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Singapore Resilience Study

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SINGAPORE RESILIENCE STUDY

ROSA Special Report
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We would like to thank Income Insurance Limited for supporting the additional data collection of 1,062 participants aged 26-52, enabling us to conduct a baseline examination of resilience across a broader range of ages.

Executive Summary and Recommendations

This study was conducted in partnership with Income Insurance and ROSA to establish the baseline measurement of resilience in the Singapore population so as to provide the benchmark for future longitudinal studies and render visible the significance of resilience to well-being. In view of the COVID-19 pandemic, notable emphasis has been placed on resilience as a vital quality to better prepare our population against future uncertainties and maintain well-being in spite of adversity.

Through this study, a set of validated measures were developed to assess resilience levels across the four domains – mental, social, physical and financial resilience. The present study examined the resilience profiles of 2,021 Singaporeans aged 26-78, and provides baseline information of respondents' resilience levels in these domains by referencing the mean and median resilience scores (please refer to page 15 for more details). The key findings are summarised as follows:

1. Overall, our findings suggest respondents are generally resilient across all four resilience domains, with the sample's median and mean resilience scores being higher than the mid-point for all domains.

2. Notably, older respondents (between the ages of 56-78) had significantly lower levels of social resilience than that of respondents aged 26-35 and those aged 46-55, and male respondents reported higher levels of mental resilience than females in the sample. Future research will be conducted to uncover the reason for these observations. Additionally, housing type, level of education and employment status were found to be significantly associated with resilience levels. Respondents in larger housing types reported higher levels of resilience in the domains of social, physical and financial resilience, respondents with higher levels of education reported higher resilience across all four domains, and employed respondents reported higher levels of resilience across all domains compared to those unemployed.

3. With regard to insurance coverage, about 3 in 4 respondents (77.8%) reported having some form of insurance coverage. 51.4% of the respondents owned at least one type of life insurance policy, 69.0% owned at least one type of health insurance policy, 44.6% owned at least one type of wealth insurance and 45.6% owned at least one type of legacy insurance.

4. Demographic factors which were significantly associated with insurance coverage included employment status, age group and housing type.
    a. Employment status
        i. Respondents who were employed had significantly greater insurance coverage than those who were unemployed and those who were retired/homemakers. A significant difference was found for all four forms (life, health, wealth and legacy insurance) of insurance.
    b. Housing type
        i. Respondents living in larger housing types have significantly higher ownership of insurance than those in smaller housing types. This is expected given that housing type is a close proxy of socioeconomic status (SES).
    c. Respondents who are older
        i. Generally, respondents in the older age groups (those aged 56-78) tend to have lower levels of insurance coverage than those aged 36-55. Some possible

factors include whether the older persons are insurable, the process of health underwriting is perceived as being onerous, and the higher cost of insurance with age.

5. A structural equation model was conducted to identify the resources that could develop resilience and improve upon well-being and identify specific profiles that may need more assistance.
    a. Findings suggest that social engagement and social support promote overall well-being directly and indirectly through the development of resilience. Additionally, financial literacy contributes to the development of resilience directly, as well as indirectly through the promotion of insurance uptake/coverage.

    b. Generally, respondents of lower SES (based on housing type and education) and those unemployed were more likely to report lower levels of the resources (social engagement, social support, and financial literacy) that are positively associated with resilience.

        i. Respondents living in smaller housing types and those who are unemployed reported lower levels of social support.
        ii. Individuals with lower levels of education, non-retirees and homemakers and women were associated with lower levels of participation (i.e., engaged in social activities less frequently).
        iii. Individuals of lower SES (based on housing type and education), women and those who are retired/homemakers are associated with poorer financial literacy.
        iv. Respondents of lower SES, retired/homemakers and those who are older have lower insurance coverage.

6. Based on these findings, we provide the following suggestions:
    a. Policy interventions which aim towards improving and/or increasing the accessibility of social support of Singaporeans should target those living in 1-3 room HDBs and those unemployed.

    b. Encourage shifts in how formal and informal work is viewed and compensated.

    c. Target financial literacy programmes particularly towards individuals with less education, smaller housing types, and those retired/homemakers.

    d. Local insurers should aim to better cater towards the needs of older Singaporeans, those of lower SES and those who have either retired, are homemakers or are unemployed by offering comprehensive low-risk and low-cost insurance policies for such groups and marketing them in a clear and understandable manner.

Contents

Section 1.0 Introduction

This section will provide an introduction to the research questions and the concepts covered in the paper. It will delve into the factors that shape resilience and the mechanisms through which resilience safeguards well-being in times of adversity.

Resilience is often described as the ability to bounce back from adversity and adapt to the changing needs of a stressful situation, by utilising the environmental or social resources that are available to them (Hallen et al, 2020; Windle et al., 2011). The concept has long been identified as an important factor in not only maintaining well-being during the stressful situations but also emerging after with a positive outcome (Hildon et al., 2010; Tusae & Dyer, 2004). Research has observed that while some are able to continue to thrive even after encountering adversities, others were less successful in doing so (Embury & Saklofske, 2013). This, thus, presents an opportunity for policymakers to design interventions and programmes that are aimed towards building resilience in a population.

There are several conceptualisations of resilience in literature. Most commonly, resilience has been conceptualised as 1) a personality trait that is innate to an individual, and 2) as an adaptive process that can be developed at any stage of life (Oshio et al., 2018; Windle, 2011). As a personality trait, resilience is characterised as a set of personal traits that an individual possesses which determines their ability to maintain their physical or emotional health after exposure to stress or trauma (Resnick & Inguito, 2011; Barton et al., 2020). As an adaptive process, resilience is defined as the manner in which individuals adapt and cope with stress or trauma and takes into consideration how the various resources available to the individual influence their level of resilience (Smith & Hayslip, 2012).

In this report, we conceptualise resilience as the latter and will focus on the following domains of resilience:

- Mental Resilience
- Social Resilience
- Physical Resilience
- Financial Resilience

Mental resilience is defined as the ability of an individual to withstand declines in mental health in the face of adversity (Su et al., 2023). That is, when experiencing stressful or traumatic events, they are able to not only recover from it without impact to their mental health, but also draw learning experiences from it which in turn contributes to strengthening their mental health. (Tjeltveit & Gottlieb, 2010).

Social resilience refers to the ability to foster and engage in positive relationships with others to cope with or overcome adversities/obstacles (Cacioppo et al., 2011). It involves the individual's ability to rely on and confide in their close circles in times of trouble, and how connected they view themselves to be with their community (Cacioppo et al., 2011). It has also been defined as "the ability of communities to withstand external shocks to their social infrastructure." (Adger, 2000, p.361).

As how mental resilience involves the ability of an individual to withstand declines in mental health, physical resilience is the ability to withstand declines in physical health or recover from acute and chronic health events (Whitson et al., 2018).

Lastly, financial resilience has been defined as an individual's access resources that can support them in times of financial adversity. These resources include income, access to savings, ability to meet daily expense and debt management (Salignac et al., 2019) amongst others.

