Chapter 1 - Introduction

Overview: The present chapter intends to shed light on the relationship between various psychological and physical health variables in the context of ageing. The past literature in the fields of generativity, resilience, mindfulness, physical health, and subjective wellbeing has been reviewed. The research gaps were identified, and the rationale of the research was framed. The conceptual framework of the study depicts the relationship to be studied in the present research.

1.1 Population ageing as a global concern

In modern era, advancements in medical technology have resulted in enhanced longevity at a global level. This is a result of reduced mortality and fertility coupled with increasing life expectancy and weightage on the older population. The global average life expectancy has increased by five years between the period 2000 and 2015 and it is the fastest increase since 1960. In the developing regions by 2050, average life expectancy at age 60 and 80 years is expected to increase by 22% and 28% respectively (UN Population Division, DESA, 2015).

The total population of the world has increased three times from the years 1950 to 2000 (2.56 billion to 6.08 billion) and is projected to be 9.35 billion by 2050. The Indian population growth also shows a similar trend (0.37 billion to 1.01 billion) and in 2050, the estimated figure is 1.57 billion (UN Population Division, DESA, 2015).

India ranks 2^{nd,} sharing, 17.73% of the total world population and is projected to be rank 1 by 2050 with 16.64% of the total population. Population of 60 and above is estimated to increase from 7.6% of the total population in the year 2000 to 20.6% in year 2050. Similarly, the population of 80 and above is estimated to increase from 0.6 % of the total population in the year 2000 to 3.1 % in year 2050 (UN Population Division, DESA, 2015).

The updated World Population Ageing report (2019) has projected the population of 65 and above to increase from 4.4% in year 2000 to 13.8% in 2050.

The United Nations has determined 60+ years as the cut-off to refer to elderly people. This cohort is further subdivided into three categories; 60 to 70 years is young old or elderly who are still active and can perform normal activities independently, seventy to eighty years is old or elderly

who can work independently with difficulty and hence, have reduced activities. Eighty and aboveis oldest old or elderly who work independently with greater difficulty and hence not very active (Forman et al., 1992; WHO Report, 1999; WHO Report, 2015; Alterovitz & Mendelsohn,2013).

The figures quoted clearly indicate that ageing is a global phenomenon and hence, a major concern. The continual socio-economic developments globally have been leading to a variety of transformations at national, societal and familial levels. India too has to adapt to these demographic changes. The growth in the elderly population in India is a result of economic wellbeing, better medical facilities and reduction in fertility rates which has profound economic, political and social implications for the country (MOSPI, 2016).

The burgeoning elderly population on global and national level is facing challenges on multiple fronts. Reduced income, higher health-care costs, limited social security, loss of social role and recognition, reduced opportunities for creative and productive use of free time, family relationships and living arrangements are some of these challenges which need attention of the policy makers, society and the family.

The Government of India has also recognized the problem of population ageing and hence some provisions have been made by the policy makers to ensure well-being of the elderly. The National Policy on Older Persons (NPOP) was announced in January 1999 to ensure well-being of the older persons. The policy was amended in 2011 to address the issues of the oldest old and older women. It envisages State support to fulfill basic physical, financial and healthcare needs of the elderly and availability of required services to improve quality of their lives. The NPOP also ensures intergenerational interaction in the life of elderly. It suggests a need to develop Public-Private partnership models to implement healthcare of the elderly (National Policy for Senior Citizens, 2011; HelpAge India 2016). The Ministry of Health and Family Welfare provides preventive, curative, and rehabilitative services to the elderly (Ministry of Social Justice and Empowerment, 2012-13).

Longevity can be considered as a boon if the elderly are taken care of physically, emotionally, and financially. The demographic distribution of the elderly population in India is uneven and varies from state to state. There are many complexities on account of differences in levels of socioeconomic development, healthcare facilities and cultural norms. The elderly are prone to

suffer from high rates of morbidity and mortality and need healthcare from basic to intensive treatment and long-term rehabilitation.

Industrialization, urbanization, and migration of working age population has affected our conventional joint family system resulting the elderly experience loneliness, emotional neglect, and lack of physical support (MOSPI, 2016). The 2001 Census counted about 191 million people or 19 percent of the total Indian population as internal migrants (Abbas & Varma, 2014**).** The number of Indian-born persons residing abroad was 17 million in 2017, with a median age of migrants 39.2 years. Around 75% of international migrants were of working age between 24 & 64 years in 2017, which increases the dependency ratio in our country (UN, Population Division, DESA, 2017).

In India, traditionally the family and community provide economic and social support; however, with the changing familial situation, the elderly can no longer rely on this support from family members. This coupled with internal and international migration of family members, further weakens the support system. The changes in social life at macro and micro levels, travel for overseas education and exposure to cross cultural influences often lead to a change in attitudes and value systems wherein familial obligation such as elderly care of the elderly by their offspring no longer takes precedence over personal progress.

One of the important indicators of the support available for the elderly is the living arrangement as it is imperative to the quality of life and wellbeing of the elderly. Living arrangements of the elderly population in India shows that approximately 78% of elderly population live with their family, 14% with the spouse & the remaining stay alone or have other living arrangements (Gouda & Shekhar,2016). Living arrangement not only covers the type of family, but also the kind of relationship the elderly share with family members. Even though large number of elderly are staying with the spouse and children, it does not ensure that they share a healthy relationship with their children and find them dependable (Rajan & Kumar, 2003). Economic issues, followed by a dilemma of continuing with conventional joint family system by a forced choice or living alone, is a major cause of depression in late years of life (Cohen et al.,2018). The findings of a case study by Sandhyarani and Rao (2014) on elderly in institutional care revealed the importance of living arrangements in the case of institutionalised elderly. It was observed that when the elderly are

forced to be institutionalised, they feel socially disconnected and that affects their overall interest in life.

Other factors such as decreased fertility rates, nuclearization of families besides internal / international migration for economic reasons result in a drastic change in both family and social structure. As a result, children find it difficult to provide care and support to the elderly in the family. The statistics shows dependency ratio among young people has decreased from 70.6 in 1975 to 54.4 in the year 2000 and is projected to further decrease to 33.9 and 30.0 in 2025 and 2050 respectively. On the other hand, dependency among the elderly has increased from 6.8 in 1975 to 8.1 in the year 2000 and is estimated to be 12.1 and 22.6 in 2025 and 2050 respectively (UN Population Division, DESA, 2015).

Parent-support ratio which was 0.9 in the 1975 and 1.9 in year 2000 is expected to increase to 3.3 by 2025 and 6.7 by year 2050. At the same time, the Potential support ratio has declined from 14.7 in 1975 to 12.4 in year 2000 and is expected to be 8.2 in 2025 and reduce further to 4.4 by 2050. Adding to these figures, Ageing index is expected to zoom from 22.7 in year 2000 to 53.6 in 2025 and further to 105.0 by 2050.

The above figures are indicative of the magnitude and speed of population ageing in India and the need for the development of a holistic support system to ensure independent and successful ageing.

1.2 Successful Ageing

Ageing is a natural, universal, progressive process characterized by physical, cognitive and degenerative neurological changes. Ageing brings physical, emotional, and psychological limitations resulting into growing dependency on others due to which ageing is perceived as a negative phenomenon. However, the Gerontologists define ageing on the basis of ‘functionality’ rather than chronology which refers to self-reliance, independence in self-care and decision making, being socially connected and contributing to the society (UN Population Division, DESA, 2019). Elderly as those who continue to change, grow in some areas, and decline in others and hence, their ‘functional age’ should be considered while addressing them as ‘old’ (Feldman, 2015).

Healthy ageing, Active ageing and Successful ageing are the parallel terms referring to the functional ability of an individual. According to the WHO Report (2020), active ageing is the process of optimizing opportunities for health, participation in order to enhance quality of life as

the people age. Robert Havighurst (1961) coined the term ‘successful ageing’ referring to ‘adding life to the years’ and defined as ‘When the person is ageing successfully, he feels satisfied with his present and past life’ (Havinghurst,2008, pp.305). Rowe & Kahn (1987) differentiate between normal and successful ageing in terms of the role played by the external factors, which are neutral, if not, positive in successful ageing.

Clinically, successful ageing is an absence of chronic illness and its associated disabilities and thereby, more physical independence. Recently, subjective wellbeing is also being included as a clinical parameter of successful ageing, as it correlates with positive health outcomes like increased health concerns, good habits, lifestyle changes and health-related behavior leading to increased longevity. Thus, the elderly need to redefine themselves as they enter this stage of life and adapt to the new roles (Cho et al, 2015; Kanning & Schlicht,2008).

Successful ageing is an interactional effect of lifestyle behaviour, social environment and genetic factors (Jeste et al.,2010). Though manipulating the social environment and genetic factors is beyond their control, the elderly can take certain preventive and curative measures to plan and cultivate effective lifestyle habits in order to ensure successful ageing. Some of the measures could be, regular physical exercise, calorie controlled balanced diet, stress management using coping skills such as resilience and mindfulness and garnering social support.

1.2.1 Theories / Models of Successful Ageing

Rowe & Kahn’ model of successful ageing (1997), is a multi-dimensional concept encompassing the avoidance of disease and disability, maintenance of high physical and cognitive functioning and sustained engagement in social and productive activities. However, the importance of social engagement is highlighted more in the model.

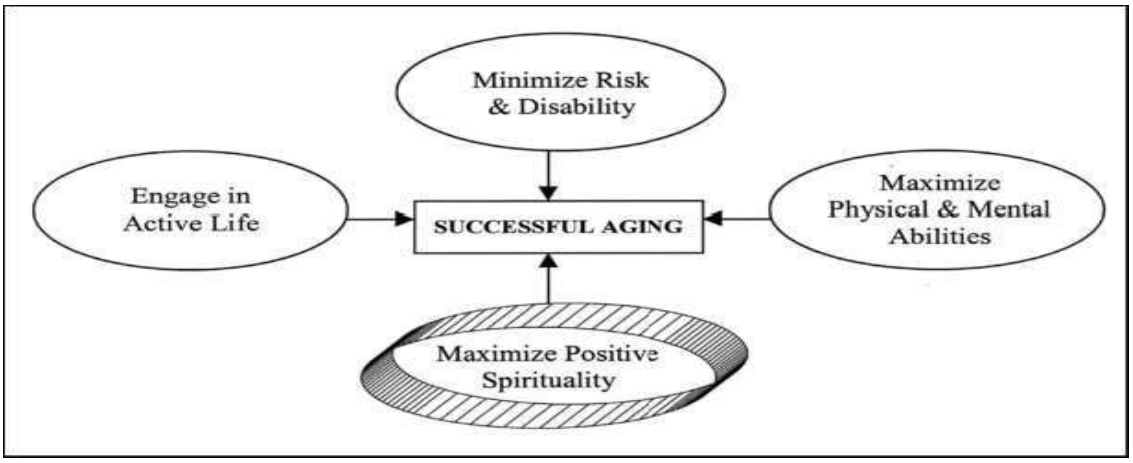
Figure 1

Rowe & Kahn’ Model of Successful Ageing,1997

Note. From "Successful Ageing" by Rowe, J.& Kahn, R., 1997, *The Gerontologist, 37*(4), pp.434

Figure 2

Rowe & Kahn' Model of Successful Ageing Revisited, 2002



Note. From "Rowe & Kahn's Model of Successful Ageing Revisited, Positive Spirituality- the Forgotten Factor" by Crowther, et al. *The Gerontologist, 42*(5), pp.615

With due respect to Rowe and Kahn's view of successful ageing, 'positive spirituality' as the fourth component is added by Crowther and Parker (2002). During intervention, addition of spirituality focused on the maintenance and enhancement of health was received positively by older adults. Positive spirituality is a communion with the sacred in order to promote the welfare of others and not just the "self". This can be achieved through voluntary involvement in social and productive activities for the benefit of others. Positive spirituality promotes successful ageing and a better quality of life.

Collaborative approach to successful ageing by Bowling (2005) emphasizes the optimization of life expectancy and minimization of physical and mental deterioration and disability. Success is perceived in terms of survival, lack of disability, life satisfaction, social engagement, productivity, quality of life and not just the absence of disease.

Two factor model of successful ageing by Pruchno et al (2010) suggests two factors objective success and subjective success as measures of successful age. Objective measurements of successful ageing are primarily, good physical health, independence, activity, ample functionality, absence of pain and financial security. While subjective measurements of successful ageing

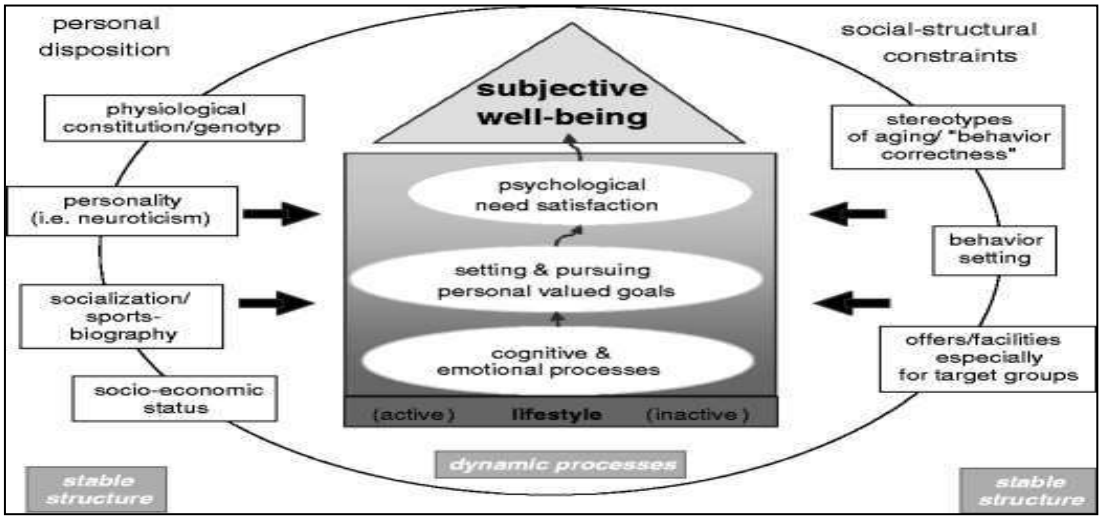
include experiencing satisfaction with one's life, balanced positive and negative states of mind, having a sense of control over one's life and social interests.

Selective Optimization with Compensation model of successful ageing proposed by Baltes (1998) signifies the role of psychological factors in ageing. The processes of selecting and focusing on one's resources from major domains while compensating the losses in the same results into successful ageing. Acceptance of the losses and disengagement from unrealistic goals are important parts of the compensation process. In the later years of life, when the losses are prevalent, optimal utilization of resources is equally important to the process of compensation.

Bio-psycho-social model of successful ageing by Kanning & Schlicht (2008) consider subjective wellbeing as a criterion of the process of successful ageing and the physical activity plays a crucial role in the entire process. As physical activity leads to increased physiological and cognitive effects, it automatically enhances subjective wellbeing in the older adults. Sometimes biological and/ psychological dispositions and socio-cultural factors curb successful ageing through impaired subjective wellbeing. The model gives holistic view of successful ageing comprehensively.

Figure 3

Bio-Psycho-Social Model of Successful Aging With Subjective Well-Being as a Criterion Of a Successful Aging Process



Note. From A Bio-Psycho-Social Model of Successful Ageing as Shown Through the Variable Physical Activity by Kanning, M. & Schlicht, W. (2008). "*European Review of Aging and Physical Activity*", *5*, pp.80

1.3 Old Age and Physical Health

In quite a few Indian, Greek, and Chinese writings, the concept of health connects an individual to the environment. In the 5th century BC, Pindar defined health as "harmonious functioning of the organs", emphasizing the physical dimension of health, the physical body and the overall functionality, accompanied by the feeling of comfort and absence of pain. Plato coined the term 'healthy mind in healthy body' indicating mind-body connect. Hippocrates explained health in connection with environmental factors and lifestyle and introduced the term 'positive health' with a focus on the role of human constitution, diet and exercise. Darwinian understanding of health tied health with the survival of the fittest and optimal adaptation to the environment with adequate level of tolerance and resistance. The modern concept of health is more holistic in nature encompassing physical, mental, social and spiritual functioning within the environment ranging on a continuum from wellness to illness (Svalastog et al.,2017, pp.431).

