist philosophy (Germer, Siegel & Fulton, 2005; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). According to Buddhist philosophy, mindfulness was a significant part of the path to spiritual development, namely enlightenment and it was believed that enlightenment could only be achieved through liberating oneself from human suffering (Germer et al., 2005; Ivtzan & Lomas, 2016). Buddha's teachings, particularly 'The Four Noble Truths' and 'The Eight-Fold Path', created a basis for traditional and contemporary mindfulness teachings (Germer et al., 2005; Ivtzan &

Lomas, 2016; Levine, 2008). The Four Noble Truths of Buddha were (1) Dukkha: There is suffering.; (2) Tanha: Our urges and desires cause suffering.; (3) Nirvana: Liberation from suffering is possible.; (4) Magga: There is an eight-fold path for ending suffering (Germer et al., 2005; Ivtzan & Lomas, 2016; Levine, 2008). The Eight-Fold Path included right understanding, right thoughts, right speech, right action, right livelihood, right mindfulness, right effort, and right meditation (Levine, 2008). Buddha taught that each step of the path contributed to one another and only together they carry the individual toward liberation (Ivtzan & Lomas, 2016). Mindfulness is essential to all teachings of Buddha and all traditions of Buddhism: from Zen tradition of China, Vietnam, Japan, and Korea to Theravada tradition of Thailand, Cambodia, Burma, and Sri Lanka till Tibetan tradition of Tibet, India, and Nepal (Kabat-Zinn, 2018).

John Kabat-Zinn introduced Buddhist mindfulness as a clinical practice to the West in the late 1970s **(**Garcia-Campayo, Del Hoyo & Navarro-Gil, 2021; Ivtzan & Lomas, 2016). Since then, it has been widely investigated in psychology field and incorporated into psychological interventions for treatment and prevention of various psychological disorders (Garcia-Campayo et al., 2021; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). In twentieth century, mindfulness gained a worldwide popularity for enhancing health and well-being (Garcia-Campayo et al., 2021; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). Today, it is being explored and applied by many people from diverse backgrounds such as Buddhist teachers or practitioners, mental health professionals, doctors, and meditation practitioners (Ivtzan & Lomas, 2016).

The term mindfulness was translated from Pali word ‘sati’ and Sanskrit word ‘smrti’ (Alidina, 2020; Garcia-Campayo et al., 2021). ‘Sati’ and ‘smrti’ words mean ‘‘awareness, attention, and remembering’’ (Alidina, 2020, p.8). There are varying definitions of mindfulness within the literature (Sauer, Walach, Schmidt, Hinterberger, Lynch, Büssing & Kohls, 2013; Tang, 2017); it can refer to a theoretical construct, meditative practice, or cognitive process (Germer et al., 2005). Despite differences, all definitions agree that mindfulness is about remembering to focus attention on the present moment and being aware of the present moment experience (Alidina, 2020; Garcia-Campayo et al., 2021; Germer et al., 2005; Ivtzan & Lomas, 2016). Some significant definitions of mindfulness are cited below:

- *Langer (1989, p. 62):* ‘‘The creation of new categories, openness to new information, and awareness of more than one perspective’’
- *Kabat-Zinn (1994, p. 4)*: ‘‘Paying attention in a particular way: on purpose, in the present moment, and non-judgmentally’’.
- *Epstein (1995, p.96):* ‘‘Bare-attention in which moment-to-moment awareness of changing objects of attention is cultivated’’.
- *Marlatt and Kristeller (1999, p.68):* ‘‘Bringing one’s complete awareness to the present experience on a moment-to-moment basis’’.
- *Baer (2003, p.125):* ‘‘Intentionally bringing one’s attention to the internal and external experiences occurring in the present moment’’.
- *Bishop, Lau, Shapiro, Carlson, Anderson, Carmody et al. (2004, p.234):* ‘‘A process of regulating attention in order to bring a quality of non-elaborative awareness to current experience and a quality of relating to one’s experience within an orientation of curiosity, experiential openness, and acceptance’’.
- *Brown, Ryan and Creswell (2007, p.212):* ‘‘A receptive attention to and awareness of present moment events and experience’’.
- *Siegel (2012, p.674):* ‘‘Awareness of present-moment experience, with intention and purpose, without grasping on to judgments’’.
- *Kabat-Zinn (2018, p.178):* ‘‘Moment-to-moment, non-judgmental awareness, cultivated by paying attention in a specific way, that is, in the present moment and as non-reactively, as non-judgmentally, and as openheartedly as possible’’.

The study of mindlessness by Ellen Langer opened the door for studies on mindfulness (Ivtzan & Lomas, 2016). Mindlessness and mindfulness are seen as opposites (Ivtzan & Lomas, 2016). Mindlessness refers to not being aware of internal and external stimuli that effect responses given in the present moment, it refers to being in auto-pilot where perceptions from past experiences trap individuals, and it refers to habitual responses lacking awareness and choice (Ivtzan & Lomas, 2016; Tang, 2017). When people are mindless, they limit their chances for acquiring new knowledge and perspective about themselves and the world around them and this effects their happiness, health and well-being by hindering their chances for change

(Ivtzan & Lomas, 2016). Mindlessness moves people away from the present moment, from the only moment that they are in total control for change (Alidina, 2020). On the other hand, mindfulness gives people a choice for change by awareness of and attention to the present moment experiences (Alidina, 2020; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). As people approach their momentary experiences with a non-judging, curious, open, kind, and accepting attitude, they can start to see things from a different perspective (Alidina, 2020; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). Individuals become aware of their negative, as well as positive cognitive evaluations that effect their emotional and behavioral reactions (Germer et al., 2005; Ivtzan & Lomas, 2016; Sauer et al., 2013). Individuals start to experience novelty and uniqueness of every situation whether the situation is positive, negative or neutral and learn not to be stuck in the past and worry about the future (Alidina, 2020; Germer et al., 2005; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). At its heart ‘‘mindfulness is a way of being’’ (Kabat-Zinn, 2018, p.182), it is ‘‘the art of conscious living’’ (Kabat-Zinn, 2005, p.28), it is about being harmoniously present with life (Ivtzan & Lomas, 2016). Mindfulness creates an opportunity for breaking automatic, non-functional, habitual thought and behavior patterns and encourages change for the overall health and well-being (Bowlin & Baer, 2012; Brown & Ryan, 2003; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005; Mathad, Pradhan & Sasidharan, 2017; Sauer et al., 2013). It increases one’s psychological flexibility and resilience against life’s difficulties (Alidina, 2020).

There is a distinction between trait (dispositional) and state (intentional) mindfulness within the literature (Jislin-Goldberg, Tanay & Bernstein, 2012; Kabat-Zinn, 2018; Kiken, Garland, Bluth, Palsson & Gaylord, 2015; Tang 2017). It is found that mindfulness is a trait, a mental tendency common to all people, however people vary in their mindfulness capacities (Jislin-Goldberg et al., 2012; Kabat-Zinn, 2008). By intentionally exercising mindfulness practices where the state mindfulness experienced, one can sustain and enhance the capacity for trait mindfulness (Jislin-Goldberg et al., 2012; Kiken et al., 2015; Tang 2017). Research showed that short-term mindfulness training enhanced state mindfulness and enhancement in state mindfulness contributed to the enhancement of trait mindfulness in long-term training (Kiken et al., 2015; Tang 2017). Developing the capacity for mindfulness,

whether state or trait, requires regular practice (Ivtzan & Lomas, 2016; Kabat-Zinn, 2018). Formal practices of mindfulness refer to systematic and disciplined meditative practices that are intentionally employed by the individual in a specific time frame for increasing the capacity for being mindful (Alidina, 2020; Ivtzan & Lomas, 2016). In informal practices of mindfulness, one tries to carry the skills gained in the formal practices to the daily activities such cooking, cleaning, eating, driving, or chatting (Alidina, 2020; Ivtzan & Lomas, 2016). Any kind of activity became a mindfulness meditation when one brings attention and awareness to the present moment experience (Alidina, 2020; Ivtzan & Lomas, 2016; Kabat-Zinn & Hanh, 2013). Formal and informal practices teaches the mind to remember to be awake and not to dive into the auto-pilot mode (Kabat-Zinn & Hanh, 2013). Remembering to remind oneself to be awake is by itself a form of wakefulness (Kabat-Zinn & Hanh, 2013). Formal and informal practices also teach one to realize whether they are in doing or being mode and help to decide which one is more suitable for the situation of the present moment (Alidina, 2020). Doing mode is beneficial when one needs to change something within the situation, however if it is open most of the time it may create mental and physical fatigue (Alidina, 2020). When people are in doing mode, they are mostly goal and achievement oriented and tend to perform most of their actions automatically, without any awareness (Alidina, 2020). Mindfulness practices teaches that even people are doing something they can still be in the being mode, in the flow of the present moment experience (Alidina, 2020). By regularly practicing mindfulness, one can learn how to truly be in touch with oneself and others (Kabat-Zinn & Hanh, 2013).

The effectiveness of the formal practices of mindfulness has been an area for investigation by many scholars (Alidina, 2020; Germer et al., 2005; Ivtzan & Lomas, 2016). Formal practices include mindfulness meditation and mindfulness interventions (Alidina, 2020; Germer et al., 2005; Ivtzan & Lomas, 2016; Tang, 2017). Mindfulness practices acknowledge the connection between the mind and the body and establish mindful states through mental and bodily processes (Tang, 2017). Mindfulness meditation is a specific kind of meditation where one systematically focuses attention-and-awareness on the breath, one of the five senses, the body, thoughts, emotions, intentions and/or something prevalent to one's awareness

(Alidina, 2020). Mindfulness interventions are clinical practices developed to treat and prevent various psychological, as well as physical ailments (Alidina, 2020; Ivtzan & Lomas, 2016; Tang, 2017). Mindfulness interventions can be grouped as mindfulness-based interventions such as mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) and mindfulness-related interventions such as acceptance and commitment therapy (ACT) and dialectical behavior therapy (DBT) (Tang, 2017). MBSR is an eight-week program developed to alleviate chronic pain, stress and anxiety (Alidina, 2020; Ivtzan & Lomas, 2016; Tang, 2017). It includes exercises such as mindfulness meditations, body scans and mindful yoga (Ivtzan & Lomas, 2016; Tang, 2017). Research showed that MBSR is effective in decreasing anxiety and depression severity and increasing physical and PWB of people with chronic pain (Alidina, 2020). MBCT is an eight-week program developed from cognitive behavior therapy (CBT) and MBSR to prevent relapse of recurring major depressive disorder (Alidina, 2020; Tang, 2017). Research proven that MBCT is effective in reducing the number of reoccurring episodes of depression (Alidina, 2020; Ivtzan & Lomas, 2016). ACT is aimed at increasing meaning in life rather than reducing disorder symptoms, it suggests that if one is committed to a mindful, open, accepting, and meaningful life any symptom will reduce (Alidina, 2020). Research showed ACT's efficacy in wide range of disorders including depression, obsessive compulsive disorder, post-traumatic stress disorder, stress, anxiety, chronic pain, anorexia, addictions, borderline personality disorder, and schizophrenia (Alidina, 2020). DBT is developed for people with borderline personality disorder and shown to be effective in treatment, particularly stabilization and control of self-destructive behaviors (Ivtzan & Lomas, 2016).

The scientifically approved mechanisms of mindfulness practice to enhance well-being include decentring, exposure, acceptance, self-compassion, value clarification, adjustment of mental processing modes, changes in self perception, self-regulation, and cognitive-emotional-behavioral response flexibility (Ivtzan & Lomas, 2016). Practices of mindfulness teaches that internal and external experiences are transient and momentary in their nature whether they are positive or negative and individuals should be the non-judging, open, non-avoidant, and accepting observers of these experiences (Ivtzan & Lomas, 2016). Therefore,

mindfulness exercises develop a capacity for decentring which is beneficial when one is faced with recurring distressing thoughts, emotions, or feelings (Ivtzan & Lomas, 2016). In mindfulness practices individuals expose themselves to the negative stimuli in a controlled way and learn not to avoid negative experiences, this helps to form non-reactive and objective responses when faced with difficulties (Ivtzan & Lomas, 2016). Approaching experiences with an open, non-judging, and non-avoidant attitude helps to accept experiences as they are and this contributes to the overall well-being of individuals (Ivtzan & Lomas, 2016). As individuals learn to accept experiences as they are, they also learn to accept themselves as they are and this enhances self-compassion (Ivtzan & Lomas, 2016). Broadening awareness, building acceptance and self-compassion help individuals to clarify their own values (Ivtzan & Lomas, 2016). Mindfulness practices strengthen the use of sensory-perceptual processing that decrease automatic and habitual cognitive, emotional or behavioral responses rather than conceptual processing that enhance creation of automatic and reflexive responses by enhancing attention to and awareness of present moment experiences (Ivtzan & Lomas, 2016). They also help individuals to realize their narrative self, the self that has fixed ideas about one's place on earth and encourages individuals to meet with their experiential self, the self that is experiencing the present reality of life (Ivtzan & Lomas, 2016). By integrating all of the aforementioned mechanisms, mindfulness practices teach individuals to regulate their reactions when faced with negative or positive experiences and bring flexibility in forming cognitive, emotional or behavioral responses that are coherent with own values (Ivtzan & Lomas, 2016).

2.3.2 The principle components of mindfulness. Mindfulness practice has three principle components: intention, attention, and attitude (IAA)(Alidina, 2020; Ivtzan & Lomas, 2016). Shapiro and his colleagues developed this IAA model to explain how mindfulness works (Alidina, 2020; Ivtzan & Lomas, 2016). Kabat-Zinn (1994, p.4) defined mindfulness as ''paying attention in a particular way: on purpose, in the present moment, and non-judgmentally''. If we divide this definition: 'on purpose' corresponds to intention; 'paying attention' corresponds to attention; 'in a particular way' and 'non-judgmentally' correspond to attitude (Alidina, 2020). In

this section principle components of mindfulness practice will be explained under three headings: Intention, Attention, and Attitude.

2.3.2.1 Intention. Intention refers to what one aims to achieve through practicing mindfulness (Alidina, 2020; Ivtzan & Lomas, 2016). Identifying intentions is an essential part of the mindfulness practice because it provides a context, purpose, and motivation (Alidina, 2020; Ivtzan & Lomas, 2016). Explicitly clarifying intentions enhances awareness and increases the possibility for achieving what is intended (Ivtzan & Lomas, 2016). Setting intentions can be misunderstood as setting goals, however this is not the case (Ivtzan & Lomas, 2016). When one identifies goals that has specific outcomes, one creates a definite destination for the practice and mindfulness is not about that (Ivtzan & Lomas, 2016). On the other hand, when one identifies intentions that come from the heart, one creates a flexible direction for the moment-to-moment experience of mindfulness (Ivtzan & Lomas, 2016).

2.3.2.2 Attention. Human mind has a tendency for wandering (Killingsworth & Gilbert, 2010). Research done by Killingsworth and Gilbert (2010) showed that nearly at the half of the time that people were awake, their mind wandered in the past or in the future. Also, they found that when people's mind was focused on the present moment, people were happier than the times their mind wandered. Attention refers to being aware of and observing our moment-to-moment internal and external experiences (Ivtzan & Lomas, 2016). Paying attention simply means actively attending to and monitoring what is happening in the here-and-now and not reacting automatically (Ivtzan & Lomas, 2016; Sauer et al., 2013). By teaching how to focus attention to the present moment experiences, mindfulness practices help to reduce mind's tendency to wander, therefore attention is an essential part of the mindfulness practices (Ivtzan & Lomas, 2016).

2.3.2.3 Attitude. Attitude refers to the quality of attention, how one pays attention to the present moment experience while practicing mindfulness (Ivtzan & Lomas, 2016). One's attitude can be harsh, cold, criticizing, and judging or it can be

kind, warm, non-judging, curious, and accepting (Ivtzan & Lomas, 2016; Kabat-Zinn & Hanh, 2013). The quality of attention, namely our attitude, shapes the quality of the present moment experience (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Negative attitudes toward present moment experiences could result in judging or criticizing the internal and external experiences, therefore can cause losing faith and motivation to practice (Alidina, 2020; Ivtzan & Lomas, 2016). However, holding positive attitudes helps to cope with the difficult experiences risen while practicing and enhances the benefits of the practice (Alidina, 2020; Ivtzan & Lomas, 2016; Kabat-Zinn & Hanh, 2013). Foundational attitudes of mindfulness practice include: non-judging, patience, beginner's mind, trust, non-striving, acceptance, and letting go (Kabat-Zinn & Hanh, 2013). These seven attitudes are interconnected, cultivating one leads the cultivation of the other, and together they create a foundation for the practice of mindfulness (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Other additional attitudes such as curiosity, kindness, gratitude, forgiveness, compassion, and hearth-fulness also strengthen the practice of mindfulness (Kabat-Zinn & Hanh, 2013). These attitudes do not change the positive or negative experiences of individuals, however, help individuals to contain these experiences in a healthier way (Ivtzan & Lomas, 2016).

2.3.2.3.1 Non-judging. The mind labels and categorizes everything experienced as positive, negative, or neutral and creates cognitive-emotional-behavioral reactions accordingly (Kabat-Zinn & Hanh, 2013). Human mind has a tendency for creating judgements (Kabat-Zinn & Hanh, 2013). If one is not aware of these labels and not pays attention to these judgements, one may give automatic reactions (Kabat-Zinn & Hanh, 2013). Learning to hold a non-judging attitude helps individuals to break this automaticity and creates an opportunity for change (Kabat-Zinn & Hanh, 2013). Therefore, a non-judging attitude is essential for mindfulness practices.

2.3.2.3.2 Patience. Patience lies at the core of mindfulness practice (Kabat-Zinn & Hanh, 2013). Mindfulness practices teach individuals that being impatient does not resolve the difficulty at hand and help individuals to realize that everything

unfold in its own time (Kabat-Zinn & Hanh, 2013). As the mind has a tendency for wandering and judging, people can easily get caught up to negative thoughts, feelings, or emotions (Kabat-Zinn & Hanh, 2013). However, mindfulness practices teach that holding on to negative thoughts, feelings, or emotions will not make them disappear (Kabat-Zinn & Hanh, 2013). Approaching negative thoughts, feelings, or emotions with patience increases one's ability to cope with them (Kabat-Zinn & Hanh, 2013). Therefore, a patient attitude is essential while practicing mindfulness.