Specifically, the four domains of resilience were examined in this study as they correspond to the four primary domains of holistic well-being. Holistic well-being similarly comprises of social, economic, physical and mental well-being, and reflects the individuals' overall quality of life. The development of resilience within each of these areas would serve as important resources that buffer and ensure for well-being in times of uncertainty. Further, establishing the associations between resilience and well-being serves an important translational research endeavour to bridge the gap between theoretical concepts of resilience and tangible impactful applications within the community.

1.1 Resilience in Singapore

During the COVID-19 pandemic, the notion of resilience was given especial emphasis, with the government highlighting the importance on being resilient in the face of the pandemic (Lai, 2021; Ang, 2020). Since then, numerous studies have emerged showing the impact of resilience on different groups of people, such as frontline workers (Seng et al., 2021) and older adults during the pandemic (Teo, 2022), and brought to the fore the importance of fostering resilience in a nation to weather through potential future pandemics and crises while maintaining well-being. Even as Singapore moved to a post-pandemic state, the government has continued to emphasise the need to foster resilience, with one of the central themes of Budget 2023 being "building a resilient nation" in anticipation of a more volatile and uncertain future (Ministry of Finance, 2023). These included multiple facets of resilience, including economic resilience, climate resilience and social resilience.

As previously stated, the relationship between resilience and physical and psychological well-being has been long recognised to be a positive one (Dimiceli, Steinhardt, & Smith, 2009). Numerous studies have documented the positive relationship between resilience and different aspects of well-being. For instance, in a study on colon cancer patients, it was found that patients with higher levels of resilience were also more likely to be able to cope and recover at a faster rate as compared to those with lower levels of resilience (Franjic et al., 2019, as cited in Babic et al., 2020).

Studies on resilience in older adults have also found that higher levels of resilience lead to a higher level of well-being despite facing challenges in their mental or physical health (Jeste et al., 2013). High levels of resilience in older adults were also associated with an increased quality of life, and reduced depression and mortality risk (Macleod et al., 2016). The same effect was observed in patients with

breast cancer, where increasing resilience was found to decrease hopelessness and increase quality of life (Ha et al. 2014).

Thus, these findings point towards the importance of resilience in ensuring the well-being of Singaporeans, and the need to nurture resilience and the resources necessary to ensure its development.

1.2 Factors Shaping Resilience

While initial research on resilience believed it to be an innate characteristic of a person, more recent studies have found resilience to be something that is shaped and developed by different resources. Thus, in the effort to identify how the resilience of Singaporeans can be nurtured, the following section delves into the resources which aid in the development of resilience identified in past research.

1.2.1 Social Resources

Social relations have been previously identified to be a protective resource that enables individuals to navigate through challenges more adeptly. Two factors specifically have been identified for this research – social support and social engagement. Social support has been widely researched to support the development of resilience. With the provision of tangible (e.g., financial assistance), emotional (e.g., encouragement), information and appraisal support from one's network, individuals are better able to manage and overcome stresses associated with adversity (Antonucci, 2001; Bloom et al., 2001; Cherry et al., 2023). Additionally, social engagement is also an important factor closely associated with well-being (Cicognani, 2007; Gilmour, 2012). Previous research conducted among a population of individuals with mental illnesses found that community participation was strongly associated with their recovery and well-being (Kaplan et al., 2012).

1.2.2 Mental Resources

Optimism and mastery have also been identified as factors contributing to resilience. Optimism is a personality style where the individual has a positive attitude and mindset, and focuses more on the positive events in life than negative ones. Positive events are seen as relatively permanent, while negative events are seen as temporary (Seligman et al., 1998). A person's level of optimism contributes towards their level of resilience as positive emotions can help them recover from negative emotions (Tugade & Fredrickson, 2004) and reduces stress levels by helping them feel hopeful towards a given situation (Pahwa & Khan, 2022).

Mastery is the confidence an individual has in their ability to perform a task and succeed (Bandura, 1997). It is the sense of control an individual feels over their environment and belief that they are able to effect change to challenging situations through their own behaviour (Schwarzer and Warner, 2013). As such, when faced with adversities, individuals with higher levels of mastery are more likely to persevere in their efforts throughout the challenging event as opposed to giving up (Hamill, 2003).

1.2.3 Financial Resources

Apart from the undeniable importance of financial wealth and capital as a resource, financial literacy plays an important role in shaping the resilience and well-being of individuals. Emerging research on financial literacy has found that individuals who are more financially literate are better equipped to weather financial difficulty and less likely to make risky financial decisions, thereby building their financial resilience against future uncertainties (Bialowolski et al., 2022; Hasler et al., 2023; Klapper & Lusardi, 2020). In their study of financial stress and psychological distress of Australian parents, Taylor and colleagues (2017) suggest that resilience plays a mediating role between financial stressors and psychological distress. Similarly, Hasler and colleagues (2023) also found that financial literacy was inversely correlated with feelings of financial distress. Thus, it is evident that financial literacy plays an important role in shaping financial resilience, which provides a buffer for individuals against financial shocks, thereby protecting their overall well-being.

Based on the resources identified, we propose a basic framework, as illustrated in Figure 1, to understand the relationship between resilience and overall wellbeing. This overarching framework will guide this report and the analysis included.

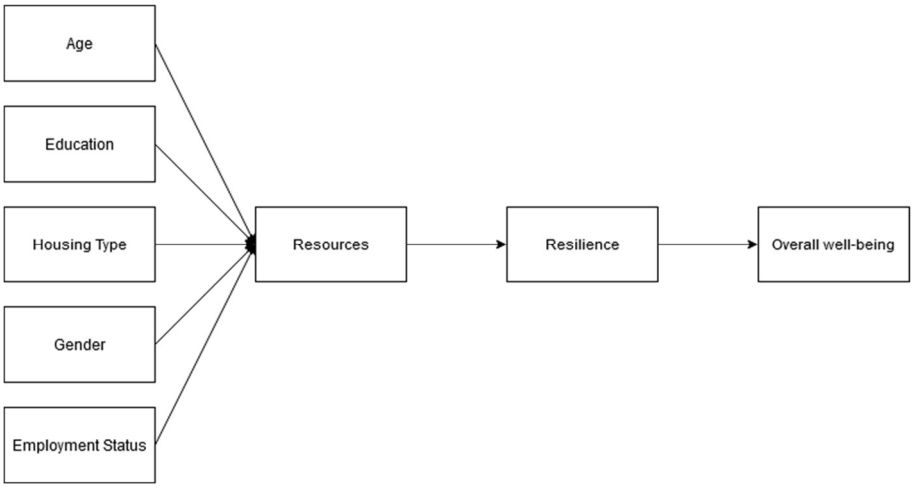

Figure 1. Resilience framework.

