Creative ageing in Singapore : a population study on participatory arts engagement and wellbeing among adults aged 50 and above

Ma, Stephanie Hilary Xinyi

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**CREATIVE AGEING IN SINGAPORE:
A POPULATION STUDY ON PARTICIPATORY ARTS ENGAGEMENT AND
WELLBEING AMONG ADULTS AGED 50 AND ABOVE**

**STEPHANIE HILARY MA XINYI
SCHOOL OF SOCIAL SCIENCES**

2020

**Creative Ageing in Singapore:
A Population Study on Participatory Arts Engagement and Wellbeing
Among Adults Aged 50 And Above**

Stephanie Hilary Ma Xinyi

School of Social Sciences

A thesis submitted to the Nanyang Technological University
in partial fulfilment of the requirement for the degree of
Master of Arts

2020

Statement of Originality

I certify that all work submitted for this thesis is my original work. I declare that no other person's work has been used without due acknowledgement. Except where it is clearly stated that I have used some of this material elsewhere, this work has not been presented by me for assessment in any other institution or University. I certify that the data collected for this project are authentic and the investigations were conducted in accordance with the ethics policies and integrity standards of Nanyang Technological University and that the research data are presented honestly and without prejudice.

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The contributions of the co-authors are as follows:

- Dr Andy Hau Yan HO, Dr Ringo Moon-Ho HO, Dr Ring Joyce Shu Min PANG and Dr Emily ORTEGA designed the study, obtained funding, interpreted the findings, as well as the preparation and revision of the manuscript.
- Dr Ram Chandra BAJPAI performed statistical analyses and provided guidance in the interpretation of the statistical findings.
- I was the project manager of the study and contributed by assisting in the implementation of the study, engaged in data collection, performed statistical analysis, interpreted the findings, as well as the preparation of reports and manuscripts under the supervision of Principal Investigator Dr Andy Ho at Nanyang Technological University.

04 January 2020

.....
Date

.....
Stephanie Hilary Xinyi MA

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List of Abbreviations

Abbreviation	Full Description
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FACIT-Sp-12	Functional Assessment of Chronic Illness Therapy-Spiritual Wellbeing Scale
IRB	NTU Institutional Review Board
ISEL-S	Interpersonal Support Evaluation List Short Form
NAC	National Arts Council, Singapore
PSM	Propensity Score Matching
RCT	Randomized Control Trial
SF-20	Short Form-20 Health Survey
SGD	Singapore Dollar (Currency)
SPSS	IBM Statistical Package for Social Sciences
WHO	World Health Organization
WHOQoL-8	World Health Organization Quality of Life 8-item Index

Abstract

While anecdotal and increasing empirical evidence suggest that participatory arts can play an essential role in supporting a healthy ageing population, much less research has been conducted in Asian societies. Furthermore, despite growing interest in arts programmes for older adults in Singapore, little is known about the patterns and impact of arts engagement among local seniors. This thesis presents an analysis of the quantitative data of a larger mixed-methods population research, namely, the ‘Arts for Ageing Well’ study to understand the patterns of arts engagement among Singaporean adults aged 50 and above, to investigate the relationships between participatory arts engagement and holistic wellbeing, as well as to explore the impact that specific art form engagements may have on health and wellness.

Adopting a cross-sectional stratified random household survey, 1,067 community-dwelling Singaporean older adults between the ages of 50-95 years were recruited from all residential areas across Singapore. Participants were administered a self-reported questionnaire which evaluated a comprehensive list of active and passive participatory arts engagement. Outcome measures included quality of life, self-rated health, spiritual wellbeing and social support. Control variables included demographic information, self-reported health status, intensity and frequency of physical exercises.

Descriptive analyses indicated that passive arts engagement rate was 60% while active arts engagement rate was 17% among older adults aged 50 and above. Respondents expressed that their greatest interest lies within the genre of culture and heritage arts, with a strong preference to engage in arts activities within the community, and to attend such activities with their family or friends. Findings from propensity score matching with t-test analyses revealed that respondents who passively engaged in the arts experienced better quality of life $t(728) = 3.35, p = .0008, d = .25$, self-perceived health $t(728) = 2.21, p = .028, d = 0.16$, and sense of belonging $t(728) = 2.17, p = .028, d = 0.16$, as compared to those who

did not. Moreover, participants who actively engaged in the arts experienced enhanced quality of life $t(442) = 3.68, p = .0003, d = 0.36$, self-perceived health $t(442) = 2.59, p = .0099, d = 0.25$ and spiritual wellbeing $t(442) = 3.75, p = .0002, d = 0.37$, as compared to non-art active participants. Exploratory t-tests conducted for engagement in specific art form revealed that both passive and active engagements in dance was most beneficial for the wellbeing of the older adults in the study.

This research highlights the potential health benefits of arts engagement among community dwelling older adults and provided robust evidence for Asian societies to invest in the arts for health promotion and research. Practice and policy recommendations are discussed.

Keywords: Participatory arts engagement, holistic wellbeing, healthy ageing, Southeast Asia

Chapter One: Introduction

Background

Our societies are ageing rapidly. There are currently 703 million individuals aged 65 and above around the globe, and this figure is projected to double to 1.5 billion by 2050 (United Nations, 2019). Compared to other regions in the world, population ageing in Eastern and South-Eastern Asia is occurring at a much faster rate (United Nations, 2019). Particularly for Singapore, 13% of its population are currently aged 65 and above, and this figure is expected to surge 25% by 2030, a two-fold increase within the next 10 years. (Ministry of Health, 2016). One of the primary reasons for such unprecedented demographic shift is Singapore's impressive growth in life-expectancy, which ranks third in the world at 85.4 years (Geoba.se, 2019). Despite such longevity, the average Singaporean spends approximately 11 years living with illness and disability as the health adjusted life expectancy stands at 74.2 years (Ministry of Health, 2018). This is not surprising given that the global prevalence of chronic illness such as stroke, heart disease and diabetes generally increase with age, whilst 20% of older adults aged 60 and above also suffer from various mental health conditions mostly common being depression and dementia (World Health Organization, 2017). Locally, 82% of Singaporeans aged 60 and above reported being diagnosed with at least one chronic disease (e.g. hypertension, hyperlipidemia, diabetes, chronic pain), while 38% were affected by more than three comorbid chronic conditions (Chan et al, 2018). Moreover, the prevalence of depression and dementia among Singaporeans aged 60 and above was 11.4% and 10% respectively (Ho et al., 2014; Subramaniam et al., 2015). This highlights the imperative need for more formal and informal support for the increasing number of seniors facing ill health under the rubric of population ageing.

Across the lifespan, major life events impacting health and mental health such as retirement, caregiving, or the loss of a significant other are more common in the lives of an older adult – also suggesting the need for even more support at old age (Cattan, 2009). A local study conducted with a large sample of Singaporeans ($N = 1,000$) to understand the quality of life of seniors (above age 65) and pre-seniors (aged 50 – 64) revealed that both groups experienced a lower quality of life (as assessed by the WHOQOL-BREF) as compared to the general population; and at a domain level, both groups scored lowest in opportunities for leisure and recreation, and positive emotionality (National Council of Social Service [NCSS], 2017). Taken together, there would be numerous social, economic and policy repercussions if the challenges of an ageing population are not adequately addressed (Yenilmez, 2015; Tinker, 2002). It is thus imperative for local governments and communities to support the wellbeing and empower the resilience of an ever growing old-age population in Singapore.

While there are different health promotion initiatives and interventions to enhance the health and wellbeing of seniors, there is growing evidence that participatory arts and culture activities can play a significant role in the promotion of health, wellbeing and longevity among older adults. In fact, numerous international research reported that all forms of art can serve as cost-efficient and effective methods in enhancing the lives of individuals and communities across the lifespan and at old age (All-Party Parliamentary Group on Arts, Health and Wellbeing [APPGAHW], 2017). In support of the arts and its impact on health and wellbeing, Richard Smith (2002), the former editor of the British Medical Journal (BMJ) proposed that “diverting 0.5% of the healthcare budget to the arts would improve the health of people in Britain” (p. 1432). With further advancements in our knowledge and understanding on the impact of arts on health, such argument may very well be made on a global level.

Thesis Statement

Despite the evidence and discussion in the field, arts engagement rates among older adults globally were lowest as compared to the rest of the population. In addition, much less research has assessed the impact of arts and culture engagements on Southeast Asian populations and Singapore in particular. To contribute to the promotion of health and wellbeing via the arts for our rapidly ageing society, the aims of this research are two-folds. The first aim is to *understand the landscape of arts engagement* among Asian Singaporean older adults, specifically (i) to assess the frequency and intensity of passive and active engagement in cultural and participatory arts activities including music, dance, theatre, literary arts, visual arts, film, heritage and craft events among Singaporean adults aged 50 and above, and (ii) to investigate the patterns of involvement in participatory art activities including frequented venues, companions and level of interest. The second objective is to *assess the effectiveness of overall participatory arts engagement, in terms of quality of life, physical, psychological, spiritual and social wellbeing*, providing empirical support for arts engagement and health in Singapore. Specifically, (iii) this research aims to evaluate the impact of overall passive and active engagements on the holistic wellbeing, as well as (iv) an exploration of the effects of passive and active engagement in each art form in enhancing holistic wellbeing among the community-dwelling Singaporean population above age 50.

Structure of the Thesis

The following chapter (chapter two) will provide more information about research on wellbeing among older adults, as well as a literature review of research that has been conducted internationally in relation to participatory arts and health outcomes. Chapter three details the methodology of this research study, providing information of the research design, sampling, procedures and variables assessed. The results of the study are reported in chapter four, reflecting the findings from the descriptive analyses, exploratory correlation and

regression analyses, as well as propensity score matching and ‘t’ test analyses. Finally, the study findings are discussed in chapter five, together with the implications, limitations and directions for future studies.

Chapter Two: Literature Review

Health and Wellbeing at the Golden Years

Defining Wellbeing

In order to support the health and wellbeing of an ageing population, it is crucial to understand what these terms entail. According to the World Health Organization (WHO), health is defined as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (WHO, 1948), and mental health is defined as “psychological well-being, competence and resilience ... where the community may also have the secondary outcome of decreasing the incidence of mental disorders” (WHO, 2004). While healthcare in the past had predominantly focused on treatment and cure, since the turn of the 21st century, there has been a gradual shift from a disease prevention model to a health promoting model that instills a holistic view on wellness and underscores the equal significance of the biological, psychological, social and spiritual dimensions of health (Borrell-Carrió, Suchman, & Epstein, 2004).

While “wellbeing” is included in the definition of health, it could be further divided into different domains despite much debates on its multifaceted constructs. Overall, wellbeing comprises of an individual’s quality of life, psychical health, psychosocial wellbeing, functioning, autonomy and material resources, all of which are continuously shaped by socio-ecological factors (Bowling, 2005). Another common facet of wellbeing is subjective wellbeing coined by Diener (1984), which included life satisfaction, eudemonic wellbeing and affective wellbeing. Research on subjective wellbeing established a bi-directional relationship with health and mortality outcomes (Steptoe, Deaton, & Stone, 2015; Diener & Chan, 2011). Moreover, the presence of meaningful relations and social connections is also a crucial dimension of wellbeing and was related to lower mortality rates and immune function (Huppert, Baylis & Keverne, 2005; Uchino, 2006). Secular spirituality

is also a key dimension in well-being at old age (Marcoen, 1994). There were many definitions of spiritual wellbeing, however, most literature consider the search for meaning and peace as a core component of secular spirituality (Lavretsky, 2010). Among older adults in Asian cultures, wellbeing at old age involved maintaining physical functioning, autonomy and strong familial support (Hung, Kempen, & De Vries, 2010; Chan, 2005; Feng & Straughan, 2016).

Health Promotion Interventions

As East Asia is ageing at a faster rate as compared to other regions, the relevant authorities pledged to support their ageing communities. Members of the Association of Southeast Asian Nations including People's Republic of China, Japan and the Republic of Korea (ASEAN plus Three) recognized the challenges of an ageing Asian population and were dedicated in "raising the quality of life and well-being of older persons and in addressing the multi-dimensional nature of ageing, which includes security, health, self-reliance and community participation" (ASEAN, 2016, p. 2). Locally, the government has launched a \$3 billion Action Plan for Ageing in 2015 for Singaporeans to age well (Ministry of Communications and Information, 2016). While health promotion programmes and interventions were frequently implemented across countries, a meta-synthesis on studies of health interventions indicated that the focus was mostly on a narrow definition of health (i.e. physical health) and conducted with younger populations (Kristen, Ivarsson, Parker, & Zeigert, 2015). Examples of interventions include physical activities, educational activities, social activities and work activities – with physical activity being most widely researched. For example, the US Adult Changes in Thought (ACT) study conducted with 1,740 older adults above age 65 showed that in addition to better physical health, exercise was associated with a reduced risk of dementia (Larson et al., 2006). Among health promoting interventions with older adults, a systematic review on social and leisure activities (e.g. volunteerism,

gardening, religious activities, etc.) revealed its effectiveness in encouraging active ageing, resulting in better psychosocial well-being (Adams, Leibbrandt, & Moon, 2011). In terms of leisure activities, research suggested that engagement in the arts could bring about positive improvements to multiple facets of the lives of older adults as compared to other leisure activities. For instance, the findings from the English Longitudinal Study of Ageing (ELSA) highlighted that participation in learning, especially for music, arts and evening classes, were associated with better wellbeing outcomes (Jenkins, 2011). This finding was unsurprising since the arts had been anecdotally reported throughout history to play an integral part in maintaining or augmenting health through creative expression, music and dance (Graham-Pole, 2000).

A Brief History of Creative Arts and Health

Across time, the use of the arts were widely documented across cultures and religions for their healing properties with examples including theatrical healing practices used in ancient Egypt (Jayne, 2010), the prescription of the mandala (i.e. spiritual circle) creation for the treatment of illnesses in India (Fincher, 2000), the healing powers of the traditional mask making among the Indigenous societies in Canada (Archibald & Dewar, 2010), and the documentation of musical medicine used in medieval and modern Europe (Horden, 2017). From an evolutionary perspective, these art forms were used in civilizations as tools to connect communities and build cohesiveness for the survival – from bone musical instruments crafted by the Neanderthals, the use of mammal skin drums for Shamanistic healing and fertility rituals in the Paleolithic period, and lapidary arts used for their curative properties in the Aztec and Incan Empires (Mithen, 2005; Clottes & Lewis-Williams, 1998; Aguilar-Moreno, 2007). Anthropologists have suggested that these rituals were crucial for the survivability of our ancestors by providing a means of control over distressing situations,

social bonding and health promotion in communities (Dissanayake, 2001; Pearce, Luanay, & Dunbar, 2015).

Dissanayake (2018) also described observations based on the writings of Charles Darwin which revealed the inherent and adaptive nature of the arts: that the arts could be found in all cultures, with most cultures observed to utilize a large proportion of their resources on the arts, and the inclination of the young to express themselves through creative means before they develop language capabilities. Despite the widespread practice of the arts for health across history, research on this topic has been relatively recent, where creative arts therapies, the arts in healthcare and the arts in public health emerged as a discipline only in the twentieth century (White, 2009). To gain a deeper understanding of creative arts and health, a literature search was conducted through various databases to review the current research on arts engagement and holistic health among older adults prior to conducting the current research. Databases including PsycInfo, Web of Science, Social Science Citation Index, PubMed and Medline, as well as reports published by relevant organizations and government bodies were reviewed.

Overall, research on the effectiveness of the arts in elevating holistic wellbeing and health has been growing over the past decade and reported mainly in Western societies. In a landmark inquiry report published by the United Kingdom All-Party Parliamentary Group on Arts, Health and Wellbeing (APPGAHW), their review of over 1,000 peer-reviewed and grey literature provided a comprehensive overview and evidence of the important role of the arts in promoting health and supporting recovery of individuals across different segments of society in the United Kingdom (All-Party Parliamentary Group on Arts, Health and Wellbeing [APPGAHW], 2017). Notably, the World Health Organization recently published a scoping review of over 900 publications including meta-syntheses which assessed more than 3,000 studies on the arts and health. The review provided strong support regarding the

role of the arts in improving mental and physical health in domains of health promotion and prevention, as well as the treatment and management of diseases in the WHO European Region (Fancourt & Finn, 2019). The next section discusses in detail the current state of research on the arts and health.

Defining Participatory Arts Engagement

Definition of “the Arts”

Prior to the discussion on research in this area, it is important to specify the definition of the arts. It is challenging to define “the arts” as this definition could be vastly different among cultures and disciplines. Some definitions of the arts included a broad range of aesthetic and non-aesthetic entities including objects, artefacts, performances, perceptual beauty, cultural expression and more (Adajian, 2018). For the scope of this thesis, the definition of “the arts” would adhere to the definition proposed by scholars in the field of participatory arts and health research. Participatory arts engagement encompassed two main domains: *active participation* (other terms: creation of art/creative engagement /performing) which was characterized by the ability to exercise creativity and the creation, development or production of art regardless of skill level, as well as *passive consumption* (other terms: attendance/ receptive engagement) of arts and culture events or activities characterized by the aesthetic engagement, emotional and sensorial activation of an art activity or event (Davies, et al., 2012). Although the term “audience” was usually associated with attending or passively consuming an art programme, individuals who engaged in either domains of participatory art would be considered as an art audience. Respondents who engaged in arts in a passive capacity would be referred to as attendees, while those who engaged in the arts in a more active capacity would be referred to as active participants.

While the discussion on art therapies and health is not within the scope of this thesis, it is important to note the distinctions between participatory arts and creative art therapy.

Participatory arts activities may be therapeutic in nature, but *creative art therapies*, including visual arts, music and drama therapies are forms of psychotherapies focussed on the clinical needs of the clients and led by a professionally trained and credentialed art therapist (Malachiodi, 2006).

Participatory Art Forms

Arts engagement in this discussion would include engagement in these categories of art forms defined by arts councils around the world: visual arts, performing arts, literature, culture and heritage, as well as film (National Arts Council, 2014; National Endowment for the Arts, 2009; Arts Council England, 2013). These broad categories are effective in providing structure for mapping many arts activities and events offered across the globe. However, participatory arts activities and events may consist of a combination of art forms, and the nature of engagement may overlap. The list of examples provided below are non-exhaustive and serve to illustrate the common art forms across countries, as well as arts activities unique to the local and Southeast Asian context.

Active engagement in *visual art* activities would include drawing and painting, sculpting, photography, craftwork and mosaic art, while passive engagements could involve visitations to art fairs and art galleries. In the local context, active visual arts engagement among older adults may involve art workshops on Chinese ink and calligraphy, while passive visual arts engagement could involve guided curated tours in the National Gallery. In terms of *performing arts*, active participation would encompass involvement in dance troupes as a dancer, theatre groups as an actor, or choral groups as a singer while passive engagements would include attending or spectating orchestral performances, musicals and plays. Locally, there are various contemporary and traditional dance troupes and theatre groups such as Otai and Glowers Drama Group that provide older adults with a platform to stay socially engaged and healthy. *Literary arts* would encompass reading and creative writing activities. Active

engagements would involve writing an autobiography or storytelling sessions, while receptive engagement would include attending a book sharing session or book launches. There were numerous literary festivals organized in Singapore to promote an appreciation for the literary arts, including the Singapore Writer's Festival, and the Poetry Festival which offers opportunities for both active and passive engagements. Engagement in *culture and heritage* would include visiting or conducting tours around heritage sites, historical monuments and archaeological sites. As a multi-cultural society, Singapore has many tours and activities surrounding a variety of heritage buildings and historic districts unique to each ethnic group (e.g. Sri Mariammam Temple, Thian Hock Keng Temple, Kampong Glam). The *film* category encompassed art films or movies shown in the cinema. Active engagement in film could include being involved in the acting, filming or production process, while passive engagement would be to watch film that was produced or attend film festivals.

Participatory Arts Engagement and Health

As the field of arts in health is multidisciplinary in nature, with a vast diversity in terms of programmes, interventions and outcomes, there is currently no known overarching theory or framework guiding participatory arts in health research. For research within participatory arts and health, there were studies which assessed the profiles and motivations of arts audiences, intervention studies which evaluated the efficacy of art programmes (either experimental or quasi-experimental), epidemiological studies which examined the impact of arts engagement on health related outcomes, lab-based research which sought to identify mechanisms between arts and health, observational or ethnographical studies which explored the impact of arts programmes on communities, as well as economic assessments which aimed to quantify the health impacts of engagement in the arts. This is a non-exhaustive list as there are new research constantly being devised and implemented. In the following

sections, research on participatory arts and health research will be discussed, with a focus on the older population.

Participatory Arts in Early Development

Starting from gestation, participation in the arts was found to encourage maternal health literacy and boosted self-esteem among mothers-to-be (Hogan, 2016; White, Anderson, Stansfield, & Gulliver, 2010). Engagement in the arts by mother and child after childbirth was also proven to reduce perceived isolation, anxiety, and encourage mother-infant bonding (South London Gallery, 2015). In the Music and Motherhood study, the three-arm randomized controlled trial (RCT) demonstrated that participation in singing activities had improved the recovery of severe post-natal depression by reducing cortisol levels and stimulating positive emotional responses (Fancourt & Perkins, 2018). In childhood, research on various forms of participatory art provided evidence of its role in multiple facets of development including linguistic, cognitive, psycho-socio-emotional development, and psychological wellbeing (Menzer, 2015; Bungay & Vella-Burrows, 2013; Tierney & Kraus, 2013). For instance, participation in a storybook reading intervention with children aged three months to twelve months resulted in greater linguistic and social communication skills when assessed at two years of age, in comparison to a group of toddlers who experienced a lower intensity of story book reading (Brown, Westerveld, Trembath, & Gillon, 2018). Active engagements in music were also found to influence the processing of syllabic duration, suggesting the positive effects of prolonged music engagement on linguistic abilities (Chobert, François, Velay, & Besson, 2012). Other than development, engagement in musical programmes also encouraged school readiness, boosted educational attainment and improved self-esteem (Yang, 2015; Golding, Boes, & Nordin-Bates, 2016; Guhn, Emerson & Gouzouasis, 2019; Mak & Fancourt, 2019).