2.3.2.3.3 Beginner's mind. Beginner's mind refers to a mind that is approaching every experience as a new one (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Too often individuals judge their momentary experiences based on past experiences (Kabat-Zinn & Hanh, 2013). Learning to approach experiences with a beginner's mind creates an opportunity for realizing the richness of the ordinary experiences and makes individuals more open to new possibilities manifested in each moment (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Therefore, a beginner's mind is essential for mindfulness practices.

2.3.2.3.4 Trust. Ultimately people are responsible from all of their choices and actions in life (Kabat-Zinn & Hanh, 2013). If individuals do not trust themselves to make any decision and choose to rely on others, they are more likely to regret from their own decisions and judge their mistakes (Kabat-Zinn & Hanh, 2013). While practicing mindfulness, it is very important to develop a trust in oneself and the process (Alidina, 2020; Kabat-Zinn & Hanh, 2013). At the end of the day, individuals are the only authority for their experiences, and no one could evaluate their experience better than them (Kabat-Zinn & Hanh, 2013). Through practicing mindfulness, individuals learn to trust their intuitions and decisions and learn to accept them even they are wrong (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Therefore, a trusting attitude is essential for mindfulness practices.

2.3.2.3.5 Non-striving. When people are goal-oriented, they strive to achieve those goals in a certain way and expect certain results from their actions (Kabat-Zinn & Hanh, 2013). Sometimes striving for something too hard may cause denial of the

current reality and makes it harder to accept the situation as it is (Kabat-Zinn & Hanh, 2013). While practicing mindfulness, not-striving for certain outcomes creates a space for exploring different possibilities for achieving goals (Kabat-Zinn & Hanh, 2013). Holding a non-striving attitude can help one to achieve goals with an ease, therefore it is essential to the practices of mindfulness (Kabat-Zinn & Hanh, 2013).

2.3.2.3.6 Acceptance. Denying the present reality causes human suffering and creates resistance for positive change (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Acceptance does not mean that one needs to accept everything as they are, it simply means that one needs to accept not being able to accept everything as they are (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Acceptance is not a passive attitude nor toleration (Kabat-Zinn & Hanh, 2013). It is being aware of and acknowledging own thoughts, feelings, and behaviors within a given context (Alidina, 2020; Kabat-Zinn & Hanh, 2013). Seeing and accepting internal and external experiences within the context of the present reality has an healing effect for the individual (Kabat-Zinn & Hanh, 2013). Therefore, an accepting attitude is essential while practicing mindfulness.

2.3.2.3.7 Letting go. Humans have a tendency to hold on to positive experiences that create positive thoughts, emotions, or behaviors (Kabat-Zinn & Hanh, 2013). On the other hand, humans generally try to eliminate or avoid negative experiences that create negative thoughts, emotions, or behaviors (Kabat-Zinn & Hanh, 2013). Human tendency to hold on to positives and neglect negatives may blind people and can cause suffering (Kabat-Zinn & Hanh, 2013). While practicing mindfulness, individuals observe things that they are holding on or neglecting and become aware of their effects on their thoughts, emotions, or behaviors. Letting go simply means accepting experiences as they are and letting them unfold in their own pace (Kabat-Zinn & Hanh, 2013). Holding an attitude of letting go while practicing mindfulness has a liberating effect for the individual, therefore it is an essential attitude of mindfulness practices (Alidina, 2020; Kabat-Zinn & Hanh, 2013).

2.3.3 The benefits of mindfulness. Mindfulness acknowledges the connection between the mind and the body and mindfulness practices enhance one's awareness for this connection (Alidina, 2020). By their evolutionary nature, when people perceive an external or internal threat to their bio-psycho-social integrity, their instincts to protect themselves comes into play and they feel a need to react in three ways: fight, flight, or freeze (Alidina, 2020; Atalay, 2019). To create a reaction, human mind starts to wander in the past and tries to make predictions about the future outcomes (Alidina, 2020; Atalay, 2019). As more negative thoughts rise while the mind wanders, the more negative emotions one starts to feel throughout the body (Atalay, 2019). Therefore, the threat triggers the individual for reacting in an automatic way (Atalay, 2019). Nowadays we are surrounded by symbolic threats, therefore it is really important to be mindful to rightly decide whether we are facing with a real life threat that we need to react (Atalay, 2019). Mindfulness practices teach individuals how not to react automatically by teaching how to pay attention to the present moment experiences and how to be aware of own moment-to-moment thoughts, emotions, bodily sensations, and behaviors (Alidina, 2020). By practicing mindfulness, one learns to how to be in touch with own body, listen to own thoughts, come to own senses, understand own emotions, and make better decisions (Alidina, 2020). Therefore, mindfulness practices help to relax the body, calm the mind, and regulate the emotions (Alidina, 2020) and contribute to the overall health and well-being of individuals (Alidina, 2020; Tang, 2017). Research were proven that mindfulness practices and interventions are beneficial for treating and preventing various physical and mental disorders and have many psychological, emotional, and physical benefits (Ivtzan & Lomas, 2016).

Regularly exercising mindfulness practices increases the brain's neuroplasticity, namely the brain's flexibility in changing its responses when faced with an experience and this cognitive flexibility enhances cognitive performance (Alidina, 2020; Ivtzan & Lomas, 2016; Roy, 2021). As people age their brain functions and cognitive abilities decline, therefore regular practices of mindfulness help slowing down the process of aging (Tang, 2017). Also, by slowing down the shortening of telomeres covering the human DNA, mindfulness practices slow down the aging process (Alidina, 2020). Mindfulness practices have found to be beneficial

for patients of chronic pain, cancer, hypertension, diabetes, rheumatoid arthritis, and many other medical disorders (Garcia-Campayo et al., 2021). When people experience pain related to their disorders, they make an effort to eliminate the pain, or they try to avoid the pain from the beginning (Alidina, 2020). These attitudes toward pain effect one's psychological and physical evaluations about the pain and may create a resistance against change (Alidina, 2020). Through regularly practicing mindfulness, one's relationship with the pain changes (Alidina, 2020). One starts to understand the difference between physical and psychological pain and learns how to take out psychological pain from the equation and accept physical pain as it is, these help to reduce disorder related pain (Alidina, 2020).

Mindfulness practices reduce stress, anxiety, and depression by teaching individuals not to identify themselves with disorder related distressing thoughts, feelings, and behaviors (Alidina, 2020). Also, they teach not to avoid those distressing thoughts, feelings, and behaviors and to attend them with an open, non-judging, kind, and accepting attitude (Alidina, 2020; Garcia-Campayo et al., 2021; Ivtzan & Lomas, 2016; Roy, 2021; Tang, 2017). Therefore, they help individuals to manage stress, anxiety, and depression (Alidina, 2020; Garcia-Campayo et al., 2021; Ivtzan & Lomas, 2016; Roy, 2021; Tang, 2017). When people are stressed the body secretes cortisol hormone, the excessive levels of cortisol shuts down the immune system of the body, and makes one vulnerable to illnesses (Tang, 2017). By helping stress reduction, mindfulness practices enhance the healthy functioning of the immune system and reduce risks for illnesses (Alidina, 2020; Ivtzan & Lomas, 2016; Tang, 2017). Mindfulness practices are also found be beneficial for other psychological problems: attention deficit hyperactivity disorder (ADHD) (Tang, 2017), substance abuse and addiction disorders (Alidina, 2020; Garcia-Campayo et al., 2021; Tang, 2017), and eatings disorders such as obesity, binge eating (Ivtzan & Lomas, 2016; Tang, 2017). By improving attention and self-control, mindfulness practices reduce symptoms of ADHD described by inability to concentrate, impulsive behaviors, and hyper-activity (Tang, 2017). By helping to identify thoughts and emotions driving addiction related behaviors and teaching self-control, mindfulness practices decrease addiction related thoughts, feelings, and behaviors (Alidina, 2020; Tang, 2017). By teaching to regulate eating habits through

awareness-and-attention to what one eats, mindfulness practices help to manage eating disorders (Alidina, 2020; Tang, 2017).By regularly practicing mindfulness and integrating it into daily habits, one can find meaning in life and enhance own happiness, satisfaction from life, and well-being (Alidina, 2020; Ivtzan & Lomas, 2016; Roy, 2021). Mindfulness practices increase psychological flexibility against life's difficulties and create a space for creativity to flourish (Alidina, 2020; Ivtzan & Lomas, 2016). They also increase positive affect and provide vitality (Alidina, 2020; Ivtzan & Lomas, 2016). Through practicing mindfulness, individuals strengthen their relationship with themselves and others around them (Alidina, 2020; Ivtzan & Lomas, 2016). Therefore, mindfulness contributes to individuals's psychological and physical health and well-being and it can be practiced by people at any age, gender, or background to enhance health and well-being (Garcia-Campayo et al., 2021).

2.3.4 Mindfulness and positive psychology. Mindfulness, rooted in Buddhist philosophy, and PP share common aims: alleviating human suffering and enhancing overall well-being (Cebolla et al., 2017; Kim-Prieto, 2016). According to Buddhist philosophy, suffering is common to all people and liberating oneself from suffering leads to enlightenment that contains a deep sense of well-being (Kim-Prieto, 2016). At its essence, Buddhism does not differentiate between people who are suffering and not suffering and tries to improve the human condition that inherently involves suffering (Kim-Prieto, 2016). Therefore, it can be said that Buddhist psychology is a PP (Kim-Prieto, 2016). Both try to encourage individuals to be aware of positive aspects of life as well as positive aspects of people and themselves (Cebolla et al., 2017).

There has been a growing research interest for mindfulness by scholars from psychology and PP (Ivtzan & Lomas, 2016). Scientific evidence has showed that mindfulness practices are effective in decreasing negative outcomes such as pain, stress, anxiety, and depression and increasing positive outcomes such as positive emotions, positive affect, and well-being (Ivtzan & Lomas, 2016; Jislin-Goldberg et al., 2012). Mindfulness practices are found to be effective in increasing overall well-being as well as hedonic well-being that is associated with relief from pain and

enhanced pleasure and eudaimonic well-being that is associated with having a self-actualized, meaningful, and functional life (Ivtzan & Lomas, 2016). It is also found that mindfulness practices are beneficial for increasing psychological flexibility and resilience and increasing happiness, life satisfaction, and meaning in life (Alidina, 2020; Cebolla et al., 2017; Germer et al., 2005; Jislin-Goldberg et al., 2012). Since PP is interested in alleviating suffering, increasing positive emotions, enhancing well-being and healthy functioning, and increasing meaning in life (Alex Linley et al., 2006; Compton & Hoffman, 2020; Gable & Haidt, 2005; Hendriks et al., 2017; Lee Duckworth et al., 2005; Sheldon & King, 2001), it can be said that PPIs and mindfulness practices share common goals. Mindfulness practices are about one's attention to and awareness of present moment experiences with an non-judging, kind, open, curious, and accepting attitude and these attitudes are also fundamental to PPIs (Cebolla et al., 2017).

Nowadays many PPIs benefit from Buddhist philosophy and mindfulness practices to enhance health and well-being (Hendriks, 2018; Hendriks et al., 2017; Ivtzan & Lomas, 2016). PPIs that specifically integrate mindfulness practices were also developed by scholars namely; mindfulness-based strengths practice and mindful self-compassion (MSC) program **(**Ivtzan & Lomas, 2016). As PPIs integrate mindfulness practices within their interventions, mindfulness interventions have also begin integrating PP exercises within their interventions (Cebolla et al., 2017).

2.3.5 Mindfulness and yoga. Nowadays, the most common meditative practices found in Hinduism and Buddhism are yoga and mindfulness (Roy, 2021; Tang, 2017). Yoga is aimed at transforming the self for realizing the Atman, the spiritual self within oneself, realizing the Atman means that one is liberated from sufferings and can achieve enlightenment (Levine, 2008). Mindfulness is also aimed at transforming the self for achieving enlightenment through liberating oneself from sufferings (Levine, 2008). In mindfulness, one tries to realize the present psychological state of enlightenment and in yoga one can only realize the Atman when in a state of enlightenment (Levine, 2008). Therefore, it can be said that awareness of present moment experiences is essential to both yoga and mindfulness for achieving enlightenment (Roy, 2021).

Besides mindfulness meditations, yoga practices are also effective in cultivating state and trait mindfulness (Roy, 2021; Tang, 2017). Yoga itself is a form of meditation that entails mindfulness and being present in the moment lies at the core of yoga practice, mindfulness can be cultivated through practicing dhyana, pranayama, and asanas (Kabat-Zinn & Hanh, 2013; Roy, 2021). While moving the body in yoga practice, one learns how to pay attention to and be aware of own bodily sensations, feelings, thoughts, and emotions and this contributes to one's capacity for mindfulness (Kabat-Zinn & Hanh, 2013; Roy, 2021). Yoga practices teach individuals how to 'be' in their own bodies, how to 'connect' with their bodies that carry their minds (Ivtzan & Lomas, 2016; Kabat-Zinn & Hanh, 2013). While practicing yoga, as individuals begin to explore the limits of their body, they begin to be aware of the limits of their mind (Kabat-Zinn & Hanh, 2013). While yoga practices get use of mindfulness and mindfulness practices to enhance benefits of yoga, mindfulness interventions also get use of yoga practices to enhance mindfulness (Kabat-Zinn & Hanh, 2013). As an example, MBSR developed by Kabat-Zinn entails sitting meditations, body scans, and yoga for enhancing mindful awareness of the present moment experiences of the body and mind (Kabat-Zinn & Hanh, 2013).

Scientific evidence shows that yoga practices increase mindfulness. Büssing, Hedtstück, Khalsa, Ostermann, and Heusser (2012) investigated the efficacy of a 6-month intensive yoga practice in participants who are going to start a two year yoga teacher training program and found that mindfulness levels of the participants increased after the yoga practice. Gard, Brach, Hölzel, Noggle, Conboy, and Lazar (2012) conducted a research on the efficacy of a 4-month Kripalu yoga intervention in young adults and found that mindfulness levels of the participants increased after the intervention. Butzer, Ahmed, and Khalsa (2016) tested the efficacy of a 2-month yoga and meditation program for enhancing positive psychological states of young adult musicians in three different time periods (2005, 2006, 2007). They found that in 2006 musicians who attended the yoga program showed higher levels of awareness, a sub-scale of mindfulness, than the control group participants. Cox and McMahon (2019) investigated the efficacy of a 16-week yoga practice in university students and found that mindfulness levels of the participants increased after the

yoga practice. Sreekumar, Nagendra, and Ilavarasu (2021) investigated the efficacy of a 5-day workplace yoga intervention with 3-month home practice in senior managers and found that mindfulness levels of the participants increased after the intervention.

Brisbon and Lowery (2009) investigated the mindfulness capacity of healthy Hatha Yoga practitioners and their findings revealed that advanced practitioners showed higher levels of mindfulness compared to beginner practitioners. Shelov, Suchday, and Friedberg (2009) tested the efficacy of an 8-week Hatha yoga intervention in healthy graduate and college students and found higher levels of mindfulness for the yoga intervention participants compared to control group participants. Newby (2014) tested the efficacy of a 2-month 'Yoga with Meditation' (YVM) intervention in graduate students and found higher levels of mindfulness for the yoga intervention participants compared to control group participants. Hanley, Warner, and Garland (2014) found that contemplative practice practitioners show higher levels of mindfulness compared to non-practitioners. Gaiswinker and Unterrainer (2016) investigated the relationships between yoga involvement and different parameters of mental health and illness and their findings revealed that intense yoga practitioners showed higher levels of mindfulness compared to other yoga and gymnastics practitioners. Saksena, Sharma, and Basaravaraddi (2020) tested the efficacy of three 3-month Hatha yoga practices in healthy young adults and found that mindfulness levels of the participants increased after the three yoga practices. Particularly, they found that participants who attended the yoga practice that is comprised from 'asanas, pranayama, and meditation' showed higher mindfulness than participants who attended the yoga practice that is comprised from 'pranayama and meditation' and 'only asanas'. Rao, Itagi, and Srinivasan (2020) investigated the efficacy of a 6-week yoga practice in asymptomatic male cricket players and found that male cricket players who attended yoga practice showed higher levels of mindfulness compared to the waitlist control group. Domingues (2018) conducted a systematic review to investigate the efficacy of modern postural yoga on positive mental heath indicators in clinical and non-clinical populations and identified five intervention studies that test the effect of yoga practice on mindfulness. In the four out of five studies they found higher levels of mindfulness

for people who attended the yoga intervention. They found that nurses, nursing students, and young adults with rheumatoid arthritis who attended yoga interventions showed higher levels of mindfulness compared to control groups and healthcare providers showed higher levels of mindfulness after the yoga intervention when compared with baseline mindfulness scores.

Scientific evidence also shows that yoga practice frequency effects individuals' mindfulness levels. Tihany, Böör, Emanuelsen, and Köteles (2016) investigated the relationship between yoga practice and some measures related to PWB in healthy advanced yoga practitioners and found that participants who are more frequently practicing yoga showed higher levels of mindfulness than participants who are less frequently practicing yoga. Szabolcs, Csala, Szabo, and Köteles (2021) conducted a comparative study that tests the differences between yoga practitioners, judo practitioners, aikido practitioners, and practitioners of non-Eastern physical activities. They found that yoga practitioners scored higher for mindfulness compared to the judo and non-Eastern physical activity practitioners and participants who are more frequently practicing yoga showed higher levels of mindfulness compared to participants who are less frequently practicing yoga.

2.4 Resilience

In this section, the information gathered from relevant literature regarding resilience is presented in the appropriate order.

2.4.1 What is resilience and why resilience?. Life is full of various challenges from challenges of daily life to challenges of significant life events (Fletcher & Sarkar, 2013). One research found that each people have a potential for experiencing at least one traumatic event during the course of life and what makes a life event a traumatic one depends on the resilience of individuals (Bonanno & Mancini, 2008). Since all people experience challenges during the course of life, investigating how some people positively adapt to these challenges became an important area for scientific inquiry to enhance health and well-being since 1970s (Denckla, Cicchetti, Kubzansky, Seedat, Teicher, Williams & Koenen, 2020; Fletcher & Sarkar, 2013; Windle, Bennett &

Noyes, 2011). In recent decades, research on resilience increased tremendously (Denckla et al., 2020; Windle et al., 2011) and investigated by many disciplines of psychology such as traumatology, developmental psychopathology, humanistic psychology, positive psychology, health psychology, and neurobiological psychology (Graber, Pichon & Carabine, 2015).