Section 2.0 Methodology

2.1 Data

This report utilises data from the Singapore Life Panel® and a sample of individuals from randomly selected households, ranging from the ages of 26 to 52 years old. The Singapore Life Panel® is a population representative monthly online survey of Singaporeans aged 52 to 78 in 2023 that has been conducted since 2015 (see Vaithianathan et al. (2021) for details regarding methodology) with an average response rate of about 6,500 to 7,000 respondents per month.

A total of 2,021 respondents participated in this study; of which 959 respondents were recruited from a random sample of 1,250 participants of the Singapore Life Panel® and 1,062 participants were recruited from a random sample of 3,200 Singaporean households obtained from the Department of Statistics Singapore.

2.2 Measures

The following sections outline the resilience and the relevant resources utilised in this report.

2.2.1 Resilience

Mental Resilience

Respondents rated their extent of agreement with 6 statements related to resilience. These items were adapted from Smith and colleagues' brief resilience scale (Smith et al., 2008) and Sinclair and Wallston's brief resilience coping scale (Sinclair & Wallston, 2004). Items include "It does not take me long to recover from a stressful event", "Regardless of what happens to me, I believe I can control my reaction to it", and "I believe I can grow in positive ways by dealing with difficult situations" and were scaled from 1 "Strongly disagree" to 6 "Strongly agree". A mental resilience score was obtained by summing all items where higher scores reflected greater mental resilience. The Cronbach's alpha of 0.907 suggests good internal consistency.

Social Resilience

Building on Cacioppo et al.'s (2011) conceptualisation of social resilience, six items were posed to respondents to identify their ability to rely on and assist others in times of stress, and the capacity to collectively overcome difficulties. For instance, items included "I support my friends and family in difficult times", "My friends and family are able to overcome challenges by helping each other", and "I reach out to my friends and family when I face difficulties". Each item was rated from 1 "Strongly Disagree" to 6 "Strongly Agree". All items were summed to obtain a social resilience score. The Cronbach alpha of 0.884 suggests good internal consistency.

Physical Resilience

The Physical Resilience Instrument for Older Adults by Hu et al. (2022) was adapted to assess physical resilience in the present study. Respondents were asked to rate their agreement to seven items to reflect the three dimensions of physical resilience – 1) Positive Thinking (e.g., "I try to remain optimistic when I am facing illness or injury"); 2) Coping and adjusting lifestyle (e.g., "I can cope with the change in my life after illness or injury"); and 3) Belief and hopeful mindset (e.g., "When facing illness of injury, I remain strong as a person"). Respondents rated each item from 1 "Strongly Disagree" to 6 "Strongly Agree". The physical resilience score was then obtained by summing up all items. With a Cronbach alpha of 0.932, the instrument demonstrates good internal consistency.

Financial Resilience

Following Salignac et al.'s (2019) financial resilience framework, financial resilience was conceptualised as the ability to "access and draw on internal capabilities and appropriate, acceptable and accessible external resources and supports in times of financial adversity." The four components of financial resilience (economic resources, financial resources, financial knowledge and behavior, and social capital) were assessed using seven items. Items included "I am confident I have at least six months of savings to cover my monthly expenses", "I have sufficient endowment plans that help to take care of my retirement needs", "I have adequate knowledge to make decisions on retirement saving" and "Reflecting on my household's monthly income in the last 12 months, I am confident my household is able to makes ends meet". Each item was rated from 1 "Strongly Disagree" to 6 "Strongly Agree", and all items were summed to obtain a financial resilience score. The Cronbach alpha of 0.929 indicates good internal consistency.

2.2.2 Resources

Social Support

Social support was measured using seven items from the Medical Outcomes Study (MOS) Social Support survey instrument (Sherbourne & Stewart, 1991). Respondents were asked to rate how frequently the following forms of social support were available to them if need – 1) Emotional/informational support (e.g., "Someone to confide in or talk to about yourself or your problems"), 2) Affectionate support (e.g., "Someone to show you love and affection") and 3) Tangible support (e.g., "Someone to help you if you were confined to bed"). Respondent rated each item from 1 "None of the time" to 5 "All of the time". All items were then summed to create an overall social support score which range from 7 to 35. The Cronbach alpha of 0.967 suggests good internal consistency.

Social Engagement

To assess the extent of respondents' social engagement, respondents were asked to rate the frequency at which they participated in seven social activities. These activities include visiting friends and family, group activities and volunteering. Each item was rated from 1 "None of the time" to 5 "All of the time". A social engagement score was then obtained by aggregating all items. Scores ranged from 7 to 35.

Optimism

Optimism was assessed using the Life Orientation Test – Revised (Scheier et al., 1994). The measure includes three positively phrased statements (e.g., "In uncertain times, I usually expect the best"), and three negatively phrased statements (e.g., "I hardly ever expect things to go my way "). Respondents rated their agreement with each statement on a 6-point scale from 1 "Strongly Disagree" to 6 "Strongly Agree". Negatively phrased items were first reverse coded before all items were summed to generate an optimism score. Scores ranged from 6 to 36, where higher scores reflected greater optimism. The Cronbach alpha was 0.773, suggesting that the measure has good internal consistency.

Mastery

Mastery was assessed using four items from the personal mastery subscale of the Sense of Control Scale by Lachman and Weaver (1998). The items of the scale measure the perceived sense of self-efficacy in achieving one's goals (e.g., "Whether or not I am able to get what I want is in my own hands"). Items were rated from 1 "Strongly Disagree" to 6 "Strongly Agree". The mastery score was obtained by summing all items. Scores ranged from 4 to 24, with higher scores reflecting a greater sense of personal mastery. The Cronbach alpha of 0.882 demonstrates good internal consistency.

Financial Literacy

Financial literacy was measured using the standard Big Three questions (Lusardi & Mitchell, 2011), and asked respondents' knowledge of inflation, compound interest and risky assets. Responses to the first two questions indicate respondents "economic concepts most fundamentally related to savings" and the third question "evaluates knowledge of risk diversification" which is essential to making informed investment decisions (Lusardi & Mitchell, 2011, p.4). For each correct response, respondents received 1 point. Scores for financial literacy ranged from 0 to 3, where a score of 3 represents all questions being answered correctly.

Insurance Ownership/coverage

To determine the extent of insurance ownership/coverage, respondents were asked to indicate against a list of life and health insurance, savings and wealth enhancement and legacy planning insurance policies which they owned. Respondents were also given the option to select "Don't know" or "None of the above". Term plan and whole life plan insurance policies under life and health insurance were categorised under life insurance. Integrated Shield Plan, CareShield Life Supplement and personal accident insurance plans under life and health insurance were categorised as health insurance. Wealth insurance policies included endowment policies and investment-linked plans. Finally, endowment policies, term plan and whole life plan policies under legacy planning insurance were categorised as legacy insurance.

2.2.3 Well-being

Social well-being was measured using an adapted version of Keyes' (1998) social well-being scale. The 15 items from the scale capture the five primary aspects of social well-being – social coherence, social actualisation, social integration, social contribution and social acceptance. Each item was rated from 1 "Strongly Disagree" to 6 "Strongly Agree". Negatively phrased items were reverse coded prior to the summation of all items to generate a social well-being score. Scores ranged from 15 to 90, where higher scores indicate higher levels of social well-being. The instrument's Cronbach alpha of 0.884 suggests good internal consistency.

