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# Evaluating a PERMA model intervention for reducing essentialist beliefs and enhancing well-being among older adults

**[1]Inderpreet Sandhu & [2]Amarpreet Kaur Dhaliwal**

## Abstract

Essentialist beliefs refer to the assumption that social categories possess inherent, unchangeable characteristics or an underlying 'essence.' In the context of ageing, such beliefs imply that ageing is a biologically predetermined process that cannot be altered. Holding these rigid views can be detrimental to an individual's life and well-being, particularly in later years. The current study focuses on exploring the dynamic interplay between essentialist beliefs and well-being among older adult population. It also assesses the effectiveness of a PERMA model–based intervention in reducing essentialist beliefs and promoting well-being. Essentialist Beliefs about Ageing Questionnaire and the PERMA Profiler were used for this study. Essentialist beliefs were found to be negatively associated with well-being among older adults. The PERMA model–based intervention demonstrated efficacy in reducing essentialist beliefs and enhancing well-being. Despite the respondents endorsing strong essentialist beliefs about ageing, a substantial proportion also reported high levels of well-being. This pattern suggests that sociodemographic factors may play an important protective role, potentially buffering the negative impact of essentialist beliefs on the ageing experience. The findings highlight the importance of maintaining favourable and flexible view on ageing for higher levels of well-being during old age. This research also emphasises on the significance of performing simple daily activities as a means of the intervention in reducing essentialist beliefs and enhancing the level of well-being during later life.

**Keywords:** *ageing, non-essentialist, well-being, PERMA, essentialist beliefs about ageing*

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**About the authors:**
[1]Assistant Professor, Department of Psychology, Punjabi University, Patiala, Punjab, India.
[2]Corresponding author. PhD Scholar, Department of Psychology, Punjabi University, Patiala, Punjab, India. Email: amarpreet.k.dhaliwal@gmail.com

## 1. Introduction

Ageing is a multifaceted and continuous process characterized by a gradual progression toward later life. It encompasses significant changes across biological, psychological, and social domains (Dziechciaż & Filip, 2014). Biologically, ageing involves a decline in physical capacities, including reduced muscle strength, mobility, and sensory functioning. Psychologically, it is associated with cognitive, affective, and behavioural changes that may influence memory, emotional regulation, and adaptability. Socially, ageing often results in shifts in social roles and responsibilities, particularly as individuals transition from active participation in the workforce to retirement. In many cultural contexts, this transition also involves younger generations assuming roles traditionally held by older adults. These age-related changes are shaped by both genetic factors and cumulative physiological and psychological deterioration associated with advancing chronological age (Levinsky & Schiff, 2021; Marioni et al., 2018).

Beyond these objective changes, individuals' experiences of ageing are strongly influenced by their beliefs about the ageing process. Beliefs can be defined as the mental associations individuals make between objects and their characteristics or qualities, typically evaluative in nature. Beliefs about objects reflect the judgments a person holds about them. Beliefs also define the way a person thinks about ageing and predispose people's responses towards ageing in general and their own experiences while growing old. With regard to ageing, beliefs or perceptions can be categorized in many ways, one of them being as positive or negative. People have favourable or unfavourable expectations, perceptions, beliefs, mindset, or stereotypes about the process of ageing, old age, and people who are old. Viewing ageing and older adults in an unfavourable manner primes people's responses toward the process of ageing as well as their expectations of how their old age would look. These beliefs can become self-fulfilling predictions.

In the context of ageing, the beliefs individuals have about the concept of ageing can vary based on the idea of essentialism. Essentialism refers to the idea that people and things have an essence and this essence cannot be separated from them (Bailey et al., 2021). It is the notion that everything has inherent characteristics, qualities, or properties at its core. An essentialist view proposes the idea that how people from different social categories look and behave is determined by the underlying intrinsic nature of that group (Bastian & Haslam, 2006; Prentice & Miller, 2007). Psychological essentialism is defined as "*the perception that surface*

*features are frequently constrained by, and sometimes generated by, the deeper, more central parts of a concept*" (Medin & Ortony, 1989, p. 180). Importantly, Medin and Ortony (1989) emphasize that beliefs about an underlying essence reside in the mind of the perceiver rather than being an objective property of the person or object itself. Applied to ageing, essentialist beliefs reflect how individuals conceptualize the ageing process rather than their actual biological or psychological ageing experience.

Individuals differ substantially in the beliefs they hold about ageing, and these beliefs can broadly be categorized as essentialist or nonessentialist. Those who hold essentialist beliefs perceive ageing as a fixed, inevitable, and biologically determined process that cannot be altered or influenced. Such beliefs frame ageing as immutable and beyond personal control. In contrast, nonessentialist beliefs conceptualize ageing as flexible and modifiable. Individuals endorsing this view believe that lifestyle choices, attitudes, and behaviours can influence the course of ageing, reflecting a malleable perspective in which personal agency plays a significant role.