The World Health Organization (1948) defines health as 'not only a state of the absence of diseases but also a complete state of physical, mental and social wellbeing', indicating well-being as an integral part of health. In 1986, the definition of health was further clarified 'as a resource for everyday life, not the objective of living'. Health is a positive concept emphasizing social and personal resources, as well as physical capacities thereby emphasizing the physical component in health.

Physical health which reflects in physical fitness refers to the ability to carry out daily tasks with vigor and alertness, without undue fatigue and with ample energy to enjoy leisure time activities and to meet unforeseen emergencies (Zoeller,2013).

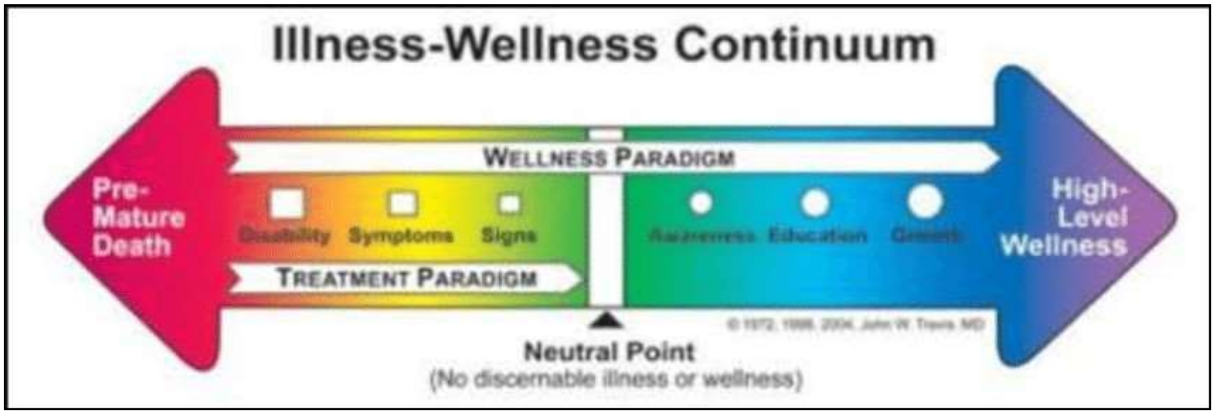
1.3.1 Old Age, Physical Health, and Wellbeing

Physical illness brings functional limitations and negative affect strengthening the relation between physical health, functionality, and subjective wellbeing (Ryan & Deci,2000). Other than slow physical decline, there are numerous benefits of positive affect at cognitive, physiological and behavioural levels among the older adults. Sharpening of the cognitive functions like attention, creativity and intuition which are the benefits at cognitive level, speedy recovery from cardiovascular disease is also led by positive affect. The findings of the research are supporting the Broaden- and-Build theory of positive emotions (Fredrickson & Branigan, 2005).

The concepts of health and wellness are intertwined with each other ever since the wellness is incorporated in the definition of health by the World Health Organization (1948). Various conceptual models of wellness proposed by Dunn (1961), Hettler (1984) and Witmer and Sweeney (1992) have clarified the dynamic role of situational factors as well as the individual choice impacting health. On a similar path, Wellness-Illness model illustrating wellbeing by Travis (1972) has confirmed subjective component in health. According to the model, wellness and illness are the two poles of the same continuum; however, wellbeing constitutes emotional and psychological health as well as presence or absence of illness. The individual can move from a state of illness which encompasses signs, symptoms and disability and reach the state of wellbeing through awareness, education, and growth. More than everything, individual's perception of his own health matters in the experience of wellbeing, which can be enhanced by a positive outlook and worsened by the negative one (Miller, 2005).

Figure 4

The Illness – Wellness Continuum



Note. From. *"Illness- Wellness Continuum" by* Travis, J. Cited by Wickramarathne et al., 2020, pp.192

1.4 Wellbeing in Old Age

Wellbeing is a multidimensional construct and hence it is difficult to define in a true sense. Traditionally wellbeing is what is 'good' for a person, something 'beyond an absence of suffering' (Diener,1984; Seligman & Csikszentmihalyi,2000), 'neither the absence of mental illness nor it is an antonym of ill-being', but it implies personal growth and happiness (Ryan &Deci,2001).

Aristippus, a Greek philosopher in 4th century BC coined the term 'hedonic wellbeing' which focuses on maximizing pleasurable and minimizing the unpleasurable experiences as a goal of every individual's life. Within the hedonic approach, wellbeing is experienced on affective and cognitive dimensions. Affective components encompass positive and negative affect and cognitive components of wellbeing refer to life satisfaction. A measure of subjective wellbeing, which has three components such as life satisfaction, presence of positive mood and absence of negative mood is one way to evaluate hedonic wellbeing.

Aristotle looked at the wellbeing from eudemonic perspective. Seeking happiness through the satisfaction of those needs which leads to human growth, actualizing one's potentials & optimizing personal experiences in one's life are the precursors of eudemonic wellbeing. Positive psychological functioning such as autonomy, self-acceptance, personal growth, meaning and purpose in life, environmental mastery and positive relatedness were proposed to conceptualize eudemonic well-being. Epicurus, a Greek philosopher opines that seeking virtue gives pleasure, reduces the pain and thus, results into eudemonia (Ryan & Deci,2001; Tesar & Peters,2020). Waterman (2010) suggested that eudemonia occurs when the individual's activities are consistently the reflections of his deeply rooted values.

1.4.1 Subjective Wellbeing

Every individual has a right to decide his own parameters of good life. This subjective democracy of one's quality of life is labelled as 'subjective wellbeing'. It refers to experiencing high level of pleasant emotions, low level of negative emotions and high life satisfaction making the life rewarding for the individual (Diener et al., 2002, pp.187).

Subjective wellbeing is a subjective evaluation at cognitive and affective level of one's life, irrespective of the objective facts. It is a global judgment of one's life as a whole and not related to any specific event or experience (Diener,2000, pp.34; Ryan, Huta & Deci, 2008, pp.149).

Subjective wellbeing is truly a subjective opinion of one's life based on criteria set by the individual, which may undergo changes due to dispositional and situational factors. Optimal use of one's potential, efficient adaptation to changing circumstances in life and moving from self-orientation to others are considered as the parameters of subjective wellbeing in later years of life (Ryan & Deci,2000).

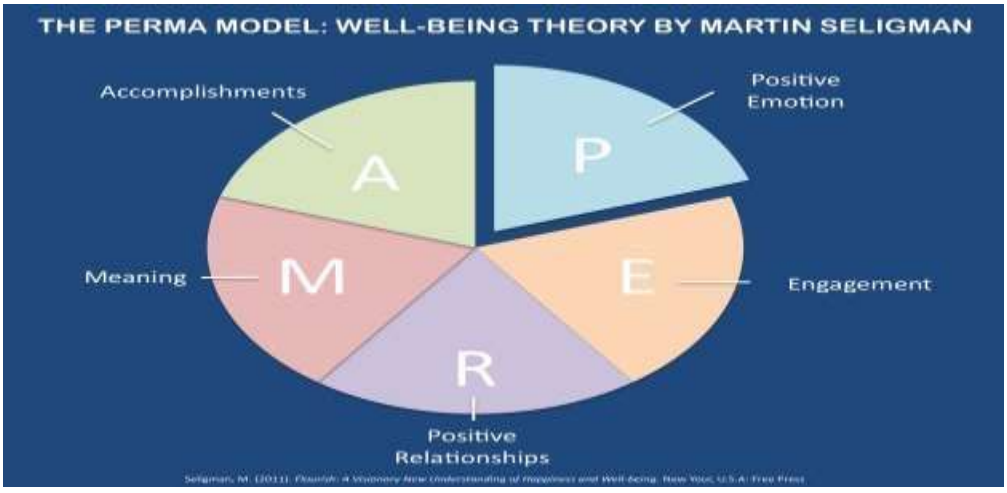
1.4.2 Theories of Subjective Wellbeing

Wellbeing and happiness are the terms used interchangeably in the research on wellbeing. According to Dutch Sociologist, Veenhoven (2006), **happiness can be 'engineered'** by fostering freedom to make choice in life. People can be made aware of the effects of happiness and thus the importance of taking conscious efforts to enhance the same. Happiness signals good physical and mental health, voluntary work, healthy interpersonal relationships as well as longevity. Subjective well-being is a holistic approach which encompasses the life as a whole and does not pertain to any specific domain of life.

The PERMA model by Martin Seligman which suggests maximization of five basic elements of happiness i.e., Positive emotions, Engagement, Relationships, Meaning and Accomplishments in life, refers to subjective wellbeing. The effect of positive affect on health and personality is studied by multiple researchers. Positive affect influences physical heath in terms of decrease in the number of pain symptoms and morbidity and enhancing longevity among the elderly population (Pressman & Cohen, 2005; Diener & Chan, 2011). Wellbeing and positive affect are suggested to be the parallel terms contributing to various desirable characteristics, resources, and successes correlated with happiness (Lyubomirsky, King & Diener, 2005; Snyder & Lopez,2002; Huppert, 2014).

Figure 5

PERMA Model of Subjective Wellbeing



Note. From *"*Workplace Happiness and Positivity: Measurement, Causes and Consequences". by Mohammed *A,* (2019). *International Journal for Research in Engineering Application & Management, 5*(2), 42-48, pp 46.

Seligman and Royzman (2003) claim that there are different theoretical perspectives to view happiness or wellbeing. The **Hedonism approach** emphasizes experience of pleasure over a pain, while the **Eudemonism approach** is a result meaning or purpose in life. According to **Desire theory** of happiness, fulfillment of 'Wants' or 'Desires' is a cause of happiness, irrespective of the amount of pleasure or displeasure one gets out of action. While **Objective list theory** equates happiness with a list of 'truly valuable' things such as material comforts, cordial relationships, education, career success or even good conscience that individual possesses in life.

Theory of Authentic happiness by Seligman claims happiness to be analyzed into - Positive emotion, which everyone strives for; Engagement, which may not allow experience of positive emotion, but it provides good life; and Meaningfulness, which enhances individual's reach towards the society or community at large. Positive emotion and engagement are highly subjective in nature, while meaningfulness is partially objective. A life giving an experience of all three of them is considered as the 'full life' or authentic happiness (Seligman, 2011).

3-P model of subjective wellbeing proposed by Durayappah (2010) categorizes components of subjective wellbeing under temporal states- the Past, Present and the Prospect. Although they are interconnected with each other, each state is responsible for the global evaluation of subjective wellbeing. As the events occurred in the Past, Present and something yet to happen in Future independently influence life satisfaction at specific time, subjective wellbeing can also be considered in the Past, Present and Future; 'How happy I was? How happy I am? How happy I will be?' The 3-P model tries to unite hedonic and eudemonic approaches in every temporal state of wellbeing.

The Top-down approach to subjective wellbeing holds an individual's perception responsible, for the experience of happiness. Thus, happy individual is happy because he perceives and enjoys pleasures in life and not necessarily because of happy experiences. The traits like optimism, high self-esteem and personal control make individual feel happy in every situation, perceive the event or situation as a 'challenge' rather than 'threat' with high resilience (Lu,1999). Subjective wellbeing is stable across the lifespan and personality traits such as Agreeableness & Openness

are found to show positive correlation, while Neuroticism shows negative correlation with it (Ryan & Deci,2000). Lyubomirsky & Ross (1999) and Suh et al (1996) showed how people with high subjective wellbeing tend 'to see through rose-coloured glasses' and 'turn lemon into lemonade'. Such people experience positive emotions even in the situations which may be perceived differently by people with low subjective wellbeing.

The Bottom-up theory of subjective well-being considers happiness as a summation of pleasurable and unpleasurable moments or experiences. They are derived from satisfaction in particular domains of life such as family life, marital life, financial situation and the possession of materialistic belongings. Ball & Chernova (2008) revealed that, both absolute and relative income are significantly positively correlated with happiness; however relative income is more influential. Baird, et al., (2010) studied life satisfaction across the life span and could see poor quality of objective circumstances affecting life satisfaction in later years of life. Overall, the findings support Bottom-up perspective of subjective wellbeing, in which appraisal of life satisfaction at least partially depends on objective conditions.

Diener used the terms- 'Top-down' and 'Bottom-up' to describe 'cause' and 'effect' of happiness (Bechtel,2007).

According to **The Life-span theory of socio-emotional selectivity** by Carstensen (1995), people in their final years of life focus more on emotional aspects of social interactions and become more conscious of the time left in their life. Despite adverse objective factors like reduced physical health, reduced financial status, death of close people, such people experience many things positively, which lead to happiness and satisfaction.

The Broaden- and-Build theory of positive emotions by Fredrickson (1998) proposes that positive emotions enable the individual to broaden momentary thought-action repertoires and build his/her physical, intellectual, social and psychological resources effectively. Being happy and positive in one's outlook towards life has number of tangible benefits like living healthier and longer. (Fredrickson, 2001; Wright & Cropanzono, 2004; Cohn et al.,2009).

Generativity leads to wellbeing, as it positively correlates with low depression (Li & Ferraro,2005)and high self-esteem, social connectedness and increased longevity (Gruenwald et al.,2009). Voluntary participation in social activities helps older adults to sustain high self-esteem and sense of wellbeing (Narushima et al,2005).

1.5 Generativity

Erik Erikson coined the term **'**Generativity' (1950) which refers to the 'concern for establishing and guiding the next generation'. In his Psychosocial theory of personality development, generativity is defined as 'a desire to transcend one's knowledge, experience, skills, abilities and interests to the newer generation' (Erikson,1963, pp.267). The virtue of 'care' for others emerges as an outcome of successful generative behaviour, leading to 'ego integrity' in the following stage of life. Erikson emphasizes on the psychosocial and sociocultural components in the actual generative behaviour. Generativity acts as a mediator in the relationship between education, occupation, socio-economic status and health and wellbeing (Keyes & Ryff,1998).

Generativity is specifically the helping behaviour towards next generation. Generative people develop concern, especially for the next generation and contribute to different segments like family, community and society. It strengthens the intergenerational bonds resulting into more understanding and develop empathic attitude among the younger generation towards the elderly. Although generativity x stagnation crisis is a hallmark of middle adulthood, it is expressed in the form of various actions such as 'role of a parenthood' during young adulthood and continues further in late adulthood; particularly when acknowledged, if not reinforced by the younger generation (Feldman,2015).

Generativity is a combination of instinctual and psychosocial urges, which reflects in activities such as giving birth, caring and showing concern towards the next generation on a regular basis and in the form of social engagement. Kotre (1996, pp.10) redefines generativity as 'a desire to invest one's substance in the forms of life and work that will outlive the self in the form of fertility, child rearing, teaching skills or creative work. With the help of investment, individual achieves physical or symbolic relationship with the next generation.

Mc Adams & de St Aubin (1992, pp.1004) define generativity as 'a multidimensional construct with psychosocial features constellated around personal and cultural goal of providing for the next generation'. Generative behaviour is a need, a drive, a concern, a task or an issue which connects the person and a social world.

1.5.1 Theories / Models of Generativity

In the **Psychosocial theory of development**, any psychological phenomenon in individual's life is a product of reciprocal interplay of biological, behavioural, experiential and social factors. Each psychosocial stage is accompanied by crisis, the resolution of which promotes healthy development. Generativity vs. Stagnation is the developmental crisis of middle adulthood stage. In the form of parenting, generativity originates in early adulthood, it continues through grand parenting in later years of life.

In the **Generativity theory**, Kotre separates generativity into four types, such as biological generativity in which the target is the infant and generativity is expressed through right from intention of parenthood, giving birth and nursing the infant. Parental generativity is expressed to a child through various behaviour such as nurturing, disciplining and introducing him to the social world. Technical and cultural types are majorly targeted towards the successors by imparting teaching skills in an unspoken manner as well as by creative and innovative practices and explicitly make them a part of the 'culture'. Apart from these types, Kotre has given two modes of generativity, such as agentic (action towards oneself) and communal (action towards others) (Kotre,1996; Rubinstein et al.,2015).