Ryff and Keyes' (1995) psychological well-being scale was utilised to measure psychological well-being. The shortened 18 item scale measures six aspects of well-being and happiness – autonomy, environmental mastery, personal growth, positive relations, purpose in life and self-acceptance. Respondents responded to a 6-point scale from 1 "Strongly Disagree" to 6 "Strongly Disagree". All items were then summed to create a psychological well-being score that ranged from 6 to 108; higher scores reflect higher levels of psychological well-being. The Cronbach alpha of 0.866 suggests good internal consistency.

Economic well-being was assessed using a single item asking respondents to rate how satisfied they are with their overall economic situation. Respondents responded from 1 "Very dissatisfied" to 5 "Very satisfied". Similarly, physical well-being was measured using respondents' subjective assessment of their health. Respondents were asked to rate their health on a 5-point Likert Scale from "Poor" to "Excellent".

All items from the four well-being measures were summed to create an overall well-being index. Higher overall well-being scores reflected higher levels of well-being. The Cronbach alpha of 0.9215 suggests good internal consistency.

Section 3.0 Resilience Profiles of Singaporeans

3.1 Demographic Description

The demographic breakdown of the 2,021 respondents in our final sample is described below.

The sample consists of approximately equal proportions of males and females, with about one fifth of respondents in each of the following five age groups: 26 to 35, 36 to 45, 46 to 55, 56 to 65, 66 to 78. A majority of the respondents were married (71.55%), about one fifth were single, and the remaining were divorced, widowed or separated. In terms of employment status, three quarters were employed, one fifth was retired or homemakers and the remaining were categorised as unemployed (the unemployed category includes respondents identified as unemployed, laid off, on sick leave, disabled, student and others). Over 80% of the respondents lived in HDBs, with about 65% living in 4-5 room HDBs and about 18% living in 1-3 room HDBs, while the remaining 17% lived in private housing.

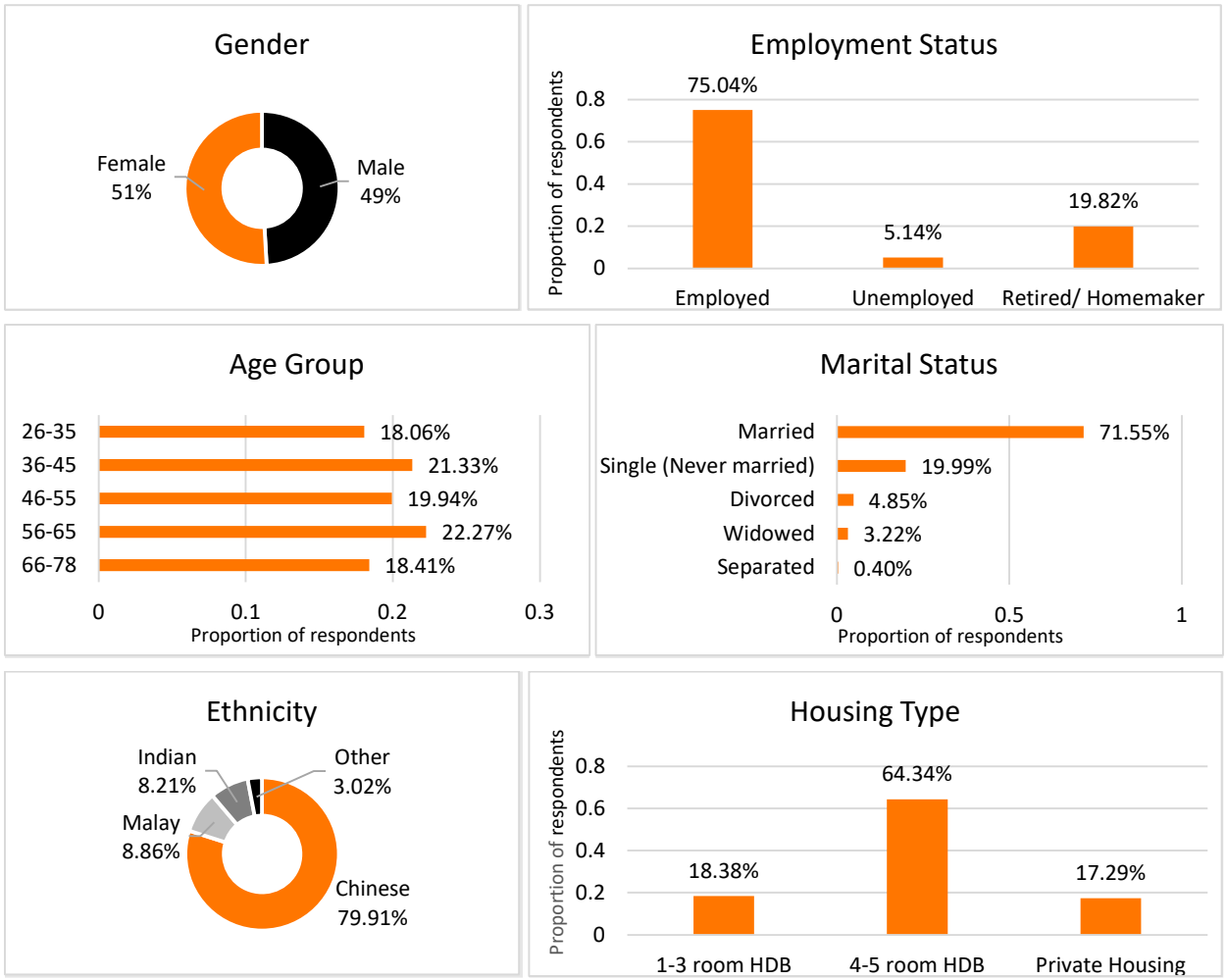

Figure 2. Demographic breakdown of respondents by gender, employment status, age group, marital status, ethnicity, and housing type (N=2,021).

3.2 Resilience of Singaporeans

Overall, the sample respondents are resilient, scoring on average between 5 to 7.5 points above the midpoints for the four resilience measures (mental resilience (mean = 26.02), social resilience (mean = 27.57), physical resilience (mean = 31.91), and financial resilience (mean = 29.45)).

The mental and social resilience scores range from a minimum of 6 to a maximum of 36, with the median scores at 27 and 28 respectively. The physical and financial resilience scores range from a minimum of 7 to a maximum of 42, with the median scores at 33 and 30 respectively.

The table below illustrates the mean, median, standard deviation, minimum, maximum as well as Cronbach Alpha for each of the four resilience measures. Mean scores reflect the average scores of the sample by summing up the scores of each individual and dividing it by the number of people in the sample. Median scores reflect the 50th percentile of all scores in the sample, or the middle value when all participants' scores are arranged in ascending order.