Empirical research demonstrates that beliefs about ageing have meaningful consequences for health and well-being. Essentialist beliefs have been associated with greater difficulty in memory retrieval under conditions of negative age stereotypes, heightened blood pressure reactivity, and a more restricted future time perspective (Weiss, 2018; Weiss & Staudinger, 2015; Weiss et al., 2016). In contrast, nonessentialist beliefs are consistently linked to more adaptive outcomes in older adulthood, including greater openness, persistence in the face of failure, and improved cognitive and behavioural performance (Blackwell et al., 2007; Dweck & Master, 2009; Kray & Haselhuhn, 2007; Zingoni & Corey, 2017). A growing body of literature further highlights the benefits of positive beliefs and mindsets about ageing. Positive self-perceptions of ageing have been associated with better physical functioning, lower levels of depression and anxiety, enhanced overall health, and improved quality of life among older adults (Tully-Wilson et al., 2021; Velaithan et al., 2024). Moreover, positive views of ageing are linked to a greater sense of mastery, whereas negative perceptions are associated with higher levels of neuroticism and poorer performance in basic activities of daily living (Jang et al., 2004). These findings underscore the psychological significance of ageing-related beliefs in shaping well-being outcomes.

Recent research suggests that beliefs about ageing are not fixed and can be modified through targeted interventions. A quasi-experimental study demonstrated that positive

psychoeducation delivered via social media significantly reduced negative age-related stereotypes, highlighting the potential of belief-focused interventions to alter attitudes toward ageing and promote well-being (Fuente-Hernández et al., 2025). Similarly, a randomized controlled intervention reported significant reductions in negative views of ageing, alongside improvements in self-efficacy beliefs and behavioural intentions, when compared to a control condition (Diehl et al., 2023). Narrative-based group interventions, such as life story work, have also been shown to enhance positive attitudes toward ageing by fostering reflection, meaning-making, and social engagement (Yo et al., 2025). These intervention studies demonstrate a growing trend in research that links beliefs about ageing with measurable changes in attitudes, behaviours, and well-being outcomes. They highlight the malleability of ageing beliefs and underscore the importance of examining essentialist beliefs within structured intervention frameworks. In this context, the present study seeks to contribute to the literature by exploring the relationship between essentialist beliefs about ageing and well-being among older adults, as well as evaluating the effectiveness of a PERMA Model–based intervention in modifying these beliefs and enhancing well-being.

The present study aims to examine the relationship between essentialist beliefs about ageing and well-being among older adults, recognizing that beliefs about ageing play a critical role in shaping psychological and health-related outcomes in later life. Building on evidence that ageing beliefs are malleable, the study further seeks to evaluate the efficacy of a PERMA Model–based intervention in reducing essentialist beliefs about ageing. Finally, the study aims to assess whether participation in the PERMA Model–based intervention leads to enhanced well-being among older adults, thereby establishing the potential of positive psychology–informed interventions to promote adaptive ageing beliefs and improve overall well-being.

This study aims to test the following hypotheses:

H1: Essentialist beliefs about ageing will be negatively associated with well-being among older adults.

H2: The PERMA Model–based intervention will significantly reduce essentialist beliefs about ageing among older adults.

H3: The PERMA Model–based intervention will significantly increase well-being among older adults.

## 2. Theoretical Framework

Well-being can be understood as the cultivation of one or more of five core elements: positive emotion, engagement, relationships, meaning, and accomplishment. Together, these elements constitute the PERMA model of well-being, which proposes that individuals actively strive toward these domains because they are inherently rewarding and contribute to optimal functioning (Forgeard et al., 2011). Initially, Seligman (2002) conceptualized well-being through a three-factor model of happiness, comprising the Pleasant Life, the Engaged Life, and the Meaningful Life. The Pleasant Life emphasizes the experience of positive emotions such as happiness and enjoyment and reflects a hedonic approach to well-being. The Engaged Life involves deep psychological involvement in activities, often associated with experiences of flow. In contrast, the Meaningful Life reflects a eudaimonic dimension of well-being and is characterized by a sense of purpose and commitment to serving something larger than oneself.

In the context of ageing, well-being has emerged as a central focus of gerontological research and is widely regarded as a multidimensional construct encompassing psychological, emotional, and social components (Keyes, 2002; Ryff, 2014). Well-being in later life is often examined through the lens of the U-shaped curve of happiness, which suggests that subjective well-being follows a U-shaped trajectory across the lifespan. According to this model, individuals typically report relatively high levels of happiness in early adulthood, experience a decline during midlife, and subsequently report increased well-being in older adulthood (Blanchflower & Oswald, 2008; Stone et al., 2010).

Although the U-shaped pattern of well-being has been consistently observed across numerous large-scale studies, it is not universal. Variations in life-course trajectories of well-being are influenced by a range of contextual and structural factors, including socioeconomic status, cultural context, health-care systems, gender, and minority status. These factors shape both the lived experience of ageing and how individuals perceive and report their well-being across different stages of life.