Participatory Arts and Health among Older Adults

Living Well with the Arts. Among adults, engagement in the arts was found to play a health promoting role through building individual resilience and wellbeing, community development and health education (Price & Tinker, 2014; McFadden & Basting, 2010; Archibald & Kitson, 2019). Reviews on art-based interventions revealed that engagement in various art forms were effective in elevating the quality of life, social wellbeing and psychological health of older adults (Noice, Noice, & Kramer, 2013; Fraser, O'Rourke, Wiens, Lai, Howell, & Brett-Mac Lean, 2015). In spite of the many art forms discussed earlier, the Creativity and Ageing study in the United States demonstrated the health promoting effects of weekly engagement in all forms of arts including dance, music, drama, craft and literary arts (Cohen, Perlstein, Chapline, Kelly, Firth, & Simmens, 2006). Randomized controlled trials (RCT), such as the one conducted by Clift, Skingley, Coulton & Rodriguez (2012) revealed that participation in singing programmes improved social, emotional and physical health, and these effects were sustained after the programme has ended. Another RCT reported that older participants who engaged in a theatre experienced better psychological well-being, as well as improved problem-solving skills and word recall (Noice, Noice, & Staines, 2004). The positive effects of arts engagement on public health were also documented in the European and Nordic regions. A Norwegian study assessed over 50,000 randomly selected participants and found that passive and active engagements in cultural activities were significantly associated with better perceived health, life satisfaction as well as reduced depression and anxiety (Cuypers, Krokstad, Holmen, Knudtsen, Bygren, & Holmen, 2012). Davies, Knuiman, & Rosenberg (2016) conducted a comprehensive assessment of engagement in various art forms among adults in Australia and established a positive relationship between arts engagement and mental wellbeing.

Living Longer with the Arts. Engagements in creative activities not only enhanced psychosocial health and wellbeing but could also contribute to a longer lifespan. A Swedish 14-year cohort study conducted with over 10,000 participants concluded that attendance in art galleries, museums and concerts was related to a lower risk of mortality (Konlaan, Bygren, & Johansson, 2000). Bygren and colleagues (2009) tested their hypothesis again with a different group of participants and found support in the associations between arts attendance and mortality once more. This time, they found that lower frequency of arts and heritage attendance was linked to cancer-related mortality, after controlling for covariates. Another group of researchers had also identified associations between high arts and culture engagement and a decrease cardiovascular-related mortality as well as all-cause mortality in the Finnish population (Väänänen et al., 2009). Specifically, for literary arts, in the Health and Retirement study, book readers had a 20% reduced risk of mortality as compared to non-book readers (Bavishi, Slade, & Levy, 2016). These findings suggested the substantial impact that arts engagement may have on longevity.

Better Healthcare with the Arts. The positive effects of arts engagement were not only limited to the healthy community dwelling older adults, but also extended to populations of older adults in various healthcare settings such as patients in acute care in hospitals and persons living in residential care settings (Castora-Binkley, Noelker, Prohaska, & Satariano, 2010; Stuckey & Nobel, 2010; Ridenour, 1998). In hospitals, music listening was documented to reduce pre-operative anxiety (Bradt, Dileo & Shim, 2013), as well as to reduce post-operative pain, anxiety and analgesia use (Hole, Hirsch, Ball, & Meads, 2015). Engagement in visual arts, such as body mapping tools helped patients to communicate their conditions with the doctors, as well as aided with meaning-making and understanding of their illness experience (Cornwall, 1992; De Jager, Tewson, Ludlow, & Boydell, 2016). For ambulatory care and rehabilitation, participation in arts activities enhanced psychosocial

wellbeing, pain management, medical outcomes, treatment adherence and reduced hospital readmissions among patients (Morris et al., 2019; Kim, Loring, & Kwekkeboom, 2018; Lewis et al., 2016; Ross, Hollen, & Fitzgerald, 2006). In nursing homes, participatory arts were reported to positively influence behavioural outcomes, mood, memory, social engagement and relocation adjustment among older adults (Fraser, Bungay, & Munn-Giddings, 2014; Tan, 2019).

Dementia and the Arts. With approximately 50 million of the world population diagnosed with dementia, and nearly 10 million new cases each year, it is imperative to support and optimize the health and wellbeing of persons with dementia (World Health Organization, 2015). Engagement in the arts benefitted older adults in terms of the prevention of dementia, as well as disease and symptom management. Findings from the Bronx Ageing Study, a longitudinal study conducted with community dwelling older adults above 75 years old revealed that social dancing was associated with a lower risk of dementia, and larger longitudinal studies conducted in Sweden and England found that participation and cultural attendance was a protective factor against dementia (Verghese et al., 2003; Wang, Karp, Windblad, & Fatiglion, 2002; Fancourt, Steptoe & Cadar, 2018). Among persons with dementia, visual arts engagement was effective in improving mood and cognitive processes including attention and memory (Young, Camic & Tishler, 2016). A local study conducted by Tan (2018) investigated the effects of a pilot arts for dementia care programme, “Let’s Have Tea at the Museum”, established the benefits of multi-sensorial engagements in the museum on the local populace through encouraging self-discovery and boosting self-efficacy. Moreover, music and dance engagements also provided a sense of belonging, reduced agitation and supported non-verbal communication which was beneficial as the disease progressed (Vasionytė, & Madison, 2013; Pedersen, Andersen, Lugo, Andreassen, & Sütterlin, 2017; Lyons, Karkou, Roe, Meekums, & Richard, 2018). In sum, participatory arts

were proven to be effective among populations with dementia and were widely implemented in residential care settings to enhance the resident's quality of life and functioning.

Leaving Well with the Arts. Finally, engagement in the arts provided peace and comfort to individuals and their loved ones, enabling them to live well and leave well with dignity. Due to the severity of the illness and clinical needs of this population, most art interventions required a trained art therapist to facilitate the sessions. Creative arts therapies and engagements in the arts were effective in symptom management, meaning making and stress management at the end of life (Camic, 2008; Wlodarczyk, 2007). Visual arts therapies and music therapies alleviated psychological and physical pain, which reduced the need for painkillers among terminally ill patients (Horne-Thompson & Grocke, 2008). Moreover, these creative arts therapies provided a safe environment for the processing of traumatic and challenging psychological and emotional experiences of their illness and impending passing (Lidzey, Petrone, Sanders, & Bolton, 2008). Artmaking empowered individuals to create a tangible legacy for their surviving loved ones, and this helped the bereaved families cope with the loss (Bolton, 2007; Hartley & Payne, 2008). In addition, engagement in participatory arts provided support to bereaved individuals during the process of grieving (O'Callaghan, Mcdermott, Hudson, & Zalcberg, 2013; Ferszt, Heinerman, Ferszt, & Romano, 1998; Fancourt, Finn, Warran, & Wiseman, 2019).

Understanding the Biopsychosocial Benefits of Participatory Arts

As there are limited theories from the field of arts for health to frame the relationships between participatory arts engagement and holistic health, insights may be adapted from related fields. Possible pathways have been proposed in the literature to explain the causal relationships between participatory arts and health, and these explanations will be broadly categorized based on Engel's (1977) biopsychosocial model of health. The biopsychosocial

approach considered the biological, social and psychological influence on the health and wellbeing of an individual, providing insights to the benefits of arts engagement.

Biological Pathways

Potential biological pathways activated by engagement in the arts could lead to better health outcomes. Research on psychoneuroimmunology posited that the benefits of arts engagement were mediated by a sense of mastery, leading to an increase of lymphocyte levels in the bloodstream, resulting in improved health (Cohen, 2009). One study found that active and passive engagements in musical activities resulted in significantly greater salivary immunoglobulin A (SIgA) levels, suggesting that participation in this art form was beneficial to the immune system (Kuhn, 2002). The health benefits of music listening were illuminated by the findings of another study revealed associations between music and endothelial function, which is a known predictor of stroke, heart attacks and atherosclerosis (Miller, Mangano, Beach, Kop, & Vogel, 2010). Exposure and engagement in the arts also enhanced brain plasticity through the formation of synapses and mobilization of brain reserves (Cohen, 2006). For example, learning a dance movement required the activation of various regions of the brain for perception and action, and with more practice, strengthened the neural connections over time (Wan & Schlaug, 2010). Furthermore, creative engagements were documented to stimulate the parasympathetic nervous system, resulting in a cascade of physiological responses leading to a sense of peace (Lane, 2005). Lastly, engagement in the arts were also found to trigger a socio-biological bonding response. Participants in an amateur choral singing programme showed significant increases in salivary oxytocin levels after the group singing session as compared to the chatting condition (Kreutz, 2014).

Psychosocial Wellbeing

Psychosocial indicators are commonly utilized for assessments of participatory arts interventions. Among these studies, receptive and active engagements in the arts were usually

associated with better psychological and social wellbeing. The “five ways to wellbeing” mental health promoting guidelines developed by the Centre for Wellbeing at the New Economics Foundation could provide some insights to the enhanced psychosocial impact of the arts. These guidelines recommended that individuals should build social connections, remain physically and mentally active, be mindful of their environment and experiences, engage in lifelong learning, and contribute to the community for greater wellbeing (Aked & Thompson, 2011). Passive and active engagements in the arts can address all five guidelines to promote mental health and wellbeing.

Connect. Most engagement in the arts usually involves social interaction and participation as a group which encouraged social connection and communal support. The need for social connections is innate to the human species throughout history and the strengthening of social bonds via communal arts engagement was theorized to be crucial for the survival of the communities in early civilizations (Weinstein, Launay, Pearce, Dunbar, & Stewart, 2016). The integration of artmaking, narratives and art spaces within the community acts as a bridge for multicultural societies by fostering authentic connections, understanding, compassion and promote cohesion among different groups (Potash, Ho & Ho, 2018; Lee, 2013).

Be Active. Moreover, engagement in the arts naturally requires the individual to remain mentally and physically active. The theory of embodied aesthetics presented five central interrelated components of active and passive arts engagement including hedonism, aesthetics, non-verbal meaning making, enactive transitional support, and generativity (Koch, 2016). Specifically, for the component of non-verbal meaning making, Koch described that the arts served as a platform for emotional expression (affective symbolizing), cognitive meaning-making (cognitive symbolizing) and spiritual meaning-making (transpersonal symbolizing), which highlights the process of constant cognitive stimulation during arts

engagement. Pennebaker's seminal works on expressive writing also elucidated the emotional processing, working memory and cognitive activation as mediators of writing and wellbeing (Pennebaker, 2004; Pennebaker & Chung, 2007). Engagement in dance also required physical movement and exertion regardless of mobility levels (Noopud, Suputtitada, Khongprasert & Kanungsukkasem, 2019; Trombetti et al., 2011).

Keep Learning. In addition to staying active, participatory arts engagement such as playing a musical instrument, creating a piece of artwork, or preparing for a performance requires the acquisition of new skills and techniques. For instance, involvement in an upcoming performance would entail the memorization and learning of lines, stage positions and directions. In fact, a theatre intervention with older adults proved its effectiveness in improving cognitive and affective functioning in older adults (Noice, Noice, & Staines, 2004). Even for older adults who are adept at the art form, the variable nature of the art-making process makes adaptation, application and relearning a necessity. For group-based art activities, constant interaction with group members would involve learning and adaptations to new social contexts, especially for intergenerational relationships (Hatton-Yeo, 2007).

Give. Through intergenerational contact and creative engagements, older arts audiences are also able to contribute to the community in meaningful ways (Larson, 2006). In East Asian cultures, intergenerational arts and cultural heritage interventions were effective in raising the wellbeing of older adults when they served as mentors to share knowledge with younger people (Lou & Dai, 2017). For example, an older adult could contribute to their community by providing guided tours at historical or heritage sites, enriching the tours with their life experiences. Furthermore, arts engagement in any form individually or as a group would elicit creativity, specifically the "little c" creativity which was to provide creative solutions to everyday experiences (Simonton, 2009). The contribution of novel ideas or ways of doing things in daily living would also enhance wellbeing and health (Schmid, 2005).

Take Notice. The awareness of the immediate environment and moment-to-moment experience unique to the arts engagement process could contribute to the wellbeing of an individual. Using drama as an example, actors must be attuned to their current emotional state, as well as an awareness of the bodily movements and actions as they embodied different characters on stage. With the adequate amount of challenge, engagement in the arts could lead to the experience of flow, a highly rewarding psychological experience of being fully present and focused on the current task (Csikszentmihalyi, 1997). The well-known concept of flow was originated from an investigation on the creative process, where Getzels and Csikszentmihalyi (1976) observed the intense concentration and dedication among young artists to complete their artwork. Furthermore, integral to engagement in the arts is the aesthetic experience which involved characteristics of pleasure, absorption, intrinsic interest and challenge (Averill, Stanat, & More, 1998). The experience of art-viewing would best exemplify the aesthetic experience. By viewing a beautiful artwork at the gallery, pleasurable emotions could be elicited within the viewer at the current moment. The viewer would then be challenged to decide whether the object was aesthetically pleasing while being present with the object. This would enhance the awareness and interest in the current object, stimulating curiosity.

Global Arts Engagement Rates among Older Adults

In summary, the current literature provided strong evidence that the arts could play a significant role in the lives of individual across the lifespan and through various processes. Despite the many benefits of the arts, engagement rates globally are relatively low as compared to other age groups. Findings from a comprehensive survey across 27 European Union member countries on cultural participation in 2013 indicated that engagement in cultural activities such as visiting a historical monument, museums, galleries, dance performances, cinema, was lowest among adults above age 55 as compared to the European

Union average rates (European Commission, 2013). In England, the average rates of engagement in the arts in 2017 was 77%; although the rates were steadily increasing over the years, arts engagement rates for seniors above the age of 75 was 62% and 78.6% for seniors aged between 65 to 74 (Department for Digital, Culture, Media & Sport, 2017). In the United States, this statistic was much lower: 37% for older adults above the age of 75, and 56% for older adults between 65 to 74, while the average engagement rates were 54% in 2017 (National Endowment for the Arts, 2019). Similarly, this statistic was lower in Singapore where 32% of seniors aged 65 and above attended at least one arts and cultural event in 2017 (National Arts Council, 2018). For other Asian societies, there is little information regarding arts and cultural engagement publicly available. In a 2005 report on cultural indicators released by the Hong Kong Arts Development Council, *non-participation* in various art activities ranged from 64% to 95% (Hong Kong Arts Development Council, 2005).

Research Gap

Although the arts were proven to play many roles in promoting health and wellbeing across the lifespan for many population cohorts, most studies were conducted in the Western societies and little is known about the engagement rates and effects of participatory arts on the health and wellbeing of East Asian populations. For studies investigating the effects of arts engagement in public health, most of the measurement tools used to assess participation and attendance in various art forms were highly simplistic and computed as “cultural activities”, together with other leisure and recreational activities. Additionally, most intervention studies and arts programme evaluation employed pre-test/post-test designs and recruited respondents via convenience or snowball sampling which may result in response biases. For lab-based studies, although a high level of control would be ensured in these studies, in reality, it may not accurately capture the effect of a complex art intervention. In terms of engagement rates, despite the benefits of participatory arts engagement for creative

ageing, the low rates among older adults, especially in East Asian societies is alarming. Given the fact that the types and forms engagement in arts and culture activities vary from each country and culture, it is of utmost importance to understand the influence of participatory arts engagement on the health and wellbeing of the older population to implement more creative ageing solutions in the Singaporean society.

The ‘Arts for Ageing Well Study’, developed and implemented by Dr Andy Hau Yan HO, (Principal Investigator) Associate Professor of Psychology at Nanyang Technological University Singapore and funded by the National Arts Council Singapore, was designed to examine the landscape of arts engagement, understand the facilitators and barriers of engagement, and to investigate the relationships between passive and active engagement on holistic wellbeing using qualitative and quantitative methodologies. Utilizing the quantitative data from this study, the current thesis will focus on exploring patterns of engagement, understanding preferences, as well as to evaluate the effects of participatory arts engagement on wellbeing among Singapore’s community dwelling older adults.

Research Goals, Objectives and Hypothesis

As mentioned above, there are two main goals of this thesis. The first goal was to *understand the landscape of arts engagement* of Asian Singaporean older adults, specifically (i) to assess the frequency and intensity of passive and active engagement in culture and participatory arts activities including music, dance, theatre, literary arts, visual arts, film, heritage and craft events among Singaporean adults aged 50 and above, (ii) to investigate the patterns of involvement in participatory art activities including frequented venues, companions and level of interest. The second goal was to *evaluate the effectiveness of participatory arts engagement on the holistic wellbeing of Singaporean older adults above age 50 in terms of quality of life, physical, psychological, spiritual and social wellbeing*. This research aims to evaluate (iii) the overall impact of active and passive engagement in

participatory arts on holistic wellbeing, as well as (iv) the impact of active and passive engagement on specific art forms on the wellbeing of the community-dwelling Singaporean population above age 50. Based on past literature, it is hypothesized that active and passive engagement of the arts would be related to enhanced wellbeing outcomes.

Chapter Three: Methodology

Research Design

To address the research question and test the hypotheses, analyses were conducted on the quantitative dataset from the “Arts for Ageing Well” study. Approval was sought and granted by the Principal Investigator of the study to utilize the dataset for this thesis. The quantitative dataset of the study was a cross-sectional population survey with stratified random sampling which assessed art participation and holistic wellbeing as well as their potential relationships among young-old, old, and older adults in Singapore. The survey was conducted in Singapore with 1,067 participants aged 50 and above between November 2016 to February 2017.

Sampling

Potential participants were recruited via a stratified random sampling method. A sampling frame which consisted of residential units across Singapore’s Central, East, North, and West regions with at least one resident aged 50 and above was obtained from the Singapore Department of Statistics. Dwelling units were further categorized into four non-overlapping strata according to age group (50 – 59, 60 – 69, 70 – 79, 80 and above), and was further stratified by gender, race and housing type for an accurate representation of the Singaporean population. This resulted in a Master list with a fixed number of dwelling units, and potential participants in this list were approached by a systematic sampling procedure with a random start. The sample size of 1,067 was calculated by the research team to allow for $\pm 3\%$ margin of error with a confidence level of 95% (Bartlett, Kotrlik, & Higgins 2001; Sullivan 2006). The inclusion criteria for this survey were community dwelling Singaporean residents who were able to communicate in English, Malay, Mandarin, Tamil, and Chinese dialects. The exclusion criteria were individuals who were too ill, too frail to participate, or were unable to provide informed consent.

Procedures

After receiving the addresses of potential participants from the Department of Statistics, researchers contacted participants through door-to-door visits in a sequential order following the Master list. Each household on the list were contacted at least three times before moving on to the next address in the list. For successfully engaged households, only one older adult above the age of 50 was recruited. Reasons for unsuccessful attempts included vacant apartments or units being rented out. A total of 1,797 households with potential participants were successfully contacted. However, 68 (4%) interested individuals did not meet the inclusion criteria, 622 (37%) potentially eligible participants declined or dropped out. This resulted in a final sample of 1,067 (59%) eligible and consenting participants. Upon initial contact, potential participants were informed of the study's background, explained the rationale and nature of their participation. After ensuring that their questions were adequately addressed, and informed consent provided, the participants completed the standardized survey via a 45 to 60-minute face-to-face interview in the participant's preferred language. All interviews were conducted at a conducive location, mostly at the participants' homes. At the end of the survey, participants were debriefed and received a cash voucher of SGD\$20 as a token of appreciation of their time.

Variables of Interest

The structured questionnaire administered to participants included both qualitative and quantitative questions assessing the frequency and intensity of arts engagement, patterns of involvement, multiple dimensions of health and wellbeing, frequency and intensity of engagement in physical activities, as well as demographic information. Questions for each section can be found in the Appendix.

Independent Variables

The independent variables assessed in this thesis included the measurement of active and passive engagement in participatory arts activities and events. Passive arts engagement was defined as behaviours including attending, listening, appreciating or watching art, heritage and cultural performances or events, while active engagement referred to the active participation such as performing, creating and guiding, as construed by Davies et al. (2012). Respondents were assessed on the hours spent on each art activity within a three-month timeframe for active engagement and a six-month timeframe for passive engagement. The difference in timeframe was informed by past research, where the duration for passive arts engagement was typically lesser than active arts engagement, and thus a wider timeframe served to allow for comprehensive recording of engagement in art activities and events (Weziak-Bialowolska, 2016).

The types of art forms that were assessed were adopted from the National Art Council (2014). Engagement in a wide variety of art forms and genres were measured, including theatre, music, literary arts, visual arts, film, crafts, heritage and cultural activities, other (participant specified) forms of arts. Please see Appendix A2. List of Art Forms for more information regarding individual art forms assessed. For instance, for engagement in the theatre genre, participants were asked whether they attended a play in the past six months, how many times they attended plays and how many hours each session lasted. This question was repeated for art activities categorized as part of the theatre art form (including plays, musicals, western operas, traditional theatre, variety shows, street performances), followed by the same questions assessing active participation in these art activities. Based on the information collected, the hours of active and passive engagement were calculated by multiplying the number of times the participant reported engaging an art activity and the engagement duration (by hours)— providing the total hours spent per art genre. The hours for

each art genre were consolidated to form the engagement hours per art form, which was also summed up to form overall engagement hours of passive and active arts engagement for all art forms.

Dependent Variables

Multiple domains of wellbeing were assessed, including quality of life, physical wellbeing, mental wellbeing, spiritual wellbeing, and interpersonal wellbeing. The questionnaire was prepared in English, Malay, Mandarin and Tamil language. The mandarin versions of the scales, as well as the Malay version of the quality of life scale were adapted from past studies with Asian older adults (Fong, 2014; Liu et al., 2016; Lam, Gandek, Ren & Chan, 1998; Hasanah, Naing, Rahman, 2003). Other items in the questionnaire were translated to Mandarin, Malay or Tamil by a professional translator, verified and pilot-tested by the research team.