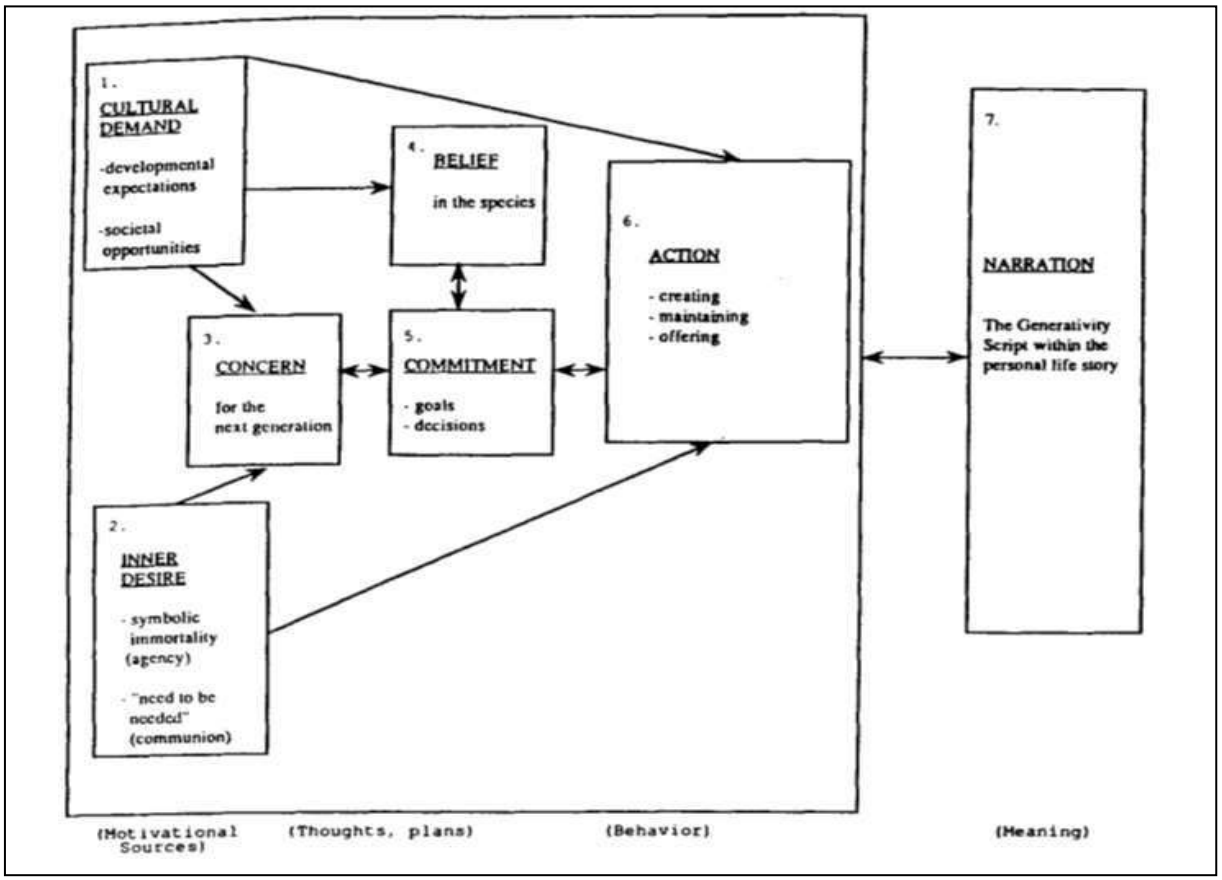
Generativity represents the older generation's concern to establish and guide the next generation, those who will replace them. The concern is expressed in a generative action, 'care', a natural desire to make contribution to ensuing generations. According to Erikson, as the young-old leaves the stage of middle adulthood, he is in a state of stable identity and well-developed bonds of intimacy in family, friendship and society in general. Only then, he is psychosocially capable to make commitments to the society as a whole and its continuation through the next generation. Generativity promotes its continuity from one generation to the next, benefiting the social system as a whole. At the same time, it gives a sense of personal fulfilment to the individual. (Erikson, 1963).

According to **Mc Adam's model**, generativity is a result of interactions of different psychosocial factors like Cultural demands, Inner desire, Concern, Belief, Commitment, Action and Narrative. From these, Concern, Belief, Commitment act on a thought level resulting into action, while others act as motivators like Cultural demands and Inner desire. Intense inner desires can directly lead to generative Action. However, they are so much intertwined that, generative concern results from

individual's inner desire to help and guide others depending upon the cultural demands. These demands can shape our belief system. Generative Commitments are usually the plans and goals which are helpful to the next generation. While generative actions can be right from parenting the children, babysitting, teaching, training younger generation in some specific skills, helping someone financially to achieve his/her goals, caregiving, helping the family in a household work and so on. When an elderly is aware of his concerns, commitments and actions which add to his life story as a whole, it is referred as Generative narrative (Mc Adams & Aubin, 1992).

Figure 6

Features of Mc Adam's Model of Generativity



Note. From "A Theory of Generativity and its Assessment Through Self-report, Behavioural acts, and Narrative Themes in Autobiography" by Mc Adams D., Ed. De St. Aubin. (1992). *Journal of Personality & Social Psychology,62*(6),1003-1015, pp 1005.

Resilient individuals make adequate use of social resources which help to reduce impact of adversities (Hildon et al., 2008).

1.6 Resilience

The term 'resilience' has evolved from 'recoil or rebound' in mid-17th century to a more comprehensive definition given by American Psychological Association in 19th century. The APA defines resilience as 'the process of adaptation in the face of trauma, tragedy, threat or other significant sources of stress'.

According to Luthar et al. (2000, pp.543), resilience refers to a 'dynamic process encompassing positive adaptation within the context of significant adversity'. Resilience refers to a 'class of phenomena characterized by good outcomes despite serious threats to adaptation or development' (Masten,2001, pp.228). According to Masten, quality of adaptation is also equally important to test resilience in the individual, apart from the presence of some adversity.

Connor-Davidson (2003, pp.76) define resilience 'which embodies the personal qualities that enable one to thrive in the face of adversity'. As the resilience is a measure of stress coping ability, it fluctuates with different biographical characteristics as well as situational factors. Previous successful or unsuccessful adaptations determine the individual's coping capacities to internal/ external stressors in future (Connor-Davidson,2003).

The American Psychological Association (2020) defines resilience as 'the process and outcome of successful adaptation to difficult or challenging life experiences, especially through mental, emotional and behavioral flexibility and adjustment to external and internal demands. Resilience should be considered on a continuum and not on a binary approach, as it changes from individual to individual as well as across various domains in one individual (Pietrzak & Southwick,2011).

The most common terms in the above definitions are 'adversity' and the 'process of adaptation' which emphasize healthy and positive functioning in adversity. Less resilient individual experiences high level of stress reflecting into anxiety, depression, burnout, or even suicidal ideation. Resilient individual overcomes emotional pain or distress, by 'bouncing back' from such difficult situations. Virtues like accepting a change as a part of life, optimism and moving towards the goal by nurturing positive view of oneself help an individual to be resilient. Good relationships with close family members and friends as well as change in the interpretation of stressful situation strengthens resilience. Resilience in the form of 'accepting and coping with the adversity positively' needs to be perceived as a core element of successful ageing (Cosco et al.,2013).

Although many operational definitions of successful ageing consider physical health, involvement in work of one's interest and wellbeing as major indicators, their primary focus is on the absence of disease or any adversity in life. However, most of the elderly experience adversity in some or the other form such as loss of spouse or friend, change in social identity or one's own illness. In the process of adaptation, basic human systems are nurtured, which makes the individual resilient to face the challenges successfully (Masten,2001).

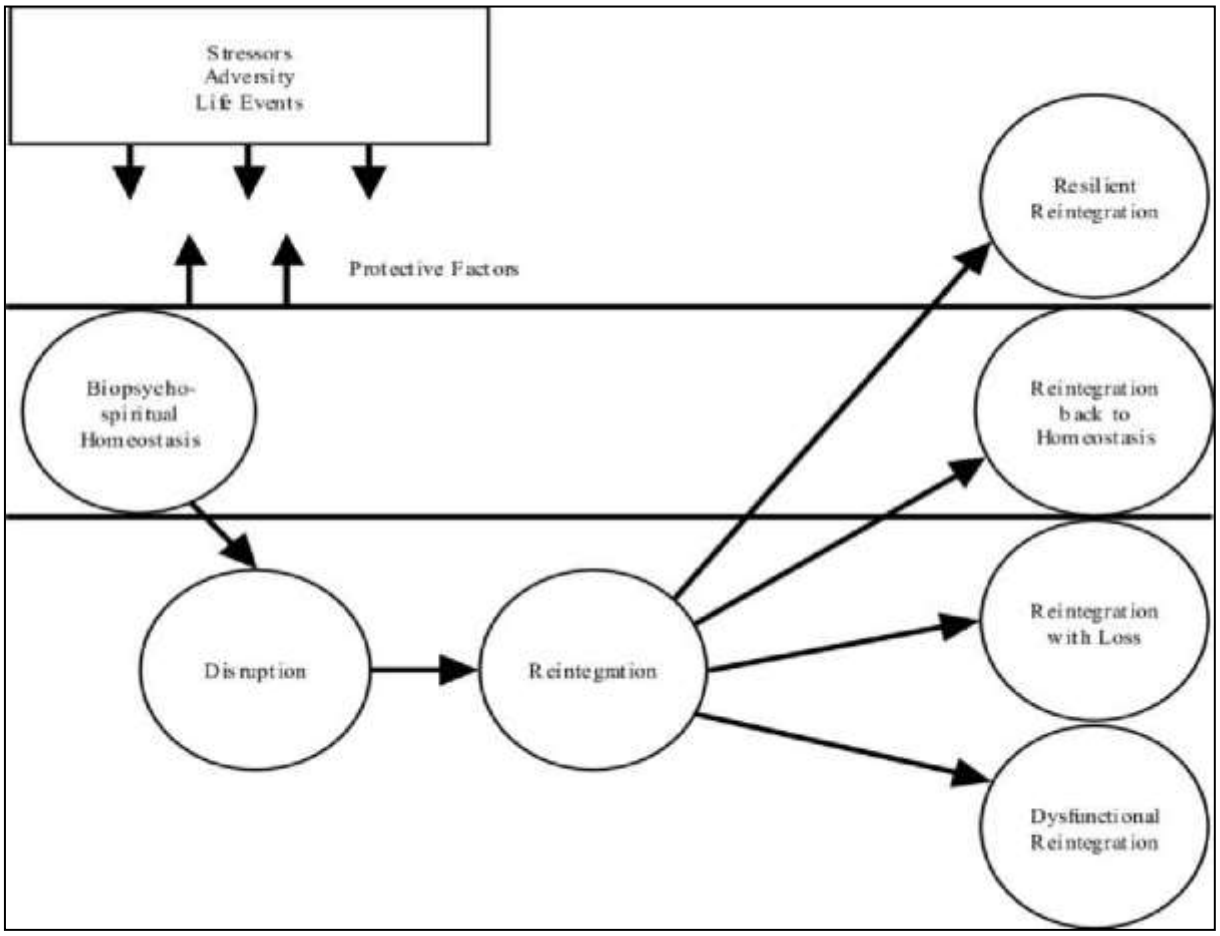
1.6.1 Models of Resilience

Resilience is a multi-dimensional construct, varies according to dispositional characteristics like age, gender or cultural origin. Life circumstances and the context are also equally influential in nature. Resilience embodies personal qualities that enable one to thrive in the face of adversity. It is quantifiable and influenced by health status. Resilience is modifiable with interventions. Greater improvement in resilience shows higher level of global improvement (Connor & Davidson, 2003). The Connor- Davidson Scale of Resilience is based upon the Resiliency model proposed by Richardson and colleagues (1990).

The premise for **the Resiliency model** is the bio-psycho-spiritual balance, i.e., adaptability of the body, mind and spirit to current life circumstances which is a responsible factor in the variation of resilience. Individual's ability to cope with stressors depends upon his successful or unsuccessful adaptations to previous adversities and one's own resilient qualities such as self-esteem, self-efficacy and social support. In case, the adversities are not met successfully, there is a state of disintegration; however resilient qualities make resilient reintegration possible. Resilience can also be viewed as a successful measure of stress-coping ability (Richardson,2002).

Figure 7

The Resiliency Model by Richardson (2002)



Note. From "*The Meta Theory of Resilience and Resiliency*" by Richardson, G. (2002). *Journal of Clinical Psychology,58*(3), pp.311

There are three models of resilience which explain the effect of stress on adaptation process and how positive factors play a role in overcoming negative outcomes, which arise out of risk factors (Ledesma,2014).

The Compensatory model looks at resilience as a factor that neutralizes exposure to risk. Risk and compensatory factors independently determine the outcome. Active approach to problem solving, positive perception despite the adversity, ability to get other's attention and strong belief to maintain positive view towards life are few of the characteristics of the resilient individual. **The**

Challenge model suggests that if an individual perceives adversity as a challenge more than a threat, it prepares him to face the adversity successfully. According to the **Protective factor model,** protective factors and risk factors interact with each other, which reduces probability of negative outcome and moderates the effect of exposure to risk. Life skills, various job skills, emotional management skills act as protective factors in individual's life (Flemming & Ledogar,2008; Fergus & Zimmerman, 2005).

Variable- oriented model and **Person-oriented model** view the process of resilience with a different lens. Variable- oriented model tries to reflect independent contribution of risk factors or assets to the outcome. If the assets/resources are strengthened directly to one's life or even by improving the environment, then normative levels can be maintained which counterbalance negative effects of high adversity.

On the contrary, Person-oriented model focusses on personal attributes such as better competence, greater conscientiousness, positive perceptions, higher cognitive test scores, which can be improved by age as well as intervention.

1.7 Mindfulness

The concept of mindfulness was originally derived from the word 'Sati' from the word 'Smriti' in Sanskrit and 'Sati' in the Pali language. Unlike its conventional meaning, mindfulness signifies the Present. Sati refers to one of the techniques that, Buddha developed to calm the senses and stabilize the mind. It protects mind by not accepting unwanted thoughts and welcoming only those thoughts which help to cultivate healthy mind.

Various philosophical perspectives like mental state theories, theories of self-regulation and the hedonic tradition in Psychology have proved that the maintenance and enhancement of the well-being is highly dependent upon the quality of the consciousness. Mindfulness is an English translation of 'vipassana', which means 'observing in a special way'. Hence, mindfulness meditation is also known as 'insight meditation', which is an age-old practice derived from Theravada Buddhism (Guanaratana,2002).

Theravada Buddhism and Mahayana Buddhism are two strands that focus on the core beliefs of devotion to the life and teaching of Buddha, with different perspectives. Theravada Buddhism, largely followed in Southeast Asia, is closer to the original Indian form of Buddhism while,

Mahayana Buddhism is spread in the North through Tibet and China. Finally, both the views take a path to reach a common goal ‘wisdom and compassion for all’. Mindfulness is one of the Eight-fold path of Buddhism.

In 1881, Rhys Davis coined the term ‘mindfulness’ for Sati and then it was accepted first by Theravada Buddhism and then all over the world. According to Buddhist traditions, mindfulness plays a central role in the cessation of suffering by increased awareness and responding skillfully to these mental processes that lead to mental and emotional distress and maladaptive behavior (Bishop, 2004).

Hayes et al. (2004, pp.256) give a two-component definition of mindfulness, focusing on the ‘self-regulation of attention’ and ‘approaching every experience with curiosity and acceptance’.

‘The awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment to moment’ refers to mindfulness by Kabat-Zinn (2001, pp.23; 2003, pp.145).

Mindfulness has its roots in Eastern philosophy and Buddhism. It is cultivated by paying close attention to your moment-to-moment experience by not getting caught up in one’s ideas, opinions, likes or dislikes. By observing oneself inwardly, enjoying life with greater harmony, satisfaction and wisdom can be attained (Kabat-Zinn,2001).

There are various conceptual definitions given by other researchers. ‘Mindfulness is a state of being attentive and aware of what is taking place in the present’ (Brown & Ryan,2003, pp.822).

‘Mindfulness is a process of drawing new distinctions, which result into greater sensitivity to one’s environment, more openness to new information, creation of new categories for structuring perception and enhanced awareness of multiple perspectives to problem solving.’ (Langer & Moldoveanu, 2000, pp.2).

‘Mindfulness refers to an attention that is receptive to the whole field of awareness and remains in an open state so that it can be directed to current sensations, thoughts, emotions, and memories’ (Jha et al.2007, pp.110).

Mindfulness is that state of physical and mental being where every moment is experienced with receptivity and openness along with active search for novel experiences. It enables to re-perceive one’s thoughts and emotions and view them as passing mental events. Overcoming the rigidity and

reduced evaluations of oneself and others are the added benefits of mindfulness (Shapiro et al.,2006).