	Mental Resilience	Social Resilience	Physical Resilience	Financial Resilience
Mean	26.02	27.57	31.91	29.45
Median	27	28	33	30
SD	4.89	4.39	5.11	7.43
Min/Max	6/36	6/36	7/42	7/42
Mid-point	21	21	24.5	24.5
Cronbach Alpha	0.907	0.884	0.932	0.929

Table 1. Descriptive statistics of mental, social, physical, and financial resilience.

As this is the first comprehensive study that looks at resilience among the Singapore population, this study sets the baseline of Singaporeans' resilience levels across the four domains for future studies to reference against. Follow up studies will be necessary to identify the longitudinal trends in the resilience.

The following sections of the report outline resilience domains and the demographic groups in which significant differences were observed. For an overview of resilience levels across all demographic groups examined in this study, please refer to Figures 24 to 29 in Annex A.

3.3 Resilience by Gender

Between the two genders, males had greater mental resilience. The difference between the mental resilience scores of the two genders was found to be statistically significant.

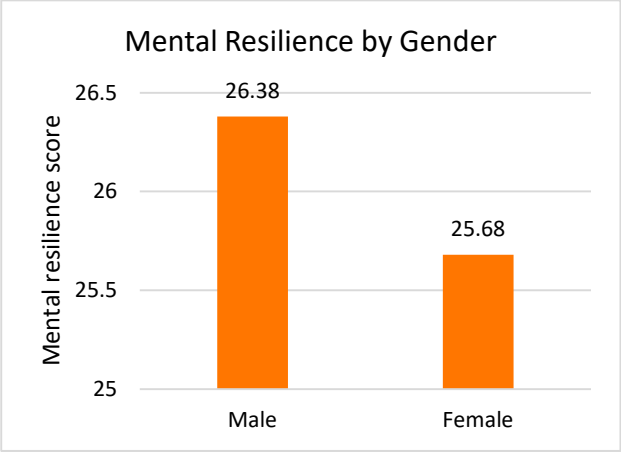

Figure 3. Mental resilience by gender.

3.4 Resilience by Age Group

Social resilience scores were significantly different for the following age groups: those aged 26 to 35 had greater social resilience than those aged 56 to 65 and 66 to 78, while those aged 46 to 55 also had greater social resilience than those aged 56 to 65 and 66 to 78. Generally, we found that those in the younger age groups were more likely to have greater social resilience than those in the older age groups.

Likewise, physical resilience scores were significantly different for the following age groups: those aged 36 to 45 and 46 to 55 had greater physical resilience than those aged 66 to 78.

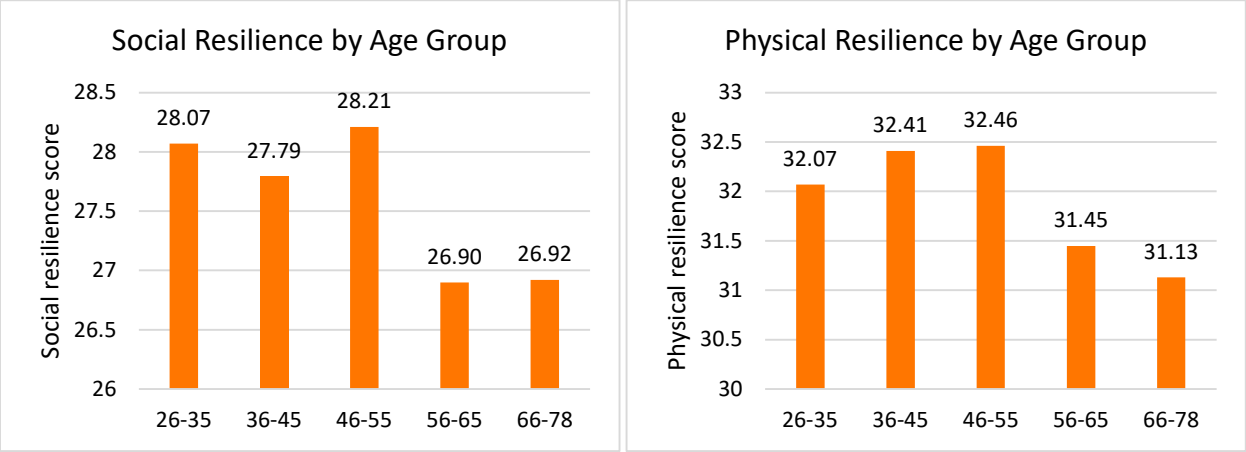

Figure 4. Social and physical resilience by age group.

3.5 Resilience by Marital Status

Married respondents were more likely to have greater social and financial resilience than single respondents. We observed a significant difference in the social and financial resilience scores between the single and married respondents. This is likely due to the fact that many married Singaporeans are likely to be dual-income couples. With two members contributing to household income, married individuals are likely more financially resilient than singles with only a single source of income. Additionally, married respondents are likely to report higher social resilience due to the availability of support from their spouse and the access to an extended family support system to rely on for help.

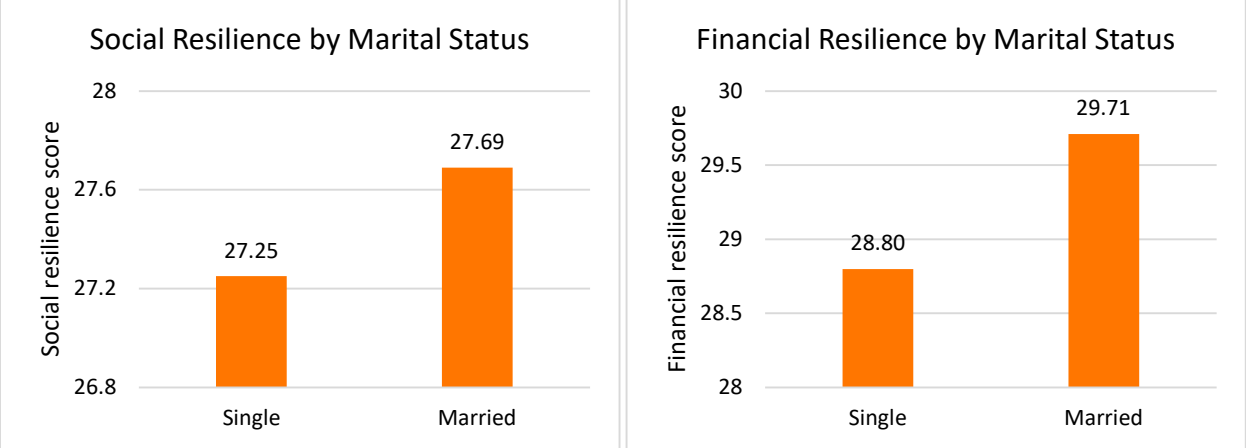

Figure 5. Social and financial resilience by marital status.

3.6 Resilience by Housing Type

Social, physical, and financial resilience varied significantly between respondents of the different housing types. Generally, the larger the housing type, the greater the resilience of respondents.