Quality of life was measured using the 8-item World Health Organization Quality of Life Instrument (WHOQoL-8) which assessed participants on domains such as overall quality of life, satisfaction with relationships, finances and living conditions (da Rocha, Power, Bushnell, & Fleck, 2012). An example of the question included “How would you rate your quality of life?”. Participants were required to rate their agreement on a five-point likert scale ranging from very poor to very good. An overall score was calculated for this scale, with scores ranging from 8 – 40, where higher values indicated better quality of life. This scale also demonstrated high internal reliability ($\alpha = .86$).

Physical and mental wellbeing was measured with the 20-item Short Form-20 Health Survey (SF-20), which assessed 6 sub-domains of physical functioning, role functioning, social functioning, mental health, health perceptions and bodily pain (Ware, Sherbourne, Davies, 1992). A sample question on bodily pain would ask, “How much bodily pain have you had during the past four weeks?”. Depending on the question for this assessment,

participants were invited to respond on a likert scale ranging from three options to six options. All item scores were transformed to a score ranging from 0 – 100 and averaged to form domains scores. Each domain demonstrated high reliability, with higher scores representing greater wellbeing for the sub-domains of physical functioning ($\alpha=.80$), social function (single item), health perceptions ($\alpha=.85$) and mental health ($\alpha=.83$). Lower scores represented lesser reported pain for the single item bodily pain domain.

Spiritual wellbeing was assessed with the 12-item Functional Assessment of Chronic Illness Therapy-Spiritual wellbeing (FACIT-Sp-12) scale (Peterman, Fitchett, Brady, Hernandez, & Cella, 2002). This scale assessed the participant's spiritual wellbeing on three domains including meaning in life, sense of peace, and faith. Sample questions on life meaning comprised of "I have a reason for living", items on sense of peace included "I feel peaceful", and assessments of faith asked whether participants "find strength in my (their) faith or spiritual beliefs". Participants were invited to rate their agreement on a five-point likert scale ranging from not at all to very much. An overall score was calculated, with scores ranging from 0 – 48, where higher scores reflected greater spiritual wellbeing. Domain scores were also calculated for the analyses. This spiritual wellbeing scale demonstrated high reliability ($\alpha=.87$).

Finally, *interpersonal support* was assessed using the Interpersonal Support Evaluation List Short Form (ISEL-S). The 12-item ISEL-S was highly reliable ($\alpha = 0.90$) and measured the three domains of appraisal support, belonging support and tangible support (Cohen, Mermelstein, Kamarck, & Hoberman 1985). Examples of items on appraisal support included "If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.", while belonging support consisted of "If I wanted to have lunch with someone, I could easily find someone to join me." and tangible support included "If I were sick, I could easily find someone to help me with my daily chores."

Participants were required to respond on a four-point likert scale ranging from definitely false to definitely true. Overall scores were calculated for the analyses, with scores ranging from 12 – 48, where higher values represented a greater sense of interpersonal support. Domain scores were also calculated for the analyses.

Covariates & Qualitative Variables

Demographic information including age, gender, ethnicity, religion, socio-economic status and basic health history (self-reported presence of chronic of illness and time since illness) were recorded. In addition, the intensity and frequency of physical activity engagement within a one-week timeframe were also recorded and served as a covariate in the propensity score matching. The measure of physical activity was a standardized set of questions adapted from Singapore's National Physical Activities Guideline which assessed participants on four types of physical activity ranging from light intensity, moderate intensity, vigorous intensity as well as strength and balance physical activities (Health Promotion Board, 2011). For example, respondents were assessed on how often they participated in light-intensity lifestyle activity (e.g. walking or taking the stairs), the time spent on the physical activity each session.

To better understand the patterns of engagement in the arts, questions on the participant's interest levels in the art forms, and involvement in arts, heritage and cultural activities were also included in the study. These questions were adapted from past population surveys of the arts conducted by the National Arts Council (National Arts Council, 2014). In terms of interest levels, participants were asked to indicate their interest level for each art form on five-point scale, with higher values indicating greater interest. Participants were also interviewed on their preferred companions for passive and active arts engagement, as well as the venues frequented for arts and culture events. In addition, participants also responded to open-ended questions on their engagement with the arts in their daily lives such their

perception of the arts, memorable experience of the arts and the perceived impact of arts engagement.

Statistical Analyses

Descriptive, Exploratory Correlation and Regression Analysis

Descriptive analyses were first performed on all arts engagement, demographic variables, and quantitative variables to understand the sample's characteristics, as well as perceptions and patterns of arts engagement among the Singaporean older population. Bivariate correlations were then conducted to preliminarily assess associations between both passive and active engagement in participatory arts activities and the holistic wellbeing of the participants. Subsequently, exploratory multiple linear regression analyses were performed to test the relationships between arts engagement and holistic wellbeing, while controlling for socio-demographic variables such as age, gender, marital status, number of children, education level, employment status, household income, housing type and presence of chronic illness. Data management and exploratory analyses were conducted using IBM SPSS Statistics Version 21.

Propensity Score Matching Method and T-Tests Analysis

To evaluate a potential causal relationship between participatory arts engagement and domains of holistic wellbeing, the propensity score matching method (PSM) was adopted for analysis. The propensity score method is a robust and unbiased approach with the objective of approximating random experiments, eliminating problems of endogeneity and selection bias in observational data (Rosenbaum & Rubin, 1983; Austin, 2011a). Propensity score matching was performed by a statistician in the research team. Using a logistic regression model, propensity scores were calculated, and individuals were matched based on those scores, eventually creating sets of participants in the treatment (passive or active arts engagement groups) and the respective control groups. Participants were matched on

demographic variables including age, gender, religion, employment status, income and housing type, as well as engagement in physical activity, including light intensity, moderate intensity, vigorous intensity, and strength and balance physical activities. These covariates were selected based on the criteria recommended by Brookhart and colleagues (2006) and were carefully chosen prior to matching for an optimized propensity score model (Adelson et al., 2017). The groups were matched using callipers of width equal to 0.2 of the standard deviation of the logit of the propensity score (Austin, 2011b). A matching ratio of 1:1 was used for the passive arts engagement group while a matching ratio of 1:2 was required for the active engagement group due to the small proportion of respondents. As a result of the propensity score matching, unbiased comparisons between passive / active engagement groups and the respective matched control groups can be conducted as the distribution of the baseline covariates for participants with the same propensity scores in the respective groups will be similar (Benedetto, Head, Angelini, & Blackstone, 2018).

Independent 't' tests were then conducted between the arts engagement groups (passive/active) and matched control group to assess the impact of participatory arts engagement. These analyses were conducted with Stata version 14.2 (StataCorp, Texas, USA) for Windows, and the Stata 'psmatch2' module was used to perform the nearest neighbour matching technique without replacement. A significance level of $\alpha = .05$ was used for this thesis.

Chapter Four: Results

Descriptive Statistics

Participant Characteristics

Participants recruited in this study were between the ages of 50 to 95 years old ($M = 64.2$, $SD = 10.0$), consisted of 45% males and 81% Chinese ethnicity. The demographic characteristics were representative of the Singaporean older population (Department of Statistics, 2017). In terms of passive engagement in participatory arts (i.e. attending a play), 60% of the older adults reported engaging in at least one arts and culture event and spent a median time of 6 hours attending arts events ($IQR = 11.0$; range = 0 – 258 hours) within a time frame of six months. Popular art forms for passive engagement were film (28%), heritage-related events (23%) and theatre (25%). As for active engagement in participatory arts (i.e. learning dancing at the community centre), 17% of the respondents reported participating in at least one arts and culture activity and spent a median time of 11 hours actively engaged in the arts ($IQR = 27.6$; range = 0 – 1015 hours) within a three-month time period. The commonly reported art forms for active participants were engagements in visual arts (5%), music (4%) and craftwork (4%). Please refer to Table 1 for detailed information regarding the participant's demographic characteristics and Figure 1 for the arts engagement rates by art forms.

Demographic Profile of Participants Engaged in the Arts

For each age group, the *passive* arts and culture engagement rates for adults aged 50 – 59 was 67%, 62% for adults aged 60 – 69, and 48% for adults aged 70 and above. The *active* arts engagement rates were 18% for adults aged 50 – 59, 20% for adults aged 60 – 69, and 10% for adults aged 70 and above. Findings from the descriptive analyses on the demographic profile of this group of participants suggested that arts and culture-related events was generally accessible and was enjoyed by individuals regardless of social economic

status and backgrounds. Please refer to Table 2 for the detailed demographic profile of the passive and active arts engagement sub-groups.

Table 1. Demographic Profile of Participants

Demographic Characteristic	N (%)	Variable Information	N (%) / Mean (SD)
Demographic Background		Arts Engagement Frequency (n, %)	
Gender		Active Arts Engagement	178 (16.7)
Male	479 (44.9)	Top reported: Visual Art	49 (4.6)
Female	588 (55.1)	Top reported: Music	43 (4.0)
Age at time of survey (years)		Top reported: Craftwork	41 (3.8)
50 - 59	421 (39.5)	Passive Arts Engagement	645 (60.4)
60 - 69	372 (34.9)	Top reported: Film	295 (27.6)
>70	274 (25.7)	Top reported: Theatre	270 (25.3)
Marital Status		Top reported: Heritage-related events	244 (22.9)
Single/Divorced/Widowed	216 (20.2)	Physical Activity Levels (Mean, SD)	
Married	851 (79.8)	Light Intensity (Range: 0–57)	5.3 (9.3)
Ethnicity		Moderate Intensity (Range: 0–60)	2.0 (6.1)
Chinese	859 (80.5)	Vigorous Intensity (Range: 0–10)	0.3 (1.0)
Malay	121 (11.3)	Strength and Balance (Range: 0–30)	0.7 (1.5)
Indian	78 (7.3)	Overall Physical Activity (Range: 0–87)	8.2 (12.4)
Others (E.g. Eurasian)	9 (0.8)	Wellbeing Variables (Mean, SD)	
Highest Obtained Education		Quality of Life (WHOQOL-8) ^b (Range: 11–40)	31.4 (4.2)
Up to Primary/Elementary School	678 (63.5)	SF20 ^c - Health Perception (Range: 0–100)	69.9 (19.6)
Secondary/High School or Above	389 (36.5)	SF20 - Pain (Range: 0–80)	17.4 (20.0)
Employment Status		SF20 - Social Functioning (Range: 0–100)	90.8 (21.4)
Full-time / Self-employed	309 (29.0)	SF20 - Role Functioning (Range: 0–100)	87.9 (29.3)
Part-time employed	148 (13.9)	SF20 - Physical Functioning (Range: 0–100)	86.1 (23.0)
Unemployed or Retired	610 (57.2)	SF20 - Mental Health (Range: 0–100)	81.9 (14.7)
Monthly Household Income (SGD) ^a		Interpersonal Support (ISEL-S) ^d (Range: 12–48)	37.8 (6.6)
< 2,000	412 (38.6)	Appraisal Support Subscale (Range: 4–16)	12.7 (2.4)
2,000 - 3,999	335 (31.4)	Belonging Support Subscale (Range: 4–16)	12.3 (2.6)
≥ 4,000	320 (30.0)	Tangible Support Subscale (Range: 4–16)	12.9 (2.3)
Housing Type		Spiritual Wellbeing (FACIT-Sp-12) ^e (Range: 7–48)	34.0 (8.0)
1 / 2 / 3-room flat	308 (28.9)	Meaning Subscale (Range: 1–16)	12.4 (2.9)
4-room flat	378 (35.4)	Peace Subscale (Range: 2–16)	12.3 (2.8)
5-room/ 3-Gen/ Executive/ Mansionette	277 (26.0)	Faith Subscale (Range: 0–16)	9.3 (3.8)
Condominium and Others	104 (9.7)		
Living Arrangements			
Family (e.g. Spouse, Children, Siblings)	968 (90.7)		
Living alone	71 (6.7)		
Others (e.g. Friends, Tenants)	28 (2.6)		

^a SGD: Singapore Dollar, ^bWHOQOL-8: World Health Organization Quality of Life Instrument (8-item), ^cSF20: 20-Item Short Form Survey, ^dISEL-S: Interpersonal Support Evaluation List – Short Form; ^eFACIT-Sp-12: Functional Assessment of Chronic Illness Therapy - Spiritual Well-Being; The 12-item Spiritual Well-Being Scale

Arts Engagement Rates by Art Forms (N=1067)

Figure 1. Arts Engagement Rates by Art Forms

Table 2 Demographic Profile of Arts Audience

Demographic Characteristic	Sample Total (n=1067)	Passive Arts Engagement (n=645)	Active Arts Engagement (n=178)
Gender			
Male	45%	42%	37%
Female	55%	58%	63%
Age (Years)			
50 – 59	39%	43%	43%
60 – 69	35%	36%	42%
70 – 79	14%	14%	13%
≥80	11%	7%	3%
Education Level			
None/ Primary	64%	58%	47%
“O” Levels/ ITE/ NEC	15%	16%	21%
Pre-U/ “A” Levels/ Diploma	14%	17%	21%
Degree and Above	8%	9%	11%
Monthly Household Income			
<SGD 2,000	39%	34%	34%
SGD 2,000 – 3,999	31%	31%	30%
SGD 4,000 – 7,999	20%	22%	23%
≥ SGD 8,000	10%	13%	13%
Marital Status			
Single	7%	7%	3%
Married	80%	81%	86%
Divorced/ Separated	5%	5%	5%
Widowed	8%	7%	6%

Patterns of Involvement and Interest in the Arts

Among participants who were engaged in participatory arts, they often engaged in these activities in their homes or at venues close to their homes, such as the community centres and areas within the vicinity of their housing estates. Interestingly, non-art venues such as places of worship were also mentioned as venues for participatory arts engagement. Specifically, the top venues where active art participants engaged in the arts were their homes

(25%), dedicated arts venues (21%), venues around the older adult's housing estate (21%), community centres (21%), and places of worship (18%). Similarly, the top venues for passive arts engagement were the homes of the respondents (21%), areas around their housing estate (21%), the community centres (20%), as well as dedicated arts venues (17%). Attending a participatory art activity or event was mostly a social activity for the respondents as more than half of the respondents attended arts and culture activities with their spouse (34%), family members (58%) or friends (42%). On the contrary, active participation in arts activities and events was usually done alone (41%) or with friends (42%).

Overall, in terms of the respondent's interest in participatory arts activities and events, regardless of their level of engagement in the arts, respondents in this study expressed most interest in the heritage genre. Specifically, they preferred visiting historic districts (45%) and events related to culture, history and heritage (40%). Other than heritage and culture activities, participants were also interested in film related activities such as movies shown in cinemas (43%), as well as variety shows (43%). The genre of interest was also similar among the various age groups (aged 50 – 59, 60 – 69, 70 and above). For detailed information regarding the participants' interest in art genres and patterns of involvement, please see the appendix S1: Supplementary Figures.

The qualitative responses in the survey provided greater insights to the perceptions and patterns of involvement for participatory arts among the adults. Participants were asked to briefly share what art meant to them and their most memorable experience with the arts. Despite the broad range of responses provided, the most memorable experiences of attending arts events and activities were shared with family and friends:

“My most memorable experience with the Arts is going to the museum with my daughter a few months ago.” (54-year-old, Male, Malay)

“Watching a movie in the cinema with a group of senior citizens. I liked it because I watched it with friends and the movie made me feel nostalgic about the old kampung days.” (62-year-old, Female, Chinese)

“Watching the 'Lion King' performance with my late mum. She enjoyed it.” (83-year-old, Female, Chinese)

Participants also shared memorable personal experiences of performing, their creative processes as well as enjoyment of the aesthetic experiences:

“There was once I was sick, in great pain and I was dizzy and sweaty, but I still had to perform for my Chinese opera. It was a memorable experience. Not the most pleasant, but it was something I've always remembered.” (68-year-old, Female, Chinese)

“Whenever I see a completed work of my masterpiece, I feel glad. I enjoyed the process of making sure my drawing greatly resembles the person.” (57-year-old, Male, Malay)

“I went to Har Paw Villa and came across many beautiful traditional Chinese sculptures. I have also been to Henderson wave bridge which is beautifully designed.” (66-year-old, Female, Chinese)

Perceived Impact of Arts Engagement

When participants were asked about the impact of engaging in the arts, many reported psychological and emotional benefits such as opportunities for relaxation, enjoyment and fulfilment. Some participants also reported that art was an activity that could help with the prevention or management of health conditions such as dementia:

“Art is something a person can do to de-stress and prevents dementia. It's a healthier alternative to just sitting at home all day.” (76-year-old, Female, Malay)

“(Engagement in the arts is) mood lifting, good for mental health, good to know there are things in this world which are not benefit or monetary based.” (67-year-old, Female, Chinese)

“The benefits are that Arts can be relieving, helps with the uplifting of spirit and helps people be happy.” (71-year-old, Female, Chinese)

Furthermore, the arts were valued as an opportunity for personal development through the learning of new skills, self-discovery, as well as the building of their social networks:

“It broadens your horizons and helps you to understand the other perspectives.” (79-year-old, Male, Chinese)

“It helps me gain knowledge and be more creative and connected to culture and heritage.” (66-year-old, Male, Chinese)

“Discovery of one's talents and creativity. Increases your confidence and in the process, strikes friendship with people from all walks of life that have a similar interest.” (59-year-old, Male, Chinese)

Taken together, these findings illuminate the many experiences and perceived benefits of passive and active arts engagements among older Singaporean adults.

Exploratory Correlational and Regression Analyses

For subsequent analyses, four outliers with extremely high arts engagement hours reported were identified and omitted for statistical analyses. Results from the exploratory correlational analyses indicated that passive engagement in participatory arts were positively

associated with wellbeing indicators in this study, specifically quality of life ($r = .233, p < .001$), perceived health ($r = .174, p < .001$), social functioning ($r = .106, p = .001$), mental health ($r = .124, p < .001$), spiritual wellbeing ($r = .162, p < .001$), and interpersonal support ($r = .172, p < .001$). In addition, active engagement in participatory arts were also positively associated with wellbeing indicators, including quality of life ($r = .177, p < .001$), health perceptions ($r = .130, p < .001$), role functioning ($r = .078, p = .011$), social functioning ($r = .100, p = .001$), mental health ($r = .154, p < .001$), spiritual wellbeing ($r = .201, p < .001$), and interpersonal support ($r = .116, p < .001$).

Multiple exploratory regression analyses were also conducted to assess the associations between arts engagement intensity and wellbeing indicators, controlling for covariates including age, gender, marital status, number of children, education, presence of religious belief, employment status, monthly household income, housing type, presence of chronic illness. After adjusting for covariates, findings from the analyses indicated that passive engagement in participatory arts was a significant independent predictor of enhanced quality of life ($\beta = .166, SE = .008, p < .001$), health perceptions ($\beta = .146, SE = .035, p < .001$), mental health ($\beta = .095, SE = .028, p = .002$), spiritual wellbeing ($\beta = .128, SE = .014, p < .001$), and perceived interpersonal support ($\beta = .101, SE = .012, p < .001$).

Likewise, active engagements in participatory arts were also significant independent predictors of greater quality of life ($\beta = .139, SE = .006, p < .001$), health perceptions ($\beta = .078, SE = .026, p = .006$), as well as spiritual wellbeing ($\beta = .065, SE = .011, p = .023$).

Please refer to Table 3 for more details regarding the exploratory correlational and regression analyses.

Table 3. Spearman Correlations and Multiple Regression Analyses Predicting Wellbeing

Wellbeing Measures	Passive Arts Engagement						Active Arts Engagement					
	Spearman Correlation		Multiple Regression				Spearman Correlation		Multiple Regression			
	<i>r</i>	<i>p value</i>	β	<i>SE</i>	<i>p value</i>	<i>Adj. R²</i>	<i>r</i>	<i>p value</i>	β	<i>SE</i>	<i>p value</i>	<i>Adj. R²</i>
Quality of Life (WHOQOL-8)	.233	<.0001*	.166	.008	<.0001*	.150	.177	<.0001*	.139	.006	<.0001*	.142
Holistic Health (SF20)												
SF20 - Health Perception	.174	<.0001*	.146	.035	<.0001*	.179	.130	<.0001*	.078	.026	.006*	.163
SF20 - Role Functioning	.050	.101	...	...	...	...	.078	.011*	...	...	...	...
SF20 - Pain Domain	-.010	.750	...	...	...	...	-.024	.430	...	...	...	...
SF20 - Social Functioning	.106	.0001*	...	...	...	...	.100	.0001*	...	...	...	...
SF20 - Physical Function	.050	.103	...	...	...	...	.027	.373	...	...	...	...
SF20 - Mental Health	.124	<.0001*	.095	.028	.002*	.069	.154	<.0001*	.057	.021	.058	.063
Spiritual Wellbeing (FACIT-SP-12)	.162	<.0001*	.128	.014	<.0001*	.177	.201	<.0001*	.065	.011	.023*	.164
Meaning Subscale	.164	<.0001*	.121	.005	<.0001*	.191	.244	<.0001*	.081	.004	.004*	.183
Peace Subscale	.153	<.0001*	.123	.005	<.0001*	.144	.205	<.0001*	.094	.004	.001*	.138
Faith Subscale	.096	.002*	.084	.007	.003*	.171	.095	.002*	.004	.005	.896	.164
Interpersonal Support (ISEL-S)	.172	<.0001*	.101	.012	.0003*	.180	.116	<.0001*	.036	.009	.205	.172
Appraisal Subscale	.126	<.0001*	.086	.004	.003*	.133	.096	.002*	.030	.003	.299	.127
Belonging Subscale	.190	<.0001*	.123	.005	<.0001*	.163	.117	<.0001*	.043	.003	.134	.150
Tangible Subscale	.135	<.0001*	.059	.004	.039*	.144	.106	.001*	.022	.003	.439	.141

N = 1063, **p* < .05, Note: Variables which satisfied the normality tests are reported in the table; Covariates entered: age, gender, marital status, number of children, education, presence of religious belief, employment status, monthly household income, housing type, presence of chronic illness

Propensity Score Matching & ‘t’ tests

Overall Arts Engagement and Holistic Wellbeing

After propensity score matching, there were 444 participants (active engagement = 176; non-active engagement = 268), and 730 participants (passive engagement = 365; non-passive engagement = 365) included in the analyses. Balancing information prior and post propensity score matching can be found in Table 4. Covariates included in the propensity score matching achieved balance except for age and multiple physical activity variables, however these differences were minimal. The median bias prior to matching was 22.8% for the active engagement group, and this value was reduced to 1.4% post matching. Similarly, the median bias prior to matching was 15.1% for the passive engagement group, and this value was reduced to 8.6% post matching. In cases where there were no appropriate controls for matching, these unmatched units were omitted in the analyses. Information regarding comparisons of covariates between matched and unmatched samples after PSM was performed can be found in Table 10 in the appendix.