1.7.1 Approaches to Mindfulness

The Traditional approach and the Contemporary approach are two conceptualizations of mindfulness.

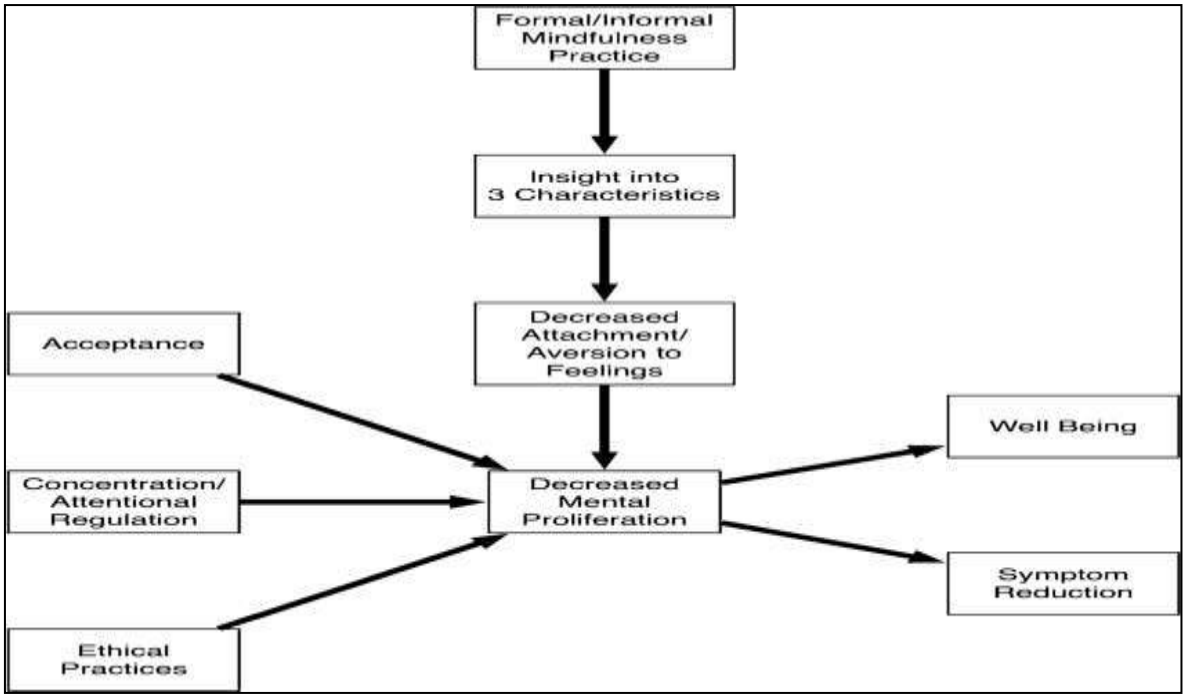
The Traditional/ Spiritual approach focuses on the liberation from suffering as an integral process of life. Thus, cultivation of attention and concentration leading to wise judgment and action through meditative practice is necessary to achieve mindfulness.

The Contemporary approach / Buddhist modernism adopts meditation practices to develop effective coping styles in a person. It encourages different perspectives and interpretations of mindfulness. It is a shift from transformative power of alleviating suffering to using mindfulness more as a therapeutic means to enrich one's emotional well-being. It has led to a Mindfulness-Based Intervention, a technique developed by Jon Kabat-Zinn (1979), which constitutes Buddhist philosophy, contemplative practice and psychological experience (Monteiro et al.,2014).

In Buddhist tradition, mindfulness is being aware of one's awareness (Reid,2011). Mindfulness (Sati) is one of the central factors of Buddhist meditation, other than clear comprehension. Although originally Sati refers to 'memory', Buddha presented a new term as 'lucid awareness' (Bodhi,2011). Regular practice of mindfulness helps to take care of one's emotional needs and overall health which ultimately lead to an experience of positive emotions and happiness. Mindfulness helps the individual to take better care of oneself by being calm even in the distress (Nehra et al.,2013).

Figure 8

Buddhist Psychological Model of Mindfulness



Note. From "Mechanisms of mindfulness: a Buddhist psychological model" by Grabovac et al., (2011). *Mindfulness*. *2*(3), Springer Science+Business Media, LLC.

In the **Eastern perspective**, meditative approach focuses on openness to experience, while secular meditative approach addresses the interaction between the mind and environment, which is referred to 'mindfulness meditation'. The individual experiences enhanced quality of his attention, awareness of interconnectedness, observation, deeper thinking and non-judgmental acceptance of negative thoughts and emotions due to a mindful state. Trait mindfulness refers to individual's baseline mindfulness. Various cross-cultural studies, including Indian culture studies reveal significantly moderate to high negative correlation with neuroticism and significantly moderate to high positive correlation with conscientiousness and extraversion (Chen et al.,2013; Menon et al.,2014; Hurk et al, 2011).

The Western perspective of mindfulness is conceptualized by Langer in 1989. He describes mindfulness as a state in which one is open to novelty, alert to distinctions, sensitive to context, aware of multiple perspectives and orientation in the present. According to the Dual mindfulness-

mindlessness theory by Langer (1992), mindfulness is a state of constant awareness of the context as well as the content of information allowing to draw novel inferences; mindlessness is an extreme rigidity based on past experiences in categorizing the information (Chen, et al.,2013).

A model of mindfulness proposed by Shapiro et al. (2006) gives **Intention, Attention** and **Attitude** as three different components/axioms which are essentially the building blocks in the process of mindfulness. Accordingly, intentional attention leads to re-perception, change in the existing thoughts and positive action. The mechanisms such as self-regulation, values clarification, cognitive, emotional and behavioural flexibility also result into the positive outcomes in the individual. Mindfulness is a **Process** and also an **Outcome**. As a process, mindful practice is a systematic practice of intentionally attending in an open, caring and discerning way that involves knowing as well as shaping the mind. As an Outcome, mindful awareness is knowing oneself deeply that manifests as 'freedom of mind'

Brown & Ryan consider **mindfulness as a single factor**, i.e., paying attention to present moment. However, it is perceived as a **multidimensional construct** as well. Baer et al (2006) have identified five facets of mindfulness- Observing our sensations, perceptions, thoughts and emotions; Describing these experiences in words; Acting with Awareness; being Non-judgmental of thoughts, feelings and experiences and non-reactive to the experiences and letting them go as a natural process. Hence, according to the Five facet approach, mindfulness refers to a 'capacity to Observe, Describe and Act with awareness with Non-judgmental and Non-reactive attitude'. Baer et al (2008) found four dimensions, describing, awareness, non-judging and non-reactive predicting wellbeing among college students; while the dimension, observing, did not.

1.7.2 Measurement of Mindfulness

Mindfulness proves to be effective therapeutic technique for various psychological issues and hence, the need for its assessment was felt necessary by many researchers. Most of the measurements are the self-report measures which showed benefitting effects most commonly amongst the meditators. However, there is a lack of consensus in the perspective to look at mindfulness as whether it is a single or multifaceted construct. Brown and Ryan considered mindfulness as a single factor, i.e., awareness of and attention to present events and experiences (2003, 2004). Thus, the Mindful Attention Awareness Scale (MAAS) developed by them gives a single total score of mindfulness.

Mindfulness can be better understood by a multi-faceted approach as it constitutes various components. In the same context, Baer et al. (2004) developed Kentucky Inventory of Mindfulness Skills (KIMS), based on four- facet approach to mindfulness such as observing, describing, acting with awareness and accepting without judgment with different scores on each facet. Bishop et al. (2004) proposed the two-component model of mindfulness- self-regulation of attention thereby leading to orientation to experience measuring the state & situational specificity of mindfulness. Freiburg Mindfulness Inventory (FMI) developed by Buchheld, et al. (2001) measures four factors / components of mindfulness such as present-moment attention, non-judgemental and non-evaluative attitude towards self & others, openness to negative mind states & process oriented insightful understanding indicating one dimensionality of the construct.

As a product of study on different aspects of psychological health due to mindfulness training, Baer et al. (2006) developed an instrument, Five Facet Mindfulness Questionnaire consisting of 39 items, with Observing, Describing, acting with awareness, non judgementalness and Non reactivity to inner experiences: yielding five different scores along with a global score of mindfulness. A short version of FFMQ-39 consisting of 15 items (FFMQ-15) was developed by Baer et al. (2008) showing positive correlation among all the factors; however, the Observation facet was found to be sensitive to changes with meditation practice and thus showing varying relationship with other facets of mindfulness.

Nutrition which consists of various nutrients like calcium, minerals, carbohydrates, and the vitamins contribute to physical health of the older adults. It is important in preventing and treatment of various age-related illness among the elderly.

1.8 Old Age and Nutrition

Nutrition means the consumption of a healthy and an adequate diet irrespective of age group which an individual belongs to. A nutritious diet consists of nutrients that work as preventive as well as cure in case of physical health-related issues such as functioning of various systems and/ sensory processes.

As the age progresses**,** several changes occur at physiological level, such as, decline in basal metabolic rate, dietary intake and irregularity in dietary habits largely resulting into possibility of chronic illness, consumption of medication and the sedentary lifestyle. Reduced sensory acuity and lack of a need of any physical activity with age largely impacts the dietary consumption in

later years. The body requirement of nutrients changes in the later years of life with reduced activity and a change in metabolism, the ability to absorb certain nutrients and amount of diet also decrease (Drewnowski & Warren-Mears,2001; Roberts & Rosenberg,2006). There is a direct relationship between reduced food intake and restricted physical activity among the older adults. Particularly, institutionalised older adults show macro as well as micronutrient deficiency affecting physical activity (Risoner et al., 2009).

In Indian context, malnutrition and morbidity are found to be associated among the elderly and hence, more vulnerability to communicable and non-communicable diseases, particularly from rural area and among the elderly, living in old age home (Agarwalla et al.,2015; Arlappa, et al.2016; Khole &Soletti,2018).

The older adults need more of protein content, besides minerals and vitamins. Nutrition in later years of life works as a supplementary cure in enhancing many physical health parameters such as muscular strength, stamina, physical balance, bone density. Apart from medication, nutrition is considered to be an important part of treatment of the elderly (Chang & Lee,2019). Adequate amount of specific nutrients such as vitamins and minerals are used in the treatment of few age-related neurocognitive disorders like dementia. Nutrition plays a vital role in the neurotransmission as well as the secretion of various hormones which are responsible for maintaining homeostasis and controlling and coordinating the activities of the body (Nair & Maseeh,2012).

The relationship between exercise, physical activity and nutrition was investigated in a review article proving the fact that, exercise and physical activity play important role in regulating the resting hunger and satisfaction level among the older adults. It also promotes control over functional and chronic diseases in the adults' life. Loss in muscle-mass affects the muscle strength and activity level, energy requirements and energy intake. However, exercise on a regular basis has positive effect on nutritional needs and functional capacity in older adults (Evans &Campbell,1997; Hubner et al.,2021).

Lack of physical activity is a potential deterrent in healthy ageing. Exercise benefits the elderly on account of physical, cognitive and affective levels.

1.9 Old Age and Exercise

The World Health Organization (2020) defines physical activity as 'any body movement of the skeletal muscles that result in energy expenditure'. Regular physical activity for thirty minutes of moderate intensity such as walking, climbing stairs on a very regular basis helps to maintain muscular strength, if not physical fitness in later years of life (DiPietro, 2001).

Exercise is that subcategory of physical activity, which is planned, structured, and repetitive which is aimed towards improvement or maintenance of physical fitness. Exercise is a protective factor for various non-communicable diseases such as cardiovascular disease, stroke, diabetes, and some types of cancer and is also associated with improved mental health, delay in the onset of dementia (Laurin et al., 2001) and improved quality of life and wellbeing. The requirement of frequency and duration of exercise changes with age and an elderly are advised to adhere to the prescribed to avoid adversities (Langhammer,2018; Schuch et al,2016).

In later years of life, regular exercise has proved to be beneficial in controlling the speed of reduction in body flexibility, agility, endurance and physical stamina which result into reduced bodily functioning. Enhanced muscle tone, bone density, flexibility in joints, are few of the notable benefits of exercise other than improved functioning of heart and lungs; thus, preventing cardiovascular and respiratory illness, commonly found in old age (Cress et al.,1999; Rodríguez-Gómez et al,2021). Falls are the common causes of disability and morbidity in later years of life can be largely controlled by regular exercise as it promotes maintaining balance (Dsouza et al.,2014; Sherrington et al.,2017).

1.10 Old Age and Spirituality

The term "search for the sacred'' is widely accepted description of spirituality. Primarily, it is a positive state of mind having a universal strength to transcend the outer and inner self. It is a belief in some supernatural power ranging from non-consideration to a belief, resulting into devotion and finally surrenders to the transcendent (Koenig,2012). Various spiritual practices are the reflections of such beliefs. According to Mobery (2008), spirituality and religiosity are interchangeably used terms infusing all human life showing significant connection with health and wellbeing.

Spiritual health is a dynamic state of being, which is reflected in the quality of relationships with oneself, with others and with someone beyond human level. It contributes to individual's overall

health and well-being across the life (Fisher,2011). Despite the individual's religious status, spirituality is significantly associated with subjective wellbeing across the stages of adulthood (Villani et al.,2019).

The evolution of spirituality in India has an almost 2500 years historical background. India is said to be a meeting place for number of religions. Sri Ramkrishna Paramhansa, one of the most prominent religious figures of India during 19th century, contemplated that finally all religions lead to the same end. He strongly emphasized integration of religious beliefs in the form of practices, rather than only teachings. Hence, spirituality is an Indian cultural phenomenon, a common thread across all the religions (Bhawuk,2011). Spiritual practice is one of the dimensions of spiritualty, which can be measured. In Indian context, very often spiritual practices work as preventive measures to ensure health across the ages (Goswami,2014; Saleem & Khan,2015).

1.11 Review of Literature

Various studies which have been reviewed have shed light on the relationship between generativity, resilience and mindfulness and the related dependent variables such as physical health and subjective wellbeing in the context of ageing.

1.11.1 Physical Health & Wellbeing in Successful Ageing

One of the most basic goals of every elderly is to live one's life well. The following studies reflect bidirectional relationship between health and wellbeing. Positive emotions are just a part of well-being as they can be short living in nature. But sustainable wellbeing involves individual to feel energetic, socially connected, resilient and finds meaning and purpose in one's life (Huppert,2014). In a study on successful ageing and subjective wellbeing by (Cho et al., 2011), physical health and cognitive functioning apart from social resources and demographic factors such as education are found to show both, direct and indirect effects in the experience of positive emotions amongst the older adults. Thus, an impairment in particularly physical health and cognitive functioning can affect the wellbeing of older adults is found by the researchers.

Positive affect and life satisfaction are more important components influencing physical health of individual across the age (Cross et al.,2008). Wellbeing and ill being should not be considered as the antonyms, but the counterparts of each other. An experimental study by Howell et al. (2017) has demonstrated positive impact of wellbeing on short term and long-term health outcomes as

well as control of a disease. Conventionally, illness or lack of good physical health is related to negative emotions more than the positive emotions, affecting wellbeing of the individual.

Due to ageing, there is a weakening of physical capacities and changes in the biomarkers, hence maintaining physical health becomes a challenge. Cardiorespiratory and muscular endurance, muscular strength, body composition and flexibility are the health-related elements; while agility, balance, speed, power, coordination, reaction time are all skill-related elements of physical fitness. Both the components are important in the prevention of chronic disease as well as rehabilitation in the recovery stage of illness among elderly. They are particularly critical to independent function and better quality of their life (Zoeller,2013).

Globally, falls are found to be a major cause of poor health in the late adulthood stage, resulting into functional disability, physical and economic dependency and if not fatal every time. In the Indian context falls cause physical dysfunctioning to 14 to 53 percent (Pitchai, et al.,2019). Reduced physical strength, balance, sensory functioning and chronic illness are few major biological factors, along with the behavioural risk factors such as hurrying, reduced physical activity and multiple medications (Dsouza, et al., 2014; Krishnaswamy & Gnanasambandam; Patil, et al.,2015).