Social resilience was greater in respondents living in 4-5 room HDBs and private housing than respondents living in 1-3 room HDBs. Similarly, physical resilience was greater in respondents living in private housing than respondents living in 1-3 room HDBs. Financial resilience was significantly different across all three housing groups, with the greatest financial resilience observed in respondents living in private housing and the least financial resilience observed in respondents living in 1-3 room HDBs.

As housing type can be considered a proxy measure for socioeconomic status (SES), it is unsurprising that those who live in larger housing types, i.e., respondents of higher SES, are more likely to have greater resilience, especially financial resilience, compared to respondents who live in smaller housing types, i.e., of lower SES. Possibly, individuals of higher SES are better equipped with the resources which afford them the opportunity to develop stronger social networks and have networks that are better able to provide support, have the financial resources necessary to seek preventive and non-preventive healthcare services, and are able to make insurance purchases that can provide some financial cushion against risks.

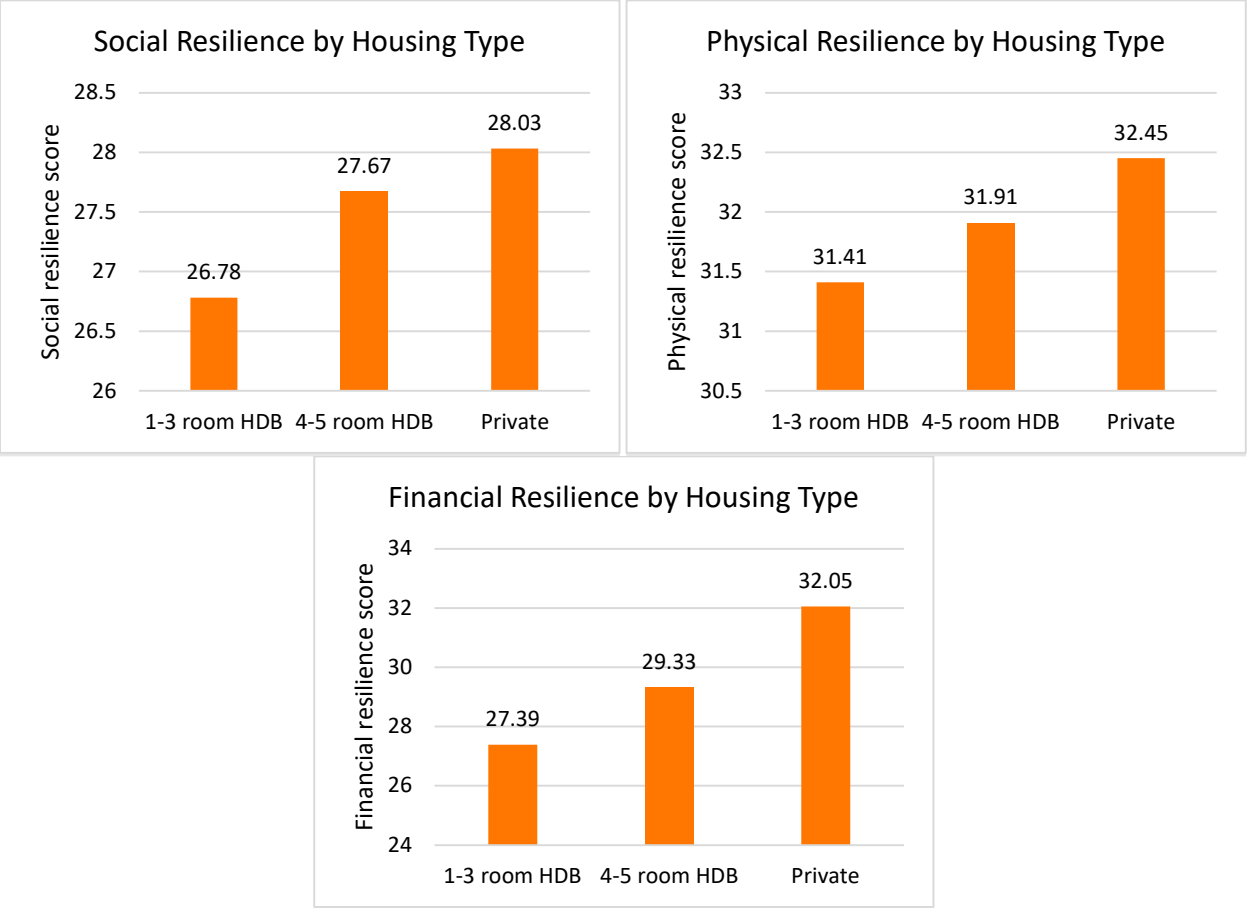

Figure 6. Social, physical and financial resilience by housing type.

3.7 Resilience by Work Status

All four resilience measures were significantly different between respondents of the different work statuses. Overall, respondents who were employed had significantly greater resilience than those who were not employed.

There was a significant difference in all four measures of resilience between those who were employed and those who were unemployed. Additionally, there was also a significant difference in social and financial resilience between those who were unemployed and those who were retired or homemakers, with the latter group having greater social and financial resilience. Possibly, individuals who were unemployed reported lower levels of resilience across the four domains due to the stressful nature of being out of work. Those who were unemployed may have faced heightened stress from the financial uncertainty and possibly may have health conditions which inhibited employment opportunities. Further, unemployment has been associated with social exclusion, which could possibly explain why individuals who were unemployed reported lower levels of social resilience than their employed peers (Pohlan, 2019).

Figure 7. Mental, social, physical, and financial resilience by work status.

3.8 Resilience by Education Level

Significant differences were found for all four domains of resilience across education levels. Broadly, respondents with higher levels of education reported higher levels of resilience.

Respondents with a primary education and below had significantly lower levels of mental resilience than those with post-secondary education and above. With regard to social resilience, respondents with a secondary education or lower had significantly lower levels of social resilience than those with a post-secondary education and above. Similarly, respondents with a post-secondary education and above had significantly higher levels of physical resilience than respondents with primary education and below; while respondents with a university education and above had significantly higher levels of physical resilience than those with a secondary education. Financial resilience scores were significantly different across all education levels. Respondents with higher levels of education had higher levels of financial resilience compared to their counterparts.