The findings from the independent-samples t-tests indicated that participants who were passively or actively engaged in participatory arts fared significantly better in multiple domains of wellbeing as compared to the matched participants who did not engaged in the arts. Participants who reported being passively engaged in the arts scored significantly better quality of life, $t(728) = 3.35, p = .0008, d = 0.25$; greater sense of belonging, $t(728) = 2.17, p = .028, d = 0.16$, and enhanced perceived health, $t(728) = 2.21, p = .028, d = 0.16$ than matched controls (participants who did not engage in participatory arts). Similarly, participants who were actively engaged in participatory arts reported significantly better quality of life, $t(442) = 3.68, p = .0003, d = 0.36$; enhanced perceived health, $t(442) = 2.59, p = .0099, d = 0.25$; improved overall spiritual wellbeing, $t(442) = 3.75, p = .0002, d = 0.37$ as well as greater spiritual wellbeing subscale scores including meaning in life, $t(442) = 5.02, p$

$< .0001$, $d = 0.50$; and sense of peace, $t(442) = 3.72$, $p = .0002$, $d = 0.36$, as compared to matched controls. A marginally significant difference was also observed in social functioning, $t(442) = 1.68$, $p = .094$, $d = 0.17$; and mental health, $t(442) = 1.84$, $p = .067$, $d = 0.18$ for art-active seniors as compared to non-art active seniors. The detailed results of the subsequent t-tests conducted are documented in Table 5.

Table 4. Distribution of Balance for Covariates Before and After Matching by Propensity Score Matching (PSM) in Passive and Active Engagement Groups

Balance variables	Passive Engagement						Active Engagement					
	Before matching (n = 1063)			After matching (n = 730)			Before matching (n = 1063)			After matching (n = 444)		
	Passive Group (n = 642)	Non- Passive Group (n = 421)	Unstandardized mean difference	Passive Group (n = 365)	Non-Passive Group (n = 365)	Standardized mean difference	Active Group (n = 176)	Non-Active Group (n = 887)	Unstandardized Mean difference	Active Group (n = 176)	Non-Active Group (n = 268)	Standardized mean difference
Age (years)	62.57	66.73	-4.15	66.47	65.02	1.46	61.60	64.74	-3.14	61.60	61.09	0.51
Sex												
Male respondents	0.42	0.49	-0.07	0.52	0.47	0.05	0.38	0.46	-0.09	0.38	0.36	0.01
Marital Status												
Married	0.81	0.77	0.04	0.77	0.79	-0.02	0.86	0.79	0.07	0.86	0.86	0.00
Highest Obtained Education												
Elementary school	0.49	0.56	-0.07	0.64	0.58	0.06	0.43	0.54	-0.11	0.43	0.43	-0.01
High School or Higher	0.43	0.27	0.15	0.23	0.31	-0.08	0.53	0.33	0.20	0.53	0.52	0.01
Ethnicity												
Chinese ethnic group	0.81	0.79	0.02	0.78	0.80	-0.02	0.84	0.80	0.04	0.84	0.86	-0.03
Religious Belief												
Have religious belief	0.88	0.86	0.02	0.86	0.86	-0.01	0.88	0.87	0.01	0.88	0.88	0.00
Employment Status												
Part-time employed	0.16	0.11	0.05	0.10	0.13	-0.03	0.20	0.13	0.08	0.20	0.19	0.02
Full-time or self-employed	0.32	0.25	0.07	0.25	0.27	-0.02	0.32	0.29	0.03	0.32	0.32	0.00
Monthly Household Income (SGD)												
1,000 - 2,999	0.29	0.32	-0.03	0.36	0.32	0.04	0.24	0.31	-0.08	0.24	0.24	0.00
>3,000	0.51	0.39	0.13	0.37	0.42	-0.05	0.54	0.45	0.09	0.54	0.53	0.01
Housing Type												
3-4 room HDB Flat	0.55	0.62	-0.06	0.65	0.62	0.03	0.47	0.60	-0.13	0.47	0.46	0.01
5 room HDB Flat and others	0.38	0.31	0.07	0.28	0.32	-0.04	0.49	0.33	0.17	0.49	0.50	0.00
Physical Activity Levels (Hours)												
Light Intensity	6.49	3.43	3.06	2.52	3.69	-1.17	9.09	4.52	4.57	9.09	8.97	0.13
Moderate Intensity	2.46	1.42	1.04	1.02	1.59	-0.56	3.30	1.80	1.50	3.30	3.33	-0.03
Vigorous Intensity	0.03	0.16	-0.13	0.11	0.16	-0.05	0.51	0.20	0.31	0.51	0.53	-0.02
Strength and Balance	0.78	0.51	0.26	0.46	0.56	-0.11	1.00	0.61	0.39	1.00	0.84	0.16
All Physical Activities	10.05	5.52	4.52	4.11	6.01	-1.90	13.91	7.13	6.78	13.91	13.68	0.23

Table 5. Arts Engagement and Control Group Differences in Wellbeing Scores

Wellbeing	Passive Arts Engagement ^a					Active Arts Engagement ^b				
	Passive (Mean ± SD)	Control (Mean ± SD)	<i>t</i> (728)	<i>p</i>	Effect Size(<i>d</i>)	Active (Mean ± SD)	Control (Mean ± SD)	<i>t</i> (442)	<i>p</i>	Effect Size(<i>d</i>)
Quality of Life (WHOQOL-8)	31.5 ± 4.15	30.5 ± 4.2	3.35	.0008*	0.25	33.0 ± 4.16	31.5 ± 4.14	3.68	.0003*	0.36
Short Form Health Survey (SF-20)										
SF20 - Health Perception	69.6 ± 19.9	66.3 ± 21.1	2.21	.028*	0.16	75.5 ± 18.2	70.7 ± 19.3	2.59	.0099*	0.25
SF20 - Role Functioning	85.4 ± 31.2	86.4 ± 31.7	0.44	.659	0.03	92.8 ± 24.2	91.1 ± 26.1	0.66	.512	0.06
SF20 - Pain Domain	18.1 ± 20.9	17.8 ± 20.7	0.18	.859	0.01	16.7 ± 20.6	17.9 ± 19.6	0.62	.538	0.06
SF20 - Social Functioning	90.9 ± 19.6	88.9 ± 24.5	1.20	.230	0.09	95.6 ± 14.7	92.8 ± 18.7	1.68	.094	0.17
SF20 - Physical Function	84.9 ± 22.2	84.4 ± 25.2	0.27	.785	0.02	89.2 ± 18.6	88.5 ± 20.9	0.37	.715	0.04
SF20 - Mental Health	81.2 ± 14.8	80.5 ± 15.4	0.63	.532	0.05	86.0 ± 13.1	83.6 ± 14.0	1.84	.067	0.18
Interpersonal Support (ISEL-S)	37.4 ± 6.3	36.8 ± 6.4	1.14	.253	0.08	39.4 ± 6.9	38.7 ± 6.4	1.10	.273	0.11
Appraisal Subscale	12.4 ± 2.3	12.4 ± 2.4	0.32	.751	0.02	13.1 ± 2.6	12.9 ± 2.4	0.70	.483	0.07
Belonging Subscale	12.2 ± 2.5	11.8 ± 2.6	2.17	.030*	0.16	12.9 ± 2.6	12.6 ± 2.4	1.16	.246	0.11
Tangible Subscale	12.7 ± 2.2	12.6 ± 2.3	0.44	.658	0.03	13.4 ± 2.5	13.1 ± 2.2	1.12	.262	0.11
Spiritual Wellbeing (FACIT-Sp-12)	33.5 ± 8.0	33.1 ± 8.1	0.68	.496	0.05	37.5 ± 7.2	34.7 ± 7.7	3.75	.0002*	0.37
Meaning Subscale	12.2 ± 2.8	12.1 ± 3.0	0.12	.908	0.01	13.9 ± 2.3	12.6 ± 2.8	5.03	<.0001*	0.50
Peace Subscale	12.1 ± 2.7	11.9 ± 3.0	0.81	.419	0.06	13.5 ± 2.6	12.5 ± 2.7	3.72	.0002*	0.36
Faith Subscale	9.3 ± 3.9	9.0 ± 3.9	0.73	.464	0.05	10.1 ± 4.0	9.6 ± 3.8	1.25	.211	0.12

^a*n* = 730, ^b*n* = 444; **p* < .05

Exploratory Analyses on Individual Art Forms and Holistic Wellbeing

The findings from the overall analyses were consistent with the hypothesis and highlighted the effectiveness of participatory arts engagement in enhancing quality of life, health perceptions, perceived interpersonal support and spiritual wellbeing. Exploratory analyses were conducted to further investigate the effectiveness of each art form in elevating holistic wellbeing among older adults in this sample. It is important to note that the results reported below are exploratory in nature and more studies should be conducted with larger sample sizes to substantiate these findings. Participants matched via the propensity score matching for the overall analyses were further compared on the specific art forms that were assessed. Independent samples 't' tests were performed to assess wellbeing outcomes in participants for various art forms including theatre, music, visual arts, craft, heritage and culture, dance, as well as other reported art forms. In this analysis, the film and literary genre was excluded as there were insufficient participants to conduct a meaningful analysis. In addition, Hedges' *g* was calculated for the subgroup analyses instead of Cohen's *d* due to the highly unequal sample sizes between the control and treatment group (Ellis, 2010). The interpretation of both Hedges' *g* and Cohen's *d* are similar; the differences lie in the calculation, where Hedges' *g* calculates the effect size using the pooled and weighted standard deviation and Cohen's *d* uses the pooled standard deviation (Durlak, 2009). Art-form specific group compositions used for the analyses can be found in Table 6. The results of the analyses for each art form will be discussed in the subsequent sections. A summary of the significant findings can be found in Table 7.

Table 6. Group Composition for Art-form Specific Engagement Groups and Matched Controls

Art Form	<i>Passive Engagement</i>		<i>Active Engagement</i>	
	<i>Treatment</i>	<i>Control</i>	<i>Treatment</i>	<i>Control</i>
Theatre	7	723	17	427
Music	20	710	36	367
Dance	16	714	33	411
Visual Arts	21	709	47	397
Craft	22	708	39	405
Heritage and Culture	11	719	22	422
Other Art Forms	15	715	30	414

Table 7. Summary of ‘t’ test Findings by Art Forms

Wellbeing Variables	Art Forms													
	<u>Theatre</u>		<u>Music</u>		<u>Dance</u>		<u>Visual</u>		<u>Craft</u>		<u>Heritage</u>		<u>Other</u>	
	Passive	Active	Passive	Active	Passive	Active	Passive	Active	Passive	Active	Passive	Active	Passive	Active
Quality of Life (WHOQOL-8)			†	*	*	*		†	*	*			*	*
SF20 - Health Perception		†		†	*	*							†	
SF20 - Pain					*	*			*					
SF20 - Social Functioning						†	†	*						
SF20 - Role Functioning														
SF20 - Physical Functioning														
SF20 - Mental Health					*	*							*	*
Interpersonal Support (ISEL-S)					*	*					†	*		
Appraisal Support Subscale					*	*						*		
Belonging Support Subscale					*	*					†	*		
Tangible Support Subscale					*	*						*		
Spiritual Wellbeing (FACIT-Sp-12)	†	†	*	*	*	*	†	†	*		†	†	*	*
Meaning Subscale		*	*	*	*	*	*	†	*	†	†	†	*	*
Peace Subscale				*	*	*	*	†	*	†			*	*
Faith Subscale	†													†

Note: * indicates significant differences ($p < .05$) between the arts engagement group and control group, † indicates marginally significant differences ($p < .01$) between the arts engagement group and control group.

Theatre. Marginal significance was observed for the spiritual wellbeing scale where theatre-goers reported a greater sense of spiritual wellbeing ($M = 39.1$, $SD = 7.75$) as compared to non-theatre goers ($M = 33.3$, $SD = 8.02$), $t(728) = 1.93$, $p = .05$, Hedges’ $g = 0.73$. Participants who actively participated in theatre-related activities (such as being a part of a theatre production) scored significantly better ($M = 14.5$, $SD = 2.21$) in the life meaning subscale of spiritual wellbeing as compared to the other participants ($M = 13.1$, $SD = 2.72$), $t(442) = 2.16$, $p = .031$, Hedges’ $g = 0.54$ who did not actively participate in such activities. In addition, although marginally significant, participants who were active in theatre events also reported better perceived health ($M = 80.9$, $SD = 16.9$) as compared to the others who were not active ($M = 72.3$, $SD = 19.0$), $t(442) = 1.84$, $p = .067$, Hedges’ $g = 0.45$. The overall

findings suggested that active and passive engagements in theatre-related activities may be beneficial to spiritual wellbeing and perceived health among Singaporean older adults.

Music. Respondents in this study who passively engaged in music activities (e.g. listening to music or attending music performance) reported better spiritual wellbeing ($M = 37.0$, $SD = 8.11$) as compared to matched controls ($M = 33.2$, $SD = 8.02$), $t(728) = 2.06$, $p = .04$, Hedges' $g = 0.47$. Similarly, this group of participants also reported greater meaning in life scores ($M = 13.6$, $SD = 2.23$) as compared to their non-music listening counterparts ($M = 12.1$, $SD = 2.89$, $t(728) = 2.29$, $p = .022$, Hedges' $g = 0.52$). Although marginally significant, older adults who reported passive engagements in music activities experienced better quality of life ($M = 32.8$, $SD = 4.84$) as compared to those who did not engage in such activities ($M = 30.9$, $SD = 4.20$), $t(728) = 1.89$, $p = .06$, Hedges' $g = 0.43$. Similarly, the findings for participants who were actively engaged in music activities (e.g. playing a music instrument, performing in an opera) experienced significantly greater quality of life ($M = 33.7$, $SD = 4.26$), as compared to those who did not engaged in such activities ($M = 31.9$, $SD = 4.17$), $t(442) = 2.69$, $p = .007$, Hedges' $g = 0.43$). Also, these active participants scored higher for the spiritual wellbeing scale ($M = 38.4$, $SD = 7.29$) in contrast to matched controls ($M = 35.5$, $SD = 7.60$), $t(442) = 2.40$, $p = .017$, Hedges' $g = 0.12$; as well as the peace, $t(442) = 2.62$, $p = .009$, Hedges' $g = 0.42$; and life meaning subscales, $t(442) = 2.40$, $p = .001$, Hedges' $g = 0.52$. Finally, participants who were actively engaged in music-related activities also reported marginally significant differences in perceived health, where they fared slightly better ($M = 77.2$, $SD = 18.3$) as compared to the matched controls ($M = 72.1$, $SD = 19.0$), $t(422) = 1.68$, $p = .0937$, Hedges' $g = 0.27$. These findings suggested that participation in music-related activities had positive effects on an individual's quality of life, spiritual wellbeing, specifically a greater sense of peace and meaning in life.

Visual Arts. Participants who were passively engaged in visual arts events (e.g. attending an art exhibition) reported a significantly elevated meaning in life ($M = 13.5$, $SD = 2.52$) in comparison to participants who were not engaged in visual arts activities ($M = 12.1$, $SD = 2.89$), $t(728) = 2.15$, $p = .032$, Hedges' $g = 0.48$; including a greater sense of peace ($M = 13.2$, $SD = 2.86$) than matched controls ($M = 12.0$, $SD = 2.83$), $t(728) = 2.01$, $p = .044$, Hedges' $g = 0.45$. Although marginally significant, older adults who passively engaged in visual arts events also reported improved social functioning ($M = 98.1$, $SD = 6.02$) than matched older adults ($M = 89.7$, $SD = 22.4$), $t(728) = 1.72$, $p = .087$, Hedges' $g = 0.38$; as well as better overall spiritual wellbeing ($M = 36.6$, $SD = 6.04$), compared to matched controls ($M = 33.2$, $SD = 8.08$), $t(728) = 1.89$, $p = .059$, Hedges' $g = 0.42$. Active engagement in visual arts activities (e.g. photography) also yielded similar effects on an individual's wellbeing. Respondents who actively participated in visual arts activities reported better social functioning ($M = 98.7$, $SD = 4.94$) than those who did not engage in visual arts activities ($M = 93.3$, $SD = 18.1$), $t(442) = 2.04$, $p = .042$, Hedges' $g = 0.32$. Visual arts participants also reported greater quality of life ($M = 33.2$, $SD = 4.02$) than non-art-active controls ($M = 32.0$, $SD = 4.21$), $t(442) = 1.93$, $p = .054$, Hedges' $g = 0.30$, although this finding was marginally significant. Similarly, visual arts participants reported greater scores ($M = 37.8$, $SD = 6.00$) than matched controls ($M = 35.6$, $SD = 7.75$), $t(442) = 1.87$, $p = .061$, Hedges' $d = 0.29$, for overall spiritual wellness. These findings illustrated the potential benefits stemmed from engagement in visual arts activities and events, including enhancements in spiritual wellbeing, life meaning and sense of peace, as well as social functioning.

Dance. Based on the exploratory t-tests conducted, it was evident that there was a myriad of benefits for both passive and active engagements in dance activities. The detailed statistical results for this section will be reflected in Table 8 below. Passive engagements in

dance activities (e.g. attending or watching dance performances) appeared to yield significant benefits in terms of enhanced quality of life, perceived health, mental health, interpersonal support (including appraisal, tangible and belonging support subscales) and spiritual wellbeing (including meaning and peace subscales), as well as lesser bodily pain. Similar results were also observed for actively engaged participants (e.g. participating in a line dance class), where participants reported significantly better quality of life, mental health, perceived health, social support, spiritual wellbeing, lesser bodily pain, as well as a marginally significant increase in social functioning scores. These findings suggested that engagement in dance activities was beneficial for physical, social and psychological wellbeing.

Craft. Participants who passively engaged in craftwork events (e.g. joining a tour to the local kiln, watching pottery demonstrations) experienced better wellbeing on several indices. Specifically, these participants reported better quality of life scores ($M = 33.6$, $SD = 4.85$) as compared to matched controls who did not attend craft events ($M = 30.9$, $SD = 4.18$), $t(728) = 3.05$, $p = .002$, Hedges' $g = 0.66$. In addition, respondents who attended craft activities reported greater overall spiritual wellbeing ($M = 36.6$, $SD = 9.32$) in comparison to matched controls ($M = 33.2$, $SD = 7.98$), $t(728) = 1.97$, $p = .049$, Hedges' $g = 0.43$. Similar findings were found for the spiritual wellbeing subscales of meaning in life $t(728) = 2.47$, $p = .014$, Hedge' $g = 0.53$, and peace $t(728) = 2.28$, $p = .023$, Hedges' $g = 0.49$. Also, participants who reported passive engagement in craft activities experienced more bodily pain ($M = 27.3$, $SD = 25.1$) as compared to their matched controls ($M = 17.7$, $SD = 20.6$), $t(728) = 2.14$, $p = .033$, Hedges' $g = 0.46$, a surprising finding. Nonetheless, active engagements in craft activities (e.g. doing embroidery and handicraft) was beneficial to the participants' quality of life ($M = 33.6$, $SD = 4.52$) in comparison with participants who did not engaged in such activities ($M = 32.0$, $SD = 4.15$), $t(442) = 2.30$, $p = .022$, Hedges' $g = 0.39$. Additionally, there were marginally significant differences in spiritual wellbeing

subscale scores, suggesting that older adults who are actively involved in craft activities experienced better life meaning $t(442) = 1.96, p = .050$, Hedges' $g = 0.33$, and peace in their lives $t(442) = 1.89, p = .059$, Hedges' $g = 0.32$. These results highlighted the potential benefits of participatory craft activities in enhancing the quality of life and spiritual wellness of an individual.