Subjective health and wellbeing in later years

Apart from physical biomarkers, an individual's perception of one's own health which results from objective physical and mental health status, one's beliefs, attitudes can be a determinant of wellbeing in later years of life. Chao, et al. (2011) in their study on the relationship between physical health and psychological wellbeing among oldest old adults strongly claim that subjective health is one major determinant of psychological wellbeing in later years of life. The study also showed independent direct effects of physical health impairments and biomarkers on the subjective health and indirect association with psychological wellbeing in oldest old adults.

Good physical health, positive emotions and overall satisfaction with life are indeed complimentary factors leading to successful ageing.

1.11.2 Nutrition in Health &Wellbeing Among Elderly

Nutrition which consists of various nutrients like calcium, minerals, carbohydrates, and the vitamins is one of the major contributors to physical health of the older adults. It works as one of the preventive measures and as a cure in case of many illnesses.

Calcium, minerals, carbohydrates, vitamins, and health

Fruits and vegetables are considered to be major sources of antioxidants such as ascorbate, tocopherol, and carotenoids. Their consumption in adequate amount significantly reduces the risk of age-related degenerative diseases like cancer, cardiovascular disease, immune-system decline, brain dysfunction, and cataracts and promote physical health and wellbeing among the aged. The lack of adequate diet affects immunological and non-immunological defenses and increases frequency, intensity and the occurrence of acute as well as chronic diseases (Ames, et al.,1993; Mujcic & Oswald, 2016).

The inclusion of whole-grain foods, legumes, vegetables, fruits and *monounsaturated* and *polyunsaturated* fats from vegetable oils, seeds, nuts, whole grains and fish in one's diet has proved to be important for cardiac health. An exclusion of refined starches, red meat, full-fat dairy products, beverages high in added sugars in the diet has also been associated with decreased risk of a variety of chronic diseases. Such dietary measures also help in controlling obesity and Type II diabetes across the age (Skerrett & Willett, 2010).

Vitamin C is important in the regulation of certain amino acids, peptide hormones and cholesterol; the absence of which can cause imbalance in the vascular and metabolic functioning resulting into overall discomfort, fatigue and lethargy, impaired physical mobility, and social interests. Citrus fruits, green and red peppers, strawberries, tomatoes, broccoli, sprouts, Indian gooseberry (amla) and other leafy vegetables are the rich source of Vitamin C. Other than the low SES, poor diet, excessive exercise and medical conditions such as hypertension, diabetes, obesity, old age is important demographic factor to cause vitamin C deficiency (Grosso et al.,2013; Lykkesfeldt et al., 2014). Adequate amount of Vitamin C helps to recover from the infections, allergic reactions and protecting the immune system. In converting amino acid into serotonin, Vitamin C is important (Chambial et al.,2013).

Primarily all the fortified milk products, cereals, eggs, certain type of fish contain Vitamin D and Calcium which is prescribed in adequate amount is always suggested for the elderly to maintain bone density and thus the physical activity. Deficiency of Vitamin D and Calcium is associated with osteoporosis, reduced physical strength and stamina, high possibility of falls and higher mortality among older adults (Chang & Lee,2019). Although exposure to sunlight is a good source of vitamin D, elderly are found to be deprived of the same as they tend to spend more time indoor. Hence, the dietary supplements rich in Vitamin D and calcium play important role in the overall physical health of the elderly (Nair & Maseeh,2012). If sufficient intake is not possible through the dietary measures, Vitamin D supplement is advised as a part of the treatment for cancer, hypertension, multiple sclerosis, rheumatoid arthritis, osteoporosis, muscle weakness and diabetes, which are majorly age-related diseases (Zhang &Naughton,2010).

Nutrition plays a vital role in the neurotransmission and secretion of various hormones which not only helps in maintaining homeostasis, but also controls and coordinates the activities throughout the body.

Serotonin, physical health, and positive emotions

Serotonin, a neurotransmitter, relays signals between nerve cells regulating their intensity. It also plays a part in reducing the appetite while eating. Serotonin is a mood stabilizer and very sensitive to diet as compared to other neurotransmitters. Different pharmacological and non-pharmacological methods (such as diet) are effective in regulating the level of serotonin (Young, 2007). A Serotonin- rich diet results in a natural high and euphoria**,** in the treatment of depression and works well with people who are susceptible to depression and suicide. Serotonin affects appetite, sleep and mood as well as activity level which may impair social participation, resilience and physical health. Happiness or feeling good is found to be positively related to social engagement and longevity (Delamonthe,2005). Mediating effect of Serotonin on bowel function is studied by Camilleri (2009) and Serotonergic agents are found to be effective in treating chronic constipation, diarrhea, and irritable bowel syndrome.

Tryptophan, commonly found in diet such as nuts, red meat, milk products and leafy vegetables, is responsible for synthesis of serotonin shows promising effects on regulation of sleep, motor functioning and even benefits in maintaining mental health of the individual. Tryptophan –rich diet acts as a cognitive and mood enhancer, which is considered as a therapeutic target for

neurocognitive disorders, promoting wellbeing (Meltzer et al.,1998; Gibson et al., 2014; Jenkins et al.2016; Scaccia,2017). The following section is a review of literature on exercise and its benefits in physical health and wellbeing.

1.11.3 Exercise in Health &Wellbeing

The endorphins which are generally released after exercise are responsible for experience of happiness. They work as a pain killer and block the flow of Cortisol, a stress hormone, which causes ageing. Endorphins are the hormones which fluctuate according to the individual's age, lifestyle, circumstances, health status, diet etc.

Each physical activity requires different dimension of physical strength and /or endurance. If the individual is involved in the activity, respective strength or endurance is maintained in the normal process. Automation has brought numerous changes in the individual's lifestyle, including the nature and number of activities, across the socio-economic class of the society. Hence, in the current times, the individual has to consciously do specific tasks to maintain most of the dimensions of physical strength and or endurance, if not all, as it contributes to his/her physical health. Regular physical activity for thirty minutes of moderate intensity such as walking, climbing stairs on a very regular basis helps to maintain muscular strength, if not physical fitness in later years of life (DiPietro,2001).

Exercise, physical and mental health

Sedentary lifestyle is one of the potential deterrents in the healthy ageing process. In a comparative study on young –old and old-old in health-related quality of life, although significant inverse relationship is found between duration of sedentary lifestyle on a daily basis and different health parameters such as physical stamina, strength, balance, muscular endurance (Rodríguez-Gómez et al,2021); health-related quality of life among old-old adults (Kim & Lee,2019). It would always be advisable to plan some concrete measures to avoid the same in young olds.

Physical exercise is proved to be beneficial for the elderly on physical, cognitive, and affective levels across the age; to build muscular and aerobic strength in the early years of life, while controlling age-related deterioration. It also helps elderly to prevent from few degenerative diseases like osteoporosis, cardiovascular diseases, hypertension, diabetes. Experimental studies have not only proved significant decrease in morbidity and mortality among older adults but

promotion of independence in daily life and better quality of life as the benefits of physical exercise. Exercise is found to be a supplementary therapy for the elderly suffering from depression (Singh et al., 2001; Stewart et al., 2001; Judge et al.,2003; Lautenschlager, et al. 2004; Lautenschlager & Almeida,2006). An experimental study of a regular exercise for a period of 6 months showed significant increase in oxygen consumption and muscle strength among older adults (Cress et al.,1999).

Falls are the cause of dysfunctionality in old age, if not fatality. A comprehensive programme of strengthening, balance, and/or endurance training is proved to be effective in reducing falls and the risks allied in older adults. Similar findings are obtained in older adults in community and home –based elderly (Dsouza et al.,2014).

Exercise, mental health and positive emotions

An intervention study of effect of physical exercise on mental health shows significant reduction of sudden changes in the mood states, fatigue and stress biomarkers like saliva cortisol among the institutionalised elderly (Tada,2018). Exercise acts as a 'protective factor' among elderly against Alzheimer's and other types of dementia (Laurin et al., 2001), depression (Strawbridge et al.,2002), various chronic diseases and premature death (Warburton et al.,2006).

When the basic parameters of physical health are in a normal range and there is an absence of any chronic disease and individual is in a position to do his routine activities independently and voluntarily, it definitely helps to keep positive mood and make him feel satisfied. Rather, all these factors form a vicious circle. Steptoe et al. (2015) found bidirectional relationship between physical health and subjective well-being. Older people suffering from chronic illnesses show increased depressive mood and impaired hedonic and eudemonic wellbeing. Lack of positive emotions not only affects wellbeing but impairs physical, psychological, intellectual and even social resources of older adults. On the other hand, positive emotions reduce vulnerability to experience stress and brings change in one's perceptions leading to good health and longevity (Wright & Cropanzano,2004).

Exercise, health, and wellbeing

Physical exercise and nutrition help to maintain physical health and mobility contributing to the subjective wellbeing. Specifically, exercise is considered as an effective stress coping mechanism

and a mood elevator among normal people and those suffering from depression. Fox (1999), in his study on the influence of physical activity on mental wellbeing found sufficient evidence for effectiveness of exercise in reducing State and Trait anxiety, clinical depression as well as improving physical self-perceptions and self-esteem; though among older adults, evidence was weak for exercise improving cognitive functions like Reaction Time. Hence, the researchers concluded that moderate regular exercise should be considered as a viable means of treating anxiety and depression, stress and improving self-esteem and mental wellbeing in the public (Khazaee-Pool et al.,2015). A review study done by Penedo &Dahn (2000) confirm that exercise and physical activity interventions have beneficial effects across several physical and mental health outcomes, including better functional capacity, mood states and quality of life. It is highly useful in reducing stress and improving self-esteem among the elderly.

Physical exercise with pleasant surrounding together have shown significant positive effect on biological and psychological markers by significantly reducing blood pressure and enhanced self-esteem and positive mood of older adults (Pretty et al.,2005). A review paper by Arent et al., (2000) showed exercise as a precursor as well as a correlate and moderator of mood among older adults. Physical activity helps to reduce anxiety, intense tendency of mood swings among the elderly suffering from terminal illness as well as not having any physical illness (Loh et al, 2019).

Moderate aerobic exercise, brisk walking has shown increase in the level of serotonin and tryptophan in the blood plasma and decrease in anxiety and depression in older adults (Melancon et al.,2014).

1.11.4 Spirituality, Health &Wellbeing

There have been research reported, highlighting the role cultural norms and values on the wellbeing of older adults. India, being a multi-religious country, religion has been a central preoccupation, across the age; especially among the elderly (Goswami,2014).

Spirituality plays important role across all ages in the Indian context, but prominently in the lives of elderly. Strengthening of inner resources, development of a broader perceptive and social connectedness are few of the benefits of spiritual engagement (Saleem & Khan,2015). Spirituality plays a critical role in the palliative care as well (Gielen et al.,2008).

Spiritual practices, terminal illness, and ageing

Spirituality is one of the important elements of the holistic care of the terminally ill patients, as it nurtures psychological values such as faith, hope and compassion enhancing the healing process (Simha et al.,2013). An engagement in spiritual practices on a regular basis helps elderly to age gracefully as they learn to build community with spiritual and cultural interests and also serve the society in the best possible manner (Noronha,2015).

Spiritual practices and generativity

Across the socio-economic spectrum, Spirituality is observed to be associated with generosity and charity, particularly towards immigrants or people of other religions (Shariff & Norenzayan,2007; Batara et al,.2016; Preston & Ritter,2013). Spirituality in collective efforts enhances the number and quality of interpersonal relations, integration with the society and also has a positive influence on physical health and life span in old age (Musick et al.,2000; Tay et al,.2014). Cultural influences enhance well-being and life satisfaction and result in happiness in life and greater social bonding. (Diener & Seligman, 2002).

Spiritual practices and resilience

Although spirituality typically declines during adolescence years, youth involved in the spiritual practices on regular basis were found to be more focused, socially well-connected, goal-directed and effective in managing their emotions than others (Cotton et al, 2006; Wright et al,.2018). Religiosity/ spirituality acts as protective factor among youth enhancing their resilience under stressful conditions (Lee & Neblett,2019). The role of spirituality in later years of life was studied by quite a few researchers. Spirituality is used as a tool to promote and maintain resilience in five key domains: reliance on relationships, spiritual transformation, spiritual coping, power of belief, and commitment to spiritual values and practices (Manning et al,.2019). While experiencing grief, loss and uncertainty, participating together in spiritual practices helps to strengthen hope and meaning in life and reduce severity and relapse rate of the symptoms among elderly (Udhaykumar & Ponnuswami,2012; Smith et al,.2013).

Spiritual practices, health and wellbeing

Spirituality can be defined as internal, personal, and emotional expression of the Sacred. It is measured by spiritual well-being, peace and comfort derived from faith, spiritual connectedness,

and/or spiritual or religious coping (Cotton et al,.2006, pp.472). Frequently, spiritual practices work as preventive measures to ensure health across the ages. Spiritual practices vary in a wide range, from prayer, speaking in tongue, meditation to journaling to visiting holy places.

Spirituality is more personal, subjective in nature, free from rules and responsibilities set by the religion and found to have a therapeutic application for physical/ metal illness. On a physical level, there are multiple health benefits such as strengthening immune and endocrine functioning, overall mortality and reducing cardiovascular diseases, dementia and pain disorders. Spiritual engagement also promotes positive emotions such as forgiveness, altruism and gratefulness enhancing social support and connectedness eventually leading to physical health and longevity (Koenig,2012).

In a comparative experimental study of effect of spiritual intervention on mental health, the results revealed reduced anxiety and increased positive mood and spiritual health in the spiritual meditation group than their counterparts (Wachholtz & Pargament,2005). Role of spirituality in pain management was proved to be quite alarming to increase pain tolerance among older adults. Spiritual practices like prayer, participation in religious services, spiritual resources and meditation not only influences the perception of experience of pain but lowers its intensity, frequency and duration as well (Sollgruber et al.,2018).

Amongst various spiritual practices, prayer is considered as an important practice in releasing negative emotions like psychological distress, death anxiety and which helps the individual to go beyond the materialistic world and find the purpose of life (Inbadas,2017). Individuals with active coping prayer styles in the form of seeking calmness, focus in life, acceptance and assistance show greater perceived control over State and low level of Trait anxiety (Harris et al.,2005).

Spiritual health is another dimension contributing to individual's overall health and well-being. It is a dynamic state of 'being', which is reflected in the quality of relationships including relating to self and others, the nature and someone beyond human level (Fisher,2011). Despite the individual's religious status, spirituality is significantly associated with subjective wellbeing across the stages of adulthood (Villani et al.,2019).

Krause (2002) in his study on 1200 elderly participants found a chain of positive effects on their health and wellbeing. Elderly attending the church activities regularly seemed to have more cohesive networking, spiritual and emotional support strengthening social bonding and faith in

supernatural power / God. Such elderly were found to be more optimistic, satisfied with their life and enjoying better physical health.

Forgiveness is one of the common and central concepts imbibed from childhood across the religions and cultures. By involving in various religious/ spiritual practices, individual tries to gain self-control, learn emotion management and compassion for others along with oneself. In the process of reviewing, one's past during later stage of life, elderly experiences importance of forgiveness in his state of happiness and life satisfaction. The courage to forgive at thought and behavioural level is promoted by in-depth involvement in religious/ spiritual practice such as prayer (Krause & Ingersoll-Dayton,2001).

As interdependence being a core value of collectivist culture, wellbeing of an individual does not depend only on personal achievements and happiness but different parameters of social comfort as well. In the collectivist cultures like India, many spiritual practices nurture the values like compassion for others and altruism resulting into personal, social comfort and life satisfaction.

1.11.5 Wellbeing and Health

Amongst various approaches to wellbeing, the Hedonic approach is found to be supported in the following studies.

Hebb and De Sade suggested that happiness is the result of achievement of the ultimate goal of fulfilment of primary needs of humans, like hunger and pursuit of sensation and pleasure. (Airaksinen,2019; Hauskeller,2014). Lyubomirsky and Ross (1999) and Suh et al (1996) showed how people with higher level of subjective wellbeing display a tendency to take a positive approach, whereby they experience positive emotions in events which may be viewed differently by people with a lower level of subjective well-being. Such people have ability to see their surroundings through rose-tinted glasses and the power to make lemonade when handed a lemon.

The findings of studies given below support the Eudemonic approach to wellbeing:

The concept of 'well-being' has three broad dimensions- evaluation of satisfaction with general or specific areas at cognitive level, affective evaluation of moods associated with specific situations and the eudemonic wellbeing which results from satisfaction of the primary psychological needs and self-determination (Dolan et al.,2011).