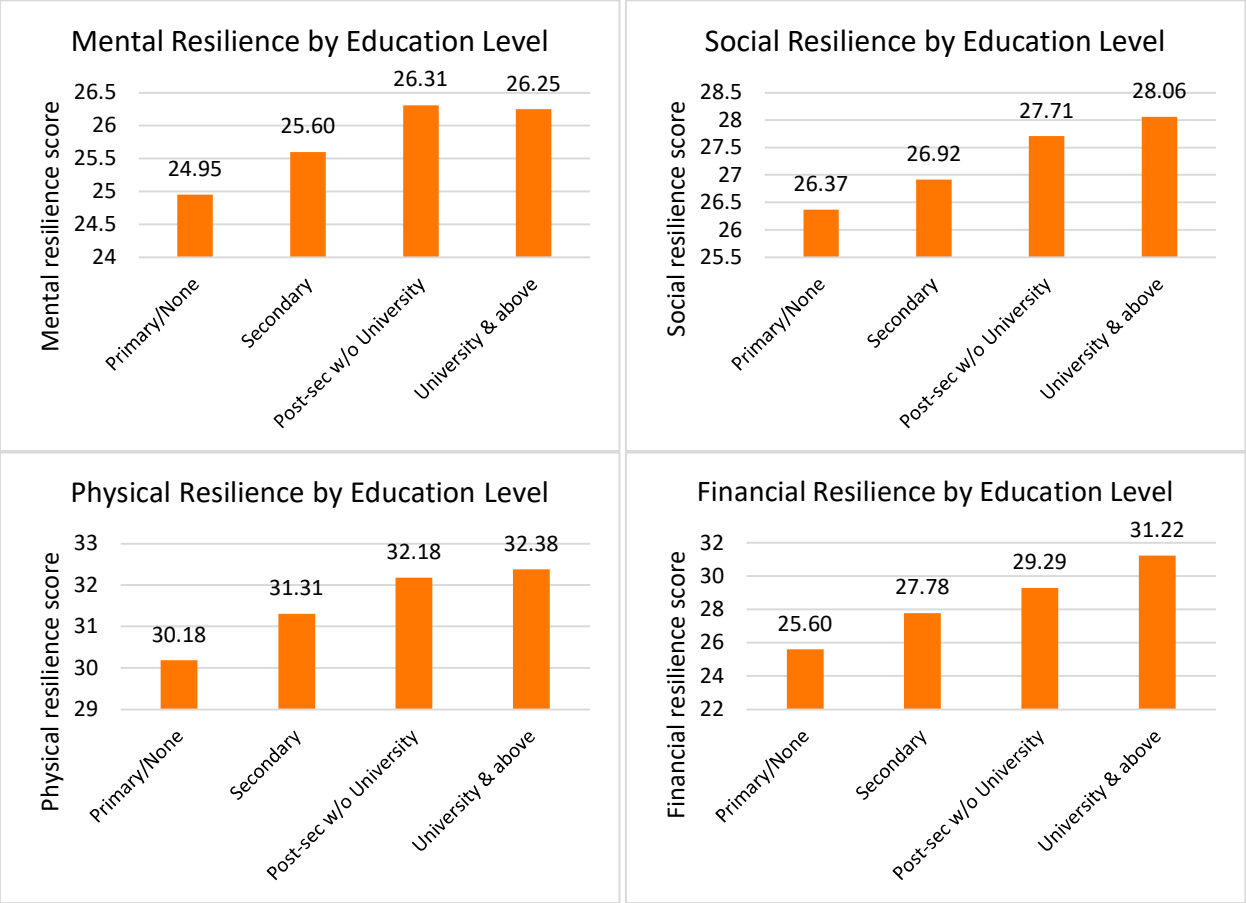

Figure 8. Mental, social, physical, and financial resilience by education level.

3.9 Summary

Overall, sample respondents faired moderately on their resilience levels, averaging above the midpoint score for all four resilience measures. Despite this, the findings also demonstrate variations in resilience levels across demographic groups and point towards vulnerable groups with lower levels of resilience (see Figure 9). As this is the first study of its kind, we are cautious not to draw definitive conclusions regarding demographic differences in resilience. Nonetheless, these findings do highlight groups that may be more vulnerable could benefit from tailored interventions.

Vulnerable groups within each domain of resilience

Mental Resilience	Social Resilience	Physical Resilience	Financial Resilience
• Unemployed • Females • Lower education levels	• Unemployed • Lower education • Older adults • Single • Smaller housing types • Lower education levels	• Unemployed • Older adults • Smaller housing types • Lower education levels	• Unemployed • Single • Smaller housing types • Lower education levels

Figure 9. Vulnerable demographic groups according to each domain of resilience.

In examining resilience across the age groups, respondents aged between 66 and 78 were found to have significantly lower levels of physical resilience than respondents from younger age groups. While age-related physiological decline likely accounts for some of these differences, attention must also be placed on the role preventive health models can play to attenuate the pace of decline. Thus, these findings underscore the need for targeted interventions to assist older adults to lead healthy lifestyles and maintain their physiological reserves. In line with the newly launched Healthier SG initiative launched by Ministry of Health, developing specific programmes that encourage the adoption of sustainable preventive health behaviours (e.g., through healthy diets and exercises) while remaining sensitive to the needs and concerns of older adults could prove beneficial to their physical resilience and well-being.

Similar differences were also found in social resilience, with respondents aged 56 to 78 reporting lower levels of resilience than their younger counterparts. Possibly, discrepancies in social resilience between the older and younger age groups could be accounted to the change in employment status experienced by the former. The transition from employment to retirement is also accompanied by a change in one's social status, role and network (Hobbis et al., 2011; Jones, Leontowitsch & Higgs, 2010). Thus, it is important that older adults are mindful of, not only the financial, but also the social preparations required when planning for retirement, and the need to remain socially engaged post-retirement.

Single respondents were also found to report lower levels of social and financial resilience than their married counterparts. Despite single residents comprising of more than a quarter (28.6%) of Singapore's population (Singstat, 2022), singles are often neglected, as with the normative expectations of marriage, because singlehood is often viewed as a temporary phase in the life course. However, the rising proportion of singles across all age groups in Singapore is also suggestive of a shift in social norms concerning marriage. Thus, to formulate interventions to better address the disparity in resilience between single and married individuals, greater research must first be conducted to better understand the unique needs and challenges of those who remain single whether by choice or circumstance. Conducting a cohort study focusing on single Singaporeans could be one possible approach that will enable researchers to track and explore the trajectories of resilience and well-being over the life course, and uncover the underlying mechanisms that contribute to their development.

Respondents living in smaller housing types were also observed to score lower levels of social, physical, and financial resilience. Housing type serves both as a proxy for SES, and a practical indicator for points of intervention to take place. Thus, interventions aimed towards the development of resilience should focus on areas with a high concentration of 1-3 room HDBs for greater impact.

Education was also found to be significantly associated with resilience, with respondents with lower levels of education tending to report lower levels of mental, social, physical, and financial resilience. Similar to housing type, education is often utilised as a proxy for SES, and likely suggests that those with lower levels of education have access to fewer resources that facilitate the development of resilience.

Finally, respondents who were unemployed consistently reported lower levels of resilience across all four domains. Despite the assumed temporality of unemployment, unemployment is observed to negatively impact resilience. This is in line with previous studies which have found associations between job loss and declines in both physical and mental health, irrespective of the length of unemployment (Burgard, Brand & House, 2007; Browning & Heinesen, 2012). In 2022, Singapore's

average annual unemployment rate was 2.1% and the median duration of unemployment was eight weeks (Ministry of Manpower, 2023). It is hence recommended that more attention should be directed towards supporting the unemployed and to ensure that their social, mental, physical, and financial resilience are safeguarded while they search for employment.