Table 8. Arts Engagement and Control Group Differences in Wellbeing Scores for Dance

Wellbeing	Passive Arts Engagement (Dance) ^a					Active Arts Engagement (Dance) ^b				
	Treatment (n=16) (Mean ± SD)	Control (n=714) (Mean ± SD)	t(728)	p	Effect Size	Treatment (n=33) (Mean ± SD)	Control (n=411) (Mean ± SD)	t(442)	p	Effect Size
Quality of Life (WHOQOL-8)	34.5 ± 3.5	30.9 ± 4.2	3.38	.001*	0.85	34.1 ± 3.5	31.9 ± 4.2	2.81	.005*	0.51
Short Form Health Survey (SF-20)										
SF20 - Health Perception	79.4 ± 12.5	67.7 ± 20.6	2.25	.025*	0.57	82.4 ± 12.0	71.8 ± 19.3	3.12	.002*	0.56
SF20 - Pain Domain	6.25 ± 12.0	18.2 ± 20.9	2.28	.023*	0.58	6.1 ± 12.7	18.3 ± 20.4	3.41	.007*	0.62
SF20 - Social Functioning	98.8 ± 5.0	89.7 ± 22.3	1.61	.107	0.41	99.4 ± 3.5	93.4 ± 17.9	1.91	.056	0.35
SF20 - Mental Health	89.3 ± 8.2	80.7 ± 15.2	2.24	.026*	0.57	90.7 ± 7.2	84.0 ± 14.0	2.70	.007*	0.49
Interpersonal Support (ISEL-S)	41.8 ± 6.7	37.0 ± 6.3	3.03	.003*	0.77	42.3 ± 5.9	38.7 ± 6.6	3.02	.003*	0.55
Appraisal Subscale	14.1 ± 2.1	12.4 ± 2.3	2.90	.004*	0.73	14.3 ± 2.0	12.9 ± 2.5	3.09	.002*	0.56
Belonging Subscale	13.8 ± 2.6	12.0 ± 2.5	2.73	.007*	0.69	13.9 ± 2.2	12.7 ± 2.5	2.85	.005*	0.52
Tangible Subscale	14.0 ± 2.3	12.6 ± 2.2	2.44	.015*	0.62	14.1 ± 2.1	13.2 ± 2.3	2.22	.027*	0.40
Spiritual Wellbeing (FACIT-Sp-12)	38.1 ± 8.1	33.2 ± 8.0	2.40	.017*	0.61	37.5 ± 7.3	35.7 ± 7.6	1.37	.173	0.25
Meaning Subscale	14.3 ± 2.1	12.1 ± 2.9	2.97	.003*	0.75	14.5 ± 1.9	13.0 ± 2.7	2.99	.003*	0.54
Peace Subscale	13.9 ± 2.5	12.0 ± 2.8	2.76	.006*	0.70	14.0 ± 2.4	12.8 ± 2.7	2.40	.017*	0.43
Faith Subscale	9.88 ± 4.7	9.14 ± 3.9	0.75	.452	0.19	9.09 ± 4.5	9.85 ± 3.8	1.08	.280	0.20

^an = 730, ^bn = 444. ^cHedges' g is reported over Cohen's d due to unequal sample sizes between control and treatment group; *p < .05. Note: Only statistically significant wellbeing outcomes are reported in this table.

Heritage and Culture. The advantages of engagement in heritage and culture events were generally related to the social wellbeing of the participants. Although marginally significant, respondents who passively engaged in heritage events (e.g. going for heritage walks) reported enhanced interpersonal support ($M = 40.5$, $SD = 7.63$) in comparison to participants who were not involved in these activities ($M = 37.0$, $SD = 6.32$), $t(728) = 1.82$, $p = .069$, Hedges' $g = 0.55$, especially a stronger sense of belongingness, $t(728) = 1.86$, $p = .063$, Hedges' $g = 0.56$. Also marginally significant, participants who were passively engaged in heritage and culture also had a higher meaning in life scores ($M = 13.6$, $SD = 2.38$) than their matched counterparts ($M = 12.1$, $SD = 2.89$), $t(728) = 1.72$, $p = .084$, Hedges' $g = 0.53$. For participants who were actively engaged in the heritage and culture activities (e.g. guides and docents for heritage tours), they experienced significantly greater levels of overall interpersonal support ($M = 42.6$, $SD = 6.16$) as compared to those who were not actively engaged in heritage and culture arts activities ($M = 38.8$, $SD = 6.58$), $t(442) = 2.61$, $p = .009$, Hedges' $g = 0.58$. The positive effects can also be observed in the individual domains of interpersonal support, including appraisal support, $t(442) = 2.12$, $p = .035$, Hedges' $g = 0.46$; instrumental support, $t(442) = 1.98$, $p = .049$, Hedges' $g = 0.43$; and sense of belongingness subscales, $t(442) = 3.04$, $p = .003$, Hedges' $g = 0.66$. In addition, there was a marginally significant difference in the meaning subscale of the spiritual wellbeing scale, where older adults active in heritage and culture activities reported higher scores ($M = 14.2$, $SD = 1.97$) than their peers ($M = 13.1$, $SD = 2.74$), $t(442) = 1.86$, $p = .064$, Hedges' $g = 0.41$. These findings demonstrated that engagement in heritage and culture activities and events could result in an improvement in perceived social support and potentially an increase in life meaning.

Other Art Forms. Respondents in this study reported engagement in art forms that were not covered in the previous sections. Examples include floral arrangements, culinary art

activities and community art events encompassing multiple art forms. Specifically, respondents who engaged in this form of art in a passive capacity (e.g. attending a community arts event as a spectator), experienced a better quality of life ($M = 34.1$, $SD = 4.45$) as compared to their peers who did not engage in such events ($M = 34.9$, $SD = 4.20$), $t(728) = 2.92$, $p = .004$, Hedges' $g = 0.76$. This group of participants also reported better mental health ($M = 90.7$, $SD = 8.90$) as compared to their peers ($M = 80.7$, $SD = 15.2$), $t(728) = 2.54$, $p = .011$, Hedges' $g = 0.66$, and marginally significant improvements in their perceived physical health scores ($M = 78.0$, $SD = 18.3$) as compared to those who were not engaged in the arts ($M = 67.8$, $SD = 20.5$), $t(728) = 1.92$, $p = .056$, Hedges' $g = 0.50$.

Additionally, there was a significant difference in spiritual wellbeing scores, where older adults in the passive arts engagement group reported higher overall scores ($M = 38.3$, $SD = 6.66$) than the matched controls ($M = 33.2$, $SD = 8.04$), $t(728) = 2.42$, $p = .016$, Hedges' $g = 0.63$; as well as in the meaning, $t(728) = 2.52$, $p = .012$, Hedges' $g = 0.66$; and peace subscales, $t(728) = 2.57$, $p = .010$, Hedges' $g = 0.67$. The results were similar for participants who were actively engaged in these participatory art activities. Art-active older adults reported greater quality of life ($M = 34.1$, $SD = 4.11$) than non-art active older adults ($M = 31.9$, $SD = 4.18$), $t(442) = 2.77$, $p = .006$, Hedges' $g = 0.52$. They also fared better in mental health measures ($M = 90.1$, $SD = 10.0$) as compared to those who were not actively engaged in art activities ($M = 84.1$, $SD = 13.8$), $t(442) = 2.33$, $p = .020$, Hedges' $g = 0.44$. There was also a significant difference in the spiritual wellbeing assessments for those who participated in this art form ($M = 39.5$, $SD = 6.57$), than those who did not ($M = 35.5$, $SD = 7.61$), $t(442) = 2.80$, $p = .005$, Hedges' $g = 0.53$, including the meaning, $t(442) = 2.80$, $p = .005$, Hedges' $g = 0.53$; and peace subscales, $t(442) = 2.56$, $p = .011$, Hedges' $g = 0.48$. These findings indicated that engagement in community arts or other art forms was beneficial to the quality of life, spiritual wellness mental health of the participants.

Chapter Five: Discussion

Summary of Findings

The findings of this study provided multiple contributions to the literature. Firstly, this is the first study in East Asia which comprehensively evaluated arts engagement in a large population sample of older adults. The participants recruited for this study were a naturalistic sample of community dwelling older adults. Due to the stratified sampling methodology, the demographic structure of the sample was representative of Singapore's population statistics. Secondly, investigations on the patterns of engagement provided researchers, practitioners and policymakers with insights to the behaviours, motivations and preferences of the older adults in Singapore. Passive arts engagement rates in this sample was 60%, and active arts engagement rates was 17%. Older adults preferred to engage in art activities at accessible locations close to their area of residence, and usually participated in activities with a friend, family member or alone. The cultural and heritage genre piqued the most interest among participants of this study. These findings shed light on the current state-of-affairs of the arts scene for older adults in Singapore, providing important information for stakeholders promoting creative ageing in Singapore.

Thirdly, the results of the exploratory correlational and regression analyses demonstrated the positive associations between engagement in the arts and multiple psychological, social, spiritual and physical wellbeing measures. These positive associations were sustained after controlling for covariates in the exploratory regression analyses. Fourthly, using the propensity score method and paired sample 't'-tests, causal relationships between arts engagement and holistic wellbeing was established. This is the first few studies known to utilize such analyses methods in the field of arts-based research and thus provided robust support to the literature on the significant role of participatory arts in enhancing the health and wellbeing of older adults. After participants were matched using the propensity

score method, the findings from the paired sample 't'-tests indicated that respondents who were in the passive and active art engagement groups reported better quality of life, health perception, belonging support and spiritual wellbeing scores. In other words, respondents who were engaged in participatory art activities enjoyed a greater quality of life, felt healthier and more supported by their social network, and experienced more meaning in life. Finally, the exploratory 't'-tests on individual art forms also revealed the potential benefits of each art form for Singaporean older adults, with dance involvement appearing to be the most beneficial. However, this current study was unable to rule out the potential for reverse causality and more studies would be required to support these findings. Overall, the findings presented addressed the research goals in this thesis and supported the research hypothesis, providing strong evidence of the benefits of participatory arts in the East Asian context. In the following sections, the findings will be discussed in relation to the current literature and cultural context.

Differences in Passive and Active Engagements

Findings from the propensity score analyses demonstrated that there were variations in the impact of passive and active engagements on the health and wellbeing of the participants. Respondents in the passive arts engagement groups reported enhanced social support, while those in the active arts engagement groups reported a greater sense of spiritual wellbeing. To understand the differences in outcomes, the "Audience Involvement Spectrum" developed by the James Irvine foundation may provide some explanations (Brown, Gilbride & Novak, 2011). This model illustrated the intensity and involvement of an audience in the artistic experience. At one end of the spectrum was the *receptive* nature of engagement, where audiences received a completed artistic product as a spectator. The emotional and intellectual exchange between audience members and the artists while viewing an artwork or watching a performance could elicit a sense of connection, potentially contributing to the

enhanced social support. Moreover, respondents in this thesis reported attending such events in social groups such as with their friends and family members, strengthening their social experience and bonds. Moving along the spectrum toward the *participatory* stages in the model, art audiences would be more engaged in the creative process and empowered to exercise more creative control as they contributed to the creation or co-creation of an artistic product, which could lead to enhanced meaning-making and a greater sense of purpose.

Regarding social support, while this topic is a well-researched predictor of health, research from cultural psychology highlighted differences in the construal and impact of social support among various cultures and societies. Societies which are more collectivistic and independent in nature were found to benefit more from implicit social support instead of explicit social support (Markus & Kitayama, 1991; Taylor, Welch, Kim & Sherman, 2007). Implicit social support refers to the emotional comfort derived from the company of others in the individual's social circle, without the explicit discussion of their problems (Kim, Sherman & Taylor, 2008). The patterns of engagement found in this thesis reflected the older adults' preferences in attending an art activity or programme together with family or friends, which can be considered as a form of implicit social support. By engaging in the arts with their loved ones, the older adults would have experienced enhanced emotional and psychological benefits. The well documented biological, neural and psychological underpinnings of implicit social support among Asian populations could shed some light on the health enhancements, quality of life and social wellbeing experienced by the participants (Sherman, Kim & Taylor, 2009).

Impact of Individual Art forms on Health and Wellbeing

Dance and Movement

The exploratory analyses conducted on individual art forms suggested that engagements in dance was the most beneficial. Participants engaged in dance experienced

better perceived health, mental health, quality of life, spiritual wellbeing and social support. These results could be attributed to nature of dance engagement, which involved music listening, creative expression through physical movements, as well as the social interactions innate to the activity. The merits of creative expression were discussed in the earlier sections, and the abundant benefits of music engagement will be documented in the next section. Engagement in dance produced tangible changes in physical health including improvements to heart rate and oxygen uptake, lower body muscle flexibility and strength, as well as agility (De Angelis, Vinciguerra, Gasbarri, & Pacitti, 1998; Keogh, Kilding, Pidgeon, Ashley, & Gillis, 2009). Dance interventions were not only effective with healthy older adults but were also widely implemented as rehabilitation or therapy among patients with Parkinson's disease, survivors of a stroke, and persons with dementia. Among these populations, participation in dance programmes improved their gait speed, balance and functional mobility, all of which demonstrated the restorative effects these activities (Dos Santos et al., 2018; Guzmán-García, Hughes, James, & Rochester, 2013; Patterson, Wong, Nguyen, & Brooks, 2018). Although more research is required to ascertain the exploratory findings in the Singaporean context, the current literature provided strong support for the benefits of participatory dance programmes on health around the world.

Music

In this research, exploratory analyses showed that older Singaporeans experienced better quality of life, spiritual peace and meaning in life through passive or active engagements in music. Insights to these findings could be found in experimental studies on music listening and creation where multiple studies pointed toward the effects of music on the preservation of executive functioning and support for emotional wellbeing (Jordan, 2019). In Iwanaga, Kobayashi, and Kawasaki's (2005) research study on repeated exposure to music, they found that music listening boosted subjective relaxation and influenced the heart

rate variability scores among the participants, suggesting the soothing effects of music on the nervous system. The relaxing effects of music were also applied in hospitals, where Bradt and her colleagues concluded in two Cochrane reviews that music interventions were effective in alleviating pre-operative anxiety and stress among patients (Bradt, Dileo, & Shim, 2013; Bradt, Dileo, & Potvin, 2013). The evaluation of the Music for Life project in the United Kingdom succinctly summed up ways which music activities could enhance the quality of life at old age: cognitive stimulation in terms of acquiring new skills and repeated practice, health and emotional benefits such as stress relief and the creation of life goals (Hallam & Creech, 2016).

Heritage and Culture

Art audiences who engaged in heritage and cultural activities reported significant improvements in social support as compared to participants who did not engage in such activities. Moreover, Singaporean older adults expressed the most interest for the heritage and culture genre. Cultural and heritage research in the United Kingdom underscored the value of museum and art galleries as sites for public health interventions, noting the important yet underutilized role of the museums in building social and emotional capital, encouraging a sense of belonging and skill development, all of which were key components in health promotion (Camic & Chatterjee, 2013). Findings from the Museums on Prescription research team's grounded theory investigation theorised that opportunities for social inclusion and wellbeing among older adults were enabled via the safety of the museum space which created new experiences for exploration and social engagement (Todd, Camic, Lockyer, Thomson, & Chatterjee, 2017). Similarly, the museums and gallery spaces in Singapore has the potential to enable new experiences among older adults, with the immersive and accessible art space encouraging exploration. Moreover, providing tours at familiar environments such as

historical monuments and heritage sites were also platforms for older adults to connect with visitors through their stories and narratives.

Visual Arts

Older adults who engaged in visual arts in this research reported greater quality of life and spiritual wellbeing in this thesis. Although much less research were conducted with visual arts interventions as compared to dance and music activities, visual arts participation and attendance was consistently found to enhance psychological and mental health (Leckey, 2011). These findings provided strong support for the literature on visual arts engagement. Participation in visual arts activities such as sculpting, painting, drawing or colouring was an engaging and fun way to aid the development or maintenance of fine motor skills due to the techniques required to create an art work and was found to enhance functional brain connectivity (Bolwerk, Mack-Andrick, Lang, Dörfler, & Maihöfner, 2014). Creative expression in visual arts activities also encouraged meaning-making, fulfilment and growth among older adults, and was a simple yet widely used intervention with populations living with life-limiting illnesses (Cour, Josephsson, & Luborsky, 2005; Collier, 2011; Dickie, 2011).

Implications of Research

The Arts for Creative Ageing in Asia

This thesis provided robust support that engagement in the arts was beneficial to East Asian older adults in terms of self-perceived health, quality of life, social support and spiritual wellbeing – which were proven predictors of health and longevity among the East Asian population (Feng, Zhu, Zhen, & Gu, 2015). Although arts and heritage activities were widely practiced across history by most civilizations, most research on the arts and health were predominantly from Western societies which did not adequately reflect the unique differences in arts and cultural practices and patterns of ageing in other societies (Bogen,

2016; Fung, 2013). The comprehensive measures of receptive and participatory art forms in this study evaluated engagement in cultural activities that were unique to the Chinese, Malay, Indian and Eurasian cultures in Singapore, and these measures could be adapted and assessed regionally. Taking engagement in theatre for example, on top of assessing the respondent's attendance and participation in plays, musicals and operas which were also assessed in investigations on cultural engagement in western arts and health research, this research also included engagements in traditional theatre such as the Chinese Opera, Bangsawan, Wayang Kulit and Getai. Chinese operas (or Xiqu) were commonly found in other Asian cultures such as China, Hong Kong, and Taiwan (Lovrick & Siu, 1998) while the Bangsawan is a traditional Malay opera widely practiced in Indonesia, Malaysia and Brunei (Tan, 1993). These culture specific arts could be assessed for future investigations on arts and health in East Asian societies.

The Arts for Social Isolation

This research also provided strong evidence for the enhancements of social support and community building through the arts. As social isolation and loneliness among the older population is prevalent in many societies including Singapore and is related to a host of negative health consequences (Cornwell, & Waite, 2009; Tomaka, Thompson, & Palacios, 2006; Lim & Kua, 2011), the arts can play an essential role in mitigating the risks of social isolation and enhance health. To address social isolation among older adults, there is a growing body of research investigating the use of arts for loneliness and social isolation in Western societies. Public health research demonstrated that passive arts engagements were negatively associated with loneliness among older adults (Tymoszuk, Perkins, Fancourt & Williamon, 2019). As mentioned in the "Heritage and Culture" section above, the museums for prescriptions study was specifically targeted at social isolated older adults and was found to improve psychological health of this population post-intervention (Camic & Chatterjee,

2013; Chatterjee & Thomson, 2015; Thomson, Lockyer, Camic, & Chatterjee, 2018). There were also many art programmes designed to alleviate social isolation among older adults but were not formally evaluated. The Baring Foundation published a report which consolidated these arts engagement programmes and detailed how they encouraged social participation and reduced social isolation in a sustainable manner (Cutler, 2012). Engagements in the arts should also be used more frequently in East Asian societies as a health promoting intervention to alleviate social isolation and strengthen resilience for a healthy ageing society.

Recommendations for Policy, Research and Programming

Policy Recommendations

In addition to this research's novel contribution to the growing international literature on the arts, health and wellbeing, these findings provide individuals, communities, stakeholders in the eldercare industry, as well as policymakers with strong evidence of the positive role the arts in the enhancement of holistic health and wellbeing among Singaporean older adults. For a start, there could be more inter-ministry dialogue such as potential collaborations between the National Arts Council and the Ministry of Health to support the health and wellbeing of the population. For instance, some initiatives raised in the Ministry of Health Committee of Supply Debate 2019 included enhancing community care and caregiving for Singaporeans to age in place, and equipping healthcare professionals with skills and competencies to cope with the demands of healthcare (Ministry of Health, 2019). Similarly, the National Arts Council aimed to connect people and communities through the arts, as well as to empower arts practitioners to inspire and reach more Singaporeans (National Arts Council, 2018). Apart from the proven health and wellbeing benefits from arts engagement, research from other regions proved that participatory arts engagement was effective in health education and communication and could be used in tandem with current health promotion campaigns (Haidet et al., 2016; Maffulli, Willson, & Morrissey, 2011).

Hence, both ministries could collaborate and integrate participatory arts practices into health promotion initiatives to empower Singaporeans and promote health. Furthermore, although a thorough economic evaluation of arts in healthcare programme could be done, emerging research has indicated that arts in health programmes and interventions might reduce the healthcare costs (State of the Field Committee, 2009). Policymakers could consider the development of policies and the provision of resources for organizations to run arts and health programmes for older adults to encourage health ageing, ageing in place and as a supplement to conventional therapies.

Arts for Health in Singapore

On top of adopting a health promoting approach to the arts at a policy level, inter-agency and inter-sector collaborations are recommended to harness the strengths and expertise of each sector to address a common goal of promoting health and wellbeing in society. While more research would be required to establish the curative effects of the arts, geriatric care professionals are strongly encouraged to consider the arts as a supplement to their daily practice for the provision of holistic care to older adults. Professional eldercare organizations could also consider incorporating arts practices and collaborations with artists and art organizations in care for older adults. Currently, there are such initiatives being piloted periodically in Singapore, such as the Agency for Integrated Care (AIC) Wellness Programme, Arts for Health programme offered by the Singapore General Hospital as well as the Arts & Health initiative by Jurong Health. These one-off activities may be beneficial in the short run, but longitudinal investigations by Tymoszuk and colleagues (2019) recommended that repeated engagements were crucial in enhancing wellbeing and life satisfaction among older adults. Thus, more of such programmes should be sustainably implemented across Singapore, with research and evaluation components built into the programme design to evaluate its effectiveness.

Moreover, arts, healthcare and research sectors are encouraged to engage in more dialogue and strong collaborations to develop arts in health interventions, sharing of knowledge and best practices. In line with the policy recommendations, practical suggestions to integrate the health and art sectors could be the provision of professional training to artists interested in working with specific populations, or training for healthcare professionals to be proficient in the integration of arts practices in their work in healthcare settings, and finally the evaluation of these initiatives to provide empirical support for future arts-based interventions. While there are sporadic workshops on the use of participatory arts and art-based therapies provided by training institutions such as the Social Service Institute, the Palliative Care Center for Excellence in Research and Education (PalC), and the Academy of Human Development, it may be challenging for practitioners to identify adequate or suitable training opportunities. A centralized education institution or centre for the arts could be developed to integrate the training opportunities available or even develop an accredited curriculum for professional arts in health programmes.

Furthermore, though there is growing interest in the arts and health scene in Singapore, little is known about the current initiatives and arts-based health interventions, and this lack of information may result in a misallocation of valuable resources. The National Arts Council organizes annual seminars and symposiums such as the Arts in Eldercare seminar and the Arts and Culture research symposium which are excellent opportunities for stakeholders to expand their networks and exchange knowledge. For the local field to progress at a faster rate, these dialogues and sharing among stakeholders should be ongoing even after the seminars and symposiums. Also, to consolidate the growing evidence base and current arts in health initiatives and programmes, a comprehensive research on the current state of arts and health in Singapore could be conducted.