The term resilience comes from the Latin verb 'resilire' and has meanings of 'to leap back' or 'to rebound' (Vella & Pai, 2019). It is a term that is used by many disciplines besides psychology such as ecology, engineering, physics, and economics (Graber et al., 2015). In the psychology literature there is a lack of agreement on the definition, operationalization and trait versus process conceptualizations of resilience (Denckla et al., 2020; Fletcher & Sarkar, 2013; Vella & Pai, 2019). Even though there is a lack of consensus, some commonalities are also found within the definitions, operationalizations and conceptualizations of resilience (Denckla et al., 2020; Graber et al., 2015; Vella & Pai, 2019). Some differing definitions are cited below to illustrate the differences and commonalities:

- *Rutter (1987, p.316):* ''Protective factors which modify, ameliorate or alter a person's response to some environmental hazard that predisposes to a maladaptive outcome''.
- *Masten, Best, and Garmezy (1990, p.426):* ''The process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances''.
- *Luthar, Cicchetti & Becker (2000, p.543):* ''A dynamic process encompassing positive adaptation within the context of significant adversity''.
- *Connor and Davidson (2003, p.76):* ''The personal qualities that enables one to thrive in the face of adversity''.
- *Bonanno (2004, pp. 20-21):* ''The ability of adults in otherwise normal circumstances who are exposed to an isolated and potentially highly disruptive event such as the death of a close relation or a violent or life-threatening situation to maintain relatively stable, healthy levels of psychological and physical functioning, as well as the capacity for generative experiences and positive emotions''.

- *Windle (2011):* "The process of effectively negotiating, adapting to, or managing significant sources of stress or trauma".
- *Ungar (2011, p.10):* "In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their wellbeing, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways".
- *Fletcher and Sarkar (2013, p.16):* ''The role of mental processes and behavior in promoting personal assets and protecting an individual from the potential negative effect of stressors''.
- *Masten (2014, p.6):* "The capacity of a dynamic system to adapt successfully to disturbances that threaten system function, viability, or development".
- *Southwick, Bonanno, Mastan, Panter-Brick and Yehuda (2014, Abstract section):* "Healthy, adaptive, or integrated positive functioning over the passage of time in the aftermath of adversity".
- *American Psychological Association (2014, para.4):* ''The process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress''.
- *Hill, den Hartigh, Meijer, de Jonge and van Yperen (2018, p.367):* "The dynamic process by which a bio-psycho-social system returns to a previous level of functioning, following a perturbation caused by a stressor".

'Adversity' and 'positive adaptation' are common to all differing definitions of resilience (Denckla et al., 2020; Fletcher & Sarkar, 2013; Vella & Pai, 2019). Adversity refers to life events or circumstances that are associated with negative outcomes and jeopardize positive adaptation such as death of a loved one, a serious accident, poverty, chronic illnesses, sexual abuse, maltreatment, and daily life difficulties (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Joseph, 2015; Pan & Chan, 2007; Vella & Pai, 2019). Adversity, risk, and negative life events or circumstances are being used interchangeably within the resilience literature. Positive adaptation refers to the outcomes that are considerably better than the expected

outcomes in the face of an adversity (Luthar, Lyman & Crossman, 2014). Therefore, positive adaptation and positive outcomes are being used interchangeably within the literature. As ‘adversity’ and ‘positive adaptation’ are common to all definitions, resilience can be described as positive adaptation to an adversity (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Vella & Pai, 2019). Resilience does not mean that adversities do not affect individuals but it means that one can deal with possible negative outcomes of differing adversities and continue to function normally despite the risk (Babic, Babic, Rastovic, Curlin, Simic, Mandic & Pavlovic, 2020; Goldstein & Brooks, 2014).

In the literature, there had been controversies upon the conceptualization of resilience as a trait and as a process. The proponents of trait approach defined resilience as an inherited and relatively stable personality trait or set of traits that alleviates the negative effects of an adversity and support positive adaptation (Fletcher & Sarkar, 2013; Jacelon, 1997; Pan & Chan, 2007; Stainton, Chisholm, Kaiser, Rosen, Upthegrove, Ruhrmann & Wood, 2019; Vella & Pai, 2019). The personality traits of individuals such as self-efficacy, internal locus of control, autonomy, self-esteem, and empathy had been mentioned as individual protective factors that alleviate negative outcomes of an adversity or risk (Fletcher & Sarkar, 2013; Pan & Chan, 2007). On the other hand, the proponents of process approach defined resilience as a dynamic process of positive adaptation in the face of an adversity (Pan & Chan, 2007). They suggested that resilience is not just a set of stable personality traits, but it is an interaction of various dynamic processes that equilibrate risk and protective factors to alleviate negative outcomes and enhance positive outcomes (Goldstein & Brooks, 2014; Pan & Chan, 2007). When compared with the trait approach, the process approach emphasized the opportunity for change and reflected better the multi-level and dynamic nature of resilience (Denckla et al., 2020; Pan & Chan, 2007; Stainton et al., 2019). Accordingly, resilience is a dynamic process that is related to multiple systems within the individuals, societies, cultures, and the larger environments (Joseph, 2015; Vella & Pai, 2019). Even though differences exist between the trait and process conceptualizations of resilience, ‘adversity ’and ‘positive adaptation ’are fundamental to both (Vella & Pai, 2019). These two conceptualizations complement each other,

rather than being exclusive (Graber et al., 2015) and some current definitions of resilience combined the these two (Sarkar & Fletcher, 2014).

Understanding what resilience is and how it is achieved is very important since the world is full of challenges. It is known that resilience regulates coping skills, behavioral decisions, psychological as well as physiological functioning and help to reduce the negative effects of ‘‘acute and persistent stressors’’(Graber et al., 2015, p.17). Resilience protects individuals from the negative effects of adversities, helps to maintain optimal and healthy functioning and well-being despite the risk, and encourages individuals to find meaning in life in any circumstances (Babic et al., 2020). However, the availability of interventions for developing resilience is currently not enough (Graber et al., 2015) and there are still debates on how to define, operationalize, or conceptualize resilience (Denckla et al., 2020; Graber et al., 2015; Vella & Pai, 2019). Therefore, it is very important for future researchers to find a common ground on how to define, operationalize, or conceptualize resilience and to develop resilience-based interventions that can have huge potential for enhancing psychological and physical health and well-being of individuals (Graber et al., 2015).

2.4.2 The history of resilience. Research on resilience began in the 1970s with the developmental researchers’ interest for investigating disadvantaged children who were at risk for developing psychopathology later in life but functioned well in their adulthood despite the risk (Goldstein & Brooks, 2014; Graber et al., 2015; Pan & Chan, 2007; Vella & Pai, 2019). The main focus of early research on disadvantaged children was to identify risk factors and processes that may cause negative outcomes, particularly psychopathology (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014). As research on resilience evolved, a paradigm shift happened in the scientific inquiry and researchers started to investigate the individual strengths, protective factors and processes that provide positive outcomes or positive adaptation for disadvantaged children (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Joseph, 2015). This shift of focus contributed to the prevention of psychopathology, particularly for the disadvantaged children at high risk (Goldstein & Brooks, 2014). In the beginning researchers were calling these disadvantaged children ‘invulnerable’, however as the research in this area improved the term ‘invulnerability’ was replaced with the term

'resilience' (Goldstein & Brooks, 2014; Vella & Pai, 2019) because it was believed that resilience better indicated the dynamic interactions between risk and protective factors-processes associated with the individuals, families, and socio-cultural conditions (Goldstein & Brooks, 2014). The research on resilience can be divided into four waves (Goldstein & Brooks, 2014; Vella & Pai, 2019) and in this section the four waves of resilience research will be explained under four headings: First Wave, Second Wave, Third Wave, and Fourth Wave.

2.4.2.1 First wave. The first wave of research on resilience was focused on the individual and the environment they live in (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Vella & Pai, 2019). Researchers were interested in identifying risk and protective factors related to individuals, families, communities, and socio-cultural conditions that promote positive outcomes despite adversities or risks (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Luthar et al., 2014; Vella & Pai, 2019). They provided various descriptions for 'what' resilience is with person-focused and variable-focused methodologies (Goldstein & Brooks, 2014; Vella & Pai, 2019). The person-focused methods identified the personal traits of resilient individuals by making comparisons between individuals who are resilient and not resilient in the same adversity or risk situations (Goldstein & Brooks, 2014; Vella & Pai, 2019). The variable-focused methods investigated the relationships between characteristics of individuals and their environments that provide positive outcomes in the face of an adversity or risk (Goldstein & Brooks, 2014; Vella & Pai, 2019). The first wave of research on resilience provided information on 'what' questions and researchers identified the personality traits of resilient individuals, risk factors that predict negative outcomes as well as protective factors that predict positive outcomes.

2.4.2.2 Second wave. The second wave of research on resilience started in the 1990s (Fletcher & Sarkar, 2013; Pan & Chan, 2007). Researchers were interested in examining the processes of resilience that provide positive adaptation in the face of adversities or risks (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Pan & Chan, 2007; Vella & Pai, 2019). They suggested that resilience is not just a list of static personality traits but it is a combination of many dynamic processes that balance the

interactions between risk and protective factors to promote positive outcomes (Goldstein & Brooks, 2014; Pan & Chan, 2007). The researchers showed that the degree of resilience is dependent upon various interacting processes such as individuals' developmental phase, time and environmental context which includes multiple systems such as the family, community, society, and culture (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Graber et al., 2015; Vella & Pai, 2019). Accordingly, an individual may show resilience to an adversity in one context or in one point of life or development, however may not show resilience when faced with the same adversity in another context or in a point later in life or development (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Stainton et al., 2019). Therefore, it was suggested that ''resilience is a lifelong process of positive adaptation to adversity'' (Graber et al., 2015, p.8).

Various theories and models of resilience for research developed during this period (Vella & Pai, 2019). Some of these theories and models targeted at specific populations such as adolescents, families, communities, trauma survivors, disease survivors, police officers, nurses, and athletes and some of them targeted at explaining the general process of resilience (Fletcher & Sarkar, 2013). For example, Flach (1988) proposed a two-step model for the process of resilience that is comprised from law of disruption and reintegration (cited in Jacelon 1997). Accordingly, exposure to an adversity causes disruption and this disruption is resolved by reintegration (Jacelon, 1997; Vella & Pai, 2019). Similarly, Richardson (2002) and his colleagues (1990) suggested that if an individual does not have enough protective factors that buffer against an adversity, their bio-psycho-spiritual homeostasis is disrupted and this disruption is resolved by a reintegration process which can have four different outcomes: resilient reintegration (gaining new protective factors or mechanisms, a higher level of homeostasis), reintegration back to homeostasis (returning to same level of homeostasis), reintegration with loss (losing some protective factors or mechanisms, a lower level of homeostasis) or dysfunctional reintegration (employing unhealthy ways for coping) (cited in Fletcher & Sarkar, 2013). The second wave of research on resilience provided information on 'how 'questions and researchers emphasized that risk and protective factors embedded in individuals and their

environments do not act in isolation and identifying complex interactions of many processes can contribute to resilience of individuals (Graber et al., 2015).

2.4.2.3 Third wave. The third wave of research on resilience was focused on fostering resilience when it was not occurring naturally (Goldstein & Brooks, 2014; Vella & Pai, 2019). Researchers utilized the knowledge on naturally occurring resilience to create interventions that promote resilience and prevent illness (Goldstein & Brooks, 2014; Vella & Pai, 2019). In the beginning researchers created intervention designs based on theories and models for individuals who are at high risk for developing negative outcomes and later on they tested the effectiveness of these intervention designs for promoting positive outcomes with randomized controlled trials (Goldstein & Brooks, 2014; Joseph, 2015; Vella & Pai, 2019). The experiments brought forward some questions such as 'Does a risk or adversity need to be present?', 'Is the timing of the intervention is important?' (Vella & Pai, 2019). Researchers found that exposure to a risk or adversity is needed for developing resilience (Vella & Pai, 2019) and timing of the intervention is important for enhancing resilience. (Goldstein & Brooks, 2014; Joseph, 2015; Vella & Pai, 2019). Particularly, implementing interventions during developmental turning-points found to be beneficial for enhancing resilience (Goldstein & Brooks, 2014; Joseph, 2015; Vella & Pai, 2019). Because the context is related to one's degree of resilience, researchers considered various systems related to individuals such as the family, community, schools, and institutions to better implement resilience-based interventions (Joseph, 2015). The third wave of research on resilience provided interventions that facilitate protective processes and positive outcomes for enhancing healthy development of individuals that are at high risk for experiencing negative outcomes (Goldstein & Brooks, 2014; Vella & Pai, 2019).

2.4.2.4 Fourth wave. The fourth wave of research on resilience emerged as the research methods and statistical analysis advanced for investigating interactions between multiple systems and the knowledge on epigenetic and neurobiological processes improved (Goldstein & Brooks, 2014). Researchers focused on investigating the dynamics between multiple processes such as epigenetic and neurobiology to

promote resilience (Goldstein & Brooks, 2014). The fourth wave of research on resilience is still in progress and it is aimed at advancing the scientific inquiry and interventions on resilience (Goldstein & Brooks, 2014).

2.4.3 The principle components of resilience. Commonly, the theories and models developed for resilience are comprised from three main components: (1) risk factors, (2) protective factors, and (3) positive outcomes (Stainton et al., 2019). Resilience includes: (1) presence of an adversity or multiple adversities that create a risk for negative outcomes; (2) effects of protective factors that override the risk or risks; (3) presence of a better positive outcome than expected despite the risk (Stainton et al., 2019).

2.4.3.1 Risk factors. Risk factors refer to the variables that increase the likelihood of negative, undesirable outcomes (Goldstein & Brooks, 2014; Pan & Chan, 2007). To develop resilience, a risk factor or multiple risk factors must be present (Goldstein & Brooks, 2014; Pan & Chan, 2007). As research shows, a risk factor may only be associated with a negative outcome or it can be a direct cause of a negative outcome (Pan & Chan, 2007). One's degree of resilience is dependent upon the nature of the risk factor or risk factors (Pan & Chan, 2007). Also, as the number of risk factors increases or the same risk factor appears multiple times, individuals' likelihood of experiencing negative outcomes can increase (Goldstein & Brooks, 2014; Pan & Chan, 2007). Therefore, researchers suggested that it is very important to detect the cumulative risk since risk factors do not act in isolation (Goldstein & Brooks, 2014; Pan & Chan, 2007).

In the literature three types of risk factors are detected: individual, familial, and environmental (Ünal, 2021; Başar, 2020). Individual risk factors include negative life experiences, health problems or chronic illnesses, inability to employ coping mechanisms or problem-solving skills, aggressive and/or anxious personality characteristics, low self-efficacy, low intelligence, and social incompetence (Ünal, 2021; Başar, 2020). Familial risk factors include parental mental illness or physical illness, parental divorce, parental loss, single parenthood, unhealthy child-parent relationships, neglecting or abusive parents, domestic violence, communication

problems within the family, and weak family ties (Ünal, 2021; Başar, 2020). Environmental risk factors include problems related to one's social environment such as poverty, unemployment, racial discrimination, and mass traumas that effect the whole society (Ünal, 2021; Başar, 2020).

2.4.3.2 Protective factors. Protective factors refer to the variables that increase the likelihood of positive, desirable outcomes in particularly high risk situations (Goldstein & Brooks, 2014). Protective factors operate to mediate or moderate the negative effects of the adversity or risk at hand and to support positive adaptation (Goldstein & Brooks, 2014; Graber et al., 2015; Luthar et al., 2014; Stainton et al., 2019). Research showed that even presence of one protective factor could be beneficial for positive adaptation when an adversity is present (Pan & Chan, 2007). A protective factor's effectiveness is dependent upon the nature of the adversity or risk (Stainton et al., 2019). It should be noted that presence of protective factors does not mean absence of risk factors (Stainton et al., 2019), however their presence mostly mitigate the effects of risk factors if the risk is not too high (Pan & Chan, 2007).

In the literature two types of protective factors are found: individual and environmental (Graber et al., 2015; Pan & Chan, 2007). Individual protective factors include efficient coping mechanisms and problem-solving skills, self-efficacy, self-esteem, self-confidence, autonomy, independence, sense of humor, empathy, hopefulness, and meaning in life (Goldstein & Brooks, 2014; Pan & Chan, 2007). Environmental protective factors are divided into three: family, community, and society (Goldstein & Brooks, 2014). Family-related protective factors include stable living environment, good familial relationships, loving-caring-supportive family members, good socio-economic status of the family, and educated parents (Goldstein & Brooks, 2014; Pan & Chan, 2007). Community-related protective factors include good and safe neighborhood, sufficient opportunities for housing and schooling, availability of health care centers, presence of social organizations, and opportunities for employment (Goldstein & Brooks, 2014). Society-related protective factors include policies and social norms that protect the rights of each individual and prevent maltreatment (Goldstein & Brooks, 2014).

2.4.3.3 Positive outcomes. Positive outcomes refer to positive adaptation to an adversity and resilience only develops when an adversity and positive adaptation be present at the same time. In the literature, various criteria used to decide whether an outcome is a positive one (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Luthar et al., 2014; Pan & Chan, 2007). These criteria included at least one or more of the following: absence of psychopathology (Goldstein & Brooks, 2014; Pan & Chan, 2007); presence of good mental health (Pan & Chan, 2007); healthy functioning (Pan & Chan, 2007); psychosocial competence (Fletcher & Sarkar, 2013; Luthar et al., 2014; Pan & Chan, 2007); and, achievements in age-appropriate developmental tasks (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Luthar et al., 2014**).** Selecting which criteria to use to decide whether an individual positively adapted to an adversity depends upon the seriousness and nature of the risk (Fletcher & Sarkar, 2013; Luthar et al., 2014; Pan & Chan, 2007). Also positive outcomes depend upon the developmental and contextual expectations.