Optimal use of one's capacity and efficient adaptation to evolving situations in real life and moving from self-orientation to others are considered as the parameters of subjective well-being in the elderly. Concurrently, fulfilling one's needs of competence, autonomy and connectedness which are inherent psychological needs, enhances self-motivation and well-being across the age spectrum (Ryan & Deci,2000).

The relation between subjective wellbeing and physical health and functionality is clear, since illness would result in functional limitations and negative affect (Ryan &Deci,2000). Positive affect guards the individual against physical decline in advanced age and gives further benefits at cognitive, physiological, and behavioural levels. It also sharpens critical cognitive functions such as attention, creativity, and intuition. Research has also revealed that positive emotions can lead to quick physiological recovery from cardiovascular after-effects of negative affect (Fredrickson & Branigan,2005). These multiple findings of the research support the Broaden-and-Build theory of positive emotions.

Wellbeing in older adults

Individual with high subjective well-being 'experiences' more positive emotions and 'feels' contented in different areas of one's life such as family, career, finances or social life. The importance of these domains differs from individual to individual and also from one developmental stage to another. In late adulthood, fulfilment of one's responsibilities, less discrepancy between one's aspirations and achievements in life, good physical health and financial security lead to subjective well-being. When comparisons between the expectations and the achievements are adequately met, elderly experience life satisfaction. Family and social relationships, health, ability to adapt add to the life satisfaction and an experience of positive emotions among the elderly (Senser,2010; Llobet et al,.2011). Although weak but positive relation is found in financial security, more assets and less debt and subjective wellbeing among older adults (Hansen et al,.2008), participation in social activities playing important role between financial security and subjective wellbeing among Chinese older adults (Li et al,.2017; Yeo & Lee,2019). Financial independence, social support and freedom to make one's decisions are equally important factors affecting life satisfaction among the elderly (Barragan,2015).

Longitudinal study on ageing by Okely & Gale (2016) has shown delayed onset of chronic diseases such as arthritis, cancer, stroke, diabetes, myocardial infarction, and chronic lung disease due to wellbeing among the older adults. Longevity is found to be an outcome of hedonic as well as eudemonic wellbeing particularly in community dwelling Chinese elderly. Greater purpose in life is associated with more positive outlook, that may help an individual to encounter negativity which is a biproduct of chronic illness (Boyle,2009).

Penninx et al. (1998) and Feller et al. (2013) who studied the impact of positive affect and attitudes on the development of chronic disease observed people with less life satisfaction being more prone to suffer from cancer. While people with intense negative affect showed high incidence for coronary disease, however positive affect did not guarantee an absence of the same (Nabi et al., 2008).

Wellbeing and successful ageing

Diener & Chan (2011) in their research claimed that positive feelings predict health and longevity beyond negative feelings. However, there are converging lines of evidence showing subjective well-being influencing health and longevity. More than twenty studies done in last ten years show that, happiness predicts longevity in healthy population but may not cure illness in sick population.

Demographic factors and Wellbeing

Various demographic factors such as higher age, being married, having higher education, high income are few of the precursors of life satisfaction among the elderly (Agrawal et al, 2010; Raymo,2015). However, the situation is different amongst people across the ages in rural India. Surprisingly, in rural Indian population socio-economic status does not affect the subjective well-being (Linssen et al.,2011). Suar, Jha, Das &Alat (2019) found personality factors like emotional stability and quality of personal relations significantly affect subjective well-being in young adults but may or may not influence old adults. Competence, high socioeconomic status & social integration act as important precursors of subjective wellbeing in later life, however quality of social contacts supersede merely the number of contacts (Pinquart & Sorensen,2000)

Physical health and wellbeing

Various alternate therapies are experimented to test their effectiveness on health and wellbeing. Positive affect and overall wellbeing connect with health parameters like hypertension and

cholesterol level under control and improve the immune function and endocrine activity. It leads to alterations in health behaviour such as sleep, exercise and diet (Cross et al.,2018). Patients with mild to moderate Parkinson's disease showed significant improvement in the physical health parameters such as flexibility, agility and strength after attending 'Parkinson's disease wellbeing programme' held for 5 weeks. The wellbeing of the patients was enhanced through education and exercise during the intervention stage of the study (Horne et al.,2019).

Bidirectional relationship between subjective wellbeing and physical health is found in older adults. Retrospective studies show evidence of impaired psychological wellbeing, which is related to increased risk of premature death, physical illnesses like coronary heart disease, diabetes and other chronic medical conditions. Regular physical activity is suggested to maintain cardiovascular health, muscle strength and flexibility which is consistently correlated with the wellbeing. The findings of a study on older people suffering from chronic illnesses show increased depressive mood and impaired hedonic and eudemonic wellbeing amongst them. Additionally, impaired psychological wellbeing is associated with increased risk of physical and mental illness and overall stress in their life (Steptoe et al.,2015).

Sudden and repeated falls affect physical health in old age in the form of physical immobility, complete or partial dependency, if not death among older adults. Among the institutionalised elderly, frequency of falls increases along with the age and other comorbidity in comparison with the elderly staying at home. Agarwal et al. (2016) found double rate of prevalence of falls as compared to their counterparts due to cognitive impairments show.

Sensory functioning and wellbeing

Adequate functioning of sensory capacities is one of the vital dimensions of physical health across the age as it reflects in numerous activities in later years of life. Loss of vision due to damaged optic nerve or retina can cause difficulties in their day-to-day activities like reading, recognizing, socializing etc. It can also lead to partial or complete dependency and affect mobility to a large extent. Hence, relaxation techniques, stress reduction mechanisms are recommended to manage the loss of vision (Brown et al., 2015; Sabel et al., 2018).

Impairment in the sense of hearing is another important cause of making elderly socially aloof with lot of dependency and restriction on mobility leading to poor quality of life (Ciorba et al.,2012; Dalton et al.,2003). Other than age-related sensory-neural hearing loss, tinnitus is a

common hearing problem induced by stress across the age. Hence, stress management is effective in managing with the hearing loss such as tinnitus indicating the role of stress again in sensory functioning. Sensorimotor performance shows decline during old age but can improve by training and exercise indicating that age-related changes are treatable. Dance therapy is one of the powerful interventions as it works on cognitive, affective as well as physical levels. It is effective in acoustic stimulation as well as cognitive performance in elderly without affecting cardio-respiratory functioning (Kattenstroth et al.,2013).

Systemic functioning, physical health and wellbeing

Adequate systemic functioning is an important parameter of physical health influencing activity and mobility in later years of life. Acute or chronic respiratory problems are commonly found among the older adults. Due to reduced muscle strength in the respiratory track with age, there are functional changes as well, probably responding poor to moderately to medication and reduced ventilator response to hypoxia or similar states, with more possibility of poor outcomes (Sharma & Goodwin,2006).

More than 40% of older adults show age –related digestive symptoms. The most common digestive-health problems are irregular or painful bowel movements, constipation which may eventually affect health (Conaway,2012), functional bowel disorders impair daily life and quality of life among elderly. Elderly's moods tend to fluctuate with the bowel-related problems like constipation, diarrhea or irritable bowel syndrome which shows its impact on day-to-day activity and social life from moderate to a large extent (O'keefe et al.,1995; Munch et al.,2016).

Normally, lack of proper diet, exercise and insufficient quantity of fluids are the major causes of constipation or other bowel related problems. And thus, lifestyle changes including more activity is highly recommended to the elderly along with dietary changes to manage these problems. Adequate and appropriate diet, regular physical exercise are considered to be mood additives which contribute to the functioning of physiological processes such as digestive functioning which eventually help to take care of bowel related problems (Mandal,2019). Particularly in older adults, psychological factors like anxiety, stress or even fear of bowel functioning cause disturbed bowel functions such as irritable bowel syndrome. Therefore, stress reduction is one of the effective measures suggested to manage the IBS (Kernisan,2018).

Stress, health, and Wellbeing

Clinical reports and the current research suggest that 'stress is both, a cause and consequence of a loss of vision.' Stress is found to be a determinant of hypoxia, retinal impairment, partial and selective blindness eventually affecting health and quality of life in older adults. Therefore, taking care of mental health and avoiding negative impact of inevitable stress is highly suggested (Sandoiu,2018).

Australian longitudinal study on women's health highlighted the role of wellbeing in terms of lack of perceived stress in the life leading to less vulnerability to arthritis development (Harris et al.,2013). Stroke, cardiac and chronic lung disease were positively related with depression among the old's (Huang et al.,2009). Positive affect was found to be inversely associated with the incidence of stroke in case of older adults; however emotional wellbeing worked as a protector of physical health in case of chronic illness (Ostir et al, 2001). Boehm & Kubzansky (2012) observed wellbeing to be positively associated with restorative behaviour and biological function other than hedonic wellbeing specifically related to cardiovascular health.

Social participation and Wellbeing

Social participation is an important aspect of individual's wellbeing across the life. Elderly are more vulnerable to experience loneliness due to various changes at familial, social and occupational level. Change in the role and responsibilities, migration of children due to marriage or work, loss of spouse or age-mate, major illness in one's life, retirement etc. affect social participation of older adults (Shankar et al, 2014). However, for the elderly, informal social networking and quality of relationships are more important than merely the number of relationships is studied in Taiwanese sample by Hsu & Chang (2015). Lang & Heckhausen (2001) studied role of regulation of social relationships in late adulthood. His findings revealed that proactively moulding social world in accordance with one's age-specific needs contributes to one's subjective well-being.

Culture is one of the influential factors in the subjective wellbeing across the age. In the Indian context, demographic factors such as marital status (Venkatraman,1995), gender and geographical location seem to be related factors, favouring males particularly in rural areas (Hoop et al.,2010; Sengupta,2016). Higher age, subjective health, less loneliness, being married, higher education, higher income and working in a full-time job seemed to improve the life satisfaction and reduce

negative affect (Steverink et al.,2001; Agrawal et al,2010). Emotions with low intensity and high clarity and emotional disclosure predicted higher subjective wellbeing in older adults (Saxena & Mehrotra,2010). In Indian context, family acts as a strong social support in the life of the elderly.

Living arrangement plays a crucial role in the health status and life satisfaction of the elderly. Elderly living in the family experience significantly higher life satisfaction in comparison with the elderly living at the old age homes (Amonkar et al.,2018).

1.11.6 Generativity, Health, and Wellbeing

Old age and generativity

There are numerous benefits of generative behaviour in old age. By contributing to others' life, the elderly regain social identity, sense of purpose in their own life (Wethington,2000) as well as relief from stress in their personal life. (Willigen,2000). In their study on childhood adversity, midlife generativity and later life well-being Landes et al. (2014) explored long term effects of childhood adversity on successful ageing for individuals who achieved or failed to achieve generativity in their midlife. The results showed that, for those who achieved generativity in their midlife were found to make better adjustment to ageing. Generativity moderated the adjustment to ageing successfully.

Generativity can be expressed in different ways by the elderly. They play a role of a caregiver, guide, friend or a mentor by giving ideas or creative solutions, helping the younger generation develop foresight towards upcoming threats in personal, social or work life. It not only helps the 'receiver' but also to the 'provider' to create positive image in others as well as for oneself. Participation in social networks through creative activities act as a protective factor among the elderly, enhancing their cognitive capacity. Social networking also helps elderly develop a sense of control benefitting cognitively; regardless of their bio-psychosocial changes of ageing. (Mc Fadden & Basting, 2010). Generativity or generosity increases with age which helps to dilute the effects of normal stresses of ageing. Particularly in old age when individual goes through 'role loss', generative action gives a rewarding experience to the individual (Kahana et al.,2013).

Cheng (2009) has revealed 'perceived respect' from younger generations for generative actions of the old people as a significant predictor of well-being in later life. If such actions are fulfilling the requirements of younger generation, they become more meaningful and satisfying experience to

the elderly. And when they are perceived non-meaningful by the younger generation, elderly need to redefine their actions to avoid interpersonal conflicts (Cheng et al.,2008). In his research on generativity in later life, Cheng (2009) had hypothesized that, actions to benefit next generation would not lead to wellbeing unless they are perceived to be valued and respected. The findings revealed that, lack of perceived respect at baseline predicted decrease in generative concern.

Generativity and life satisfaction

Altruistic attitudes are important additional predictors along with pro-social behavior in fostering life satisfaction and positive affect in old age (Kahana et al.,2013). Informal mutual helping such as advising how to resolve familial, health-related or financial problems to daily activities such as shopping act as social support to the 'receiver' and a sense of satisfaction to the 'provider'. However, favourable reactions of the receiver's nurture self-esteem and self-efficacy of the help provider eventually experiencing happiness and satisfaction (Brown et al.,2003; Riche &Mackay,2007).

In a review article by Kruse & Schmitt (2012), generativity was found to be a significant predictor of optimism and life satisfaction, irrespective of subjective health, financial resources and family status. Social participation, engaging in activities for the interests of oneself and others give a fulfilling experience to the elderly thus contributing to further development of the society.

Generativity and wellbeing

Generativity in old age has positive correlates such as lower depression (Li &Ferraro,2005), high self-esteem and social connectedness, more longevity (Gruenewald et al.,2009). However, there are contradictory findings showing detrimental effects in the form of depression, anxiety, stress and psychological distress when the elderly play the role of caregivers (Grossman& Gruenewald,2017). There is a growing evidence showing that being generative, one gets impetus to initiate and maintain one's health-related behaviour. It has positive impact on cognitive and social aspects of the elderly, thus leading to physical, psychological and social well-being (Carlson et al.,2000). Civic participation among the elderly is highlighted for its social and community benefits fostering health and wellbeing among older adults. Serrat et al. (2016) found generativity and its impact on their well-being among older people's participation in political organisations.

In a qualitative study regarding the expectations of older adults from community-volunteering activities, it was found that the elderly look at the life from a "payback" point of view. Hence, by cultivating generativity among themselves, volunteering to participate in social organizations helps them to sustain their self-esteem and sense of wellbeing. (Narushima et al.,2005; Gruenewald et al.,2012)

Generativity, wellbeing, and successful ageing

Studies on successful ageing suggest that generativity is an important factor in successful ageing process. Very often, elderly are involved in many such activities in a natural manner. But when it is not acknowledged by themselves or others, it could affect their self-esteem and subjective well-being. As the generative concern is associated with 'meaning in life', it leads to successful ageing (Hofer et al.,2014). Lamond et al (2008) posited that those elderly who take up generative opportunities and actively engage in the challenges of old age, adapt gracefully to the ageing process. They also posited role for the resilience process in successful ageing when older adults view their lives as healthy and satisfactory, despite age-related disease or disability.

Reasons for Generativity

There are various reasons for people to become generative in later years of life. When they perceive that, others need them, or they are being useful to others. Some people wish to leave their footprint in the younger generation's life; a need to 'return to the society' and makes a difference in others' lives.

The above studies show that, generative actions help elderly to maintain their self-esteem, self-regard, and experience happiness, leading to healthy ageing. At the same time, society benefits from this human capital in various respects, such as knowledge, experience and at times long lasting solutions to their problems.

Various forms of generativity

Elderly giving voluntary service to the community not only benefit themselves but also their family and community enhancing their functionality, sense of purpose in life, social connectedness, social cohesion resulting into health and well-being (Morrow-Howell&Tang,2009). Social cohesion is a major trigger in developing determination towards generative behavior (Okun & Michell,2009; Wenner & Randall,2016).

Parenting and grand parenting for the family or neighbourhood is one form of being generative leading to satisfying experiences. In a study done on the couples having children and those not having children, positive association was revealed between generativity and psychological wellbeing with no significant differences between the two groups. (Rothrauff & Cooney, 2008).

Providing financial support to the needy is another form of generativity. Research conducted by Bjalkebring et al. (2016) shows that engaging in charitable activities enhances well-being. There is an age-related positivity bias in charitable giving. Older adults draw more positive affect from both, planning and witnessing an outcome of monetary donations and hence they engage in charity more than young adults.

Suffering in different forms such as physical or emotional pain, loss of identity, uncertainty, change in relationships is a common phenomenon in the life of elderly. In such situations, generative act, particularly creative in nature may act as a means to repair the 'self' in concrete as well as imaginary crisis (de Medeiros,2009).