Arts Programming

The findings of this study strengthened the support for more community-based art programmes in the heartlands and also highlighted the preferences and patterns of involvement of older adults in Singapore. As it was found that older adults preferred to engage in the arts at venues near their area of residence and engaged in the arts together with family and friends, service providers could organize arts engagement activities and outreach with this information. For example, the Silver Arts Festival is an annual festival that hosts a series of performances by artists, art organizations and community partners for the older adults in Singapore (National Arts Council, n.d.). In the festival's eight edition in 2019, there were a variety of art forms including mostly music performances, heritage walks, and film screenings held in various arts venues in Singapore including the National Library building and the Esplanade (National Arts Council, 2019). While there were some performances held in community spaces such as Geylang Serai and Tampines, most event venues were located in Central Singapore. Future runs of such events could be held across Singapore including the West, East, North, North-east regions of Singapore. In addition, understanding that older adults regarded the arts as a social activity and preferred to experience it with their friends and family members, programmes could be targeted towards intergenerational bonding or as a recreational activity to be enjoyed with friends.

Research Opportunities

This thesis had also revealed the different patterns of arts engagement among older adults, in terms of the preferred art types, art forms, interest levels and preferred company. By engaging in their preferred art types in a suitable environment, participants in this study experienced better health and wellbeing. Future research and programmes are recommended to adopt a participatory research approach to actively engage the older adults, understand their needs and empower them through the programmes developed (Baum, MacDougall, &

Smith, 2006). Even though this study revealed a causal relationship between participatory arts engagement and wellbeing, the mechanisms catalysing this relationship could only be hypothesized and inferred from past studies. As participatory arts activities and programmes are complex interventions, it may be implemented in different ways and may be more effective with certain groups of people, cultures or locations. Future research could adopt a realist approach in investigating what works in a participatory art programme, how the art programme works, and in what circumstances would the art programme be effective (Pawson & Tilley, 1997; Pawson, 2013).

Limitations and Potential Solutions

In spite of the promising findings, this study also has its limitations. Firstly, the study utilized cross-sectional data which assessed participants at a single time point. Therefore, although a causal relationship was identified between arts engagement and wellbeing using propensity score matching and t-tests, the issue of reverse causality was not addressed. For instance, engagement in an art activity was found to have positive effects on the quality of life of the older adult but the reverse could be true where someone who experienced better quality of life may engage in the arts more. Future studies should investigate the effects of arts engagement and population health by adopting a longitudinal design in Singapore, tracking participants for prolonged periods, employing the comprehensive assessment of art forms and art types from this study. Apart from the realist research approach mentioned above, experimental designs could also be implemented to assess the causal effects of art interventions on wellbeing, research that is greatly lacking in Singapore and other East Asian societies. As findings from the exploratory analyses indicated that individual art forms may have varying yet specific benefits on older adults, a detailed assessment could be conducted to evaluation the effects using a robust experimental design.

Secondly, most confounding variables except age and engagement in light intensity physical activity were balanced. Hence, care must be taken when interpreting the findings. Moreover, potential confounders such as the presence of other recreational activities as well as religious activities could also be included in future studies. Lastly, as the psychometric variables in this study were assessed via self-reports and there could potentially be memory and subjective biases, future studies could incorporate other measures of health and wellbeing indicators such as activity journals, biological markers, frequency of physician visits to supplement the current measures for an even more holistic assessment of health and wellbeing.

Conclusion

This research highlights the potential health benefits of arts engagement among community dwelling older adults and provided robust evidence for Asian societies to invest in the arts for health promotion. Locally, these findings shed light on the landscape of arts engagement and would be pivotal in developing an empirical foundation for the practice and research of the arts. With a deeper understanding of the potential of the arts for creative ageing and wellbeing, stakeholders should utilize the arts and culture to create a more resilient, inclusive and compassionate society.

“Youth is a gift of nature, but age is a work of art.”

Stanislaw Jerzy Lec

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Appendices

S1: Supplementary Figures and Tables

Top Venues for Participatory Arts Engagement

Figure 2. Commonly Reported Venues for Participatory Arts Engagement

Arts Engagement Companions

Figure 3. Reported Companions for Participatory Arts Engagement

Table 9. Interest in Various Art Genres

Art Genres	Interest Level (%)	Art Genres	Interest Level (%)
Theatre		Literary Arts	
Plays (Non-musical)	24	Reading	23
Musical	31	Creative Writing	8
Western Opera	10		
Traditional Theatre	34		
Variety Shows	43		
Street and Circus Performances	31		
Music		Heritage	
Western Classical	22	Events/ Activities on Culture, and Heritage	40
Traditional Ethnic	34	Guided Arts/ Heritage/Culture Tours	38
Vocal	35	Heritage Festivals	23
Folk, Ethnic, World	25	Heritage Buildings & Monuments	39
Jazz and Blues	17	Historic Districts	45
Popular, Rock, Indie, Alternative	36		
Dance		Film	
Ballet	16	Movies shown in Cinemas	43
Contemporary Dance	19	Art Films	10
Ballroom, Tap, Line, Latin Dance	26		
Folk, Traditional, Ethnic Dance	27		
Street Dance	13		
Visual Arts		Craft	
Art Fair	24	Craftwork	31
Art Auctions	5		
3D Arts	27		
Drawing and Painting	30		
Performance Art	11		
Photography	32	Other	
New Media Art	7	Community Art Events	28
Graffiti, Mural, Tile, Mosaic Art	12	Floral, Culinary Arts	5

N = 1067, Note: Interest level was calculated as participants who selected moderately/very interested in each art form

Table 10 Comparison of Covariates between matched and unmatched samples in art active and passive engagement groups

Variables	Active engagement			Passive engagement		
	Unmatched (n = 619)	Matched (n = 444)	P-value	Unmatched (n = 333)	Matched (n = 730)	P-value
Age (years)	66.4 ± 10.6	61.2 ± 8.3	<0.001	66.4 ± 11.1	63.2 ± 9.4	<0.001
Sex			<0.001			0.173
Male	308 (49.8)	170 (38.3)		160 (48.1)	318 (43.6)	
Female	311 (50.2)	274 (61.7)		173 (51.9)	412 (56.4)	
Marital Status			0.001			0.037
Single	147 (23.7)	68 (15.3)		80 (24.0)	135 (18.5)	
Married	472 (76.3)	376 (84.7)		253 (76.0)	595 (81.5)	
Educational status			<0.001			<0.001
No Formal Education	110 (17.8)	15 (3.4)		57 (17.1)	68 (9.3)	
Elementary school	341 (55.1)	210 (47.3)		176 (52.9)	375 (51.4)	
High school or Higher	168 (27.1)	219 (49.3)		100 (30.0)	287 (39.3)	
Ethnicity			0.010			0.758
Non-Chinese	137 (22.1)	70 (15.8)		63 (18.9)	144 (19.7)	
Chinese	482 (77.9)	374 (84.2)		270 (81.1)	586 (80.3)	
Religious belief			0.351			0.498
No religious belief	86 (13.9)	53 (11.9)		47 (14.1)	92 (12.6)	
Have a religious belief	533 (86.1)	391 (88.1)		286 (85.9)	638 (87.4)	
Employment status			<0.001			0.009
Unemployed/retired	388 (62.6)	219 (49.3)		213 (64.0)	394 (54.0)	
Part time employment	61 (9.9)	86 (19.4)		39 (11.7)	108 (14.8)	
Full time/ self-employed	170 (27.5)	139 (31.3)		81 (24.3)	228 (31.2)	
Monthly household income (SGD)			0.001			0.004
<1,000	164 (26.5)	86 (19.4)		96 (28.8)	154 (21.1)	
1,000 - 2,999	197 (31.8)	124 (27.9)		106 (31.8)	215 (29.5)	
>3,000	258 (41.7)	234 (52.7)		131 (39.4)	361 (49.4)	
Housing type			<0.001			0.099
1-2 room HDB flat	55 (8.9)	14 (3.2)		29 (8.7)	40 (5.5)	
3-4 room HDB flat	389 (62.8)	226 (50.9)		194 (58.3)	421 (57.7)	
5 room HDB flat and others	175 (28.3)	204 (45.9)		110 (33.0)	269 (36.8)	
Physical activity level (hours)						
Light intensity (mean ± s.d.)	4.1 ± 7.4	6.9 ± 11.3	0.0002	4.6 ± 9.4	5.6 ± 9.3	0.023
Moderate intensity (mean ± s.d.)	1.7 ± 5.7	2.5 ± 6.6	0.0001	1.6 ± 5.2	2.2 ± 6.5	0.005
Vigorous intensity (mean ± s.d.)	0.2 ± 0.8	0.3 ± 1.2	0.015	0.2 ± 0.9	0.3 ± 1.0	0.009
Strength and balance (mean ± s.d.)	0.6 ± 1.6	0.8 ± 1.4	0.010	0.6 ± 1.9	0.7 ± 1.3	0.105
All physical activity (mean ± s.d.)	6.6 ± 10.6	10.5 ± 14.4	<0.001	7.1 ± 12.1	8.8 ± 12.6	0.0002

A1: Institutional Review Board (IRB) Approval

Research Support Office

Reg. No. 200604393R

IRB-2016-05-027

21 June 2016

Assistant Professor Ho Hau Yan Andy
School of Humanities and Social Sciences

NTU INSTITUTIONAL REVIEW BOARD APPROVAL

Project Title: The Arts for Ageing Well: A Landscape study on art participation and holistic wellbeing among current and future older generations of Singapore
(Amount Approved: SGD\$200,000; to be funded by National Art Council)

I refer to your application for ethics approval with respect to the above project.

The Board has deliberated on your application and noted from your application that your research involves collecting behavioral data from participants using surveys and interviews.

You have also confirmed that informed consent will be obtained from the participants and you have guaranteed the confidentiality of your participants' biodata obtained from them.

The documents reviewed are:

- a) NTU IRB application form dated **31 May 2016**
- b) Participant information sheet and consent form: version 1 dated **31 May 2016**
- c) Data collection form: version 1 dated **31 May 2016**

The Board is therefore satisfied with the bioethical consideration for the project and approves the ethics application under **Expedited** review. The approval period is from **21 June 2016** to **01 August 2017**. The NTU IRB reference number for this study is **IRB-2016-05-027**. Please use this reference number for all future correspondence.

The following protocol and compliances are to be observed upon NTU IRB approval

1. All research involving procedures greater than minimal risk on minors (individuals who are less than the legal age of 21 years old) requires IRB approved written Parental Consent and assent from the participant to be obtained before any research protocols can be administered. Minimal risk refers to an anticipated level of harm and discomfort that is no greater than that ordinarily encountered in daily life, or during the performance of routine educational, physical, or psychological examination.
2. Only the approved Participants Information Sheet and Consent Form should be used. It must be signed by each subject prior to initiation of any protocol procedures. In addition, each subject should be given a copy of the signed consent form.

Blk N2.1, B4-01, 76 Nanyang Drive, Singapore 637331 Nanyang Avenue, Singapore 639798
Tel : +65 6791 9857, Fax: 6793 2019
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Research Support Office

3. Consent forms are important documents therefore they should be stored in the strictest arrangement. Loss of consent form would result in disciplinary action.
4. No deviation from, or changes of, the protocol should be initiated without prior written NTU IRB approval of an appropriate amendment.
5. The Principal Investigator should report promptly to NTU IRB regarding:
 - a. Deviation from, or changes to the protocol.
 - b. Changes increasing the risk to the subjects and/or affecting significantly the conduct of the trial
 - c. All serious adverse events (SAEs) which are both serious and unexpected.
 - d. New information that may affect adversely the safety of the subjects of the conduct of the trial.
 - e. Completion of the study.
6. Continuing Review Request/ Notice of Study completion form should be submitted to NTU IRB for the following:
 - a. Annual review: Status of the study should be reported to the NTU IRB at least annually using the Continuing Review Request/ Notice of Study completion form.
 - b. Study completion or termination: Continuing Review Request/ Notice of Study completion form is to be submitted within 4 to 6 weeks of study completion or termination.
7. All Principal Investigators should comply with existing legislation that would have an impact on the domain of their research.

A handwritten signature in black ink, appearing to read "Lee Sing Kong".

Professor Lee Sing Kong,
Chair, NTU Institutional Review Board
encl.

cc Chair, School of Humanities and Social Sciences
Members, NTU Institutional Review Board

A2. List of Art Forms

Theatre	Plays (Non-musical)
	Musicals
	Western Opera
	Traditional Theatre (e.g. Chinese Opera, Bangsawan, Wayang Kulit)
	Variety Shows (e.g. Cultural nights, Stand-up comedy, Magic shows, Getai)
Music	Western Classical Music (e.g. Orchestra, Chamber, Symphony, Ensemble, Quartet, Instrument Recital, Opera Singing)
	Traditional Ethnic Music (e.g. Chinese Orchestra, Angklung, Sitar)
	Vocal Music (e.g. Choral, Acappella)
	Folk, Ethnic, World Music
	Jazz and Blues
	Popular, Rock, Indie, Alternative Music
Dance	Ballet
	Contemporary Dance
	Ballroom, Tap, Line Dance, Latin Dance (e.g. Salsa, Flamenco)
	Folk, Traditional, Ethnic Dance
	Street Dance (e.g. Hip-hop, Breakdance)
Visual Art	Art Fairs
	Art Auctions
	3D Art (e.g. Sculpture, Ceramics, Pottery)
	Drawing and Painting
	Performance Art (e.g. Showcase of an artist's physical body)
	Photography
	New Media Arts (e.g. Video Art, Sound Art, Web-based arts)
	Graffiti, Mural, Tile, Mosaic Art
Literary Arts	Reading stories, poetry or graphic novels for leisure (excluding newspapers, magazines, comic strips, technical books, self-help books and text books)
	Creative writing (e.g. Story writing, poetry, creative journals, blogs, book launch, creative writing workshops)
Craft	Craftwork (e.g. Handicraft, Embroidery, Woodwork)
Film	Movies shown in Cinemas
	Art Films shown in Cinemas or other venues (e.g. South-east Asian Film Festival)
Heritage-related	Activities/ Events on Culture, History and Heritage
	Guided Arts/ Heritage/ Cultural Tours and Trails
	Heritage Festivals and Activities (e.g. Singapore Heritage Fest, Night Festival, Explore Singapore, Explore Singapore)
	Visiting Heritage Buildings and Monuments (e.g. Tanjong Pagar Railway Station, Sultan Mosque, Sri Mariamman Temple, Raffles Hotel, Thian Hock Keng Temple)
	Visiting Historic Districts (e.g. Chinatown, Little India, Kampong Glam, Civic District, Joo Chiat)
Other	Community Art Events / Activities in Public Spaces, Community Centers, Shopping Malls (e.g. PAssionArts, Arts in your Neighborhood, Silver Arts, Arts @ Work)
	Other: Culinary Art, Floral Art

(Source: National Arts Council, 2013)

A3. Questionnaire Items

Demographic Information

BASIC DEMOGRAPHIC DATA			
1. Age: _____		2. Gender: ☐ Male ☐ Female	
3. Marital Status: ☐ Single ☐ Married ☐ Divorced / Separated ☐ Widowed			
4. Number of Children: ☐ None ☐ 1 ☐ 2 ☐ 3 or above			
5. Education Level: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;">☐ No formal education</div> <div style="width: 33%;">☐ 'N'/'O' Levels</div> <div style="width: 33%;">☐ Bachelor's Degree</div> <div style="width: 33%;">☐ Some Primary</div> <div style="width: 33%;">☐ 'A' Level/NITEC/Higher NITEC</div> <div style="width: 33%;">☐ Postgraduate Degree</div> <div style="width: 33%;">☐ PSLE or Equivalent</div> <div style="width: 33%;">☐ Polytechnic Diploma</div> <div style="width: 33%;">☐ Others: _____</div> <div style="width: 33%;">☐ Some Secondary</div> <div style="width: 33%;">☐ Professional Diploma</div> </div>			
6. Ethnicity: ☐ Chinese ☐ Malay ☐ Indian ☐ Others: _____			
7. Religious Beliefs: ☐ Buddhist ☐ Catholic ☐ Muslim ☐ No religious belief ☐ Taoist ☐ Christian ☐ Hinduism ☐ Others: _____			
8. Employment Status: ☐ Full-time ☐ Part-time ☐ Unemployed ☐ Retired ☐ Others: _____			
9. Current Occupation (or past occupation if unemployed/retired): _____			
10. Monthly Household Income (S\$) (includes allowance from children, CPF retirement payout, investment bonus, etc) <div style="display: grid; grid-template-columns: repeat(4, 1fr); gap: 5px;"> <div>☐ No Income</div> <div>☐ 3,000 – 3,999</div> <div>☐ 8,000 – 8,999</div> <div>☐ 13,000 – 13,999</div> <div>☐ Less than 500</div> <div>☐ 4,000 – 4,999</div> <div>☐ 9,000 – 9,999</div> <div>☐ 14,000 – 14,999</div> <div>☐ 500 – 999</div> <div>☐ 5,000 – 5,999</div> <div>☐ 10,000 – 10,999</div> <div>☐ 15,000 and above</div> <div>☐ 1,000 – 1,999</div> <div>☐ 6,000 – 6,999</div> <div>☐ 11,000 – 11,999</div> <div>☐ Refused to share</div> <div>☐ 2,000 – 2,999</div> <div>☐ 7,000 – 7,999</div> <div>☐ 12,000 – 12,999</div> </div>			
11. Type of Residence <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;">☐ 1 or 2-room flat</div> <div style="width: 33%;">☐ 5-room/Executive /Mansionette flat</div> <div style="width: 33%;">☐ Landed Property</div> <div style="width: 33%;">☐ 3-room flat</div> <div style="width: 33%;">☐ Executive Condominium/ Condominium</div> <div style="width: 33%;">☐ Others: _____</div> <div style="width: 33%;">☐ 4-room flat</div> </div>			
12. Who are you currently staying with: _____			
13. Presence of chronic illness: ☐ Yes ☐ No			
14. If yes, please specify type of illness (select all that apply): ☐ Diabetes ☐ Heart Disease ☐ Hypertension ☐ Cancer ☐ Others: _____			
Time since diagnosis (month/year) <div style="display: flex; justify-content: space-between;"> <div>15. Diabetes: _____ (mth) _____ (yr)</div> <div>17. Hypertension: _____ (mth) _____ (yr)</div> <div>19. Others: : _____ (mth) _____ (yr)</div> </div> <div style="display: flex; justify-content: space-between;"> <div>16. Heart Disease: _____ (mth) _____ (yr)</div> <div>18. Cancer: _____ (mth) _____ (yr)</div> </div>			
20. If applicable, stage of disease: _____			
21. Comments:			

Assessment of Arts in Everyday Life

1. What comes to your mind when you think of “the Arts”?
2. Describe your most memorable experience with the arts.
3. What do you think are the main benefits of participating in the arts?

Assessment of Arts Engagement

I am going to ask you about your arts interest and engagement habits. For clarification: “Attendance” refers to **physically** (i.e. not on TV or through the internet) watching a live arts or culture performance, visiting an arts or culture exhibition, reading etc. “Participation means that you are **actively involved** (i.e. not just watching a performance, but taking lessons, practicing as part of a past-time or hobby, doing projects, etc). These do not include activities that you may have done for paid work, academic or school purposes.