To further conceptualize well-being, several theoretical models provide structured frameworks that clarify its key components and mechanisms. Among these, the PERMA model and the multidimensional model of psychological well-being are particularly influential and are therefore discussed in the present study to provide a comprehensive understanding of well-being in later life.

***Stereotype Embodiment Theory (Levy, 2009).*** Stereotype Embodiment Theory posits that individuals internalize age-related stereotypes from their cultural environment across the lifespan, and these internalized beliefs subsequently influence health and functioning. These stereotypes can become unconscious self-perceptions that shape physical, cognitive, and behavioural outcomes in later life. The theory rests on four premises: stereotypes are internalized early, operate unconsciously, become salient when self-relevant, and exert influence through multiple psychological, behavioural, and physiological pathways. This framework highlights how internalised societal beliefs, such as essentialist beliefs about ageing, can directly influence well-being outcomes among older adults.

***Mindset Theory (Dweck, 1986; Dweck, 2006).*** Mindset theory distinguishes between a fixed mindset, beliefs that abilities are innate and unchangeable, and a growth mindset, in which abilities are viewed as improvable through effort and learning. These underlying beliefs shape how individuals approach challenges, setbacks, and achievement. A growth mindset is associated with greater resilience, persistence, and willingness to embrace learning opportunities, whereas a fixed mindset often leads to avoidance of challenges and heightened discouragement in the face of failure. Mindset theory further proposes that a fixed mindset, like essentialist beliefs about ageing, may limit the older adults' motivation and capacity to enhance their well-being.

The stereotype embodiment theory and the mindset theory collectively suggest that essentialist beliefs about ageing, whether internalised from society or held as fixed mindsets, play a crucial deterministic role in the well-being of older adults.

***PERMA Model (Seligman, 2011).*** The PERMA model is one of the most influential frameworks for understanding well-being. Seligman (2011) expanded his earlier three-factor model of happiness and proposed the PERMA model, which comprises five core elements of well-being. This model integrates components of both psychological well-being and subjective well-being. From Seligman's perspective, flourishing individuals are characterized by the presence of all five core elements of the PERMA model, each of which represents a distinct and essential dimension of well-being.

Positive emotion encompasses experiences such as joy, happiness, contentment, and pride. Engagement refers to deep involvement in activities that are personally meaningful and intrinsically rewarding, often associated with experiences of flow. The third element, relationships, highlights the fundamental human need for love, connection, and belongingness.

Seligman (2011) suggests that even a single positive and supportive relationship can have a substantial impact on an individual's overall well-being, emphasizing the importance of the quality and health of one's social network. Meaning pertains to having a sense of purpose in life and involves the realization that one's life is connected to something larger than the self, such as contributing to others or to the greater good, which fosters a sense that life is worthwhile. Finally, accomplishment, or achievement, reflects the pursuit and attainment of goals. This element provides direction to life and contributes to feelings of mastery, competence, and personal efficacy.

Each of these five elements contributes uniquely to well-being and is pursued for its own sake rather than as a means to an end. Moreover, the elements are defined and measured independently, underscoring the multidimensional nature of well-being as conceptualized within the PERMA model.

***Multidimensional Model of Psychological Well-Being (Ryff, 1989).*** Ryff's (1989) multidimensional model conceptualizes eudaimonic well-being as positive psychological functioning across six dimensions: self-acceptance, purpose in life, personal growth, environmental mastery, autonomy, and positive relationships. Together, these dimensions capture an individual's sense of meaning, competence, autonomy, and connectedness, reflecting a holistic evaluation of well-being across the lifespan.

While multiple theoretical models contribute to a comprehensive understanding of well-being, the present study adopts the PERMA model as the operational framework for both the intervention design and outcome assessment. Although existing frameworks have examined beliefs and well-being independently, relatively few studies have explored how structured psychological interventions can modify ageing-related beliefs and, in turn, enhance well-being among community-dwelling older adults. This gap in the literature limits current understanding of how maladaptive beliefs about ageing can be effectively targeted to promote multidimensional well-being in later life.

## 3. Methodology

### *3.1. Participants*

The sample for this study comprised 91 community-dwelling older adults aged between 70 and 80 years (M = 74.24 years), with 53.9% males and 46.1% females. Participants were recruited through various organizations in Patiala, Punjab, that focus on the welfare of senior

citizens. Individuals residing in residential care facilities or those with serious physical or mental health conditions were excluded from the study. The sociodemographic characteristics of the participants, along with their percentage distribution, are presented in Table 1.