Culture and generativity

Generativity is better understood in the background of different contextual variables that influence the behaviour across the life span. Generativity consists of two factors: generative concern and the will to make social contribution. Sagara & Ito (2017) found gender difference in both the factors in Asian cultures. Men showed higher generative consciousness while women superseded in social contributions. This gender difference in the social share is due to gender influence among middle-aged people which continues in later life. Old age is heavily dependent on the cultural norms and current realities but also uniquely experienced by the individual in life (McAdams& Ed de St. Aubin,1992). Their roles and responsibilities to a large extent are shaped by the culture. Generative acts may ensure continuation of one's self in some form or the other (de Medeiros,2009).

1.11.7 Mindfulness, Health, and Wellbeing

Benefits of mindfulness

Several studies have emphasized the effectiveness of mindfulness in various life settings. Brown & Ryan studied the effectiveness of mindfulness for people in sports and at workplace. The findings indicate diverse outcomes such as physical health, psychological wellbeing, improved

performance, enhanced relationships as a result of mindfulness (Brown & Ryan, 2004; Brown et al.,2007).

Mindfulness, positive emotions, and wellbeing

Mindfulness is paying purposeful non-judgmental attention to the present moment. Such attention nurtures greater awareness, clarity in thoughts, feelings and attitudes enabling acceptance of reality. It also helps to realize the richness and depth of possibilities for growth and transformation. Mindfulness helps to appreciate feelings such as joy, peace and happiness. Being mindful is actually an empowering experience as it opens the channels of our own deep reservoirs of creativity, imagination, clarity, determination and wisdom which are paths to achieve happiness (Kabat-Zinn, 2005). Mindfulness is one of the attributes which nurtures consciousness by non-judgmental observation of every phenomenon, resulting into the behaviour regulation and well-being (Brey,2012; Brown et al.,2015).

In an experimental study, an intervention group i.e., who practiced mindfulness skills showed statistically significant positive correlation with wellbeing. And in the follow up stage of 3 months after intervention, statistically significant negative correlation was seen with overall stress (Kuyken & Weare et al, 2013). Ortner et al. suggest that mindfulness meditation practice may help individuals disengage from emotionally upsetting stimuli, enabling focused attention on the cognitive task at hand (Ortner et al.,2007).

Barnes et al (2007) in their longitudinal study of mindfulness as a trait have found higher relationship satisfaction and greater capacities to respond constructively to relationship stress. While state mindfulness was found to be related with better communication quality which plays important role in relationship satisfaction. Enhanced self- awareness, positive emotional states and self-regulated behavior are additional correlates of mindfulness in normal as well as chronically ill people. The results of the study show that mindfulness also leads to wellbeing (Brown& Ryan, 2003).

Mindfulness as a therapeutic technique

Mindfulness enhances behavioural regulation and subjective well-being (Keng et al.,2011; Ramasubramanim,2016). Mindfulness, as a therapeutic tool has been found effective in a clinical setting. Mindfulness -based cancer recovery programmes have resulted in various physiological

changes such as reduced symptoms of stress, altered level of cortisol, decreased blood pressure, and immune patterns consistent with less stress, less mood disturbance and enhanced quality of life among the cancer survivors. (Kabat-Zinn,2014, Brown & Ryan, 2003).

Epstein (1999) has suggested that mindfulness practice helps the patients in optimizing health in both prevention as well as recovery from illness. Gradually, the patients volunteer to make changes in the diet, daily routine, and overall lifestyle. Enriched interpersonal relationships and social connectedness are found to be additional benefits for the patients suffering from chronic illness. Crane et al. (2012) explored immediate effects of Mindfulness Based Stress Reduction (MBSR) in chronically depressed participants with suicidal tendency. After the intervention of MBSR their life goals more specific, relevant and achievable in nature.

In a study on primary health-care professionals, mindfulness was strongly negatively related with perceived stress and positively related with subjective well-being (Atanes et al, 2015; Shapiro et al, 2005). Such studies indicate that apart from its therapeutic value, mindfulness is helpful in the overall well-being of people leading to healthy adjustment in life.

Meditation is considered to be one of the best techniques to cultivate mindfulness. Meditation refers to a group of self-regulation practices which focus on training attention and awareness and foster wellbeing of the individual. It may elicit positive affect, minimize negative affect and rumination and enable effective emotion regulation. (Davis& Hayes, 2011). According to Siegel (2007), mindfulness meditators with the skill of self-observation helps them to get neurologically disengaged from the past and attend the present moment as a new experience in life.

Mindfulness and physical health

Mindfulness techniques show promising effects on different physical health parameters. The role of body-mind connection in health is a paradigm shift. It tries to find as how various factors like one's lifestyle, patterns of thinking and feeling, relationships and environmental factors which influence body and mind (Kabat-Zinn, pg172).

Naik et al. (2013) have found significant improvement in the functioning of immune system and resistance to stress-related diseases, lowered blood pressure and lowered levels of blood cortisol as a result of mindfulness meditation.

The electrolytes play important role in the nervous system and motor functioning. Imbalance of electrolytes can lead to disruption of normal body functioning or even life threatening. The symptoms of electrolytes imbalance range from moderate to severe degree. Overall fatigue, excessive weakness, cardiac disease, kidney malfunctioning is to name a few. Age related changes in homeostatic mechanisms are found more in older persons.

Physical inactivity, certain health problems and stress significantly influence the blood sugar level across the age; thus are the major causes of Type II diabetes, commonly found in older people. Stress can induce both hyperglycaemia and hypoglycaemia affecting physiological functioning and behaviour. However, Surwit et al. (1992) and Lloyd et al. (2005) have revealed that by promoting lifestyle and behaviour changes in 'Diabetes prevention programme', psychological causes of stress such as one's perception of the stressful situation and perceived psychological and social support can be effectively controlled. The Diabetes Attitudes Wishes and Needs Programme (DAWN programme) has highlighted the role of psychosocial and behavioural barriers in the treatment of the disease (Belinda,2005; Skovlund,2005).

The adequacy of certain hormone secretion is vital in physical and mental health across the age, thus even in later years. Specifically, imbalance in thyroid functioning is associated with the symptoms of depression and anxiety affecting the life at cognitive, affective and behavioural level. Addressing such psychiatric manifestations is important in augmenting the effects in the treatment of subclinical thyroidism (Saxena et al.,2000; Bathla et al,2016).

Lipid levels are also influenced by lifestyle and behavioural factors or conditions in individual's life. Low cholesterol concentration (HDL) is found to be associated with anxiety and depression and more importantly vulnerability to stress. On the other hand, physical activity, positive emotion, aesthetics, actions, and deliberation were associated with triglycerides (Roh et al.,2014). High amount of cortisol release is a product of stress leading to increase in blood cholesterol and triglycerides apart from blood sugar and blood pressure. In an experimental study conducted by Peterfalvi et al. (2019) on the clinical patients with and without history of early life stress observed the significant negative association between the severity of early life stress and HDL, whereas early life stress being significantly positively related with Triglycerides.

Direct benefits of mindfulness meditation are found by Naik et al., (2013) on physiological, psychological as well as spiritual levels. Enhanced functioning of immune system, lowered blood

pressure, lowered levels of blood cortisol and increased resistance to stress-related diseases are some of the physiological benefits. Psychological benefits are reduction in emotional reactivity, distracting thoughts, and an improvement in control over rumination of negative thinking, mental flexibility, and empathy. Increased self-insight, acceptance of others are the spiritual benefits, the individual enjoys.

Mindfulness has proved to be effective across the age groups, as a preventive as well as curative measure. The findings of a study on elderly done by Black et al (2015) reveal significant impact of mindfulness meditation in improving quality of sleep and thereby reducing daytime impairments due to disturbed sleep among the elderly. This will enhance their overall subjective wellbeing and boost physical health. (Geiger et al, 2015)

Fountain-Zaragoza and Prakash (2017) have observed that mindfulness meditation may control the decline of attentional control among old adults and allow them to capitalize their emotion regulation. Mindfulness increases physical and mental awareness, filter healthy thoughts and enhance stress coping skills (Mallya&Fiocco,2015) and wellbeing among elderly with potential role of emotion regulation among the elderly (Mandal et al.,2011)

The results of a study done by Malinowski et al. (2017) show that engaging in a mindfulness practice for ten minutes a day for five times per week resulted in significant improvements in behavioral and electrophysiological measures related to general task performance. However, the study did not find the expected specific improvements in executive control and emotion regulation, overall results indicate the benefits in terms of improved goal-directed visuo-spatial attention useful in controlling cognitive decline associated with aging.

Lifestyle habits and mindfulness

Globally, lifestyle habits such as smoking, consumption of tobacco/ gutka is one the leading cause of death across the age. By 2030, particularly in developing countries the number of such deaths is projected to be 10 million, and hence a growing public health concern. Despite various measures taken by the policy makers like restrictions or bans on its publicity and behaviour, easy availability to cessation therapies is found to be effective (Brewer et al.,2011; Jha et al.,2009). In an experimental study conducted by Spears et al. (2019) shows promising effect of in-person Mindfulness-Based Addiction Treatment (MBAT) for smoking cessation as well as lapse recovery along with text messages between the sessions in the treatment. Strong retention was achieved

76% among 2/3 of the participants at the end of treatment, and 89% among majority of the participants was seen at 1-month follow-up distinctly showing the effect of mindfulness on lifestyle habits like smoking and drinking. The similar findings are found by Brewer et al. (2011) showing not only the significant reduction in smoking but the retention of the same as well.

In understanding the importance of neuroscience in substance-use addiction, Garland and Howard (2018) have revealed the importance of MBTI which allows individual to develop control over habits and motivational drives underlying the addiction. Neuropharmacological study (Brewer,2019) claims that when smoking or drinking is induced by stress, the prefrontal cortex shuts down. In such situations, changing the habit loop with the help of mindfulness techniques works by making the individual aware of immediate effects of smoking/ drinking such as 'burning feeling' while inhalation/consumption breaking the habit loop.

Mindfulness Training for Smokers (MTS) proves to be effective in reducing the frequency of smoking and alcohol use, if not complete cessation in young adult smokers with alcohol abuse (Davis et al,2013). Mindfulness treatment is found to be a positive intervention for substance use disorders showing significant small to medium effect on its reduction in craving (Li et al., 2017).

Mindfulness and wellbeing

Mindfulness is the central component of the Buddhist meditation, and its effect is determined by its practice and application. The Buddhist mindfulness training aims to enhance human wellbeing by relieving the suffering. Since Intention, attention and attitude which are the three building blocks of mindfulness are interwoven and thus occur simultaneously, there is a possibility of the shift from intention to self-regulation to self-exploration during meditation (Shapiro, 1992). A hallmark of mindful practice is intentional attention to internal and external experience with open, non-judgmental attitude that brings a significant shift in one's perspective enhancing health and well-being.

Mindfulness provides simple but powerful route for getting oneself detached and attached with one's own wisdom and spirit. It helps to take charge of the relationships with oneself as well as with others in different domains leading to a quality of our life. Mindfulness helps to get insight into one's own life that probably were ignored before and deal with unpleasant thoughts or deep emotions like grief, sadness, anger, fear etc.

Indian context

In Indian context, the research has shown high positive relationship between mindfulness and the big-five personality traits (Menon & Singh,2014), overall physical health and the quality of mental health (Sathyanarayanan, et al.,2019). Apart from individual and interpersonal benefits in later years of life, individual's physiological, psychological and spiritual levels are enhanced by mindfulness is researched by Naik et al. (2013).

1.11.8 Resilience, Health, and Wellbeing

Resilience is a very dynamic construct and therefore, it should be considered on a continuum, rather than using a binary approach. An individual who effectively copes with stress in personal life and academic setting, may fail to do so in social world or at workplace. (Southwick et al.,2014)

Factors which lead to the development of Resilience

Various factors at physical, psychological, and social level are responsible in developing resilience. Physiological and psychological changes induced by physical fitness and regular physical activity play important role resilience (Deuster & Silverman,2013). Neuroplasticity is noticeably enhanced reflecting better emotional and behavioural regulation due to age-appropriate physical activity on a regular basis (Belcher et al.,2020).

According to Maddi (1979) and Kobasa (1979), hardiness constitutes challenge, commitment and control and thus is a trail to resilience. In adverse situations, challenge makes the person with a quality of hardiness believe that life is naturally stressful; commitment nurtures his efforts to resolve the problem and finally control helps him to turn the situation in his favour (Maddi,2013).

According to Masten (2001) resilience comes from interactions between the individual's genotype and human resources in his environment which impact his coping skills in the form of adaptability and self-regulatory behaviour through neural circuitry changes. As a result, resilience promotes optimism, self-efficacy and positive emotions and the society benefits with competence and human capital. Apart from these benefits individual can enjoy across the age, in later years of life such cognitive, affective and behavioural reappraisal and regulation allows the elderly to respond positively to stressful situation and recover quickly in the illness (Feder et al.,2019).

Resilience in later years of life

Adversities faced by an individual vary across life span. For the elderly, physical limitations due to health issues, chronic illness, illness in the family, loss of a spouse or in the close relationships, loneliness, restricted income, reduced interest of others in one's life can be some of the adversities. However, their inner strength, external support and their problem-solving skills foster resilience and allow healthy adjustment (Maneerat et al.,2011). When the elderly not only surrender to adversity but successfully adapt by managing stressful events and retrieve their prior levels of objective and subjective wellbeing, they are considered to be psychologically resilient (Fontes & Nari,2015).

Resilience may depend upon the level of impact of the adversities in one's life. In a study on thirty-two elderly with one or more adversities in life. Hildon et al (2008) found that resilient participants used individual and social resources, especially in the form of maintenance of social roles and support. Such findings reveal that resilience is conditional on the level of adversity and not well connected to socio-demographic characteristics. Qualitative analysis of resilience among elderly done by Blane et al (2011) showed resilience strongly connected to individual's interpersonal relationships despite adversities like long-lasting illness or financial deprivation.

None the less, the Compensatory model of resilience, risk factors and compensatory factors such as optimism, self-esteem, empathy, determination, perseverance independently contribute to the outcome (Fleming & Ledogar,2008; Ledesma,2014). According to the Protective model of resilience, social participation, social support, social resources reduce the effect of adversities.

Resilience is a key factor in improving health and reduced problems caused by chronic diseases in elderly. In a phenomenological study, different indicators of resilience such as acceptance, patience and trust in God, social support, assertion to physical independence and hope for improvement were found to be the key factors of wellbeing among elderly (Hassani et al.,2017).

In a qualitative study by Janseen et al (2011) conducted on older people receiving long-term community care, three major domains were identified as the sources of resilience. Individual domain consisted of one's qualities, beliefs about one's competence, efforts to exert control and capacity to understand and analyse one's situation, pride about one's personality, acceptance of help and support. The second domain being the interactional domain, is the way elderly cooperate and interact with others to achieve personal goals, empowering informal relationships and most

important is the power of giving. Broader socio-political level, accessibility of care, availability of material sources are some of the factors in contextual domain which lead to the development of resilience among elderly.

Resilience, Wellbeing and Successful Ageing

As the resilience enables the individual to perceive the adversities more as 'challenges' than the 'obstructions', those elderly who accept these challenges experience successful ageing. This view supports the Challenge model of resilience. According to this model, an exposure to both low and high levels of risk factors are associated with negative outcomes, but moderate level of risk is largely associated with less negative outcomes (Fleming & Ledogar,2008). In such situations, increased resilience plays an important role in promoting successful ageing (Jeste et al.,2013).

Affect regulation in adversities is a positive correlate and important component of resilience which enhances self- efficacy and coping ability leading to wellbeing among the elderly (Kessler& Staudinger, 2009; Tagay et al.,2016). Affect regulation changes in the perception of the adverse situation by either experiencing less stress or reacting in an adaptive manner (Montpetit et al,2010).

Resilience is reflected by the individual right from perception, interpretation as well as coping with the adversity in one's life. The resilient individual makes conscious efforts to identify the possible difficulties in one's present or future life, interpret them as challenges resulting into thoughtful attempts to cope with them. Although resilience is perceived to be a quality shown by an individual largely in adverse situations, it is also considered to be one of the potential factors maintain the physical and psychological balance (Bonanno,2008).

Resilience and Mental Health: Diet, exercise, and Spirituality as mediating variables

As resilience and mental health are positively associated in the context of physical health or illness (Jeste et al, 2013; Farber& Rosendahl,2018; Laird et al.,2019), number of factors such as diet, exercise and involvement in spiritual practices are found to be important in the relationship.