THEATRE PERFORMANCES				
(A) Plays (non-musical)				
A1. In general, how interested are you in plays (non-musical)?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
A2. Did you attend a play in the past 6 months ?				
☐ Yes	☐ No [Skip to A5]			
A3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
A4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
A5. Apart from attending, have you personally participated in a play in the past 3 months ?				
☐ Yes	☐ No [Skip to B1]			
A6. If yes, how many times did you do this during the past 3 months? _____ (times)				
A7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
A8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(B) Musicals				
B1. In general, how interested are you in musicals ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
B2. Did you attend a musical in the past 6 months ?				
☐ Yes	☐ No [Skip to B5]			
B3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
B4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
B5. Apart from attending, have you personally participated in a musical in the past 3 months ?				
☐ Yes	☐ No [Skip to C1]			
B6. If yes, how many times did you do this during the past 3 months? _____ (times)				
B7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
B8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(C) Western Opera				
C1. In general, how interested are you in Western operas ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
C2. Did you attend a Western opera in the past 6 months ?				
☐ Yes	☐ No [Skip to C5]			
C3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
C4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
C5. Apart from attending, have you personally participated in a Western opera in the past 3 months ?				
☐ Yes	☐ No [Skip to D1]			
C6. If yes, how many times did you do this during the past 3 months? _____ (times)				
C7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
C8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

(D) Traditional Theatre (e.g. Chinese Opera, Bangsawan, Wayang Kulit)				
D1. In general, how interested are you in Traditional theatre ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
D2. Did you attend a Traditional theatre performance in the past 6 months ?				
☐ Yes	☐ No [Skip to D5]			
D3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
D4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
D5. Apart from attending, have you personally participated in Traditional theatre in the past 3 months ?				
☐ Yes	☐ No [Skip to E1]			
D6. If yes, how many times did you do this during the past 3 months? _____ (times)				
D7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
D8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(E) Variety Shows (e.g. Cultural Nights, Stand-Up Comedy, Magic Shows)				
E1. In general, how interested are you in Variety Shows ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
E2. Did you attend a Variety Show in the past 6 months ?				
☐ Yes	☐ No [Skip to E5]			
E3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
E4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
E5. Apart from attending, have you personally participated in a Variety Show in the past 3 months ?				
☐ Yes	☐ No [Skip to F1]			
E6. If yes, how many times did you do this during the past 3 months? _____ (times)				
E7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
E8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(F) Street and Circus Performances (e.g. Circus, large scale street performances like Chingay)				
F1. In general, how interested are you in Street and Circus Performances ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
F2. Did you attend a Street and Circus Performances in the past 6 months ?				
☐ Yes	☐ No [Skip to F5]			
F3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
F4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
F5. Apart from attending, have you participated in a Street and Circus Performance in the past 3 months ?				
☐ Yes	☐ No [Skip to G1]			
F6. If yes, how many times did you do this during the past 3 month? _____ (times)				
F7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
F8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(G) Other Theatre Events (Please specify: _____) [If none, Skip to H1]				
G1. In general, how interested are you in other theatre events ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
G2. Did you attend other theatre events in the past 6 months ?				
☐ Yes	☐ No [Skip to G5]			
G3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
G4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
G5. Apart from attending, have you personally participated in other theatre events in the past 3 months ?				
☐ Yes	☐ No [Skip to H1]			
G6. If yes, how many times did you do this during the past 3 month? _____ (times)				
G7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
G8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

MUSIC PERFORMANCES				
(H) Western Classical Music (e.g. Orchestra, Chamber, Symphony, Ensemble, Quartet, Instrumental Recital)				
H1.	In general, how interested are you in Western Classical Music ?			
	☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate ☐ Very
H2.	Did you attend a Western Classical Music event in the past 6 months ?			
	☐ Yes	☐ No [Skip to H5]		
H3.	If yes, how many times did you attend this during the past 6 months? _____ (times)			
H4.	Approximately, how many hours does each attendance last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____
H5.	Apart from attending, have you personally participated in a Western Classical Music in the past 3 months ?			
	☐ Yes	☐ No [Skip to H7]		
H6.	If yes, how many times did you do this during the past 3 months? _____ (times)			
H7.	About how many times did you do this in the past week?			
	☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week ☐ > 3, specify: _____
H8.	Approximately, how many hours does each participation/session last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____
(I) Traditional Ethnic Music (e.g. Chinese Orchestra, Angklung, Sitar)				
I1.	In general, how interested are you in Traditional Ethnic Music ?			
	☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate ☐ Very
I2.	Did you attend a Traditional Ethnic Music event in the past 6 months ?			
	☐ Yes	☐ No [Skip to I5]		
I3.	If yes, how many times did you attend this during the past 6 months? _____ (times)			
I4.	Approximately, how many hours does each attendance last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____
I5.	Apart from attending, have you personally participated in Traditional Ethnic Music in the past 3 months ?			
	☐ Yes	☐ No [Skip to I7]		
I6.	If yes, how many times did you do this during the past 3 months? _____ (times)			
I7.	About how many times did you do this in the past week?			
	☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week ☐ > 3, specify: _____
I8.	Approximately, how many hours does each participation/session last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____
(J) Vocal Music (e.g. Choral, Acapella)				
J1.	In general, how interested are you in Vocal Music ?			
	☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate ☐ Very
J2.	Did you attend a Vocal Music event in the past 6 months ?			
	☐ Yes	☐ No [Skip to J5]		
J3.	If yes, how many times did you attend this during the past 6 months? _____ (times)			
J4.	Approximately, how many hours does each attendance last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____
J5.	Apart from attending, have you personally participated in Vocal Music in the past 3 months ?			
	☐ Yes	☐ No [Skip to J7]		
J6.	If yes, how many times did you do this during the past 3 months? _____ (times)			
J7.	About how many times did you do this in the past week?			
	☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week ☐ > 3, specify: _____
J8.	Approximately, how many hours does each participation/session last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____
(K) Folk/Ethnic/World Music				
K1.	In general, how interested are you in Folk/Ethnic/World Music ?			
	☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate ☐ Very
K2.	Did you attend a Folk/Ethnic/World Music event in the past 6 months ?			
	☐ Yes	☐ No [Skip to K5]		
K3.	If yes, how many times did you attend this during the past 6 months? _____ (times)			
K4.	Approximately, how many hours does each attendance last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____
K5.	Apart from attending, have you personally participated in Folk/Ethnic/World Music in the past 3 months ?			
	☐ Yes	☐ No [Skip to K7]		
K6.	If yes, how many times did you do this during the past 3 months? _____ (times)			
K7.	About how many times did you do this in the past week?			
	☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week ☐ > 3, specify: _____
K8.	Approximately, how many hours does each participation/session last?			
	☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours ☐ > 6, specify: _____

(L) Jazz and Blues				
L1. In general, how interested are you in Jazz and Blues ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
L2. Did you attend a Jazz and Blues event in the past 6 months ?				
☐ Yes	☐ No [Skip to L5]			
L3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
L4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
L5. Apart from attending, have you personally participated in Jazz and Blues in the past 3 months ?				
☐ Yes	☐ No [Skip to M1]			
L6. If yes, how many times did you do this during the past 3 months? _____ (times)				
L7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
L8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(M) Popular, Rock, Indie/Alternative Music				
M1. In general, how interested are you in Popular, Rock, Indie/Alternative Music ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
M2. Did you attend a Popular, Rock, Indie/Alternative Music event in the past 6 months ?				
☐ Yes	☐ No [Skip to M5]			
M3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
M4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
M5. Apart from attending, have you personally participated in Popular, Rock, Indie/Alternative Music in the past 3 months ?				
☐ Yes	☐ No [Skip to N1]			
M6. If yes, how many times did you do this during the past 3 months? _____ (times)				
M7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
M8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(N) Other Music Events (Please specify: _____) [If none, Skip to O1]				
N1. In general, how interested are you in other music events ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
N2. Did you attend the music event in the past 6 months ?				
☐ Yes	☐ No [Skip to N5]			
N3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
N4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
N5. Apart from attending, have you personally participated in the music event in the past 3 months ?				
☐ Yes	☐ No [Skip to O1]			
N6. If yes, how many times did you do this during the past 3 months? _____ (times)				
N7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
N8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

DANCE PERFORMANCES				
(O) Ballet				
O1. In general, how interested are you in Ballet ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
O2. Did you attend a ballet performance in the past 6 months ?				
☐ Yes	☐ No [Skip to O5]			
O3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
O4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
O5. Apart from attending, have you personally participated in ballet in the past 3 months ?				
☐ Yes	☐ No [Skip to P1]			
O6. If yes, how many times did you do this during the past 3 months? _____ (times)				
O7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
O8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

(P) Contemporary Dance				
P1. In general, how interested are you in Contemporary Dance ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
P2. Did you attend a Contemporary Dance performance in the past 6 months ?				
☐ Yes	☐ No [Skip to P5]			
P3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
P4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
P5. Apart from attending, have you personally participated in Contemporary Dance in the past 3 months ?				
☐ Yes	☐ No [Skip to Q1]			
P6. If yes, how many times did you do this during the past 3 months? _____ (times)				
P7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
P8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(Q) Ballroom/ Tap/ Line/ Latin Dance (e.g. Salsa, Flamenco)				
Q1. In general, how interested are you in Ballroom/ Tap/ Line/ Latin Dance ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
Q2. Did you attend a Ballroom/ Tap/ Line/ Latin Dance performance in the past 6 months ?				
☐ Yes	☐ No [Skip to Q5]			
Q3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
Q4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
Q5. Apart from attending, have you personally participated in Ballroom/ Tap/ Line/ Latin Dance in the past 3 months ?				
☐ Yes	☐ No [Skip to R1]			
Q6. If yes, how many times did you do this during the past 3 months? _____ (times)				
Q7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
Q8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(R) Folk/ Traditional/ Ethnic Dance				
R1. In general, how interested are you in Folk/ Traditional/ Ethnic Dance ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
R2. Did you attend a Folk/ Traditional/ Ethnic Dance performance in the past 6 months ?				
☐ Yes	☐ No [Skip to R5]			
R3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
R4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
R5. Apart from attending, have you personally participated in Folk/ Traditional/ Ethnic Dance in the past 3 months ?				
☐ Yes	☐ No [Skip to S1]			
R6. If yes, how many times did you do this during the past 3 months? _____ (times)				
R7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
R8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(S) Street Dance (e.g. Hip-hop, Breakdance)				
S1. In general, how interested are you in Street Dance ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
S2. Did you attend a Street Dance performance in the past 6 months ?				
☐ Yes	☐ No [Skip to S5]			
S3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
S4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
S5. Apart from attending, have you personally participated in Street Dance in the past 3 months ?				
☐ Yes	☐ No [Skip to T1]			
S6. If yes, how many times did you do this during the past 3 months? _____ (times)				
S7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
S8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

(T) Other Dance Events (Please specify: _____) [If none, Skip to U1]				
T1. In general, how interested are you in other dance events ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
T2. Did you attend the dance performance in the past 6 months ?				
☐ Yes	☐ No [Skip to T5]			
T3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
T4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
T5. Apart from attending, have you personally participated in the dance event in the past 3 months ?				
☐ Yes	☐ No [Skip to U1]			
T6. If yes, how many times did you do this during the past 3 months? _____ (times)				
T7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
T8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

VISUAL ARTS				
(U) Art Fairs				
U1. In general, how interested are you in Art Fairs ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
U2. Did you attend an Art Fair in the past 6 months ?				
☐ Yes	☐ No [Skip to U5]			
U3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
U4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
U5. Apart from attending, have you personally participated in Art Fairs in the past 3 months ?				
☐ Yes	☐ No [Skip to V1]			
U6. If yes, how many times did you do this during the past 3 months? _____ (times)				
U7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
U8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(V) Art Auctions				
V1. In general, how interested are you in Art Auctions ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
V2. Did you attend an Art Auction in the past 6 months ?				
☐ Yes	☐ No [Skip to V5]			
V3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
V4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
V5. Apart from attending, have you personally participated in Art Auctions in the past 3 months ?				
☐ Yes	☐ No [Skip to W1]			
V6. If yes, how many times did you do this during the past 3 months? _____ (times)				
V7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
V8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(W) 3D Arts (e.g. Sculpture, Ceramics, Pottery)				
W1. In general, how interested are you in 3D Arts ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
W2. Did you attend a 3D Arts event/exhibition in the past 6 months ?				
☐ Yes	☐ No [Skip to W5]			
W3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
W4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
W5. Apart from attending, have you personally participated in 3D Arts or related events in the past 3 months ?				
☐ Yes	☐ No [Skip to X1]			
W6. If yes, how many times did you do this during the past 3 months? _____ (times)				
W7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
W8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

(X) Drawing and Painting				
X1. In general, how interested are you in Drawing and Painting ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
X2. Did you attend a Drawing and Painting event/exhibition in the past 6 months ?				
☐ Yes	☐ No [Skip to X5]			
X3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
X4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
X5. Apart from attending, have you personally participated in Drawing/Painting or related events in the past 3 months ?				
☐ Yes	☐ No [Skip to Y1]			
X6. If yes, how many times did you do this during the past 3 months? _____ (times)				
X7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
X8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(Y) Performance Art (e.g. Showcase of artists' physical body)				
Y1. In general, how interested are you in Performance Art ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
Y2. Did you attend a Performance Art event/exhibition in the past 6 months ?				
☐ Yes	☐ No [Skip to Y5]			
Y3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
Y4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
Y5. Apart from attending, have you personally participated in Performance Art or related events in the past 3 months ?				
☐ Yes	☐ No [Skip to Z1]			
Y6. If yes, how many times did you do this during the past 3 months? _____ (times)				
Y7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
Y8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(Z) Photography				
Z1. In general, how interested are you in Photography ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
Z2. Did you attend a Photography event/exhibition in the past 6 months ?				
☐ Yes	☐ No [Skip to Z5]			
Z3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
Z4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
Z5. Apart from attending, have you personally participated in Photography or related events in the past 3 months ?				
☐ Yes	☐ No [Skip to AA1]			
Z6. If yes, how many times did you do this during the past 3 months? _____ (times)				
Z7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
Z8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(AA) New Media Art (e.g. Video art, Sound art, Web-based art)				
AA1. In general, how interested are you in New Media Art ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AA2. Did you attend a New Media Art event/exhibition in the past 6 months ?				
☐ Yes	☐ No [Skip to AA5]			
AA3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AA4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AA5. Apart from attending, have you personally participated in New Media Art or related events in the past 3 months ?				
☐ Yes	☐ No [Skip to AB1]			
AA6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AA7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AA8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

(AB) Graffiti, Mural, Tile Mosaic Art	
AB1. In general, how interested are you in Graffiti, Mural, Tile Mosaic Art ? ☐ Not at all ☐ Slightly ☐ Neutral ☐ Moderate ☐ Very	
AB2. Did you attend a Graffiti, Mural, Tile Mosaic Art event/exhibition in the past 6 months ? ☐ Yes ☐ No [Skip to AB5]	
AB3. If yes, how many times did you attend this during the past 6 months? _____ (times)	
AB4. Approximately, how many hours does each attendance last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	
AB5. Apart from attending, have you personally participated in Graffiti, Mural, Tile Mosaic Art or related events in the past 3 months ? ☐ Yes ☐ No [Skip to AC1]	
AB6. If yes, how many times did you do this during the past 3 months? _____ (times)	
AB7. About how many times did you do this in the past week? ☐ None ☐ Once per week ☐ 2 times per week ☐ 3 times per week ☐ > 3, specify: _____	
AB8. Approximately, how many hours does each participation/session last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	
(AC) Other Visual Arts Events (Please specify: _____) [If none, Skip to AD1]	
AC1. In general, how interested are you in other forms of Visual Arts ? ☐ Not at all ☐ Slightly ☐ Neutral ☐ Moderate ☐ Very	
AC2. Did you attend the Visual Art event/exhibition in the past 6 months ? ☐ Yes ☐ No [Skip to AC5]	
AC3. If yes, how many times did you attend this during the past 6 months? _____ (times)	
AC4. Approximately, how many hours does each attendance last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	
AC5. Apart from attending, have you personally participated in the Visual Art or related events in the past 3 months ? ☐ Yes ☐ No [Skip to AD1]	
AC6. If yes, how many times did you do this during the past 3 months? _____ (times)	
AC7. About how many times did you do this in the past week? ☐ None ☐ Once per week ☐ 2 times per week ☐ 3 times per week ☐ > 3, specify: _____	
AC8. Approximately, how many hours does each participation/session last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	

CRAFTS	
(AD) Craftwork (e.g. handicraft, embroidery, woodwork, etc.)	
AD1. In general, how interested are you in craftwork ? ☐ Not at all ☐ Slightly ☐ Neutral ☐ Moderate ☐ Very	
AD2. Did you attend a craft-related event/exhibition in the past 6 months? ☐ Yes ☐ No [Skip to AG5]	
AD3. If yes, how many times did you attend this during the past 6 months? _____ (times)	
AD4. Approximately, how many hours does each attendance last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	
AD5. Apart from attending, have you personally participated in craftwork or related events in the past 3 months ? ☐ Yes ☐ No [Skip to AH1]	
AD6. If yes, how many times did you do this during the past 3 months? _____ (times)	
AD7. About how many times did you do this in the past week? ☐ None ☐ Once per week ☐ 2 times per week ☐ 3 times per week ☐ > 3, specify: _____	
AD8. Approximately, how many hours does each participation/session last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	
(AE) Other Craft-Related Activity/ Event (Please specify: _____) [If none, Skip to AII]	
AE1. In general, how interested are you in the craft-related activity/event ? ☐ Not at all ☐ Slightly ☐ Neutral ☐ Moderate ☐ Very	
AE2. Did you attend the craft-related event/exhibition in the past 6 months? ☐ Yes ☐ No [Skip to AH5]	
AE3. If yes, how many times did you attend this during the past 6 months? _____ (times)	
AE4. Approximately, how many hours does each attendance last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	
AE5. Apart from attending, have you personally participated in craft-related activity/event in the past 3 months ? ☐ Yes ☐ No [Skip to AII]	
AE6. If yes, how many times did you do this during the past 3 months? _____ (times)	
AE7. About how many times did you do this in the past week? ☐ None ☐ Once per week ☐ 2 times per week ☐ 3 times per week ☐ > 3, specify: _____	
AE8. Approximately, how many hours does each participation/session last? ☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____	

LITERARY ARTS

(AF) Reading Stories, Poetry or Graphic Novels (excluding newspapers, Magazines, Comic Strips, Technical Books, Self-Help Books and Textbooks) & Events related to Reading (e.g. storytelling, poetry readings, book launch, book fair, book clubs)

- AF1. In general, how interested are you in **reading Stories, Poetry or Graphic Novels**?
☐ Not at all ☐ Slightly ☐ Neutral ☐ Moderate ☐ Very
- AF2. Did you **attend** a **Reading**-related event in the past 6 months?
☐ Yes ☐ No [*Skip to AD5*]
- AF3. If yes, how many times did you attend this during the past 6 months? _____ (times)
- AF4. Approximately, how many hours does each attendance last?
☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____
- AF5. Apart from attending, have you **read** stories, poetry or graphic novels in the **past 3 months**?
☐ Yes ☐ No [*Skip to AE1*]
- AF6. If yes, how many times did you do this during the past 3 months? _____ (times)
- AF7. About how many times did you do this in the past week?
☐ None ☐ Once per week ☐ 2 times per week ☐ 3 times per week ☐ > 3, specify: _____
- AF8. Approximately, how many hours does each participation/session last?
☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____

(AG) Creative Writing (e.g. stories, poetry, creative journals, blogs with no monetary incentives) and Events related to Writing (e.g. book launch, book fair, creative writing workshops)

- AG1. In general, how interested are you in **creative writing**?
☐ Not at all ☐ Slightly ☐ Neutral ☐ Moderate ☐ Very
- AG2. Did you **attend** a **writing**-related event in the past 6 months?
☐ Yes ☐ No [*Skip to AE5*]
- AG3. If yes, how many times did you attend this during the past 6 months? _____ (times)
- AG4. Approximately, how many hours does each attendance last?
☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____
- AG5. Apart from attending, have you **wrote** stories, poetry, creative journals and blogs in the **past 3 months**?
☐ Yes ☐ No [*Skip to AF1*]
- AG6. If yes, how many times did you do this during the past 3 months? _____ (times)
- AG7. About how many times did you do this in the past week?
☐ None ☐ Once per week ☐ 2 times per week ☐ 3 times per week ☐ > 3, specify: _____
- AG8. Approximately, how many hours does each participation/session last?
☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____

(AH) Other Literary Arts Events (Please specify: _____) [*If none, Skip to AG1*]

- AH1. In general, how interested are you in **creative writing**?
☐ Not at all ☐ Slightly ☐ Neutral ☐ Moderate ☐ Very
- AH2. Did you **attend** a **Literary Arts Event** in the past 6 months?
☐ Yes ☐ No [*Skip to AF5*]
- AH3. If yes, how many times did you attend this during the past 6 months? _____ (times)
- AH4. Approximately, how many hours does each attendance last?
☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____
- AH5. Apart from attending, have you personally **participated** in the **Literary Arts Event** in the **past 3 months**?
☐ Yes ☐ No [*Skip to AG1*]
- AH6. If yes, how many times did you do this during the past 3 months? _____ (times)
- AH7. About how many times did you do this in the past week?
☐ None ☐ Once per week ☐ 2 times per week ☐ 3 times per week ☐ > 3, specify: _____
- AH8. Approximately, how many hours does each participation/session last?
☐ < 1 hour ☐ 1 to 2 hours ☐ 3 to 4 hours ☐ 5 to 6 hours ☐ > 6, specify: _____

FILM				
(AI) Movies Shown in the Cinemas				
AI1. In general, how interested are you in the Movies ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AI2. Did you attend a Movie in the past 6 months?				
☐ Yes	☐ No [Skip to AI5]			
AI3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AI4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AI5. Apart from attending, have you personally participated in a Movie production in the past 3 months ?				
☐ Yes	☐ No [Skip to AJ1]			
AI6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AI7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AI8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(AJ) Art Films shown at Cinemas or Other Venues (e.g. South East Asian Film Festival)				
AJ1. In general, how interested are you in Art Films ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AJ2. Did you attend an Art Film screening in the past 6 months?				
☐ Yes	☐ No [Skip to AJ5]			
AJ3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AJ4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AJ5. Apart from attending, have you personally participated in an Art Film production in the past 3 months ?				
☐ Yes	☐ No [Skip to AK1]			
AJ6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AJ7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AJ8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(AK) Other Film-Related Activity/Event (Please specify: _____) [If none, Skip to AL1]				
AK1. In general, how interested are you in the Film-Related Activity/Event ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AK2. Did you attend the Film-Related Activity/Event in the past 6 months?				
☐ Yes	☐ No [Skip to AK5]			
AK3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AK4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AK5. Apart from attending, have you personally participated in the Film-Related Event in the past 3 months ?				
☐ Yes	☐ No [Skip to AL1]			
AK6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AK7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AK8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

HERITAGE RELATED EVENTS & ACTIVITIES				
(AL) Activities/ Events on Culture, History and Heritage				
AL1. In general, how interested are you in Activities/ Events on Culture, History and Heritage ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AL2. Did you attend Activities/ Events on Culture, History and Heritage in the past 6 months?				
☐ Yes	☐ No [Skip to AL5]			
AL3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AL4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AL5. Apart from attending, have you personally participated in the Activities/ Events on Culture, History and Heritage in the past 3 months ?				
☐ Yes	☐ No [Skip to AM1]			
AL6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AL7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AL8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