**Table 1**

*Sample characteristics with percentage (N = 91)*

| Characteristic | Percentage |
|---|---|
| **Gender** | |
| Males | 53.9% |
| Females | 46.1% |
| **Marital Status** | |
| Married | 82.4% |
| Widowed | 17.6% |
| **Current Living Arrangement** | |
| With spouse and children | 36% |
| With spouse only | 44% |
| With children only | 16% |
| Living alone | 2% |
| Joint family | 2% |
| **Level of Education** | |
| Less than graduation | 3.3% |
| Graduation | 41.8% |
| Post-Graduation | 47.3% |
| Doctorate | 7.7% |
| **Employment Status** | |
| Retired | 84.6% |
| Homemaker | 11% |
| Employed | 3.3% |

### *3.2. Measures*

***Essentialist Aging Beliefs (EAB; Weiss & Grah, 2014).*** Essentialist beliefs about ageing were measured using the Essentialist Aging Beliefs Questionnaire. This questionnaire has four items scored on a Likert-type scale ranging from 0 (Do Not Agree) to 6 (Absolutely Agree). This scale measures the extent to which one exhibits essentialist beliefs with respect

to ageing on a continuum – *malleable beliefs* to *fixed beliefs* through items like "*To a large extent, a person's age biologically determines his or her abilities*" and "*Age is just a number and doesn't say much about a person.*"

***The PERMA- Profiler: A brief multidimensional measure of flourishing (Butler & Kern, 2016).*** Well-being was assessed using the PERMA-Profiler. This is a 23-item scale which was developed by Butler and Kern (2016) to measure general well-being among adults. This scale is based on the PERMA model proposed by Seligman (2011) and is divided into positive and negative emotions, engagement, relationships, meaning, accomplishment, health, loneliness and happiness. The PERMA Profiler is scored on an 11-point Likert type scale. An overall well-being score can be obtained by calculating the average of the items for positive emotions, engagement, relationships, meaning, accomplishment and happiness. The items of the scale include, "*In general, to what extent do you lead a purposeful and meaningful life?*" and "*Taking all things together, how happy would you say you are?*"

***PERMA Model-based Intervention.*** The present study employed a researcher-developed intervention which was created as part of an ongoing doctoral dissertation research. The PERMA Model-based intervention used in this study takes inspiration and elements from the Counterclockwise study, an experimental study conducted in 1979 (Langer, 2009), as well as principles from positive psychology, cognitive psychology, health psychology, Gestalt therapy, Eastern techniques, and other approaches relevant to older adults. Although the intervention is not explicitly grounded in Stereotype Embodiment Theory or Mindset Theory, it is conceptually aligned with these frameworks, as it targets internalised and fixed beliefs about ageing through experiential activities that foster autonomy, competence, meaning, engagement, and other dimensions of well-being, demonstrating the malleability of ageing-related beliefs.

The intervention consists of five modules, physical, cognitive, social, emotional, and creative, each comprising simple, gender-neutral activities. All activities are designed to engage one or more elements of the PERMA model. The intervention spans five weeks, with a new module introduced each week, primarily involving self-administered activities. This design provides older adults with opportunities to challenge limiting beliefs about ageing and experience how intentional engagement of mind and body, even over a short five-week period, can positively impact their well-being.

### *3.3. Procedure*

This study employed a pre-test–post-test design to test the efficacy of a PERMA Model-based intervention for essentialist beliefs about ageing and well-being among the participants. The study was conducted in three phases – pre-test phase, intervention phase and post-test phase and all participants provided informed consent prior to their participation.

The pre-testing phase involved administering questionnaires to assess participants' levels of essentialist beliefs and well-being prior to the intervention. These baseline measurements were necessary to enable pre–post comparisons, allowing evaluation of changes in both variables following the implementation of the intervention. The intervention primarily comprised simple, self-administered activities designed to be appropriate and feasible for older adults. It consisted of five modules, each intended to be completed over the course of five consecutive weeks. Weekly one-hour sessions were conducted to introduce the module for the upcoming week. During these sessions, participants received detailed explanations of the module content and the activities they were expected to carry out. The sessions also provided an opportunity to discuss and reflect on the activities completed during the previous week. Upon completion of the five-week intervention, participants undertook post-test assessments for both measures. These post-test scores were then compared with the baseline (pre-test) scores to evaluate the efficacy of the intervention.

The present study employed a single-group pre-post design, focusing on within-group comparisons among participants who received the intervention. The effects of the intervention on the constructs being studied were examined by comparing pre-intervention and post-intervention scores within the experimental group. Although the absence of a comparison or control group limits the ability to attribute observed changes exclusively to the intervention, this design is helpful for preliminarily testing the efficacy of a newly developed, researcher-designed intervention. The intervention was first administered to older adults who were not living in residential care facilities, with no serious health conditions to evaluate feasibility and initial effectiveness in a relatively healthy population. Pre-post designs facilitate early-stage intervention research by allowing for the detection of any meaningful change over time within participants.

### *3.4. Research Ethics*

This study was conducted with careful attention to research ethics and practices. All participants were informed about the purpose and procedures of the study and participation was entirely voluntary, with the option to withdraw at any time. Written informed consent was obtained from all participants prior to data collection and the confidentiality and anonymity of participants were maintained throughout the research process.