2.4.4 Resilience and positive psychology. Resilience research investigates how some people adapt well to difficulties of life to understand the protective factors and processes that mitigate the effects of the risk factors and processes in multiple systems related to individuals such as families, communities, societies, and larger environments that promote positive adaptation (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Pan & Chan, 2007; Vella & Pai, 2019). Resilience facilitates well-being and healthy functioning of individuals, communities and societies and creates flexibility for the challenges of life (Babic et al., 2020). Like PP, resilience research and interventions take into consideration both the negatives and the positives.

PP investigates the positive, adaptive, and healthy factors, processes, mechanisms that contribute to the healthy functioning and well-being of individuals, communities and societies (Alex Linley et al., 2006; Compton & Hoffman, 2019; Lee Duckworth et al., 2005). PP research and interventions focus on cultivating positive subjective experiences, positive individual traits, and positive institutions that enable the growth of positive subjective experiences and positive individual traits (Cohrs et al., 2013; Lemay & Ghazal, 2001). While doing these,PP takes into consideration both the positive and negative aspects of individuals and their experiences (Gable & Haidt,

2005; Ng & Lim, 2019; Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001). It views negative experiences as a source for understanding how to achieve personal development and positive adaptation (Cohrs et al., 2013). Actually, PP utilizes resilience as a framework in the contexts of adversity or risk to promote health and well-being (Cohrs et al., 2013; Joseph, 2015).

Several systematic analysis on PP related publications showed that resilience is an area of research within the field of PP (Donaldson et al., 2014; Kim et al., 2018; Rusk & Waters, 2013) and some PPIs include practices that promote resilience for enhancing health and well-being (Hendriks et al., 2017). Hendriks, Schotanus-Dijkstra, Hassankhan, Sardjo, Graafsma, Bohlmeijer and de Jong (2019) conducted a randomized controlled trial to test the efficacy of a culturally adapted six sessions long MPPI on resilience and mental well-being of healthy employees from the Suriname and the participants of the experiment group showed higher levels of resilience and mental well-being compared to the participants of the control group. Later on, the researchers applied the same research design and MPPI to a different group of healthy employees from the Suriname and investigated whether positive emotions and psychological flexibility mediate the relationship between the MPPI and resilience and mental well-being (Hendriks, Schotanus-Dijkstra, Graafsma, Bohlmeijer & de Jong, 2020). Like the first study, they found higher levels of resilience and mental well-being for the participants of the experiment group and positive emotions mediated the relationship between the MPPI and resilience and mental well-being (Hendriks et al., 2020).

2.4.5 Resilience and yoga. Yoga is a transformational, therapeutic, and process oriented practice for the mind and the body (Worby, 2002). It helps individuals to realize that they are the masters of their minds and bodies and if they want, they can control their mind-body environments (Iyengar, 2021). Yoga creates a safe space for individuals to build resilience against adversities of life (Patrinos, 2021). By regularly practicing yoga, individuals learn that even in the face of an adversity, they can found an equanimity within themselves (Patrinos, 2021). While practicing yoga individuals may encounter undesirable and compelling thoughts, feelings, behaviors, and bodily sensations due to various internal and/or external factors-

processes (Patrinos, 2021). Yoga teaches individuals to approach those undesirable and compelling thoughts, feelings, behaviors, and bodily sensations with an open, accepting, and kind attitude rather than ignorance or neglect (Patrinos, 2021). This helps individuals to build strength, flexibility, and resilience against life's difficulties (Patrinos, 2021; Trulson & Vernon, 2019; Worby, 2002). Regular practice of yoga can help individuals to employ protective processes that are associated with positive outcomes in the face of an adversity.

Yoga also holds an ethical approach towards other beings and encourages altruistic behaviors (Rao, 2014; Worby, 2002). This approach toward others creates a buffer against adversities of life and may operate as a protective factor in one's life against adversities. Resilience refers to a dynamic process which involves multiple systems related to individuals such as families, communities, societies, and larger environments (Joseph, 2015; Vella & Pai, 2019). Therefore, yoga's holistic and process oriented approach towards individuals and their environments contributes to building resilience.

Scientific evidence shows that yoga practices increase resilience. Yook, Hang & Park (2017) investigated the efficacy of an 8-week physical activity intervention that combined a sport with mindfulness yoga in primary school students and found higher levels of resilience and PWB for the intervention group participants compared to control group participants. Karmalkar and Vaidya (2017) investigated the efficacy of a 40-session classical yoga intervention in rural-to-urban migrant college students and found higher levels of resilience for the intervention participants compared to control group participants. Başar (2020) compared the resilience and perceived stress levels of healthy adults who practice yoga and who don't practice yoga and found higher levels of resilience and lower levels of perceived stress for participants who practice yoga compared to participants who don't practice yoga. Kukihara, Yamawaki, Ando, Nishio, Koga, Kimura and Matsuda (2020) investigated the effects of a 12-week exercise program and mindfulness-based yoga program in old adults. Participants randomly assigned to mindfulness-based yoga group, exercise group, and control group. Researchers found that resilience fully mediated the relationship between groups and minor psychiatric disorders. Also, they found higher levels of resilience for mindfulness-based yoga program participants compared to control group

participants. Loewenthal, Dyer, Lipsyc-Sharf, Borden, Mehta, Dusek and Khalsa (2021) investigated the efficacy of a 6-week yoga-based mind-body intervention called RISE (resilience, integration, self-awareness, engagement) in resident physicians and found higher levels of resilience and mindfulness and lower levels of perceived stress for the intervention participants compared to waitlist control group participants. Koch, Esch and Werdecker (2022) investigated the efficacy of a 6-month yoga-based intervention program in healthy young police officers and found higher levels of resilience and lower levels of perceived stress for the intervention participants compared to waitlist control group participants.

2.4.6 Resilience and mindfulness. Mindfulness refers to paying attention to and being aware of the present moment experiences (Alidina, 2020; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). Mindful individuals approach their present moment internal and external experiences with a non-judging, open, curious, kind, and accepting attitude (Alidina, 2020; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). Paying attention to and being aware of present moment experiences with a non-judging, open, curious, kind, and accepting attitude helps individuals to evaluate their experiences from differing perspectives and creates an opportunity for changing their unhealthy, non-functional, and habitual thought and behavior patterns (Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). Mindfulness makes individuals more flexible in creating healthy, functional, and adaptive cognitive, emotional, or behavioral responses when faced with negative or positive experiences and increase resilience of individuals (Alidina, 2020; Asthana, 2021; Chen, Xie & Huang, 2021; Pillay, 2020; Yang & Oka, 2022; Yuan, 2021). Trait mindfulness is an individual protective factor that mitigates the effects of risks in a given adversity and contributes to resilience (Asthana, 2021; Chen et al., 2021; Yang & Oka, 2022).

Scientific evidence shows that there is a positive relationship between mindfulness and resilience (e.g. Arpacı & Gündoğan, 2020; Asthana, 2021) and higher levels of mindfulness predicted higher levels of resilience in undergraduate students (e.g. Bajaj & Pandę, 2016; Cantimur, 2021; Keye & Pidgeon, 2013; McArthur, Mansfield, Matthew, Zaki, Brand, Andrews & Hazel, 2017**;** Pidgeon & Keye, 2014; Yang & Oka, 2022; Zarotti, Povah & Simpson, 2020), undergraduate psychology

students (e.g. Polizzi, Gautam & Lynn, 2018), senior vocational school students (e.g. Chen et al., 2021), student nurses (e.g. Mitchell, 2021), student athletes (e.g. Kara, 2021), adolescent underprivileged students (e.g. Sünbül & Güneri, 2019), high school students (e.g. Yenice, 2020), student athletes (e.g. Kara, 2021), young adults (e.g. Chavers, 2013), adults (e.g. Chin, Lindsay, Greco, Brown, Smyth, Wright & Creswell, 2019), homeless people (e.g. Lu, Potts & Allen, 2021), women leaders in higher education institutions (e.g. Pillay, 2020), counselor candidates (e.g. Ünal, 2021), industrial workers (e.g. Paul, Bamel, Astha & Stokes, 2019), employees (e.g. Atalay, 2020), and human service professionals (e.g. Pidgeon, Ford & Klaassen, 2014).

Since mindfulness is associated with higher levels of resilience, mindfulness practices are being used to enhance resilience of individuals (Asthana, 2021; Chen et al., 2021; Yang & Oka, 2022; Yuan, 2021). Research show that mindfulness practices increase resilience. Denkova, Zanesco, Rogers and Jha (2020) investigated the efficacy of a 4-week mindfulness training program for firefighters. The participants assigned either to mindfulness training program, relaxation training program, or control group. Researchers found higher levels of resilience for the participants of mindfulness training program compared to the participants of relaxation training program and control group. Adelian, Shahraki, Miri and Farokhzadian (2021) investigated the efficacy of an 8-session MBSR program for vulnerable women and found higher levels of resilience for MBSR participants compared to control group participants. Liu, Zhang, Liu and Zhang (2021) investigated the efficacy of a brief mindfulness training for athletes and found higher levels of resilience for the participants of the mindfulness training group compared to the participants of the control group. Yuan (2021) investigated the efficacy of a 6-month mindfulness training for adolescents with low levels of resilience under the Covid-19 epidemic and found an gradual increase in the resilience levels of the mindfulness training participants compared to control group participants.

2.5 Psychological Well-Being

In this section, the information gathered from relevant literature regarding PWB is presented in the appropriate order.

2.5.1 What is psychological well-being and why psychological well-being?.

In recent years mental health started to be seen as a complete state that is more than the absence of mental health disorders and efforts to increase PMH gained importance within the scientific community (Hendriks, 2018; Hendriks et al., 2017; Keyes, 2007; Ryan & Deci, 2001; Weiss, Westerhof & Bohlmeijer, 2016). Within this scope, research on well-being increased tremendously and differing conceptualizations of well-being emerged within the literature (Keyes, Shmotkin & Ryff, 2002; Ryan & Deci, 2001; Weiss et al., 2016). The presence of various conceptualizations effected how well-being is measured by different researchers, therefore how one defined well-being became important for measuring what one intended to measure (Weiss et al., 2016). Two main conceptualizations of well-being within the psychology literature are SWB (a.k.a. hedonic well-being) and PWB (a.k.a. eudaimonic well-being) (Keyes et al., 2002; Ryan & Deci, 2001; Weiss et al., 2016).

Conceptualizations of well-being as SWB that is based on hedonic well-being approach started in the 1950s with an interest in finding what increases one's quality of life for understanding social change and advancing social policies (Keyes et al., 2002). It is found that one's subjectivity defined how one responded to own experiences in a particular environment (Keyes et al., 2002). Earliest conceptualizations and operationalizations of SWB can be traced back to Bradburn's (1969) seminal research where he suggested that happiness and life satisfaction as components of quality of life come from a balance between positive and negative affect (Keyes et al., 2002; Ryff & Keyes, 1995). Proponents of this view conceptualized well-being in terms of one's degree of happiness and life satisfaction and measured it based on the presence of positive and pleasurable experiences and the balance between positive and negative emotions one feels (Keyes et al., 2002; Ryan & Deci, 2001; Weiss et al., 2016). Such as, Ed Diener (1984) suggested a three-dimensional model comprised from life satisfaction, absence of negative affect, and presence of positive affect to measure SWB (Ryan & Deci, 2001). However, proponents of this view were criticized as neglecting the essential meaning of well-being (Ryff, 1995; Ryff & Keyes, 1995).

Conceptualizations of well-being as PWB that is based on eudaimonic well-being approach started in the 1980s to compensate what is lacking in conceptualizations of SWB (Keyes et al., 2002; Ryff, 2014). Proponents of this view suggested that happiness and well-being are distinct and all pleasures do not promote well-being (Ryan & Deci, 2001). Therefore, equating hedonic pleasures to happiness and seeing them as the ultimate wanted ends in life was seen as the main problem of SWB view (Ryff, 1995; Ryff & Singer, 2006). Eudaimonia refers to a way of life where one searches for meaning and strives to be better to actualize own true potential despite the challenges of life (Keyes et al., 2002; Ryan & Deci, 2001; Ryff, 2014). Proponents of this view conceptualized well-being in terms of one's degree of positive functioning rather than one's degree of happiness and life satisfaction (Ryan & Deci, 2001; Ryff, 2014). In 1984 Waterman made a distinction between hedonic and eudaimonic well-being approaches and influenced Carol Diane Ryff (1989) to develop a theory driven multi-dimensional model for measuring PWB that is based on eudaimonia (Ryff & Keyes, 1995; Ryff & Singer, 2006; Weiss et al., 2016).

Philosophical roots of Ryff's PWB model relies on Aristotle's Nichomachean Ethics that provided a guideline for achieving a good life through eudaimonia (Ryff, 2014; Ryff & Singer, 2006). According to Aristotle, eudaimonia refers to the actions of people that are in line with their highest virtues which bring out the best in themselves (Ryff & Singer, 2006). To develop his model, Ryff also got use of various theories from different subfields of psychology that formulated positive human functioning (Ryff & Keyes, 1995). Developmental psychologists' theories that defended a continuous growth and development for people along the life-span, particularly Erikson's (1959) model for psychosocial development, Bühler's (1935) theory for basic life tendencies that lead to fulfillment in life, and Neugarten's (1973) formulation of executive processes of personality contributed to model of PWB (Keyes et al., 2002; Ryff, 1995; Ryff & Keyes, 1995; Ryff & Singer, 2006). Also existential and humanistic psychologists' theories on finding meaning and purpose in life despite the challenges, particularly Allport's (1961) theory for maturity, Frankl's (1959) theory for will to meaning, Maslow's (1968) model for self-actualization, and Rogers' (1961) formulation for fully functioning person provided essential knowledge for the PWB model (Keyes et al., 2002; Ryff, 1995; Ryff & Keyes, 1995; Ryff & Singer,

2006). Clinical psychologists' theories that focus on positive indicators of mental health, particularly Jahoda's (1958) theory for mental health and Jung's (1993) understanding for individuation contributed to Ryff's model (Ryff & Singer, 2006). Through reviewing all of the aforementioned theories, Ryff (1989) proposed a six dimensional model of PWB comprised from self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth for self-actualized and fully functioning individuals (Ryan & Deci, 2001; Weiss et al., 2016). Core dimensions of PWB and their theoretical ground are given in *Figure 1*. Each dimension of PWB suggests differing challenges for individuals as they try to continue to function positively (Keyes et al., 2002). Together these dimensions of PWB theoretically and operationally define individuals that are actively engaged with life, working toward realizing and actualizing themselves, trying to function healthy and find meaning in life despite the challenges (Ryan & Deci, 2001; Ryff, 2014).

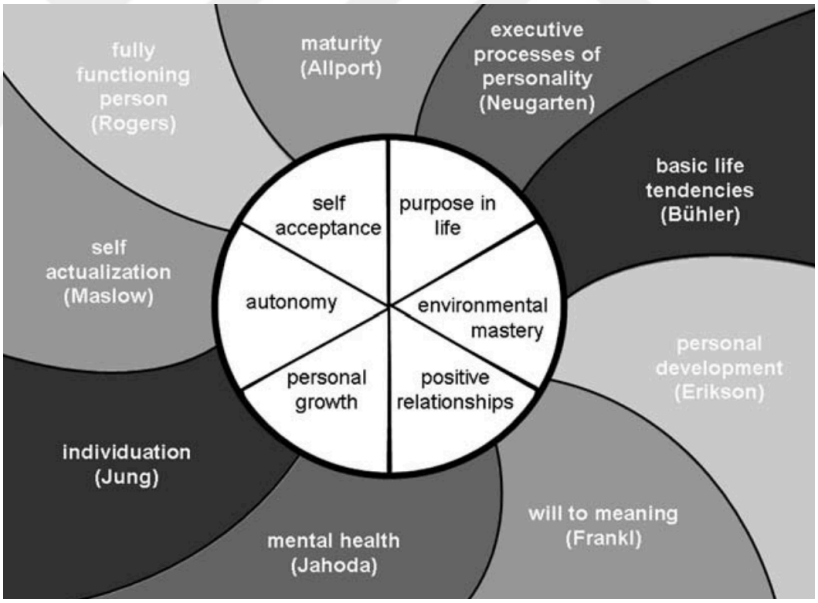

Figure 1. Core dimensions of PWB and their theoretical foundations

(Ryff & Singer, 2006).

Efforts to rightly measure PWB led to empirical investigations on the reliability and validity of Ryff's PWB scale, particularly reliability and validity of its factors (Ryff, 2014). Even though critiques exist on the factor structure of the scale, it is still used largely by the scientific society to measure differing topics across various scientific fields (Ryff, 2014). Ryff (2014) reviewed more than 350 empirical studies and summarized the findings on PWB under six headings: ''(1) development and aging; (2) personality correlates; (3) family experiences; (4) work and other life engagements; (5) health and biological research, and (6) clinical and intervention studies'' (Ryff, 2014, p.13). Within literature PWB was mostly researched as a dependent variable, however literature also exist where PWB was a predictor or moderating variable (Ryff, 2014).

Findings from adult development and aging studies showed that successful completion of adult developmental tasks increases individual's PWB and individuals who feel younger and don't want to be younger than their actual age show higher levels of PWB (Ryff, 2014). However, aging itself found to be negatively effecting one's personal growth and purpose in life (Ryff, 2014). PWB is also dependent upon how one resolves challenges of life in adulthood and it is found that adults who are able to make positive social comparisons and have flexibility in their self conceptions show higher levels of PWB (Ryff, 2014). Findings from cross-sectional and longitudinal personality studies showed that personality traits of individuals can account for the differences in PWB (Ryff, 2014). Findings from family studies showed that family experiences effect individuals PWB (Ryff, 2014). It is found that individuals who are more involved with their roles in the family show higher levels of PWB, particularly their self-acceptance and purpose in life increases (Ryff, 2014). Parenting also found to increase adults' PWB when their children are in good conditions (Ryff, 2014). Changes in the family structure found to be associated with individuals' PWB (Ryff, 2014). It is found that married individuals show higher levels of PWB when compared with divorced, widowed or single individuals (Ryff, 2014). Loss of a child in adult life and loss of a parent in childhood found to be associated with a decrease in PWB later in life (Ryff, 2014). Children exposed to violence found to show lower levels of PWB in adulthood (Ryff, 2014). Findings from studies that investigated the effects of work and other life engagements on PWB found that the type of work one is engaged with

effects PWB of individuals (Ryff, 2014). It is also found that individuals who experience work and family conflict show lower levels of PWB and harmony between the two increases PWB of individuals (Ryff, 2014). Engaging in religious activities found to increase individuals 'purpose in life and personal growth, however it is also found to decrease individuals' autonomy (Ryff, 2014). Findings from studies related to health and biology showed the connection between physical health and PWB (Ryff, 2014). Increases in one's PWB found to be associated with better regulation of biological systems of the body, particularly when one is faced with a physical illness or disability (Ryff, 2014). PWB found to function as a protective factor when a health related risk is present in one's life (Ryff, 2014). Findings from clinical and intervention studies showed that mental health and mental illness are two independent measures that correlate (Ryff, 2014). It is found that higher levels of PWB is effective in decreasing symptoms of various mental health disorders and PWB is a protective factor against mental health disorders (Ryff, 2014). It is also found that creation of new interventions that enhance well-being to treat and prevent mental illness related problems besides enhancing overall well-being of individuals gained importance in recent years (Ryff, 2014).