(AM) Guided Arts/ Heritage/ Cultural Tours and Trails				
AM1. In general, how interested are you in Guided Arts/ Heritage/ Cultural Tours and Trails ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AM2. Did you attend Guided Arts/ Heritage/ Cultural Tours and Trails in the past 6 months?				
☐ Yes	☐ No [Skip to AM5]			
AM3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AM4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AM5. Apart from attending, have you personally participated in Guided Arts/ Heritage/ Cultural Tours and Trails in the past 3 months ?				
☐ Yes	☐ No [Skip to AN1]			
AM6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AM7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AM8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(AN) Heritage Festivals and Activities (e.g. Singapore Heritage Fest, Night Festival etc.)				
AN1. In general, how interested are you in Heritage Festivals and Activities ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AN2. Did you attend Heritage Festivals and Activities in the past 6 months?				
☐ Yes	☐ No [Skip to AN5]			
AN3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AN4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AN5. Apart from attending, have you personally participated in Heritage Festivals and Activities in the past 3 months ?				
☐ Yes	☐ No [Skip to AO1]			
AN6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AN7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AN8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(AO) Visiting Heritage Buildings and Monuments (e.g. Tanjong Pagar Railway Station, Sri Mariamman Temple, Raffles Hotel, Thian Hock Keng Temple, Sultan Mosque)				
AO1. In general, how interested are you in Visiting Heritage Buildings and Monuments ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AO2. Did you visit Heritage Buildings and Monuments in the past 6 months?				
☐ Yes	☐ No [Skip to AO5]			
AO3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AO4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AO5. Apart from attending, have you personally participated in a Heritage Building or Monument -related activity in the past 3 months ?				
☐ Yes	☐ No [Skip to AP1]			
AO6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AO7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AO8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(AP) Visiting Historic Districts (e.g. Chinatown; Little India, Kampong Glam, Civic District, Joo Chiat)				
AP1. In general, how interested are you in Visiting Historic Districts ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AP2. Did you visit a Historic District in the past 6 months?				
☐ Yes	☐ No [Skip to AP5]			
AP3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AP4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AP5. Apart from attending, have you personally participated in a Historic District -related activity in the past 3 months ?				
☐ Yes	☐ No [Skip to AQ1]			
AP6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AP7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AP8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

OTHERS				
(AQ) Community Arts Events/ Activities in Public Spaces, Community Centres, Shopping Malls (e.g. PassionArts, Arts in Your Neighbourhood, Silver Arts, Arts @ Work etc)				
AQ1. In general, how interested are you in Community Arts Events ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AQ2. Did you attend a Community Arts Event in the past 6 months?				
☐ Yes		☐ No [Skip to AQ5]		
AQ3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AQ4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AQ5. Apart from attending, have you personally participated in Community Arts Event in the past 3 months ?				
☐ Yes		☐ No [Skip to AR1]		
AQ6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AQ7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AQ8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
(AR) Other Events: Do you have any art-making or creative hobbies or past-time that was not mentioned in the above list (e.g. floral art, origami etc.)? If yes, please elaborate: _____				

[If none, Skip to the next section]				
AR1. In general, how interested are you in the event ?				
☐ Not at all	☐ Slightly	☐ Neutral	☐ Moderate	☐ Very
AR2. Did you attend the event in the past 6 months?				
☐ Yes		☐ No [Skip to AR5]		
AR3. If yes, how many times did you attend this during the past 6 months? _____ (times)				
AR4. Approximately, how many hours does each attendance last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____
AR5. Apart from attending, have you personally participated in the event in the past 3 months ?				
☐ Yes		☐ No [Skip to the next section]		
AR6. If yes, how many times did you do this during the past 3 months? _____ (times)				
AR7. About how many times did you do this in the past week?				
☐ None	☐ Once per week	☐ 2 times per week	☐ 3 times per week	☐ > 3, specify: _____
AR8. Approximately, how many hours does each participation/session last?				
☐ < 1 hour	☐ 1 to 2 hours	☐ 3 to 4 hours	☐ 5 to 6 hours	☐ > 6, specify: _____

Patterns of Involvement

REASONS FOR ART ATTENDANCE

1. Can you please list **3** reasons that motivate you to **attend** art activities, events or performances? (Response to be matched to list below by interviewer; if no match found, record actual answer on space provided)
☐ I am passionate about the arts and culture	☐ Helps me understand myself better
☐ I find arts and culture events/ activities enjoyable	☐ Gives me a sense of empowerment
☐ Attending arts and culture activities is a good way of spending time with my friends/ family/ colleagues	☐ Creates meaning for me
☐ My family/ friends encouraged me to participate in arts and culture activities	☐ Provides dignity and self-esteem
☐ I get to meet new people with similar interests by attending arts and culture events and activities	☐ Is free/ cost very little
☐ Arts and culture events activities help me broaden my mind and be more accepting of new things	☐ To pass time
☐ Attending arts and culture events and activities helps me think more creatively	☐ Helps to provide structure in the week
☐ Helps me to connect with my past, draw on my experience	☐ Helps me to relax (therapeutic effect)
☐ Source of inspiration and encouragement	☐ Acts as an exhaust valve for emotions
	☐ Allows me to be more involved in society
	☐ Arts and culture events and activities help me to better relate to my culture and heritage
	☐ I heard positive reviews from friends/ colleagues/ relatives/ media
	☐ I happened to pass by free arts and culture events/ activities
	☐ Others: _____
	☐ Others: _____

REASONS FOR ART PARTICIPATION

1. Can you please list **3** reasons that motivate you to **participate or engage** in art activities, events or performances? (Response to be matched to list below by interviewer; if no match found, record actual answer on space provided)
☐ I am passionate about the arts and culture	☐ Taking part in arts and culture activities creates a sense of accomplishment/personal fulfillment
☐ I find arts and culture events/ activities enjoyable	☐ Is free/ cost very little
☐ Taking part in arts and culture events and activities is a good way of spending time with my friends/ family/ colleagues	☐ To pass time
☐ My family/ friends/ teachers encouraged me to participate in arts and culture activities	☐ Helps to provide structure in the week
☐ I get to meet new people with similar interests by participating in arts and culture events and activities	☐ Helps me to relax (therapeutic effect)
☐ Arts and culture events activities help me broaden my mind and become more accepting of new things	☐ Acts as an exhaust valve for emotions
☐ Taking part in arts and culture events and activities helps me think more creatively	☐ Source of inspiration and encouragement
☐ Helps me to connect with my past, draw on my experience	☐ Helps me understand myself better
☐ I could express myself freely through arts and culture	☐ Creates meaning for me
	☐ Provides dignity and self-esteem
	☐ Gives me a sense of empowerment
	☐ Allows me to be more involved in society
	☐ Arts and culture events and activities help me to better relate to my culture and heritage
	☐ I heard positive reviews from friends/ colleagues/ relatives/ media
	☐ Others: _____
	☐ Others: _____

REASONS FOR DISINTEREST IN ART

1. Can you please list **3** reasons that (may) prevent you from **participating or engaging** in art activities, events or performances? (Response to be matched to list below by interviewer; if no match found, record actual answer on space provided)
☐ No time	☐ Too old to learn	☐ No means of transport
☐ No money	☐ Cannot appreciate	☐ Others: _____
☐ Lack of information	☐ No interest	☐ Others: _____
☐ Lack of confidence	☐ Poor health	☐ Others: _____

COMPANION/S FOR ART ACTIVITIES

- Who do you usually **attend** art activities, events or performances with? (Select all that applies)

☐ Family members	☐ Partner/Spouse	☐ Alone
☐ Friends	☐ Colleagues	☐ Others: _____
- Who do you usually **participate/engage** in art activities, events or performances with? (Select all that applies)

☐ Family members	☐ Partner/Spouse	☐ Alone
☐ Friends	☐ Colleagues	☐ Others: _____

VENUES FOR ART ENGAGEMENT

- Where was the last place where you **attended** an arts event? (Select all that applies)

☐ Home	☐ Places Of Worship	☐ Voluntary Welfare Organizations (VWO)/ Non-Governmental Organizations (NGO)
☐ Around housing estate	☐ Cinema	☐ Others: _____
☐ Community Centre/Club	☐ Dedicated Arts Venues	
☐ Workplace	☐ In The City Centre	
☐ Schools	☐ Museums	
☐ Libraries	☐ Private Club	
- Where was the last place where you **participated/engaged** in an arts event? (Select all that applies)

☐ Home	☐ Places Of Worship	☐ Voluntary Welfare Organizations (VWO)/ Non-Governmental Organizations (NGO)
☐ Around housing estate	☐ Cinema	☐ Others: _____
☐ Community Centre/Club	☐ Dedicated Arts Venues	
☐ Workplace	☐ In The City Centre	
☐ Schools	☐ Museums	
☐ Libraries	☐ Private Club	
- Which Is The Most Frequent Place You Visit For Arts Activities Or Events? (Please Select The Top 3 Options)

☐ Home	☐ Places Of Worship	☐ Voluntary Welfare Organizations (VWO)/ Non-Governmental Organizations (NGO)
☐ Around housing estate	☐ Cinema	☐ Others: _____
☐ Community Centre/Club	☐ Dedicated Arts Venues	
☐ Workplace	☐ In The City Centre	
☐ Schools	☐ Museums	
☐ Libraries	☐ Private Club	

SOURCES OF INFORMATION

- Which of the following sources do you usually refer to before engaging/participating in the art activity? (Select all that applies)

☐ Newspapers	☐ Posters/ Banners/ Notices	☐ Outdoor Advertisements
☐ Television	☐ Social Media	☐ Magazine
☐ Internet/ E-mail	☐ Radio	☐ Mobile App
☐ Word-of-mouth	☐ Newsletters/ Flyers/ Brochures	☐ Others: _____

FUTURE LEVEL OF INTEREST

- If participant had indicated attending of participating in at least one arts activity: What is the likelihood that you will continue to engage in arts activities in the next 3 years (all things being equal)?

☐ Not at all likely	☐ Not very likely	☐ Quite likely
☐ Very likely	☐ Don't know	

Assessment of Physical Activity

PARTICIPATION IN SPORTS																																							
<p>I am going to ask you about your participation in physical activities.</p> <p>Physical activities are classified as follows:</p> <ul style="list-style-type: none"> • Light-intensity lifestyle activities such as walking or taking the stairs • Moderate-intensity physical activities such as low-impact aerobics, ballroom dancing or playing table tennis • Vigorous-intensity physical activity such as brisk walking, jogging, swimming or badminton • Strength and balance activities such as using hand-held weights, resistance bands, calisthenics, strength-training equipment, carrying groceries or mind body exercises such as Qigong, Tai Chi, yoga or Pilates 																																							
<p>1. In the past month, did you participate in any physical activity?</p> <p>☐ Yes ☐ No</p>																																							
<p>2. If yes, in general, how often do you participate in physical activity?</p> <table border="0"> <tr> <td>☐ Everyday</td> <td>☐ 3 times a week</td> <td>☐ Once a month</td> </tr> <tr> <td>☐ 6 times a week</td> <td>☐ 2 times a week</td> <td>☐ Less than once a month</td> </tr> <tr> <td>☐ 5 times a week</td> <td>☐ Once a week</td> <td></td> </tr> <tr> <td>☐ 4 times a week</td> <td>☐ Once every two weeks</td> <td></td> </tr> </table>				☐ Everyday	☐ 3 times a week	☐ Once a month	☐ 6 times a week	☐ 2 times a week	☐ Less than once a month	☐ 5 times a week	☐ Once a week		☐ 4 times a week	☐ Once every two weeks																									
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<p>3. Please state the 3 most frequent physical activity you have participated in the past month</p> <p>Most regular physical activity: _____</p> <p>2nd most regular physical activity: _____</p> <p>3rd most regular physical activity: _____</p>																																							
<p>4. How often do you participate in your [most regular/ 2nd most regular/ 3rd most regular sport] in the past week?</p> <table border="0"> <tr> <td></td> <td>Most regular</td> <td>2nd most regular</td> <td>3rd most regular</td> </tr> <tr> <td>☐ Everyday</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ 6 times a week</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ 5 times a week</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ 4 times a week</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ 3 times a week</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ 2 times a week</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ Once a week</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ None (0) this week</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </table>					Most regular	2nd most regular	3rd most regular	☐ Everyday	☐	☐	☐	☐ 6 times a week	☐	☐	☐	☐ 5 times a week	☐	☐	☐	☐ 4 times a week	☐	☐	☐	☐ 3 times a week	☐	☐	☐	☐ 2 times a week	☐	☐	☐	☐ Once a week	☐	☐	☐	☐ None (0) this week	☐	☐	☐
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<p>5. Approximately how much time do you spend at each session on your most regular physical activity?</p> <table border="0"> <tr> <td>☐ < 30 mins</td> <td>☐ 1 hr – < 1 hr 30 mins</td> <td>☐ 2 hrs</td> </tr> <tr> <td>☐ 30 mins – <1 hr</td> <td>☐ 1 hr 30 mins – < 2 hrs</td> <td>☐ > 2 hrs. Specify: _____</td> </tr> </table>				☐ < 30 mins	☐ 1 hr – < 1 hr 30 mins	☐ 2 hrs	☐ 30 mins – <1 hr	☐ 1 hr 30 mins – < 2 hrs	☐ > 2 hrs. Specify: _____																														
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<p>8. During the past week, how often do you participate in vigorous-intensity physical activity such as brisk walking, jogging, swimming or playing badminton?</p> <table border="0"> <tr> <td>☐ Everyday</td> <td>☐ 4 times a week</td> <td>☐ Once a week</td> </tr> <tr> <td>☐ 6 times a week</td> <td>☐ 3 times a week</td> <td>☐ None (0) this week</td> </tr> <tr> <td>☐ 5 times a week</td> <td>☐ 2 times a week</td> <td></td> </tr> </table>				☐ Everyday	☐ 4 times a week	☐ Once a week	☐ 6 times a week	☐ 3 times a week	☐ None (0) this week	☐ 5 times a week	☐ 2 times a week																												
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9. During the past week, how often do you participate in **strength and balance** activities such as using hand-held weights, resistance bands, calisthenics, strength-training equipment, carrying groceries and climbing the stairs or mind body exercises such as Qigong, Tai Chi, yoga or Pilates?
☐ Everyday	☐ 4 times a week	☐ Once a week
☐ 6 times a week	☐ 3 times a week	☐ None (0) this week
☐ 5 times a week	☐ 2 times a week	
- 9.1. How much time do you spend at each session?
☐ < 30 mins	☐ 1 hr – < 1 hr 30 mins	☐ 2 hrs
☐ 30 mins – <1 hr	☐ 1 hr 30 mins – < 2 hrs	☐ > 2 hrs. Specify: _____

VENUE OF PRACTICE

Where do you practice your [most regular/ 2nd most regular/ 3rd most regular physical activity] in the past 3 months?			
	Most regular	2nd most regular	3rd most regular
1. Home	☐	☐	☐
2. Around public housing estate	☐	☐	☐
3. Community Centre/Club	☐	☐	☐
4. Workplace (Office Gym/Army Campus)	☐	☐	☐
5. School fields or other school sports facilities booked under SSC's Dual Use Scheme	☐	☐	☐
6. Singapore Sport's Council (SSC)'s Sports Facility	☐	☐	☐
7. Commercial Sports Facility (pay per entry)	☐	☐	☐
8. Public park/ beach	☐	☐	☐
9. Public space/ road	☐	☐	☐
10. Private Housing/ Condo Club	☐	☐	☐
11. Health Club	☐	☐	☐
12. Others. Specify: _____	☐	☐	☐

REASONS FOR TAKING PART IN PHYSICAL ACTIVITY

1. How important exercise or physical activity is to you?
Not Important at All	Slightly Important	Moderately Important	Very Important	Extremely Important
☐	☐	☐	☐	☐
2. Can you please list 5 reasons that for you to take part in physical activity or sports?
(Response to be matched to list below by interviewer; if no match found, record actual answer on space provided)
Health Factors ☐ To maintain health ☐ To keep fit ☐ To rehabilitate from health problems (self-motivated) ☐ To rehabilitate from health problems (doctor's advice) Passion/Lifestyle Factors ☐ Enjoy/love sports ☐ It's my leisure past time ☐ It's part of my lifestyle ☐ To unwind/de-stress Social Factors ☐ To be with friends ☐ To be with colleagues ☐ To be with family/family activity ☐ To make friends ☐ To keep up with sporting trend	Appearance-related Factors ☐ To manage weight ☐ To look good Skill-related Factors ☐ To improve my skills/performance ☐ To participate in sports event/competitions Circumstances-driven factors ☐ To develop business relationship ☐ Facilities are easily accessible ☐ It's part of company-organized activities Other Factors ☐ Others: _____ ☐ Others: _____ ☐ Others: _____ ☐ Others: _____

Assessment of Wellbeing

ASSESSMENT OF QUALITY OF LIFE: WHO QUALITY OF LIFE SCALE 8					
This set of questions asks how you feel about your quality of life (i.e. how satisfied are you with life), health or other areas of your life. Select the answer that best indicates your life in the <u>past two weeks</u> . (<i>Circle the option that applies</i>)					
1. How would you rate your quality of life?	Very Poor	Poor	Neither Poor Nor Good	Good	Very Good
2. How satisfied are you with your health?	Very Dissatisfied	Dissatisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
3. Do you have enough energy for everyday life?	Not At All	A Little	Moderately	Mostly	Completely
4. How satisfied are you with your ability to perform your daily living activities?	Very Dissatisfied	Dissatisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
5. How satisfied are you with yourself?	Very Dissatisfied	Dissatisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
6. How satisfied are you with your personal relationships?	Very Dissatisfied	Dissatisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
7. Do you have enough money to meet your needs?	Not At All	A Little	Moderately	Mostly	Completely
8. How satisfied are you with the conditions of your living place?	Very Dissatisfied	Dissatisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied

ASSESSMENT OF PHYSICAL AND MENTAL WELLBEING: SHORT FORM 20 (SF-20)										
I will now ask for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. Please choose one option for each questionnaire item. If you are unsure of how to answer, please give the best answer you can.										
1. In general, would you say your health is:										
1	2	3	4	5						
Excellent	Very good	Good	Fair	Poor						
2. For how long (if at all) has your health limited you in each of the following activities?										
1		2		3						
Limited for more than 3 months		Limited for 3 months or less		Not limited at all						
a.	The kinds or amounts of vigorous activities you can do, like lifting heavy objects, running or participating in strenuous sports				1	2	3			
b.	The kinds or amounts of moderate activities you can do, like moving a table, carrying groceries, or bowling				1	2	3			
c.	Walking uphill or climbing a few flights of stairs				1	2	3			
d.	Bending, lifting, or stooping				1	2	3			
e.	Walking one block				1	2	3			
f.	Eating, dressing, bathing, or using the toilet				1	2	3			
3. How much bodily pain have you had during the past 4 weeks :										
1	2	3	4	5	6					
None	Very Mild	Mild	Moderate	Severe	Very Severe					
4. Does your health keep you from working at a job, doing work around the house, or going to school?										
1		2		3						
Yes, for more than 3 months		Yes, for 3 months or less		No						
5. Have you been unable to do certain kinds or amounts of work, housework, or schoolwork because of your health?										
1		2		3						
Yes, for more than 3 months		Yes, for 3 months or less		No						
For each of the following questions, please mark the circle for the one answer that comes closest to the way you have been feeling during the past month .										
1	2	3	4	5	6					
All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time					
6.	How much of the time, during the past month, has your health limited your social activities (like visiting with friends or close relatives)?				1	2	3	4	5	6
7.	How much of the time, during the past month, have you been a very nervous person ?				1	2	3	4	5	6

8. During the past month, how much of the time have you felt calm and peaceful ?	1	2	3	4	5	6
9. How much of the time, during the past month, have you felt downhearted and blue ?	1	2	3	4	5	6
10. During the past month, how much of the time have you been a happy person ?	1	2	3	4	5	6
11. How often, during the past month, have you felt so down in the dumps that nothing could cheer you up ?	1	2	3	4	5	6
12. Please mark the circle that best describes whether each of the following statements is true or false for you.						
1 Definitely true	2 Mostly true	3 Not sure	4 Mostly false	5 Definitely false		
a. I am somewhat ill	1	2	3	4	5	
b. I am healthy as anybody I know	1	2	3	4	5	
c. My health is excellent	1	2	3	4	5	
d. I have been feeling bad lately	1	2	3	4	5	

ASSESSMENT OF SPIRITUAL WELLBEING: (FACIT-SP)									
This scale is made up of a list of statements each of which may or may not be true about how you feel. For each statement, please select between "not at all (0)" to "very much (4)" to indicate your response as it applies to the <u>past 7 days</u> .									
0 Not at all	1 A little bit	2 Somewhat	3 Quite a bit	4 Very much					
1. I feel peaceful			0	1	2	3	4		
2. I have a reason for living			0	1	2	3	4		
3. My life has been productive			0	1	2	3	4		
4. I have trouble feeling peace of mind			0	1	2	3	4		
5. I feel a sense of purpose in my life			0	1	2	3	4		
6. I am able to reach down deep into myself			0	1	2	3	4		
7. I feel a sense of harmony within myself			0	1	2	3	4		
8. My life lacks meaning and purpose			0	1	2	3	4		
9. I find comfort in my faith or spiritual beliefs			0	1	2	3	4		
10. I find strength in my faith or spiritual beliefs			0	1	2	3	4		
11. My life experience has strengthened my faith or spiritual beliefs			0	1	2	3	4		
12. I know that whatever happens in my life, things will be okay			0	1	2	3	4		

ASSESSMENT OF SOCIAL WELLBEING: INTERPERSONAL SUPPORT EVALUATION LIST SHORT FORM (ISEL-S)									
This scale is made up of a list of statements each of which may or may not be true about you. For each statement circle "definitely true" if you are sure it is true about you and "probably true" if you think it is true but are not absolutely certain. Similarly, you should circle "definitely false" if you are sure the statement is false and "probably false" if you think it is false but are not absolutely certain.									
1 Definitely false	2 Probably false	3 Probably true	4 Definitely true						
1. If I wanted to go on a trip for a day (for example, to the country or mountains), I would have a hard time finding someone to go with me.			1	2	3	4			
2. I feel that there is no one I can share my most private worries and fears with.			1	2	3	4			
3. If I were sick, I could easily find someone to help me with my daily chores.			1	2	3	4			
4. There is someone I can turn to for advice about handling family problems.			1	2	3	4			
5. If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.			1	2	3	4			
6. When I need suggestions on how to deal with a personal problem, I know someone I can turn to.			1	2	3	4			
7. I don't often get invited to do things with others.			1	2	3	4			
8. If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (the plants, pets, garden, etc.).			1	2	3	4			
9. If I wanted to have lunch with someone, I could easily find someone to join me.			1	2	3	4			
10. If I was stranded 10 miles from home, there is someone I could call who could come and get me.			1	2	3	4			
11. If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.			1	2	3	4			
12. If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.			1	2	3	4			