Diet is one of the drivers in good physical and mental health, particularly in the old age. Nutritional fitness in terms of type and variety of diet as well as dietary habits play important role in building physical and psychological resilience. Consumption of diet rich in serotonin &Omega -3 fatty acids is found to have positive health outcomes (Flórez et al.,2014). Different nutrients like minerals, vitamins induce high level of serotonin which is important in brain metabolism and

prevention and/ control of mental illnesses. An exposure to sunlight, diet and exercise are considered to be non- pharmacological methods to increase the level of serotonin, which is responsible for better neurotransmission.

Through an engagement in spiritual practice, individual tries to develop some support system, find meaning and purpose in one's life. The nature and severity of adversity, personal characteristics such as sensitivity and temperament, faith and availability of spiritual practices cumulatively determine individual's readiness to reconstruct his/her thoughts, change the perceptions and act accordingly which reflects resilience.

Spirituality is used as a tool to meet challenges easily by the elderly. The spirituality nurtures in the individual values such as faith, forgiveness, belief in oneself and others, compassion, kindness, generalizing to other people, which improves his quality of life and interpersonal relationships. (Foy et al.,2011). Spirituality is as much associated with subjective well-being as the resilience, giving strength to cope with any adversity successfully (Manning,2013). Vahia et al. (2011) examined the association between spirituality and a range of variables associated with successful cognitive and emotional aging, optimism, resilience, depression, and health-related quality of life among the community-dwelling older women and revealed spirituality to be significantly associated only with higher resilience.

Resilience, Personality and Successful ageing

Resilient individuals are aware of their strengths and weaknesses, optimistic and have high self-esteem are able to not only face the adversities like chronic illness or surgery but enjoy more life span. Such personality traits shape individual's perception towards the traumatic experiences and thus help developing resilience (Smith, 2006; Zhang et al, 2017). Based on a longitudinal data of elderly, resilience and longevity are found to be significantly associated among the young-old and oldest –old adults (Sheu & Zeng, 2010).

Resilience fosters the process of adaptive selection which particularly allows the elderly to save their physical, psychological, cognitive resources and cultivate only those which result in affective closeness and increased comfort (Terrill & Gullifer, 2010). Research examining resilience suggests older adults are capable of highly resilient behavior despite socio-economic background, personal experiences and declining health. Resilient individuals are prone to increased longevity, successful aging as well as reduced depression. (MacLeod et al.,2016).

Increased life expectancy has increased many chronic illnesses among elderly population affecting their resilience, wellbeing and subjective health. The sample in the study conducted by Singh et al consisted of three categories- normal elderly, elderly from medical geriatric and elderly from psycho-geriatric wards. The findings revealed significantly higher levels of resilience and wellbeing among normal elderly than the other two groups. Resilience was also found to be higher in those with higher hardiness, optimism and resourcefulness. (Singh et al, 2016).

Resilience, Health, and Wellbeing

Resilience is found to be positively related in the promotion of health and wellbeing. Hopkins et al (2015) tried to understand the patterns of risks, resources and adaptation, impacting physical health. They observed that resilient youth had significantly low self-reported asthmatic symptoms and career-related health problems than less resilient youth. The study also identified protective role of social connections influencing not only psychosocial functioning but also physical health.

For an individual to be resilient, one needs to overcome the set behavioural responses and deal with the adverse conditions in a novel way. Mindfulness, which is, a flexible state of mind, open to active search for novel experiences, would help the individual override these set behavioural responses. In normal as well as adverse circumstances, being aware of every moment is beneficial for both, body and mind. Couple of times ruminating the Past, particularly unpleasant experiences, disturbed interactions, as well as worrying about the future take away our mental peace, with which living in the Present becomes very difficult. Such repetitive instances affect health and impair cognitive, affective and behavioural functioning. But if the resilient individual is more aware of the moment and ready to accept the life with challenges, gradually the perceptions towards adversities change helping the individual experience well-being. Rumination, which is a process of repetitive negative thinking, and which can be a risk factor for various psychological disorders can be reduced by metacognitive awareness. Resilience and mindfulness are found to be significantly positively related leading to well-being (Pidgeon & Keye,2014).

Resilience is being studied across diverse fields like human development (Masten,2001), organizational culture (Everly,2011), sports (Sarkar& Fletcher, 2014), healthcare (Nemeth et al, 2008), and personal life across the age groups.

1.12 Research gaps identified

Substantial research in the field of successful ageing with its physical and psychological dimensions has been reported from the developed countries, as compared to the developing countries. As health and wellbeing contribute to healthy ageing, past research has shown benefits of generativity, resilience and mindfulness in health and wellbeing across the age. While there is a large body of existing research on this subject, there are very few research reported from the collectivistic culture with developing economies like India. There is a need for such research to help generate insights into the healthy ageing framework in the specific cultural context. Earlier studies and interventions may have been focused on the elderly in general. Understanding the perspective of young elderly is important because it will enable the stakeholders to prepare better for ageing process in the enhanced lifespan of individual. The present research focuson the young elderly between 60 and 70/75years. This cohort has the physical & mental ability and willingness to absorb and adopt new learning and a longer runway in terms of their remaininglife. It would result in maximization of benefits to the elderly and society at large.

The mind body connection is well established in research related to health. It is important to examine whether and how physical and mental health support each other for better perceived wellbeing and life satisfaction of older adults. The present study also includes health parameters as measures of physical health. It would focus on identifying areas of improvement with reference to generativity, resilience and mindfulness among the young elderly in Indian context. Thus, the present research would help formulation of suitable interventions in the respective areas.

There are possibilities that unlike the elderly from developed countries who have lived with stability on a much larger scale, this segment of population in our country has been familiar with facing adversities throughout the life. So probably, resilience need not be worked upon. But interventions for developing generativity and mindfulness will need to be investigated. However, the research findings may have important implications for interventions suitable in the Indian context.

1.13 Rationale

Globally, economic wellbeing, better medical facilities and reduction in fertility rates have resulted into longevity. The problem of rapidly ageing population has already been observed in developed nations and been recognized as an emerging problem in developing nations like India and China,

which have large share of the world population. Population of 60 years and above is estimated to be 22% of the total population by 2050 (World Population Ageing 1950-2050, UN Population Division, DESA, 2015). It has profound economic, political, and social implications for the country (Elderly in India 2016, MOSPI).

Life expectancy at birth is projected to increase two times from 38.7 years (1950) to 75.4 years (2050). Dependency ratio in youth reducing from 54.4 to 30.0, while dependency ratio in elderly increasing from 8.1 to 22.6 are the by-products off increased longevity and reduced fertility. Internal and international migration of working age population, urbanization has affected our conventional family structure, leading the elderly experience loneliness, emotional neglect and lack of physical support (Elderly in India 2016, MOSPI).

The United Nations has outlined 'health and wellbeing for all' as one of the Sustainable Development Goals to build a more prosperous and secure world. The attainment of this goal will indeed navigate the process of healthy ageing to a large extent. Addressing mental health issues of elderly is one of the primary concerns to ensure healthy ageing. Keeping the thrust on preventive measures than cure, the National Policy for Older Persons 2011 endeavours to strengthen integration between generations. It believes in the development of a formal and informal social support, strengthening the family system to take care of senior citizens. The elderly is considered as a responsibility of the family, community, and the government. Institutionalization is the last resort. Although the economic security is ensured by the Policy, meeting the psychological needs of the elderly is equally important.

As the quantum of graying population is increasing in India, with a projected increase in the Ageing index, Dependency ratio and the Parent support ratio among the elderly as well as reduction in the Potential support ratio, there is a need to analyze the factors contributing to subjective wellbeing and health, which would result into successful ageing.

Clinically, successful ageing refers to an absence of chronic illness and associated disabilities, high cognitive and physical functional capacity and meaningful social engagement (Rowe&Kahn,1997). Few more components have been added in this definition by different researchers. Subjective wellbeing is one such important component that it is considered as a clinical parameter of successful ageing, as it correlates with positive health outcomes (Aldwin et al.,2013).

Apart from demographical factors (Jang, 2020), there are physical, psychological and social factors contribute to successful ageing. Physical factors are such as healthy body-mass index (Luo et al.,2020), absence of alcohol and substance abuse (Rao et al., 2019) and a smaller number of chronic diseases (Prasad,2012) are considered as the prerequisites of successful ageing.

Mature and adaptive defenses, high level of resilience (Foster,1997), psychological wellbeing (Steptoe et al.,2015), purposefulness in life (Musich et al.,2018) and low rate of depression (Huisman et al.,2017) are few psychological indicators of successful ageing. Whereas social factors such as increased social participation and valued social role, which enhance the 'feel good' factor and the sense of satisfaction contribute to health and subjective wellbeing (Douglas et al.,2017). Especially in the elderly popultion, proactive molding of the social world in accordance with one's age-specific needs contributes to one's subjective wellbeing.The past research in the field suggests the factors like generativity, resilience and mindfulness as major determinants of health and wellbeing leading to successful ageing.

Generativity is a multidimensional construct in the form of a need, a drive, a concern, a task which links the person and a social world. It is a need, a drive, a concern or a task (Mc Adams & Aubin, 1992), benefitting the elderly to regain one's social identity or finding a sense of purpose in life (Wethington,2000), other than giving relief from personal life stress (Willigen,2000). Generativity in old age is not only associated with high self-esteem and social connectedness, more longevity (Gruenewald et al.,2009), but is useful in controlling depression in oneself (Li &Ferraro,2005).

Resilience is a very dynamic construct on a continuum, with differing degrees across multiple domains of life. Resilience is referred to a successful measure of stress-coping ability. is proved to be beneficial in multiple ways such as it enhances self-efficacy which helps in strengthening coping ability in the individual to experience life satisfaction (Tagay et al.,2016); respond positively to stressful situation and recover quickly in the illness (Feder et al., 2019); different adaptive behaviour including identifying opportunities, adapting to constraints, and bouncing back from misfortune (Cohn et al.,2011). According to Richardson and colleagues (1990), the bio-psycho-spiritual balance, i.e., adaptability to body, mind and spirit in current life circumstances is the responsible factor for variation in resilience.

Mindfulness is an empowering experience as it opens the channels of our own deep reservoirs of creativity, imagination, clarity, determination and wisdom which are paths to achieve happiness

(Kabat-Zinn, 2005). It helps to appreciate feelings of joy, peace, and happiness within the self. Mindfulness through 'mindfulness meditation' is one of the attributes which nurtures consciousness by non-judgmental observation of every phenomenon, resulting into the behaviour regulation and well-being (Brey,2012; Brown et al.,2015; Geiger et al.,2016) and acts as a protector in stressful situations (de Frias, 2015). It is effective across the age groups, as a preventive as well as curative measure. The findings of a study on elderly done by Black et al (2015) reveal significant impact of mindfulness meditation in improving quality of sleep and thereby reducing daytime impairments due to disturbed sleep which enhances overall subjective wellbeing and boost the physical health among the elderly (Geiger et al, 2015).

Hence, the present study seeks to examine these factors in the Indian context, using mixed methodology of research. On account of differences in living conditions which are significantly different from those living at home, the elderly from the institutions have been included as a separate cohort within the study. Specifically, through semi-structured interview method, behavioural characteristics reflecting generativity, resilience and mindfulness used by the elderly will be identified.

Awareness about generativity would harness the vast experience, talent and skills of the elderly for the benefit of their next generation. Studies have proven that this leads to positive outcomes of good health, happiness and, result in better life management and successful ageing for the elderly. The elderly face numerous physical, psychological, economic challenges. Resilience within an individual helps develop qualities such as equanimity, perseverance, self-reliance, existential aloneness which enhance the potential of maintaining positive adaptation to face these challenges. Mindfulness is the third important element of the three-pronged approach to be examined in this research in health and subjective wellbeing of elderly. Mindfulness is basically an integrative body-mind approach, which brings a clarity in thoughts, feelings which enable the individual to take decision and effectively cope with adverse situations and attain health and wellbeing in life.

Nutrition and exercise are considered as major components of physical health and spirituality as a component of subjective wellbeing, in Indian context. Whether a generative, resilient and mindful elderly with adequate nutrition and exercise show better parameters of health and subjective wellbeing will also be a part of the investigation in the present research. Similarly, spirituality is a

belief system experiencing a deep sense of meaning and purpose in life. It strengthens internal resources in the individual through his personal efforts and choice, along with social connectedness. Thus, whether an engagement in spiritual practices result into better health and subjective wellbeing in a generative, resilient and mindful elderly will be analysed.

Young elderly is the population between 60 and 70 years of age, who are just retired from their career life with reduced family responsibilities. The possibility of experiencing a big vacuum in life cannot be ruled out with them. At the same time, they are physically, mentally, and socially active, as compared to later stages of old age. If the above-mentioned factors are analyzed in young-old stage, necessary intervention can be planned to make them self-reliant and thus, to build a community of successfully ageing in our country. Thus, the present study seeks to examine these factors as precursors of successful ageing through physical health and subjective well-being in the Indian context.

In India, the concept of population ageing is being recognized over the last few years and hence the Government policies and programmes, specifically aimed at the elderly are at nascent stage. Relationship between psychological variables and physical health are not being documented, explicitly in the elderly population. Additionally, how it affects subjective wellbeing among is not being studied. Thus, the present research has been conceptualized and designed to address some of the existing gaps in the research and scientifically document that these variables enhance perception of wellbeing and better physical health among the elderly.

1.14 Research Questions

The research questions of the study are as follows-

1) What is the conceptual understanding of generativity, resilience, mindfulness and subjective wellbeing by the Indian young elderly? What are the health parameters of ageing in Indian context?
2) How physical health parameters such as biomarkers, sensory / systemic parameters and physical fitness are related to perceived wellbeing among young elderly?

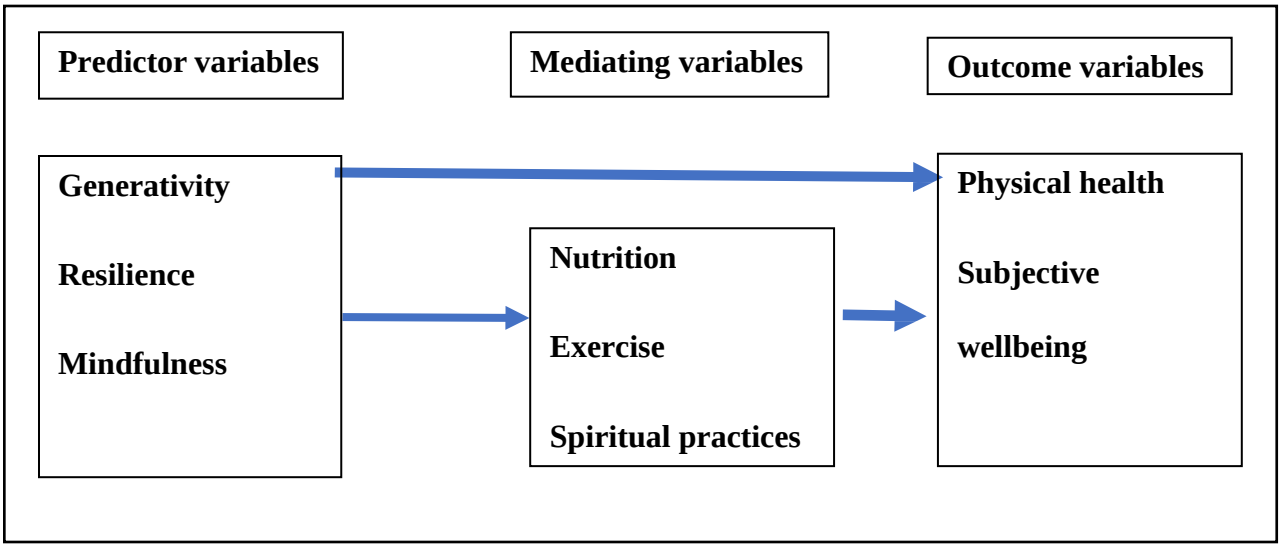
3) What is the role of nutrition, exercise and engagement in spiritual practices in the perceived wellbeing and health of elderly?

4) Whether generativity, resilience, mindfulness act as the precursors of physical health and subjective wellbeing of the elderly?

In response to the above questions, the research was designed as given below:

Figure 9

Conceptual Framework of the Study



The research was conducted in two phases. The objectives, hypothesis, research design, Phase-wise sample description and procedure are given in the following chapters.