2.5.2 The core dimensions of psychological well-being. Ryff (1989) developed a multi-dimensional model of PWB for measuring positive psychological functioning of individuals (Keyes et al., 2002; Ryan & Deci, 2001; Ryff, 2014; Ryff & Keyes, 1995; Weiss et al., 2016). The core dimensions of PWB model are self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth.

2.5.2.1 Self-acceptance. Self-acceptance refers to individuals 'positive attitudes toward themselves and their experiences (Keyes et al., 2002; Ryff, 2014; Ryff & Keyes, 1995; Ryff & Singer, 2006). Self-accepting individuals are aware of their bad and good personal qualities, their strengths, and weaknesses and able to accept them (Ryff, 2014; Ryff & Keyes, 1995). They do not regret from their past experiences and try to evaluate them positively (Ryff, 2014; Ryff & Keyes, 1995).

2.5.2.2 Positive Relationships. Positive relationships refer to individuals ' capacity to form and sustain warm, kind, intimate, empathic, and trusting relationships with others (Keyes et al., 2002; Ryff, 2014; Ryff & Keyes, 1995). People who are able to form and sustain positive relationships take into consideration the well-being of others, behave altruistically and ready to compromise for others if necessary (Ryff, 2014).

2.5.2.3 Autonomy. Autonomy refers to individuals' ability for self-determination and independence (Keyes et al., 2002; Ryff, 2014; Ryff & Singer, 2006). People who are autonomous can withstand social demands that are not in line with their personal standards (Keyes et al., 2002; Ryff, 2014; Ryff & Singer, 2006). They are not worried about others' evaluations when they don't conform to expectations (Ryff, 2014; Ryff & Singer, 2006). They are able to make their own decisions and regulate their behaviors by themselves (Ryff, 2014; Ryff & Singer, 2006).

2.5.2.4 Environmental mastery. Environmental mastery refers to individuals' competence in handling their surrounding environments in accord with their personal wants and needs (Keyes et al., 2002; Ryff, 2014). Individuals that are able control their environments according to their own wants and needs know how to improve their living conditions or establish environments that fit their personal preferences (Ryff, 2014).

2.5.2.5 Purpose in life. Purpose in life refers to individuals' ability to find meaning in own efforts and experiences in life (Keyes et al., 2002 ; Ryff & Keyes, 1995). Individuals who have a purpose in life create a direction for their lives, therefore they make their experiences meaningful even though their experiences are challenging for them (Ryff, 2014).

2.5.2.6 Personal growth. Personal growth refers to individuals' ability to get use of their strengths, talents, and potential for pursuing development across their life-span (Keyes et al., 2002 ; Ryff, 2014 ; Ryff & Keyes, 1995). Individuals who give importance to continuous personal growth are open to new experiences and change

(Ryff, 2014). They can notice their development and growth; therefore, they are able to find a motivation for life (Ryff, 2014).

2.5.3 Psychological well-being and positive psychology. PP field scientifically investigates what contributes to optimal functioning and well-being of individuals, communities, and societies (Compton & Hoffman, 2019; Hendriks et al., 2017). PPIs are aimed at enhancing positive emotions, positive personality traits, positive behavioral patterns, and positive relationships to treat and prevent mental and physical health problems (Compton & Hoffman, 2019; Lee Duckworth et al. 2005; Seligman, 2002; Seligman & Csikszentmihalyi, 2000). Therefore, one of the aims of PP field and PPIs is to enhance PWB that is related to one's degree of positive psychological functioning.

Several systematic reviews and meta-analysis on PPIs showed the effectiveness of PPIs in increasing PWB (Bolier et al., 2013; Hendriks, Hassankhan et al., 2018; Hendriks, Schotanus-Dijkstra et al., 2018; Hendriks, Schotanus-Dijkstra, Hassankhan, de Jong et al., 2019; Koydemir et al., 2020). In their meta-analysis of 39 randomized controlled studies that comprise from clinical and non-clinical populations, Bolier et al. (2013) found that PPIs successfully enhance PWB. Hendriks, Schotanus-Dijkstra et al. (2018) found that MPPIs are effective in increasing PWB in their systematic review and meta-analysis of 37 randomized controlled studies that consist from clinical and non-clinical samples. In their systematic review and meta-analysis of 28 randomized controlled studies that contain clinical and non-clinical populations, Hendriks, Hassankhan et al. (2018) found that single and multi-component PPIs conducted in non-Western countries successfully increase PWB. Hendriks, Schotanus-Dijkstra, Hassankhan, de Jong et al. (2019) found that MPPIs are effective in enhancing PWB in their systematic review and meta-analysis of 50 randomized controlled studies that comprise from clinical and non-clinical samples. In their meta-analysis of 68 randomized controlled studies that include only non-clinical populations, Koydemir et al. (2020) found that PPIs successfully enhance PWB.

2.5.4 Psychological well-being and yoga. As a mind-body-spirit practice, yoga is aimed at enhancing healthy functioning and psychological, physical, and

spiritual well-being of individuals (Agrawal, 2022; Pimple & Agrawal, 2020). Therefore, one of the main purposes of yoga practices is to improve one's degree of positive psychological functioning which refers to PWB of individuals.

Scientific evidence shows that yoga practices increase PWB. Hanley et al. (2014) found that contemplative practice practitioners show higher levels of PWB compared to non-practitioners. Oner (2015) investigated the efficacy of a 12-session yoga program in women athletes and business women who have never done yoga and found higher levels of PWB for the yoga program group participants compared to control group participants. Hendriks et al. (2017) conducted a meta-analysis of 17 randomized controlled studies to investigate the effects of yoga on measures of PMH. They detected 8 studies that investigated the effects of yoga on PWB in comparison to no intervention control group and found that yoga enhances PWB of healthy adults. However, researchers mentioned that PWB was assessed with differing scales due to differing conceptualizations of the construct and pointed it as a limitation for their study while making a warning about this issue for further research. Sadhasivam, Alankar, Maturi, Vishnubhotla, Mudigonda, Pawale, Narayanan, Hariri, Ram, Chang, Renschler, Eckert and Subramaniam (2020) conducted an observational pilot study to investigate the efficacy of a 4-day Isha Yoga Bhava Spandana Program on mental health and mental well-being in adults. Adults who completed an Inner Engineering Program that included yoga and meditation practices included in the study. Researchers found that the 4-day yoga retreat increased participants' mindfulness and PWB. Particularly, they found that autonomy sub-scale of PWB showed a continuous growth in pre, post and 1 month follow up measurements. Nanduri and Ram (2020) investigated the efficacy of a 3-month Yoga Prana Vidya intervention in under-trial prisoners and found higher levels of PWB for participants after the yoga intervention. Bright, Gringart, Blatchford and Bettinson (2021) investigated the relationship between regular yoga practice, micro-dosing psychedelics, well-being and personality variables. Their study included four groups: (1) Yoga Group, (2) Micro-dosing Group, (3) Yoga and Micro-dosing Group, (4) Control Group. They found higher levels of PWB for 'yoga', 'micro-dosing' and 'yoga and micro-dosing' participants when compared with the control group participants. Tripathi (2021) investigated the efficacy

of a 60-day yoga practice in college students and found higher levels of PWB for yoga practice participants compared to control group participants.

2.5.5 Psychological well-being and mindfulness. As mindfulness refers to one's attention and awareness of present moment experiences with a constructive attitude it contributes to one's healthy psychological functioning and well-being (Alidina, 2020; Ivtzan & Lomas, 2016; Kabat-Zinn, 2005). Scientific evidence shows that there is a positive relationship between mindfulness and PWB (e.g. Seçkin Esmeray, 2020; Kılınçoğlu, 2020; Koyunsever, 2022) and higher levels of mindfulness predicted higher levels of PWB in secondary and high school adolescents (e.g. Özyurt, 2020), college students (e.g. Huang, Tan, Cheung & Hu, 2021), undergraduate students (e.g. Arslan & Arıcı, 2021; Bowlin & Baer, 2012; Klainin-Yobas, Ramirez, Fernandez, Sarmiento, Thanoi, Ignacio & Lau, 2016; Şahin, 2018), undergraduate and graduate students (e.g. Koçyiğit, 2019), adults (e.g. Ateş, 2020; Çelikler, 2017; Hanley et al., 2014; Voci, Veneziani & Fuochi, 2018), and teachers (e.g. Bayraktar, 2021).

Scientific evidence also shows that mindfulness practices are being used to enhance PWB. Jones, Kaur, Miller and Spencer (2020) investigated the efficacy of a 8-week MBSR program in female collegiate rowers and found higher levels of PWB in MBSR participants by the increase in mindfulness compared to control group participants. Norouzi, Gerber, Masrour, Vaezmosavi, Pühse and Brand (2020) investigated the efficacy of a 8-week MBSR program in retired Iranian football players and found higher levels of PWB in MBSR participants compared to active control group participants. Fazia, Bubbico, Salvato, Berzuini, Bruno, Bottini and Bernardinelli (2020) investigated the efficacy of a 12-week social mindfulness-based intervention in a sample from Italian population and found higher levels of mindfulness and PWB in intervention participants compared to control group participants. Yela, Gomez-Martinez, Crego and Jimenez (2020) investigated the efficacy of a 8-week MSC program in adults attending postgraduate courses in clinical and health psychology. Their study included two groups: (1) high adherence and (2) low adherence. The researchers found an increase in both groups' mindfulness levels after the MSC program but high adherence group participants showed higher levels of mindfulness compared to low adherence group participants. An increase in PWB after the MSC

program found only in high adherence group participants. Ajilchi, Mohebi, Zarei and Kisely (2021) investigated the efficacy of a 7-week mindfulness training in female athletes from Iranian universities and found higher levels of PWB in mindfulness training participants by the increase in mindfulness levels compared to control group participants. Accoto, Chiarella, Raffone, Montano, de Marco, Mainiero, Rubbino, Valzania and Conversi (2021)) investigated the efficacy of a 8-week MBSR program in Italian females who have never done meditation before during Covid-19 pandemic lockdown. They found higher levels of PWB in MBSR participants by the increase in mindfulness and psychological flexibility compared to control group participants.

2.5.6 Psychological well-being and resilience. Building resilience against life's difficulties contributes to healthy functioning and well-being of individuals, communities, and societies (Babic et al., 2020). Therefore, one of the aims of resilience research and applications is to enhance individuals' healthy psychological functioning and well-being because PWB works as a protective factor in the face of a risk or adversity (Ryff, 2014).

Scientific evidence shows that there is a positive relationship between resilience and PWB (e.g. Atalay, 2018; Eskisu, 2021; Kındıroğlu, 2018; Köseoğlu, 2021). Atalay (2018) investigated the resilience and PWB levels of individuals diagnosed with cancer and found a positive correlation between resilience and PWB. Kındıroğlu (2018) investigated the relationship between the resilience and PWB levels of parents and found a positive correlation between resilience and PWB. Like Atalay (2018) and Kındıroğlu (2018), Eskisu (2021) also found a positive correlation between resilience and PWB levels of university students. Köseoğlu (2021) found a positive correlation between resilience and PWB levels of married individuals while examining the effect of resilience and PWB on marital satisfaction. Scientific evidence also shows that higher levels of resilience predicted higher levels of PWB in primary and middle school students (e.g. Zeng, Hou & Peng, 2016), university students (e.g. Malkoç & Yalçın, 2015), medicine students (e.g., Souri & Hasanirad, 2011), mid-life adults (e.g., Mayordomo, Viguer, Sales, Satires & Melendez, 2016), psychologists working in Penitentiary Institutions (e.g., Acar, 2021), psychologists working with disadvantaged groups (e.g., Şahin, 2021), and psychological counselors (e.g., Kaya & Yagan, 2022).

2.5.7 Psychological well-being, mindfulness, and resilience. As it was previously mentioned, research shows that yoga practices increase separately mindfulness, resilience, and PWB of individuals. Mindfulness, resilience, and PWB can be considered as some indicators of PMH but the effect of yoga practices on these variables did not specifically investigate yet. However, research shows that mindfulness and resilience are predictors of PWB, and higher levels of mindfulness predicts higher levels of resilience. Also, the specific relationship between mindfulness, resilience, and PWB was investigated in several research. Taşdemir (2018) conducted a correlational study to investigate the relationship between mindfulness, resilience and PWB in psychologists. The researcher found positive relationships between mindfulness and resilience, mindfulness and PWB, and resilience and PWB. Keyes and Pidgeon (2014) examined the relationship between mindfulness, resilience, and PWB in university students. They found that mindfulness and resilience together accounted for the 51% of the variability in PWB and resilience contributed more to the variability in PWB with 47%. He, Turnbull, Kirshbaum,f Phillips and Klainin-Yobas (2018) investigated the predictors of PWB in undergraduate nursing students. They found that negative and positive PWB positively correlated with resilience and mindfulness. Their first model for negative PWB showed that resilience is the strongest and mindfulness is the second strongest predictor of negative PWB. Accordingly, participants who have higher levels of resilience and mindfulness found to have lower levels of negative PWB. Their second model for positive PWB showed that resilience is the strongest predictor of positive PWB Accordingly, participants who have higher levels of resilience found to have higher levels of positive PWB. Engin (2019) investigated the effects of mindfulness and resilience on PWB in mothers of children who need special education. The researcher found that mindfulness and resilience together accounted for the 14% of the variability in PWB. Calvo, D'Aquila, Rocco and Carraro (2020) investigated the mediatory effects of mindfulness, psychological inflexibility, and resilience in the relationship between attachment orientations of adults and their PWB and found that these variables fully mediated the relationship between attachment orientations and PWB.

Chapter 3
Methodology

3.1 Participants

The participants voluntarily recruited to the research via snowball sampling method and gave a consent prior to participation. The data gathered by an online survey which was distributed through social media accounts. Criteria to participate included: (1) being a resident in Istanbul, (2) being at least 18 years of age; (3) not having a psychiatric history; (4) not currently having psychotherapy; (5) practicing yoga at least once a week for a minimum of two months, or (6) not practiced yoga before. The survey was completed by 268 participants. A total of 130 participants excluded from the study; 7 participants were not residing in Istanbul, 30 participants had a psychiatric history, 31 participants were currently having psychotherapy, and 61 participants were not practicing yoga at least once a week for a minimum of two months. The non-clinical sample of the research included 138 participants and these 138 participants were included in the data analysis. The average age of all participants was 33.4, with a standard deviation of 9.51 and the ages ranged between 22 and 58. Most of the participants were female, single, had a bachelor's degree and were working. The findings regarding the sociodemographic characteristics of all participants are given in Table 1.

Table 1

Sociodemographic Characteristics of All Participants

		N = 138	*%*
Gender	Female	94	68.1
	Male	44	31.9
Marital Status	Single	97	70.3
	Married	39	28.3
	Divorced or Widowed	2	1.4
Education Level	Illerate	0	0.0
	Primary School Degree	1	0.7
	High School Degree	7	5.1
	Bachelor's degree	86	62.3
	Graduate or Post-Graduate Degree	44	31.9
Working Status	Working	108	78.3
	Not Working	30	21.7
Yoga Experience	Yoga-experienced	66	47.8
	Yoga-naive	72	52.2

Of 138 participants, 47.8% (*N* = 66) were yoga-experienced and 52.2% (*N* = 72) were yoga-naive. The average age of the yoga-experienced participants was 33.3, with a standard deviation of 8.10 and the ages ranged between 22 and 54. The average age of the yoga-naive participants was 33.5, with a standard deviation of 9.48 and the ages ranged between 22 and 58. Great majority of the yoga-experienced participants were female, however most of the yoga-naive participants were male and the gender distribution of the yoga-naive group was more equal compared to yoga-experienced group. Most of the participants in both groups were single, had a bachelor's degree and were working. Also in both groups, 'graduate or post-graduate degree' were the second most achieved degree after bachelor's degree. The findings regarding the

differences in sociodemographic characteristics between yoga-experienced and yoga-naive groups are given in Table 2.

Table 2

Differences in Sociodemographic Characteristics Between Groups

		Yoga-experienced Group		Yoga-naive Group	
		n = 66	%	*n* = 72	%
Gender	Female	64	97.0	30	41.7
	Male	2	3.0	42	58.3
Marital Status	Single	46	69.7	51	70.8
	Married	20	30.3	19	26.4
	Divorced or Widowed	0	0.0	2	2.8
Education Level	Illerate	0	0.0	0	0.0
	Primary School Degree	0	0.0	1	1.4
	High School Degree	1	1.5	6	8.3
	Bachelor Degree	38	57.6	48	66.7
	Graduate or Post-Graduate Degree	27	40.9	17	23.6
Working Status	Working	49	74.2	59	81.9
	Not Working	17	25.8	13	18.1

Most of the yoga-experienced participants were practicing yoga for at least one year. The most practiced yoga type was Ashtanga Yoga among yoga-experienced participants. Half of the yoga-experienced participants were practicing yoga once or twice a week indicating a low practice frequency and the other half were practicing yoga more than twice a week or everyday of the week indicating a high practice

frequency. Most of the yoga-experienced participants 'length of yoga practice were one hour long. The findings regarding the yoga practice characteristics of the yoga-experienced participants are given in Table 3.