## 4. Results

Descriptive statistics, Pearson's correlation and paired-sample t-test were used to analyse the data and Cohen's d was used to calculate the effect size.

**Table 2**

*Descriptive statistics and correlation*

| Variable | Mean | SD | Correlation with EBA |
|---|---|---|---|
| Essentialist Beliefs | 14.28 | 2.49 | – |
| Positive Emotion | 7.67 | 1.24 | -.35*** |
| Engagement | 7.44 | 1.17 | -.22* |
| Relationships | 7.55 | 1.06 | -.44*** |
| Meaning | 7.62 | 1.03 | -.24* |
| Accomplishment | 7.45 | 1.01 | -.32** |
| Overall Well-Being | 7.57 | 0.87 | -.42*** |

***Note:*** N = 91. EBA = Essentialist Beliefs. *p < .05. **p < .01. ***p < .001.

Descriptive statistics (using baseline/pre-test scores) for essentialist beliefs, elements of PERMA and a composite well-being score are presented in Table 2. The table also includes correlation results between essentialist beliefs and the five facets of PERMA and well-being. The correlations between essentialist beliefs and well-being were found to be significant, providing support for hypothesis 1 (H1), indicating that high scores on essentialist aging beliefs questionnaire were associated with low scores on all facets of well-being as well as overall well-being.

Paired-sample t-tests were used to compare the pre- and post-intervention scores, and Cohen's d was used for the effect size.

Table 3 shows the comparison between the pre-testing and the post-testing scores of the sample. The mean scores of the participants for essentialist beliefs about ageing decreased

from pre-testing to post-testing stage, whereas the mean scores for all five facets of PERMA and overall well-being increased. The obtained values for t-values were significant for all variables being studied, indicating a significant difference between the mean scores at pre-testing and post-testing stages. The negative t-values for all elements of PERMA and overall well-being indicate that post-test scores were higher, reflecting the expected direction of change rather than a negative effect of the intervention. Cohen's d values were calculated to understand the effectiveness of the intervention in terms of effect size. The values of Cohen's d for all variables lie between low to high (.29 to .98), with relationships (.94) and overall well-being (.98) showing the largest improvement. The values of Cohen's d indicate the extent of the effectiveness of the intervention for lowering essentialist beliefs and enhancing well-being. These findings provide empirical support for Hypotheses 2 and 3 (H2 & H3).

**Table 3**

*Paired-sample t-test with effect size*

| Variable | Pre-Intervention | | Post-Intervention | | t | p | Cohen's d |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | | |
| Essentialist Beliefs | 14.28 | 2.49 | 13.69 | 2.36 | 8.50 | < .001 | .89 |
| Positive Emotion | 7.67 | 1.24 | 7.86 | 1.12 | -6.38 | < .001 | .67 |
| Engagement | 7.44 | 1.17 | 7.67 | 1.04 | -6.27 | < .001 | .66 |
| Relationships | 7.55 | 1.06 | 7.80 | 0.98 | -8.97 | < .001 | .94 |
| Meaning | 7.62 | 1.03 | 7.83 | 0.83 | -7.18 | < .001 | .75 |
| Accomplishment | 7.45 | 1.01 | 7.53 | 0.87 | -2.79 | .007 | .29 |
| Overall Well-Being | 7.57 | 0.87 | 7.75 | 0.76 | -9.83 | < .001 | .98 |

***Note***: N = 91.

## 5. Discussion

The present study had a two-fold purpose, first, it aimed to explore the relationship between essentialist beliefs about ageing and well-being, and then examine the effectiveness of a PERMA model-based intervention in reducing essentialist beliefs and enhancing well-being among older adults. The results of the study showed significant negative relationships

between essentialist beliefs and different aspects of well-being, thus providing support for Hypothesis 1 (H1). This means that participants who held stronger essentialist beliefs, such as believing that ageing is fixed, unchangeable, or biologically predetermined tended to report lower levels of well-being. In other words, the more rigid their beliefs about ageing, the poorer their well-being tended to be. Although all associations were statistically significant, the strength of the associations varied across subscales of well-being. Four subscales, namely, positive emotion ($r$ = -.35, $p$ = < .001), relationships ($r$ = -.44, $p$ = < .001), accomplishment ($r$ = -.32, $p$ = < .01) and overall well-being ($r$ = -.42, $p$ = < .001) showed stronger associations, suggesting that these elements were especially diminished in greater presence of essentialist beliefs about ageing among older adults as compared to the subscales of engagement ($r$ = -.22, $p$ = < .05) and meaning ($r$ = -.24, $p$ = < .05).

The negative correlation between positive emotions and essentialist beliefs indicates that older adults in this sample who endorsed stronger essentialist beliefs tended to experience fewer positive emotions. This pattern aligns with existing literature suggesting that rigid, biologically determined views of ageing may hinder the experience of positive affect, thereby contributing to lower levels of overall well-being. Existing literature suggests that internalized stereotypes and pessimistic beliefs about ageing can be linked to lesser positive affective experiences through negative expectations and interpretations of daily events (Levy, 2009). Older adults having more negative self-perceptions of ageing have been shown to report lesser positive emotions and more depressive symptoms (Levy et al., 2002; Wurm et al., 2013). The negative association between engagement and essentialist beliefs suggests that older adults who held more fixed views about ageing also reported lower involvement in absorbing and personally meaningful activities. This finding implies that rigid beliefs about ageing may limit individuals' motivation or willingness to participate in activities that foster vitality, purpose, and psychological enrichment.

Baltes and Baltes (1990) theorised that older adults may selectively optimize their strengths and compensate for declines, which means, older adults who have negative expectations about ageing may want to preserve their strength and reduce their participation in personally enjoyable tasks so they can engage in tasks deemed more important for survival. The strong negative association between relationships and essentialist beliefs about ageing suggests that individuals who endorsed more rigid, fixed views of ageing tended to exhibit poorer social functioning. This pattern indicates that essentialist beliefs may hinder the

development or maintenance of supportive social connections, which are crucial for emotional well-being and resilience in later life. Carstensen et al. (1999) posited that older adults prioritize emotionally meaningful relationships in Socioemotional Selectivity Theory. A fixed mindset reinforces the belief that old age is a time of loneliness and reduced social participation, which may lead to pessimistic expectations about one's social life like decreased social participation and lowered perceived support. This may indicate a reduced motivation for or avoidance of socially meaningful situations (Levy et al., 2002; Wurm et al., 2013).

A relatively weaker, though still significant, relationship between meaning and essentialist beliefs about ageing suggests that older adults' sense of meaning may be somewhat preserved, as compared to some other elements of well-being, despite the presence of a negative mindset about old age. Literature shows essentialist beliefs about ageing to be linked with a limited future-time perspective (Weiss et al., 2016). Future time perspective is an individual's perception of their future, for instance, how much time they think they have left (Becker, 1962). Studies have shown that having an extended future time perspective as opposed to a limited one, can be linked with positive outcomes like better subjective well-being and health (Hoppmann et al., 2017). This limited perception may be linked with older adults having low expectations from future and finding lesser meaning in life. Accomplishment was also found to be negatively related with essentialist beliefs about ageing, which implies that a predetermined view of ageing may undermine feelings of competence and achievement. Negative ageing stereotypes and internalized negative beliefs can reduce motivation to pursue goals (Ma et al., 2024) and lower self-efficacy (Levy, 2009) among older adults, which can be directly related to a person's sense of accomplishment.

The strong inverse relationship between overall well-being and essentialist beliefs about ageing indicates that older adults who held a more fixed mindset about ageing tended to report lower levels of well-being. This finding suggests that rigid beliefs about the ageing process may undermine individuals' psychological functioning, making them more vulnerable to reduced life satisfaction and diminished emotional health. These findings align with the theoretical frameworks like stereotype embodiment theory (Levy, 2009), which posits that internalized negative attitudes and stereotypes about ageing can shape emotional experiences and health-related behaviours during later adulthood. Negative perceptions of ageing can transform into self-directed ageism which may lower the levels of health and well-being among older adults (Ishikawa, 2023).

Literature has previously shown the adverse impact of essentialist beliefs on the different aspects of the lives of older adults. Essentialist beliefs have been shown to be associated with ageing stereotypes, lower future time perspective, lesser openness to experience and may lead to decline in well-being (Weiss et al., 2016; Weiss et al., 2019). Essentialist beliefs about ageing can serve as self-fulfilling prophecies and lead an individual to expect great decline in their health, abilities, contribution to and involvement in the society, and one's well-being, and that they cannot do anything about it (Weiss, 2016). A positive and adaptive mindset toward ageing have been linked to higher levels of well-being, life satisfaction, better reported physical and mental health and quality of life (Bryant et al., 2012; Faudzi et al., 2019; Long et al., 2021). Many benefits have been linked to positive attitudes and perceptions about ageing like improved cognitive functioning, physical functioning, lower anxiety and depressive symptoms, well-being, life satisfaction, higher resilience and even longevity (Sargent-Cox et al., 2012; Robertson, 2016; Cadmus et al., 2021).