Table 3

Yoga Practice Characteristics of Yoga-experienced Participants

		n = 66	*%*
Years of Yoga Practice	1 to 3 months	1	1.5
	3 to 6 months	7	10.6
	More than 1 year	58	87.9
Type of Yoga Practice	Hatha Yoga	13	16.6
	Yin Yoga	10	15.2
	Ashtanga Yoga	37	56.1
	Several Types	6	9.1
Frequency of Yoga Practice	Once or twice a week	33	50.0
	More than twice a week or everyday of the week	33	50.0
Length of Yoga Practice	Less than 1 hour	19	28.8
	1 hour	33	50.0
	More than 1 hour	14	21.2

3.2 Procedures

3.2.1 Data collection instruments. In the online survey, participants were asked to fulfill the ''Personal Information Form,'', ''Mindful Attention Awareness Scale'' (MAAS) (Özyeşil, Arslan, Kesici & Deniz, 2011), ''Resilience Scale for Adults'' (RSA) (Basım & Çetin, 2011), and ''Ryff Scales of Psychological Well-Being'' (SPWB) (Cenkseven & Akbaş, 2007). The reliable and valid Turkish versions of the instruments were used in the data collection procedure and in this section detailed information about these instruments are given.

3.2.1.1 Personal information form. The personal information form was developed for this research to explore some sociodemographic characteristics of the participants. The form has 18 questions. Participants answered questions about residence, gender, age, marital status, education level, working status, psychiatric history, current psychotherapy status, yoga experience, regular yoga experience, years of yoga practice, type of yoga practice, frequency of yoga practice, and length of yoga practice.

3.2.1.2 Mindful Attention Awareness Scale (MAAS). MAAS was developed by Brown and Ryan in 2003. The purpose of the scale is to measure individuals' level of attention to and awareness of present moment experiences in day-to-day life (Brown & Ryan, 2003). The scale has 15 items, and it is a 6-point Likert type scale (Brown & Ryan, 2003). Exploratory and confirmatory factor analysis gave a single factor solution for the scale (Brown & Ryan, 2003). Total item correlations were ranged between .25 to .72 (Brown & Ryan, 2003). Factor loadings of each item was found to range between .27 and .78 (Brown & Ryan, 2003). The Cronbach's Alpha internal consistency of the scale was found .82 and test-retest correlation was found .81 (Brown & Ryan, 2003).

The scale adapted to Turkish as ''Bilinçli Farkındalık Ölçeği'' by Özyeşil et al. in 2011. For adapting the scale into Turkish, the researchers used a group of university students (Özyeşil et al., 2011). Like the original scale, the Turkish version of the scale has 15 items (Özyeşil et al., 2011). Exploratory and confirmatory factor analysis gave a single factor solution for the scale (Özyeşil et al., 2011). Total item correlations were ranged between .43 to .68 (Özyeşil et al., 2011). Factor loadings of each item was found to range between .48 and .81 (Özyeşil et al., 2011). The Cronbach's Alpha internal consistency of the scale was found .80 and test-retest correlation was found .86 (Özyeşil et al., 2011). The Turkish version of the scale is proven to be reliable and valid for measuring mindfulness levels of individuals (Özyeşil et al., 2011). The scale is 6-point Likert type scale; participants rate each statement of the scale based on how frequently they have the stated experience (1 =

almost always, 6 = almost never) (Özyeşil et al., 2011). Mindfulness levels of individuals' is decided based on a total score obtained from the scale and higher scores indicate higher mindfulness levels (Özyeşil et al., 2011). The lowest score that can be obtained from the scale is 15 and the highest score is 90. In the current research, the Cronbach's Alpha internal consistency of the scale was found .88.

3.2.1.3 Resilience Scale for Adults (RSA). RSA was developed by Friborg, Barlaug, Martinussen, Rosenvinge, and Hjemdal in 2005. The purpose of the scale is to assess adult individuals' existing protective factors that enhance their resilience (Friborg et al., 2005). The scale is a 5-point semantic differential scale where each item includes one positive and one negative statement at each end of each item's answer continuum (Friborg et al., 2005). The positive and negative statements places on the answer continuum are differentiated along the scale to prevent biases (Friborg et al., 2005). In total the scale consists of 33 items and deciding how to measure resilience whether higher scores indicate higher resilience, or lower scores indicate higher resilience is up to the researcher (Friborg et al., 2005). The reverse coded items change according to the scoring type (Friborg et al., 2005). Confirmatory factor analysis gave a 6 factor solution for the scale, therefore the scale has 6 sub-dimensions: 'perception of the self' (6 items: 1, 7, 13, 19, 28, and 31 numbered items), 'perception of the future'(4 items: 2, 8, 14, and 20 numbered items), 'structured style' (4 items: 3, 9, 15, and 21 numbered items), 'social competence'(6 items: 4, 10, 16, 22, 25, and 29 numbered items), 'family cohesion' (6 items: 5, 11, 17, 23, 26, and 32 numbered items), and 'social resources' (7 items: 6, 12, 18, 24, 27, 30, and 33 numbered items) (Friborg et al., 2005). These 6 sub-dimensions explained the 57% of the total variance (Friborg et al., 2005). The Cronbach's Alpha internal consistency of the sub-dimensions were found to range between .75 and .86 (Friborg et al., 2005).

The scale was adapted to Turkish as ''Yetişkinler için Psikolojik Dayanıklılık Ölçeği'' by Basım and Çetin in 2011. For adapting the scale into Turkish, the researchers used two samples: one included university students and the other included employees (Basım & Çetin, 2011). Like the original scale, The Turkish version of the scale has 33 items and 6 sub-scales (Basım & Çetin, 2011).

Also, it is a 5-point semantic differential scale and deciding how to measure resilience is up to researcher (Basım & Çetin, 2011). The reverse coded items change according to scoring type: for 'higher scores indicate higher resilience' scoring the reverse coded items are numbered as 1, 3, 4, 8, 11, 12, 13, 14, 15,16, 23,24, 25, 27, 31, and 33; for 'lower scores indicate higher resilience' scoring the reverse coded items are numbered as 2, 5, 6, 7, 9, 10, 17, 18, 19, 20, 21, 22, 26, 28, 29, 30, and 32. The lowest score that can be obtained from the scale is 33 and the highest is 165. Confirmatory factor analysis confirmed the 6-factor structure of the original scale, and these 6 factors explained the 53.5% of the total variance in university students and 55.5% of the total variance in employees (Basım & Çetin, 2011). The Cronbach's Alpha internal consistency of the sub-scales were found to range between .66 and .81 in university students and .68 and .79 in employees (Basım & Çetin, 2011). The Cronbach's Alpha internal consistency of the total scale was found .86 (Basım & Çetin, 2011). Test-retest correlation was found to range between .68 and .81 in university students' sample (Basım & Çetin, 2011). The Turkish version of the scale is proven to be reliable and valid for measuring resilience levels of adult individuals (Basım & Çetin, 2011).

In the current research, the Cronbach's Alpha internal consistency of the scale sub-dimensions were found to range between .47 and .82 and the Cronbach's Alpha internal consistency of the total scale was found .86

3.2.1.4 Ryff Scales of Psychological Well-Being (SPWB). As a self-report inventory SPWB was developed by Ryff in 1989 to measure individuals' level of PWB based on his six-dimensional PWB model. The 6-point Likert type scale consists of six sub-scales: 'positive relations with others', 'autonomy', 'environmental mastery', 'personal growth', 'purpose in life', and 'self-acceptance' (Ryff, 1989). In the original scale each sub-scale consists of 20 items, the Cronbach's Alpha internal consistency of the sub-scales were found to range between .86 and .93 and test-retest correlation was found to range between .81 and .88 (Ryff, 1989). In the scale where the item number of each six sub-scale is reduced to 14, the Cronbach's Alpha internal consistency of the sub-scales were found to range between .82 and .90 (Ryff, Lee, Essex & Schmutte, 1994; Schmutte & Ryff ,

1997). The correlations between the original 20-item scale and 14-item scale were found to range between .97 and .98 (Ryff et al., 1994).

The SPWB developed by Ryff in 1989 was adapted to Turkish as ‘‘Psikolojik İyi Oluş Ölçekleri’’ by Cenkseven in 2004. For adapting the scale into Turkish, the researcher used a group of university students (Cenkseven, 2004). The Turkish version of the scale has six sub-scales, each sub-scale consists of 14 items and the scale consists of 84 items in total (Cenkseven, 2004). The six sub-scales are: ‘positive relations with others’ (1, 7, 13, 19, 25, 31, 37, 43, 49, 55, 61, 67, 73, and 79 numbered items), ‘autonomy’ (2, 8, 14, 20, 26, 32, 38, 44, 50, 56, 62, 68, 74, and 80 numbered items), ‘environmental mastery’ (3, 9, 15, 21, 27, 33, 39, 45, 51, 57, 63, 69, 75, and 81 numbered items), ‘personal growth’ (4, 10, 16, 22, 28, 34, 40, 46, 52, 58, 64, 70, 76, and 82 numbered items), ‘purpose in life’ (5, 11, 17, 23, 29, 35, 41, 47, 53, 59, 65, 71, 77, and 83 numbered items), and ‘self-acceptance’ (6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, and 84 numbered items). The scale is 6-point Likert type scale; participants answer each item of the scale based on how much they disagree or agree with the given statement (1 = strongly disagree, 6 = strongly agree) (Cenkseven, 2004). Higher scores in each sub-scale indicate higher levels of PWB, except for the reverse coded items (items numbered as 2, 4, 7, 9, 11, 13, 15, 17, 20, 22, 27, 29, 31, 32, 34, 35, 41, 43, 44, 45, 55, 56, 58, 61, 62, 63, 65, 73, 74, 75, 76, 82, 83). The lowest score that can be obtained from each sub-scale is 14 and the highest is 84. The lowest score that can be obtained from the scale is 84 and the highest is 504. The Cronbach's Alpha internal consistency of the sub-scales were found to range between .74 and .83 and the Cronbach's Alpha internal consistency of the total scale was found .93 (Cenkseven, 2004). Test-retest correlation was found to range between .74 and .84 and test-retest correlation for the total score was found .84 (Cenkseven, 2004). The Turkish version of the 14-item scale is proven to be reliable and valid for measuring PWB levels of individuals (Cenkseven, 2004).

In the current research, the Cronbach's Alpha internal consistency of the sub-scales were found to range between .70 and .84 and the Cronbach's Alpha internal consistency of the total scale was found .94.

3.2.2 Data collection procedure. In the beginning, the research topic, research questions and hypothesis, research variables, research design, research methods, and data collection instruments were decided and a research proposal was prepared. After the research was approved by the thesis advisor, a permission obtained from the Scientific Research and Publication Ethics Committee of Bahçeşehir University to conduct the research.

Later, the data was collected from participants through a snowball sampling method. The research announced to people via messages to their social media accounts. The message contained a brief information about the research and a link to the online survey. The survey was administered through Google Forms and completion of the survey took approximately 15 to 20 minutes. In the beginning of the online survey, necessary informations about the research and its objectives were provided. Then participants filled an informed consent form. People who wanted to anonymously participate in the research confirmed "I read, I approve" option to begin the survey. Afterwards, participants filled Personal Information Form, MAAS, RSA, and SPWB.

3.2.3 Data analysis procedure. The data collected from participants analyzed with IBM Statistical Package for Social Sciences 26.0. Firstly, the descriptives of the research were analyzed. Secondly, the data screening procedures were employed for all data. Then the necessary statistical analyses were conducted with necessary assumption testing procedures for each hypothesis of the research.

For the first hypothesis, a One-Way Multivariate Analysis of Variance (MANOVA) was conducted to see whether combined dependent variables (mindfulness, resilience, PWB) vary as a function of the independent variable (yoga experience: yoga-experienced and yoga-naive). After the results of the One-Way MANOVA, another One-Way MANOVA applied for the non-significant dependent variable's scale sub-dimensions to further examine the findings of the first analysis.

For the second hypothesis of the research a One-Way MANOVA was conducted to see whether combined dependent variables (mindfulness, resilience, PWB) vary as a function of the independent variable (yoga practice frequency: low and high).

For the third hypothesis of the research a two-stage hierarchical regression analysis was conducted to see whether independent variables (resilience and mindfulness) predict the dependent variable (PWB). Resilience entered as the independent variable that predict the dependent variable PWB in the first model and mindfulness added as the second independent variable that predict the dependent variable PWB in the second model of the hierarchical regression. Later it was decided that the two-stage hierarchical regression model could be applied separately to the two non-clinical samples of the research. Then the two-stage hierarchical regression analysis procedures were applied to both yoga-naive and yoga-experienced groups.

Chapter 4

Findings

4.1 Data Screening

The data was checked for inaccurate data entry and all the data found to be accurate. A missing value analysis was carried out and there were no missing values. Skewness and kurtosis were checked to see the normality of the variables and all the variables were found to be normally distributed (See Table 4). There were no univariate outliers. However, there was one multivariate outlier $p < .01$. After the initial data screening, total *N* of 138 reduced to 137 with the removal of one case as multivariate outlier from yoga-naive participants. 71 yoga-naive and 66 yoga-experienced participants included in the remaining analyses.

Table 4

Skewness and Kurtosis Values of The Variables

	Skewness	*SE*	Kurtosis	*SE*
Mindfulness	-0.06	0.21	-0.57	0.41
Resilience	-0.00	0.21	-0.50	0.41
PWB	-0.37	0.21	-0.71	0.41

4.2 The Effect of Yoga Practice on Mindfulness, Resilience, and Psychological Well-Being

To investigate the effect of yoga practice on mindfulness, resilience, and PWB a One-Way MANOVA was conducted. Before the analysis, the data was checked for necessary assumptions. Linearity and homoscedasticity assumptions were evaluated, and the assumptions were met. Box's M test of Equality of Covariance was .57 and found to be appropriate for multivariate analysis ($p > .05$). The correlations among dependent variables were examined to determine the singularity and multicollinearity issues and all correlations found to be moderate (See Table 5).

Table 5

Mean, Standard Deviation and Pearson Correlations among the Variables

	M	*SD*	1.	2.	3.
1. Mindfulness	61.13	11.96	1		
2. Resilience	127.54	12.47	.40**	1	
3. PWB	382.05	50.19	.45**	.46**	1

** $p < .01$

After testing the necessary assumptions, a One-Way MANOVA was conducted to determine whether there is a difference based on yoga experience of individuals on mindfulness, resilience, and PWB scores. Findings of the One-Way MANOVA for all main dependent variables by yoga experience are given in Table 6. There was no significant difference in combined scores (mindfulness, resilience, PWB) based on yoga experience (yoga-experienced, yoga-naive) $F(3, 133) = 1.98$, $p = .11$; Wilk's Lambda = .96, partial eta squared = .043.

Table 6

Findings of One-Way MANOVA for All Main Dependent Variables by Yoga Experience

	Value	*F*	*Hypothesis df*	*Error df*	*p*	η_2
Pillai's Trace	.04	1.98	3.00	133.00	.11	.043
Wilks' Lambda	.96	1.98	3.00	133.00	.11	.043
Hotelling's Trace	.04	1.98	3.00	133.00	.11	.043

	Yoga-experienced (n = 66)		Yoga-naive (n = 71)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_2
Mindfulness	63.03	10.74	59.66	12.86	2.74	135	.10	.020
Resilience	127.71	12.61	127.38	12.43	.02	135	.87	.000
PWB	390.88	51.81	373.85	47.53	4.03	135	.04*	.029

* $p < .05$

Furthermore, multivariate analysis showed that there was a significant effect of yoga experience of individuals on PWB scores, $F(1, 135) = 4.03$, $p < .05$, partial eta squared = .029. It was found that yoga-experienced participants reported higher PWB scores (M = 390.88, SD = 51.81) than yoga-naive participants (M = 373.85, SD = 47.53). There was no significant effect of yoga experience of individuals on mindfulness scores, $F(1, 135) = 2.74$, $p = .10$, partial eta squared = .020. There was no significant effect of yoga experience of individuals on resilience scores, $F(1, 135) = .02$, $p = .87$, partial eta squared = .000.

4.2.1 The effect of yoga practice on resilience sub-dimensions. To investigate the effect of yoga practice on resilience sub-dimensions, a One-Way MANOVA was conducted. Before the analysis, the data was checked for necessary assumptions. Box's M test of Equality of Covariance was .14 and found to be appropriate for multivariate analysis ($p > .05$).

A One-Way MANOVA was conducted to determine whether there is a difference based on yoga experience of individuals on resilience sub-dimension scores. Findings of the One-Way MANOVA for resilience sub-dimension scores by yoga experience are given in Table 7. There was significant difference in combined scores (perception of the self, perception of the future, structured style, social competence, family cohesion and social resources) based on yoga experience (yoga-experienced, yoga-naive) $F(6, 130) = 2.20$, $p < .05$; Wilk's Lambda = .90, partial eta squared = .993.

Table 7

Findings of One-Way MANOVA for Resilience Sub-Dimensions by Yoga Experience

	Value	*F*	*Hypothesis df*	*Error df*	*p*	η_2
Pillai's Trace	.09	2.20	6.00	130.00	.04*	.993
Wilks' Lambda	.90	2.20	6.00	130.00	.04*	.993
Hotelling's Trace	.10	2.20	6.00	130.00	.04*	.993

	Yoga-experienced (*n* = 66)		Yoga-naive (*n* = 71)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_2
Perception of The Self	21.83	2.70	22.28	3.15	.79	135	.37	.006
Perception of The Future	15.94	2.58	14.85	3.02	5.15	135	.02*	.037
Structured Style	14.45	2.61	14.65	3.22	.14	135	.70	.001
Social Competence	26.02	3.14	26.13	3.11	.04	135	.83	.000
Family Cohesion	21.27	5.33	21.46	4.82	.05	135	.82	.000
Social Resources	28.20	3.86	28.01	3.89	.07	135	.78	.001

* $p < .05$

Furthermore, multivariate analysis showed that there was a significant effect of yoga-experience of individuals on 'perception of the future' scores, $F(1,135) = 5.15$, $p < .05$, partial eta squared = .037. It was found that yoga-experienced participants reported higher 'perception of the future' scores ($M = 15.94$, $SD = 2.58$) than yoga-naive participants ($M = 14.85$, $SD = 3.02$). There was no significant effect of yoga experience of individuals on 'perception of the self' scores, $F(1,135) = .79$, $p = .37$,

partial eta squared = .006. There was no significant effect of yoga experience of individuals on 'structured style' scores, $F(1, 135) = .14$, $p = .70$, partial eta squared = .001. There was no significant effect of yoga experience of individuals on 'social competence' scores, $F(1, 135) = .04$, $p = .83$, partial eta squared = .000. There was no significant effect of yoga experience of individuals on 'family cohesion' scores, $F(1, 135) = .05$, $p = .82$, partial eta squared = .000. There was no significant effect of yoga experience of individuals on 'social resources' scores, $F(1, 135) = .07$, $p = .78$, partial eta squared = .001.