The findings of this study support Hypothesis 2 (H2), indicating the effectiveness of a PERMA model-based intervention in lowering essentialist beliefs about ageing among the sample. The paired-sample t-test revealed a significant reduction in essentialist beliefs scores from pre-intervention phase to post-intervention ($t = 8.50$, $p = < .001$), with a large effect size (Cohen's d = .89). The intervention consists of the Cognitive Module, which can directly target the rigid belief system of the individual through activities like best possible self and thought record pertaining to age-related beliefs. This module combined with activities from other modules (Physical, Emotional, Social and Creative Modules) may have provided evidence for an individual's potential to influence their experiences during later life. Older adults having essentialist beliefs feel limited by their own ageing and tend to behave according to those self-imposed limitations. Participating in the intervention could have provided the sample with the opportunity to see that they are more capable than they previously believed themselves to be. Levy (2009) suggested that internalized negative stereotypes can operate through psychological pathways and lower self-efficacy. Participation in this intervention may have increased the self-efficacy of the participants, which can be linked to an enhanced a sense of personal agency (Bandura, 1997) and may have resulted in reducing essentialist beliefs post intervention.

The PERMA model-based intervention was also found efficacious in enhancing well-being among older adults in this study, confirming Hypothesis 3 (H3). Results of a series of

paired-sample t-tests show a significant increase in scores of all elements of the PERMA model and over all well-being from pre-test to post-test, with t-values ranging from -2.79 to -9.83 (with statistical significance between $p < .007$ and $< .001$) and corresponding effect sizes (Cohen's d) ranging from 0.29 to 0.98. Results indicate small to large effect sizes for the intervention for various facets of well-being being measured.

The increase in scores for 'positive emotion' shows that the intervention was helpful in cultivating positive emotional experiences for the sample. Intervention modules, especially the Emotional Module, focused on allowing opportunities for enjoyable experiences that could lead to positive feelings. Activities involving gratitude, kindness among others from the Emotional Module could have directly fostered positive affect along with activities from all other modules like the Physical, Cognitive, Social and Creative Modules may have also contributed. This improvement in scores for 'positive emotion' can be meaningful for older adults in a number of ways as it is linked closely to psychological and physical well-being. Broaden-and-Build Theory (Fredrickson, 2001) posits that experiencing positive emotions frequently can help in fostering better coping, resilience and building enduring personal resources. Positive affect has also been found to be associated with better physical health outcomes like decreased pain, better immune function and increased longevity among community-dwelling older adults (Pressman & Cohen, 2005).

The sample also showed significant improvement in scores on 'engagement' from pre-test to post-test stage. This suggests that the participants reported being more engaged and involved in activities they found personally meaningful. The Creative Module of the intervention aimed at enhancing meaningful engagement among the sample with activities like encouraging participants to pick up hobbies they may have not engaged in for a while or to learn something new. Activities from other modules like physical activity and kindness may have also helped increase engagement for older adults. The intervention included goal-setting and other strength-based reflection activities that may have enhanced self-efficacy among older adults which can promote the motivation to involve in similar tasks. Engagement is defined being deeply absorbed or in a "flow" state when involved in activities one finds personally valuable (Csikszentmihalyi, 1997; Seligman, 2011). Being engaged has been linked with cognitive benefits (Hertzog et al., 2008), goal directed behaviour (Seligman et al., 2005), better mental health (Fredrickson, 2001) for older adults which can impact their overall quality of life.

The scores for ‘relationships’ also showed an increase from pre-test to post-test stage, which indicates that the intervention was able to improve social connections, foster a sense of belongingness and perceived support among the sample. The intervention included the Social Module which focused on the social needs of older adults through activities involving family, friends and their community. Other modules also had activities which had the potential to include loved ones, for example, activities related to kindness and gratitude. Having healthy and meaningful relationships are important for an individual’s social well-being as old age is often believed to be a time of social loss and loneliness and better relationships can help an individual feel socially connected and supported by those around them. Positive social interactions can contribute towards emotional support, health, well-being, and cognitive decline (Seeman et al., 2001; Far et al., 2015; Zanjari et al., 2022).

The results of this study show that scores of participants for ‘meaning’ increased post intervention. This suggests that after the completion of the intervention, the participants felt a stronger sense of purpose and meaning in life. The activities from different modules which were related to volunteering, charity and spirituality could have helped in enhancing a sense of direction and purpose in life and the intervention on the whole aimed at improving well-being and meaning among the participants. A strong sense of meaning and purpose is linked with higher psychological well-being (Ryff, 2014), maintenance of functional status (Boyle et al., 2010), resilience (Mohseni et al., 2019), improved health, social support, reliance on faith (Musich et al., 2018) and life satisfaction (Ang & Jiaqing, 2012).

Findings show a significant increase in scores for ‘accomplishment’ from pre-intervention to post-intervention phase. This indicates an increase in sense of achievement, competence and goal-directed activity among the participants. The Creative Module of the intervention focused on enhancing goal pursuing and attainment, mastery and creative engagement. Other modules like the Physical, Cognitive and Social modules also had activities like that could provide opportunities for accomplishment. Feelings of accomplishment enhances creativity, task performance (Karaboga et al., 2022). A greater sense of achievement can help enhance a sense of autonomy and control among older adults which can promote self-efficacy (Bandura, 1997), functional and physiological health (Infurna & Gerstorf, 2014).