4.3 The Effect of Yoga Practice Frequency on Mindfulness, Resilience, and Psychological Well-Being

To investigate the effect of yoga practice frequency on mindfulness, resilience, and PWB a One-Way MANOVA was conducted. Before the analysis, the data was checked for necessary assumptions. A missing value analysis was carried out and there were no missing values. Skewness and kurtosis were checked to see the normality of the variables and all the variables were found to be normally distributed (See Table 8). There were no univariate outliers and no multivariate outliers. Linearity and homoscedasticity assumptions were evaluated, and the assumptions were met. Box's M test of Equality of Covariance was .49 and found to be appropriate for multivariate analysis ($p > .05$). The correlations among dependent variables were examined to determine the singularity and multicollinearity issues (See Table 9). There were moderate correlations between mindfulness and resilience and mindfulness and PWB. However, there was a high correlation between resilience and PWB. Therefore, the variance inflation value (VIF) was examined to determine the linear correlations among variables. VIF is a value that is controlled to determine whether a variable has a possible higher correlation with other variables (Güriş & Çağlayan, 2005). If VIF is equal to or greater than 10, it is understood that there is a multicollinearity between the variables (Akdi, 2011). When the VIF values are examined, it was found that it is less than 10. In this case, the assumption that there is no multicollinearity is confirmed. After checking data for the necessary assumptions, 66 participants were included in the remaining analyses.

Table 8

Skewness and Kurtosis Values of The Variables

	Skewness	*SE*	Kurtosis	*SE*
Mindfulness	-0.15	0.29	-0.48	0.58
Resilience	-0.03	0.29	-0.67	0.58
PWB	-0.32	0.29	-0.95	0.58

Table 9

Mean, Standard Deviation and Pearson Correlations among the Variables

	M	*SD*	1.	2.	3.
1. Mindfulness	63.03	10.74	1		
2. Resilience	127.71	12.61	.37*	1	
3. PWB	390.88	51.81	.49*	.52*	1

** $p < .01$

A One-Way MANOVA was conducted to determine whether there is a difference based on yoga practice frequency of yoga-experienced individuals on mindfulness, resilience, and PWB scores. Findings of the One-Way MANOVA for all main dependent variables by yoga practice frequency are given in Table 10. There was a significant difference in combined scores (mindfulness, resilience, PWB) based on higher yoga practice frequency of yoga-experienced individuals $F(3, 62) = 6.76$, $p < .01$; Wilk's Lambda = .75, partial eta squared = .247.

Table 10

Findings of One-Way MANOVA for All Main Dependent Variables by Yoga Practice Frequency

	Value	*F*	*Hypothesis df*	*Error df*	*p*	η_2
Pillai's Trace	.25	6.76	3.00	62.00	< .001**	.247
Wilks' Lambda	.75	6.76	3.00	62.00	< .001**	.247
Hotelling's Trace	.33	6.76	3.00	62.00	< .001**	.247

	Yoga-experienced (n = 66)		Yoga-naive (n = 71)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_2
Mindfulness	63.03	10.74	59.66	12.86	2.74	135	.10	.020
Resilience	127.71	12.61	127.38	12.43	.02	135	.87	.000
PWB	390.88	51.81	373.85	47.53	4.03	135	.04*	.029

** $p < .01$

Furthermore, multivariate analysis showed that there was a significant effect of yoga practice frequency of yoga-experienced individuals on mindfulness scores, $F(1, 64) = 17.76$, $p < .01$, partial eta squared = .217. It was found that yoga-experienced participants who stated high yoga practice frequency reported higher mindfulness scores ($M = 68.00$, $SD = 9.25$) than yoga-experienced participants who stated low yoga practice frequency ($M = 58.06$, $SD = 9.89$). There was a significant effect of yoga practice frequency of yoga-experienced individuals on PWB scores, $F(1,64) = 10.49$, $p < .01$, partial eta squared = .141. It was found that yoga-experienced participants who stated high yoga practice frequency reported higher PWB scores ($M = 410.18$, $SD = 42.89$) than yoga-experienced participants who stated low yoga practice frequency ($M = 371.58$, $SD = 53.34$). There was no significant effect of yoga practice frequency

of yoga-experienced individuals on resilience scores, $F(1, 64) = 2.79$, $p = .21$, partial eta squared = .042.

4.4 Mindfulness and Resilience as Predictors of Psychological Well-Being

A two-stage hierarchical regression analysis was carried out between PWB scores as dependent variable and resilience and mindfulness scores as independent variables. Resilience scores entered at stage one of the hierarchical regression analysis and mindfulness at stage two. Findings of the hierarchical regression analysis regarding the prediction of PWB levels of all participants by resilience and mindfulness are given in Table 11.

Table 11

Findings of Hierarchical Regression Analysis Regarding the Prediction of PWB Levels of All Participants by Resilience and Mindfulness

Model 1							
Variable	B	Std. Error	β	t	p	Part Correlations	Partial Correlations
Constant	145.71	39.38		3.70	< .001		
Resilience	1.85	.30	.46	6.02	< .001**	.46	.46
Model 2							
Constant	129.19	37.54		3.44	< .001		
Resilience	1.33	.31	.33	4.21	< .001**	.34	.30
Mindfulness	1.33	.33	.32	4.04	< .001**	.33	.29

a. Dependent variable: PWB

b. All participants were included to the model.

** $p < .01$

According to the findings, all participants' resilience scores (β = .46; $p < .001$) significantly predicted their PWB scores in the first model ($F_{(1\text{-}135)} = 36.34$; $p < .001$). The first model explained 21% of the variance ($R^2 = .021$) in PWB scores of all participants. With the mindfulness scores added to the second model, the model was found as statistically significant ($F_{(2\text{-}134)} = 28.40$; $p < .001$). In the second model, resilience scores (β = .33; $p < .001$) and mindfulness scores (β = .32; $p < .001$) significantly predicted participants' PWB scores. The second model explained 29% of the variance ($R^2 = .029$) in PWB scores of all participants. The predictiveness of the model increased from 21% to 29% and the predictive effect of resilience decreased when mindfulness scores were included.

4.4.1 Mindfulness and resilience as predictors of psychological well-being of yoga-naive participants. A two-stage hierarchical regression analysis was carried out between PWB scores as dependent variable and resilience and mindfulness scores as independent variables. Before the analysis, the data was checked for necessary assumptions. For yoga-naive participants, skewness and kurtosis were checked to see the normality of the variables and all the variables were found to be normally distributed (See Table 12). There were no univariate outliers and multivariate outliers. Linearity and homoscedasticity assumptions were evaluated, and the assumptions were met. The correlations among variables were examined to determine the singularity and multicollinearity issues and all correlations found to be moderate (See Table 13). After checking data for the necessary assumptions, 71 participants were included in the remaining analyses.

Table 12

Skewness and Kurtosis Values of The Variables

	Skewness	*SE*	Kurtosis	*SE*
Mindfulness	0.09	0.28	-0.63	0.56
Resilience	0.02	0.28	-0.27	0.56
PWB	-0.56	0.28	-0.60	0.56

Table 13

Mean, Standard Deviation and Pearson Correlations among the Variables

	M	*SD*	1.	2.	3.
1. Mindfulness	59.66	12.86	1		
2. Resilience	127.38	12.43	.42**	1	
3. PWB	373.85	47.53	.40**	.41**	1

** $p < .01$

A two-stage hierarchical regression analysis was carried out. Resilience scores entered at stage one of the hierarchical regression analysis and mindfulness at stage two. Findings of the hierarchical regression analysis regarding the prediction of PWB levels of yoga-naive participants by resilience and mindfulness are given in Table 14.

Table 14

Findings of Hierarchical Regression Analysis Regarding the Prediction of PWB Levels of Yoga-Naive Participants by Resilience and Mindfulness

Variable	B	Std. Error	β	t	p	Part Correlations	Partial Correlations
Model 1							
Constant	175.28	53.80		3.25	.002		
Resilience	1.5	.42	.41	3.71	< .001**	.40	.40
Model 2							
Constant	171.44	52.17		3.28	.002		
Resilience	1.11	.45	.29	2.47	.01**	.28	.26
Mindfulness	175.28	53.80		3.25	.002		

a. Dependent variable: PWB

b. Yoga-naive participants were included to the model.

*** p < .01, * p < .05*

According to the findings, yoga-naive participants' resilience scores (β = .41; $p < .001$) significantly predicted their PWB scores in the first model ($F_{(1\text{-}69)} = 13.74$; $p < .001$). The first model explained 16% of the variance ($R^2 = .016$) in PWB scores of yoga-naive participants. With the mindfulness scores added to the second model, the model was found as statistically significant ($F_{(2\text{-}68)} = 10.54$; $p < .001$). In the second model, resilience scores (β = .31; $p < .001$) and mindfulness scores (β = .27; $p < .001$) significantly predicted yoga-naive participants' PWB scores. The second model explained 23% of the variance ($R^2 = .023$) in PWB scores of yoga-naive participants. The predictiveness of the model increased from 16% to 23% and the predictive effect of resilience decreased when mindfulness scores were included.

4.4.2 Mindfulness and resilience as predictors of psychological well-being of yoga-experienced participants. A two-stage hierarchical regression analysis was carried out between PWB scores as dependent variable and resilience and mindfulness scores as independent variables. Resilience scores entered at stage one of the hierarchical regression analysis and mindfulness at stage two. Findings of the hierarchical regression analysis regarding the prediction of PWB levels of yoga-experienced participants by resilience and mindfulness are given in Table 15.

Table 15

Findings of Hierarchical Regression Analysis Regarding the Prediction of PWB levels of Yoga-Experienced Participants by Resilience and Mindfulness

Model 1							
Variable	B	Std. Error	β	t	p	Part Correlations	Partial Correlations
Constant	117.25	56.20		2.08	.04		
Resilience	2.14	.43	.52	4.89	< .001**	.52	.52
Model 2							
Constant	80.62	53.65		1.50	.13		
Resilience	1.60	.44	.39	3.62	< .001**	.41	.36
Mindfulness	1.68	.51	.34	3.23	.002**	.37	.32

a. Dependent variable: PWB

b. Yoga-experienced participants were included to the model.

** $p < .01$

According to the findings, yoga-experienced participants' resilience scores (β = .52; $p < .001$) significantly predicted their PWB scores in the first model ($F_{(1\text{-}64)} = 23.92$; $p < .001$). The first model explained 27% of the variance ($R^2 = .027$) in PWB scores of yoga-experienced participants. With the mindfulness scores added to the

second model, the model was found as statistically significant ($F_{(2\text{-}63)} = 18.98$; $p < .001$). In the second model, resilience scores ($\beta = .39$; $p < .001$) and mindfulness scores ($\beta = .34$; $p < .001$) significantly predicted yoga-experienced participants' PWB scores. The second model explained 38% of the variance ($R^2 = .038$) in PWB scores of yoga-experienced participants. The predictiveness of the model increased from 27% to 38% and the predictive effect of resilience decreased when mindfulness scores were included. The results for hypothesis testing is presented in Table 16.

Table 16

Results for Hypothesis Testing

Hypothesis	Accepted	Partially Supported	Rejected
1. Yoga-experienced individuals would have higher levels of mindfulness, resilience and PWB than yoga-naive individuals.		X	
2. Yoga-experienced individuals with high practice frequency would have higher levels of mindfulness, resilience, and psychological well-being than individuals with low practice frequency.	X		
3. Higher levels of resilience and mindfulness predict higher levels of psychological well-being and resilience contributes more to the increase in psychological well-being.	X		

Chapter 5
Discussion and Conclusions

5.1 Discussion of Findings and Conclusions

In this section, findings obtained in the direction of the research questions and hypothesis are presented in the appropriate order and discussed in line with the relevant literature. Conclusions regarding the findings of the research are also made.

5.1.1 Discussion of findings regarding the effect of yoga practice on mindfulness, resilience, and psychological well-being. According to the findings of the first One-Way MANOVA analysis, pariticipants' combined scores of mindfulness, resilience, and PWB did not vary as a function of their yoga experience. The literature shows that yoga practices enhance mindfulness, resilience, and PWB of individuals. However, to author's knowledge, this research is the first research in the literature that investigates the effect of yoga practice on mindfulness, resilience, and PWB by comparing a yoga-experienced group with a yoga-naive group. Therefore, no further inferences could be made by the researcher besides the small sample size of the research that cause the non-significant difference between groups in the combined scores of mindfulness, resilience, and PWB.

After the multivariate analysis, no significant difference found between yoga-experienced and yoga-naive participants in mindfulness scores. There are very few studies in the literature that found no significant effect of yoga on mindfulness levels of individuals. Aysal (2020) investigated the effect of yoga practice on mindfulness levels of adult women and found no significant difference between women who are practicing yoga and not practicing yoga. In another study where mindfulness levels of student-athletes of sport sciences faculty examined according to their previous yoga practice, no significant difference found between athletes who practiced and not practiced yoga in terms of their level of mindfulness (Tingaz, 2020). Since there are very few studies that found no significant effect of yoga on mindfulness, the non-significant difference found between yoga-experienced and yoga-naive participants in

this research might be also due to the small sample size of the research. The practice of yoga is a form of meditation that includes mindfulness and being present in the moment lies at the core of yoga practice (Kabat-Zinn & Hanh, 2013; Roy, 2021). It is known that mindfulness is a trait common to all people, but individuals vary in their capacities for mindfulness (Jislin-Goldberg et al., 2012; Kabat-Zinn, 2008). Through regular mindfulness practices where state mindfulness is experienced, individuals can increase their capacities for trait mindfulness (Jislin-Goldberg et al., 2012; Kiken et al., 2015; Tang 2017). However, research shows that enhancing trait mindfulness through state mindfulness takes time (Kiken et al., 2015; Tang 2017). Most types of yoga practice include physical postures, controlled breathing techniques, meditation techniques, and deep relaxation techniques, however the emphasis on each technique differ between yoga types (Balasubramaniam et al., 2013; Gaiswinker & Unterrainer, 2016). Most of the participants of yoga-experienced group were practicing Ashtanga Yoga. In Ashtanga Yoga, physical postures are practiced with breath in a dynamic and speedy way (Worby, 2002), therefore being aware of and paying attention to present moment experiences may be harder and individuals may need more time to develop their mindfulness capacity. This might be another reason why there was not a significant difference between yoga-experienced and yoga-naive groups in terms of their mindfulness scores.

Also, no significant difference found between yoga-experienced and yoga-naive participants in resilience scores in the multivariate analysis. To develop resilience, one needs to positively adapt to negative outcomes that are caused by an adversity (Fletcher & Sarkar, 2013; Goldstein & Brooks, 2014; Vella & Pai, 2019). The dynamic process of resilience is associated with the multiple systems related to individuals, families, societies, and larger environments (Joseph, 2015; Vella & Pai, 2019. The presence and nature of risk and protective factors influence one's degree of positive adaptation (Fletcher & Sarkar, 2013; Pan & Chan, 2007). Yoga creates a safe space to face undesirable and compelling thoughts, feelings, behaviors, and bodily sensations that are caused by internal and/or external factors-processes related to individuals and their environments (Patrinos, 2021). Yoga practices' holistic and process-oriented perspective contributes to development of resilience (Patrinos, 2021). However, as mentioned, resilience is a complex process that is associated with many

factors and mechanisms related to individuals and their larger environments. Therefore, individuals vary in their capacities for building resilience (Fletcher & Sarkar, 2013; Pan & Chan, 2007). The non-significant finding regarding resilience scores between groups might be due to the complex process of resilience. Also, again, the small sample size of the research might be another reason. There are several studies in the literature that found no significant effect of yoga on resilience levels of individuals. In a systematic review where the effect of modern postural yoga on indicators of PMH investigated, Domingues (2018) found two studies with no significat effect of yoga on resilience. In one of these studies, the efficiacy of a 11-week Yoga Ed program tested in comparison to a physical education program in adolescents and no significant difference in resilience scores found between groups (Khalsa, Hickey-Schultz, Cohen, Steiner & Cope, 2012). In the other study, the efficiacy of an 8-week yoga intervention tested in nursing students and no significant difference found between yoga intervention and waitlist control groups in terms of resilience scores (Mathad et al., 2017). Ikai, Suzuki, Uchida, Saruta, Tsukinoki, Fujii & Mimura (2014) conducted a randomized controlled trial to test the efficiacy of an 8-week Hatha Yoga Therapy on schizophrenia-spectrum disordered patients and found no significant difference between yoga therapy and control groups in terms resilience scores. Differing findings regarding yoga practices' effect on individuals' resilience levels indicate that more research is needed to detect the relationship between yoga and resilience.

Besides the non-significant differences between yoga-experienced and yoga-naive participants in terms of mindfulness and resilience, a significant difference found between yoga-experienced and yoga-naive participants in PWB scores in the multivariate analysis. Yoga-experienced participants reported higher levels of PWB than yoga-naive participants. With this finding, the first hypothesis of this research ''Yoga-experienced individuals would have higher levels of mindfulness, resilience, and PWB than yoga-naive individuals.'' was partially supported.

The finding regarding yoga practice's positive effect on PWB is in line with the previous literature. In a meta-analysis of 17 randomized controlled studies that examines the effects of yoga on PMH measures, Hendriks et al. (2017) found that yoga enhanced PWB of healthy individuals. Tripathi (2021) examined the effectiveness of

a 60-day yoga practice in college students and detected that yoga practice enhanced PWB of participants. Bright et al. (2021) examined the relationship between regular yoga practice, micro-dosing psychedelics, well-being and personality variables and detected higher levels of PWB for 'yoga' and 'yoga and micro-dosing' group participants. Nanduri and Ram (2020) detected higher levels of PWB for under-trial prisoners after a 3-month Yoga Prana Vidya intervention. Sadhasivam et al. (2020) investigated the effectiveness of a 4-day Isha Yoga Bhava Spandana Program in adults and participants' PWB increased after the program. Oner (2015) conducted a study to examine the effectiveness of a 12-session yoga program in women athletes and business women and found yoga program increased PWB of participants. Hanley et al. (2014) found higher levels of PWB in contemplative practice practitioners when compared with non-practitioners. These findings together with the finding of this research show that yoga practices are effective in increasing individuals' PWB levels.