The results of this study also show that the scores on ‘overall well-being’ improved from pre- to post-test phase. This increase in overall well-being suggest that participants experienced an improvement in all facets of PERMA model, that is they experienced more

positive emotion, engagement, meaning, relationships and accomplishment since overall well-being reflects the combined effect of all elements. The intervention had a multi-dimensional holistic impact for older adults. The intervention is based on PERMA model, and every activity in all modules of this intervention focuses on at least one, if not more elements of PERMA. This intervention collectively aims to have a positive impact on all elements of PERMA, which may have led to the increase in scores. Higher levels of well-being have been associated with better physical health and emotional well-being (Delle Fave et al., 2018), happiness (Tamir & Ford, 2012) and purpose in life (Irving et al., 2017).

Another noteworthy finding of this study relates to the sociodemographic profile of the sample. A considerable proportion of participants reported simultaneously high essentialist beliefs and high levels of well-being. This pattern suggests that well-being in later life may be influenced not only by cognitive beliefs about ageing but also by broader contextual factors. Personal characteristics, such as marital status, family composition, and living arrangements, along with environmental conditions, may play a critical role in shaping individuals' subjective experiences. In the present study, most participants were married, lived in urban settings, and resided with their families. Existing research indicates that these factors can serve as important protective influences by offering emotional support, access to healthcare, a sense of security, and regular social interaction. Such conditions may buffer the potential negative effects of rigid or essentialist beliefs about ageing, allowing individuals to maintain relatively high levels of well-being despite holding less flexible attitudes toward the ageing process. Perini and Sironi (2016) found marital status to be associated with psychological well-being. Married individuals reported better well-being than those who were separated or widowed. Older adults living in rural settings were found to have lesser positive views about ageing than those living in urban areas (Cadmus et al., 2021). Living with families has been linked to better quality of life for older adults (Biswas, 2023). When compared with older adults living in residential care facilities for older adults, community-dwelling older adults report better psychological well-being (Biswas, 2023). The education level for a large portion of the sample was graduation level and beyond and some of them had even retired from esteemed career positions. Older adults having higher level of educational qualifications were reported to have better perception of ageing related changes (Belo et al., 2020). Education is linked with a greater sense of control and lower levels of hopelessness in older adults (Mitchell et al., 2018). Economic status,

income and health were reported to by key predictors for life satisfaction and well-being among older adults (Khodabakhsh, 2022; Reyes et al., 2019).

These factors may explain the high levels of well-being and essentialist beliefs towards ageing. Although, the average score of participants on essentialist beliefs were high, the aforementioned sociodemographic factors may have served as protective factors against the damaging effects of essentialist beliefs, thereby, maintaining the levels of well-being.

The present findings have several practical and theoretical implications. The results indicate that interventions grounded in positive psychology frameworks such as the PERMA model may prove useful in addressing essentialist beliefs about ageing and enhancing multidimensional well-being among older adults. Given the subtle and holistic nature of the intervention, such approaches could be integrated into community programs, gerontological practice and preventive mental health initiatives aimed at promoting healthy ageing. This research also contributes to the growing literature linking beliefs about ageing with well-being outcomes by empirically examining these relationships within the context of an intervention. The findings support the view that malleable beliefs play an important role in older adults' well-being. Future research could focus on testing the mechanisms through which changes in belief system influence well-being more explicitly.

While there are several implications of the present study, the limitations should also be acknowledged. First, the use of a single group pre-post design without a comparison or control group limits causal inference. Without a control group it is difficult to suggest that observed changes can be solely attributed to the intervention, and not influenced by factors such as expectancy effects or other factors. Second, the relatively small sample drawn from a single geographic region may limit the generalizability of the findings to more diverse populations. Third, the intervention evaluated in this study was researcher-developed and tested for efficacy for the first time, so while this is an important stage in intervention development, further validation through controlled and longitudinal studies needs to be done.

Finally, future research should aim to replicate these findings using randomized controlled designs, larger and more diverse samples and extended follow-up periods to examine the durability of intervention effects. Additionally, examining the applicability of the intervention across different cultural and health contexts may further enhance its relevance and impact. This would help strengthen the research evidence for interventions targeting ageing-related beliefs and well-being of older adults.

## 6. Conclusion

This study examines the efficacy of a PERMA model-based intervention in reducing essentialist beliefs and improving well-being among older adults. The findings of the study contribute to the growing literature on the negative relationship between a fixed mindset (essentialist beliefs about ageing) and well-being. The results also provide preliminary evidence for the effectiveness of the PERMA model-based intervention for lowering essentialist beliefs and enhancing well-being which highlights the potential of simple everyday tasks in promoting better well-being and a more productive and flexible mindset during old age. Existing literature shows that having positive beliefs about ageing can have a multitude of benefits for the older adults including improved health, well-being and even increased longevity. The present findings suggest that integrating PERMA-based interventions into gerontological practice and community-based programs may help older adults challenge rigid beliefs about ageing and promote multidimensional well-being.

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