5.1.1.1 Discussion of findings regarding the effect of yoga practice on resilience sub-dimensions. To further examine the findings of the first One-Way MANOVA, another One-Way MANOVA was conducted for examining the effect of yoga practice on resilience sub-dimensions: perception of the self, perception of the future, structured style, social competence, family cohesion and social resources. Findings of the analysis showed that perception of the self, perception of the future, structured style, social competence, family cohesion and social resources scores of participants varied as a function of their yoga experience. A significant difference found between yoga-experienced and yoga-naive participants in the combined scores of resilience sub-dimensions.

Furthermore, according to the findings of multivariate analysis, a significant difference found between yoga-experienced and yoga-naive participants in their perception of the future scores. Yoga-experienced participants reported higher perception of the future scores than yoga-naive participants. This finding showed that yoga practices are effective in increasing individuals' positive perceptions regarding future. In a study where the effectiveness of a pilot yoga programme on the quality of life of adults with brain injury investigated, it was found that emotions sub-scale of quality of life brain injury scale (QOLIBRI) increased after the intervention (Donnelly,

Linnea, Grant & Lichtenstein, 2016). Donnelly et al. (2016) mentioned that one of the constructs that is associated with emotions sub-scale is future outlook. The researchers suggested that this increase in emotions sub-scale was partly due to an increase in participants' positive views regarding future.

In yoga tradition, time is not perceived as comprised of past, present, and future (Surlan, 2011). The time is viewed as permenant or eternal, it has no beginning or ending (Surlan, 2011). Life and death seen as a cycle and death is believed to be the beginning of another cycle (Surlan, 2011). It is believed that the past, present, and future exist at the same time in the present moment (Surlan, 2011). While practicing yoga, individuals learn to pay attention to present moment, the only moment humans are in total control (Surlan, 2011). Therefore, yoga practitioners learn that they could only control future by being present in the moment (Surlan, 2011). Since being present in the moment is at the core of yoga practice, this might be the reason why yoga-experienced participants had more positive perceptions regarding future than yoga-naive participants. Since other sub-dimensions of resilience are not at the very core of yoga practice, this might also explain why no significant differences found between yoga-experienced and yoga-naive participants in other sub-dimensions of resilience in the multivariate analysis.

To further discuss the non-significant difference between yoga-experienced and yoga-naive participants in other sub-dimensions of resilience the relevant literature reviewed. Choukse (2019) investigated the efficiacy of a 7-day residental yoga intervention on certain physical, psychological, and social fitness parameters in three healthy adolescent cohorts. The researcher found no significant enhancement in any cohort in self-concept parameter and explained this non-significant finding with the short time of the intervention. Self-concept is similar to what perception of the self sub-dimension of resilience refers to. Like Choukse's (2019) study, no significant effect of yoga experience found for perception of the self in this research. Perception of self refers to how individuals see and conceptualize themselves in relation to others and their surroundings (Amarnath & Urs, 2012). Self-perception includes self-knowledge, self-esteem, self-efficiacy, self-determination, and self-love (Amarnath & Urs, 2012; Salisu & Hashim, 2017). However, it is not very easy to develop a coherent sense of self-perception through an exercise (Amarnath & Urs, 2012) and this might

be the reason of the non-significant finding of this research regarding the perception of the self. In the literature there are also many researches that investigate the effect of yoga on self-esteem. Junkin (2007) investigated the efficiacy of a 12-week Hatha Yoga intervention for middle-aged women and could not found a significant difference between yoga and control groups in terms of global self-esteem scores. Elavsky & McAuley (2007) explored the effects of yoga and walking on self-esteem for menopausal women in a 4-month randomized controlled trial and found no significant difference between yoga, walking and control groups in terms of global self-esteem scores. Crowley (2002) investigated the efficiacy of a 6-session after school yoga program for school girls aged between 8-10 in a randomized controlled trial and found no significant difference between yoga and recreation groups in terms of global self-esteem and physical self-worth scores. These studies that found no significant effect of yoga on global self-esteem suggested that the short duration of the yoga practice might be the reason of the non-significant finding and mentioned that changing individuals' global self-esteem is difficult through an exercise (Crowley, 2002; Elavsky & McAuley, 2007; Junkin 2007).

Choukse (2019) also investigated the efficiacy of the 7-day residental yoga intervention on social competence and like this research, found no significant enhancement in first and second cohorts in social competence parameter. She also investigated empathy, altruism, and peer relationship parameters and these parameters are similar to what social resources sub-dimension of resilience refers to. Social resources refers to external support systems such as friends and relatives and include ability to provide support to others (Salisu & Hashim, 2017). The researcher found no significant improvements in first cohort in terms of empathy and altruism. Also, no significant improvements found in second cohort in terms of altruism and no significant improvements found in any cohort in terms of peer relationships. Another parameter that Choukse (2019) investigated was parent relationships and this parameter is similar to what family coherence sub-dimension of resilience refers to. Family coherence involves family support, cooperation, and communication (Salisu & Hashim, 2017). Like this study, Choukse (2019) did not found a significant enhancement in any cohort for parent relationships parameter.

To author's knowledge, this research is the first research in the literature that investigates the effect of yoga practice on resilience sub-dimensions, therefore no further inferences could be made by the author regarding findings related to resilience sub-dimension. Since no other research could be found and differing findings exist in the relevant literature, it can be concluded that future research is needed to detect the effect of yoga practice on sub-dimensions of resilience.

5.1.2 Discussion of findings regarding the effect of yoga practice frequency on mindfulness, resilience, and psychological well-being. According to the findings of the fourth One-Way MANOVA analysis, yoga-experienced pariticipants' combined scores of mindfulness, resilience, and PWB varied as a function of their yoga practice frequency. A significant difference found between yoga-experienced participants with high yoga practice frequency and low yoga practice frequency in the combined scores of mindfulness, resilience, and PWB. Literature showed that practice frequency effects the benefits one gains from yoga (Cartwright, Mason, Porter & Pilkington, 2020; Mazzio, Mendoza, Brown, Sinha, Messing, Wilson & Walton, 2021; Park et al., 2015; Ross et al., 2012; Telles et al., 2021). Therefore, this finding is in line with the previous literature, and the second hypothesis of this research ''Yoga-experienced individuals with high practice frequency would have higher levels of mindfulness, resilience, and psychological well-being than individuals with low practice frequency.'' was supported.

After the multivariate analysis, a significant difference found between participants who have high and low yoga practice frequency in their mindfulness scores. Yoga-experienced participants who stated high yoga practice frequency reported higher mindfulness scores than participants who stated low yoga practice frequency. Also, a significant difference found between participants who have high and low yoga practice frequency in their PWB scores in the multivariate analysis. Yoga-experienced participants who stated high yoga practice frequency reported higher PWB scores than participants who stated low yoga practice frequency. These findings are in line with the previous literature. Tihany et al. (2016) found that healthy advanced yoga practitioners with high practice frequency had higher levels of mindfulness and PWB compared to healthy advanced yoga practitioners with low

practice frequency. Brisbon and Lowery (2009) also found higher levels of mindfulness in advanced healthy Hatha Yoga practitioners compared to beginner practitioners.

However, in multivariate analysis, no significant difference found between participants who have high and low yoga practice frequency in their resilience scores. To author's knowledge, this research is the first research in the literature that investigates the effect of yoga practice frequency on resilience. There are studies that investigate the effect of physical activity and exercise on resilience, however in terms of detecting optimal physical activity or exercise frequency for increasing resilience remains unknown (Belcher, Zink, Azad, Campbell, Chakravartti & Herting, 2021). The non-significant difference between high and low practice frequency groups might be due to the complex process of resilience as mentioned earlier. Also, the sizes of the samples were very small. If the number of participants in each group were increased, a significant difference might be detected regarding resilience scores. By taking into account what is mentioned, the research regarding the effect of yoga practice frequency on resilience could be furthered.

5.1.3 Discussion of findings regarding mindfulness and resilience as predictors of psychological well-being. According to the findings of the hierarchical regression analysis, resilience scores significantly predicted 21% of the variability in participants' PWB scores. Literature showed that resilience is a predictor of PWB (Acar, 2021; He et al., 2018; Kaya & Yagan, 2022; Malkoç & Yalçın, 2015; Mayordomo et al., 2016; Souri & Hasanirad, 2011; Şahin, 2021; Zeng et al., 2016) and this finding is in line with the previous literature. When mindfulness scores added to the hierarchical regression analysis, resilience and mindfulness scores together significantly predicted 29% of the variability in participants' PWB scores and resilience contributed more to the increase in participants' PWB scores. Literature showed that resilience and mindfulness are predictors of PWB. Engin (2019) detected that mindfulness and resilience together significantly predicted 14% of the variability in PWB scores of mothers of children who need special education. He et al. (2018) found that resilience and mindfulness are predictors of negative PWB in undergraduate nursing students, they found lower levels of negative PWB in participants who

reported higher levels of resilience and mindfulness. Literature also showed that resilience contributes more to the increase in PWB. He et al. (2018) found that resilience is the strongest and mindfulness is the second strongest predictor of negative PWB in undergraduate nursing students. Keye & Pidgeon (2014) found that mindfulness and resilience together significantly predicted 51% of the variability in university students' PWB scores and resilience contributed more to the variability in PWB scores.

With the findings of the hierarchical regression analysis, the third hypothesis of this research ''Higher levels of resilience and mindfulness predict higher levels of psychological well-being and resilience contributes more to the increase in psychological well-being scores.'' was supported.

5.1.3.1 Discussion of findings regarding mindfulness and resilience as predictors of psychological well-being of yoga-naive individuals. According to the findings of the hierarchical regression analysis, resilience scores significantly predicted 16% of the variability in yoga-naive participants' PWB scores. When mindfulness scores added to the analysis, resilience and mindfulness scores together significantly predicted 23% of the variability in yoga-naive participants' PWB scores and resilience contributed more to the increase in yoga-naive participants' PWB scores. This finding is also in line with the previous literature and previous finding of this research regarding mindfulness and resilience as predictors of PWB.

5.1.3.2 Discussion of findings regarding mindfulness and resilience as predictors of psychological well-being of yoga-experienced individuals. According to the findings of the hierarchical regression analysis, resilience scores significantly predicted 27% of the variability in yoga-experienced participants' PWB scores. When mindfulness scores added to the analysis, resilience and mindfulness scores together significantly predicted 38% of the variability in yoga-experienced participants' PWB scores and resilience contributed more to the increase in yoga-experienced participants' PWB scores. This finding is in line with the previous literature and previous finding of this research regarding mindfulness and resilience as predictors of PWB.

When the findings of this research regarding resilience and mindfulness as predictors of PWB compared, it can be seen that resilience and mindfulness explained the variability in PWB better in yoga-experienced sample (38%) when compared with the sample that is comprised of yoga-experienced and yoga-naive individuals (29%) and the sample that is comprised of only yoga-naive individuals (23%). Moreover, when the sample that is comprised of yoga-experienced and yoga-naive individuals (29%) compared with the sample that is comprised of only yoga-naive individuals (23%), resilience and mindfulness betterly explained the variability in PWB.

To author's knowledge, this research is the first research in the literature that investigates the relationship between mindfulness, resilience, and PWB in yoga-experienced individuals. As there are evidences in the literature regarding yoga practices positive effect on mindfulness, resilience, and PWB, it was believed that further examining the relationship between these variables in yoga-experienced individuals can contribute to the existing literature since this research found that variability in PWB better explained by resilience and mindfulness in yoga-experienced individuals.

5.2 Limitations and Recommendations

The main purpose of this research was to investigate the effect of yoga practice on mindfulness, resilience, and PWB within a PP framework in a sample that was comprised from yoga-experienced and yoga-naive individuals from Istanbul, Turkey. Additionaly, the relationship between mindfulness, resilience, and PWB was investigated. It is believed that findings of this research could contribute to existing literature. However, there are also some limitations to this research, and these limitations will be mentioned and some recommendations for future research will be made below.

Due to researcher's limited reach to yoga-experienced individuals the snowball sampling method where access to research participants is provided through other participants was used to collect the data. Therefore, the participants might have bias for participation and there might be some effects of this bias in the data. Also, the sample size of the research was small because it was hard to access individuals who

have no psychiatric history and are not currently having psychotherapy. Moreover, it was also hard to access individuals who are practicing yoga at least once a week for a minimum of two months (yoga-experienced) and individuals who have never even tried yoga before (yoga-naive).

Due to snowball sampling method and small sample size, the generalizability of the findings is limited. The sample included only yoga-experienced and yoga-naive individuals with no clinical history who are living in Istanbul, Turkey. Therefore, generalizability of the findings to individuals living in different provinces of Turkey, individuals living in other non-Western countries, and individuals with clinical history is limited. The findings of this research can only be generalized for populations who share similar characteristics with this research's sample. Moreover, descriptive statistics showed that in the yoga-experienced sample gender distribution was not equal, the yoga-experienced group highly consisted of females living in Istanbul, Turkey and were practicing yoga at least for a year. Therefore, the findings regarding yoga-experienced group can only be generalized for females who share similar characteristics with this research's yoga-experienced sample. In terms of comparison between samples, the differing gender distribution between yoga-experienced and yoga-naive groups might be a limitation. Other than the gender distribution, the two groups shared similar sociodemographic characteristics.

In the data collection procedure, information about yoga practice characteristics of yoga-experienced individuals such as years of yoga practice, type of yoga practice, weekly frequency and length of yoga practice were gathered. However, no differentiation made based on these characteristics in the data gathering procedure due to limited time and limited reach to yoga-experienced individuals. In the data analysis procedure, only the effect of weekly yoga practice frequency was investigated because the distributions between groups based on years, type, and length of yoga practice were not adequate to test their effects. If the adequate number of participants were present and these gathered information regarding yoga practice characteristics were included in the research, the findings might be different. Additionally, which techniques of yoga (physical postures, controlled breathing, meditation, and/or deep relaxation) were practiced by yoga-experienced individuals was unknown to researcher. Moreover, no information gathered from the participants whether they are

practicing any other kind of physical exercise other than yoga. Also, if these missing information regarding yoga practice characteristics were included in the research, the findings might be different.

This research was conducted in the Covid-19 pandemic and literature shows that pandemic related circumstances affect individual's mental health and well-being (Devi, 2021; Pimple & Agrawal, 2020). There might be some effects of the pandemic in the findings of this study, therefore if this research will be replicated after the Covid-19 pandemic, the findings might change.

Online platforms were used for data gathering due to Covid-19 pandemic and the researcher had no control over external variables related to data gathering that could affect the findings of the research. Such as the researcher did not know whether participants fulfilled the online survey alone or with others, or whether participants were disturbed or focused while fulfilling the survey. Also, the researcher did not know whether participants fulfilled the online survey at one sitting or with breaks.

Since the sample size was small, this research should be replicated with a larger sample. The larger sample could include individuals from other provinces of Turkey and/or individuals from other non-Western countries. A comparison between Western and non-Western samples could be made to better understand the effectiveness of yoga practices in non-Western cultures. Also, the gender distributions of the samples should be considered for furthering the findings of this research. Since the yoga-experienced sample of this research was highly comprised from females, this research could be replicated on male yoga practitioners or comparison between male and female practitioners could be made in future research. The sample of this research was chosen from a non-clinical population however, this research could be replicated on a clinical population. Also, a sample from a clinical population could be added as a comparison group in future research. Other comparison groups such as a physical exercise group could be added in future research to better understand the effects of yoga practices. A comparison between people who are having psychotherapy and not having psychotherapy could be made to further understand whether yoga have additional effects on mental health and well-being. This research should be replicated after the Covid-19 pandemic. As online platforms were used for data gathering, employing

other ways for data gathering where control over external variables is possible could further the findings of this research.

Moreover, the effects yoga practice duration, length, frequency, type, techniques, and setting should be considered in future research for exploring what contributes most to the health and well-being of individuals. Yoga practice's direct effects on different construct related to PP besides mindfulness, resilience, and PWB should be investigated since yoga's popularity continue to increase worldwide. Its physical as well as psychological health benefits should be considered separately and in combination in further research. Also, yoga as a spiritual practive versus yoga as an exercise should be investigated in future research to understand the yoga's effect on health and well-being from different aspects. Also the effect of yoga practices that incude both the spiritual and exercise based aspects of the practice should be investigated. Furthermore, conducting randomized controlled studies for investigating the effects of yoga practice on PP related constructs could be more beneficial for implementing yoga as a PPI complementary to conventional psychological interventions.

5.3 Clinical Implications

In this research, the effect of yoga practice on mindfulness, resilience, and PWB was investigated in a non-clinical sample comprised of yoga-experienced and yoga-naive individuals. Higher scores for PWB and 'perception of the future' sub-dimension of RSA was found in yoga-experienced participants compared to yoga-naive participants. The findings implicate that yoga practices are effective in increasing individuals' PWB as well as positive perceptions regarding future.

Also, the effect of yoga practice frequency on mindfulness, resilience, and PWB was investigated in yoga-experienced participants. Higher scores for mindfulness, resilience, and PWB was found in participants with high yoga practice frequency compared to participants with low yoga practice frequency. The finding implicate that practicing yoga more frequently contributes to individuals' mindfulness, resilience, and PWB.

Additionaly, the relationship between mindfulness, resilience, and PWB was investigated in all participants, yoga-naive participants, and yoga-experienced

participants. It was found that resilience and mindfulness predict PWB and resilience contributes more to the variability in PWB in all participants, yoga-naive participants, and yoga-experienced participants. However, as it can be seen from the findings, resilience and mindfulness together better explained the variability in PWB in yoga-experienced participants.

One of the purposes of this research was to be able to indicate that yoga practices could be an effective possible PPI, especially in a non-Western culture and the findings support this suggestion. Yoga has a potential to culturally fit with non-Western cultures as an easily practiced, easily learned, and cost-effective PPI complementary to the conventional psychological interventions. As this research emphasized, PP should benefit from the knowledge and practices that are coming from yoga tradition and integrate them into its interventions for contributing individuals' healthy functioning and well-being.

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