Thus, we have identified the vulnerable demographic groups with lower levels of resilience as those who are older, single, living in smaller housing types, and unemployed. Interventions targeted towards the development of resilience should note the demographic subsets who may need most assistance in developing from each of the four forms of resilience. Additionally, interventions could be designed with the aim to boost resilience across the different domains of resilience due to the close associations between the four domains. For instance, interventions which are targeted towards the development of mental resilience through the development of problem-solving skills could also impart benefits to social resilience as it would also equip individuals with the skills to assist their community in times of stress.

Section 4.0 Resources, Resilience and Well-being

4.1 Resources Impacting Resilience

Earlier research suggests that resources within one's environment can be harnessed to develop resilience. For instance, a study on older adults has shown how social support is an important resource that influences an individual's resilience, which subsequently influences an individual's quality of life, thereby mediating the relationship between social support and quality of life (Kong et al., 2021).

Thus, to examine the associations between resilience and the various resources outlined previously, we utilised Pearson's correlation analysis and plotted the average resilience scores against each resource. The larger the Pearson's correlation coefficient, the stronger the correlation between the two variables. All correlations in the figures below were statistically significant ($p<0.05$).

From the figure below, the resources that we found to have the strongest correlations overall with all four aspects of resilience are optimism and mastery, where the correlation coefficient for optimism and mastery and each aspect of resilience ranges from 0.402 to 0.595, indicating a moderate to strong relationship.

Other resources include social support, social engagement, financial literacy, and insurance ownership, which are the resources included in our hypothesised model (refer to Section 6).

- Social support is most strongly correlated with social resilience, followed by mental resilience, physical resilience, and financial resilience, with correlation coefficients of 0.530, 0.431, 0.428, and 0.343 respectively.
- Social engagement is significantly correlated with the different aspects of resilience. The correlation coefficient of financial resilience is 0.253, physical resilience is 0.210, social resilience is 0.207, and mental resilience is 0.194.
- Financial literacy is most strongly correlated with financial resilience, followed by social resilience, physical resilience, and mental resilience, with correlation coefficients of 0.254, 0.170, 0.129, and 0.114 respectively.
- Insurance ownership is likewise most strongly correlated with financial resilience, followed by social resilience, physical resilience, and mental resilience, with correlation coefficients of 0.367, 0.203, 0.187, and 0.157 respectively.

As all correlations are statistically significant, we conclude that each of these resources are correlated between resilience, and respondents with greater levels of each of these resources are likely to have greater levels of resilience. These resources are thus, important for developing each aspect of resilience.

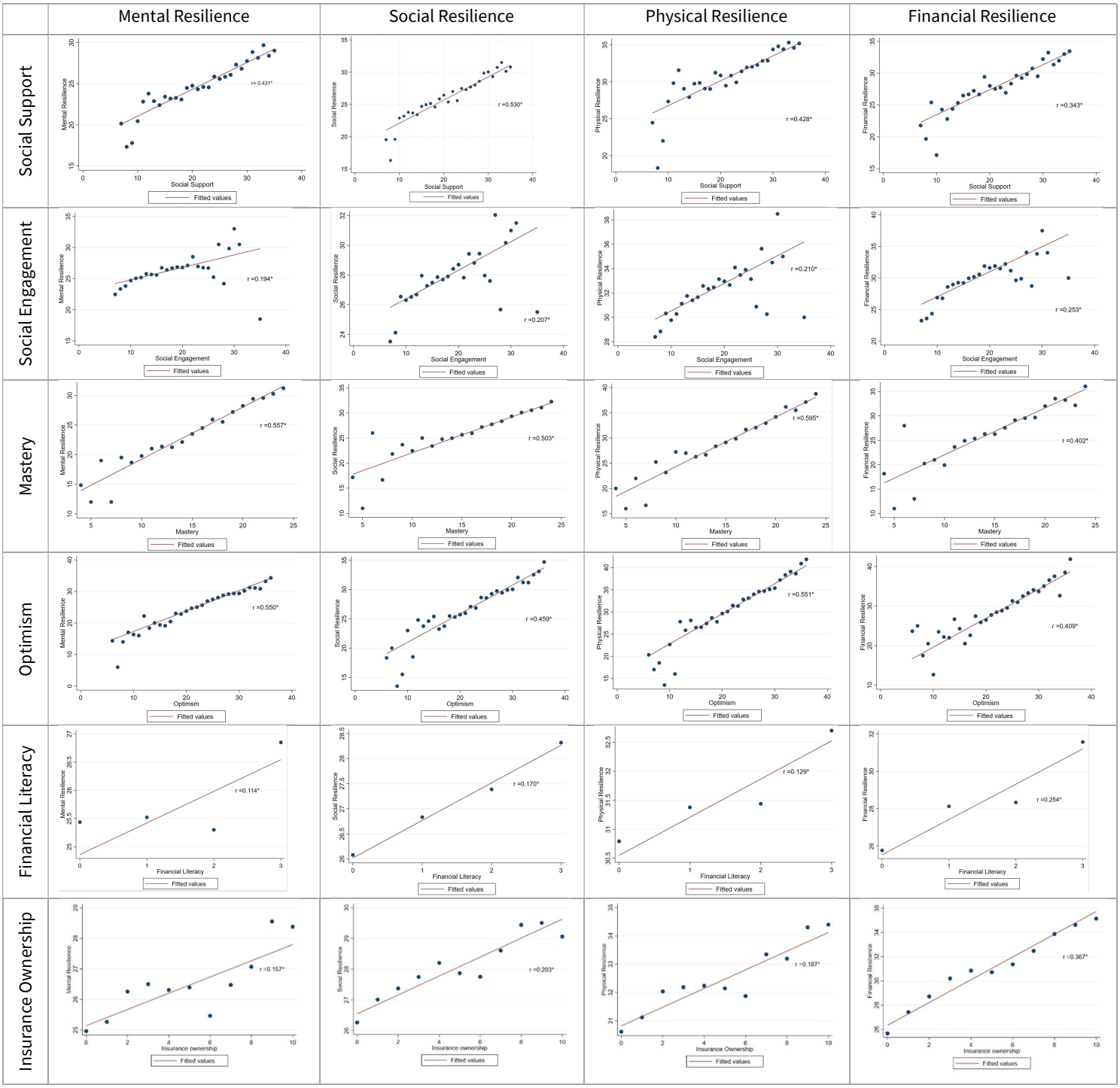

Figure 10. Correlations between resilience and resources.

4.2 Resilience and Well-being

To examine the strength of association between resilience and well-being, Pearson's bivariate correlation analysis was similarly performed between each domain of resilience and overall well-being. All four domains of resilience were positively correlated with overall well-being. Physical resilience ($r=0.674$, $p<0.001$) was most strongly correlated with well-being, followed by mental resilience ($r=0.659$, $p<0.001$), social resilience ($r=0.652$, $p<0.001$), and financial resilience ($r=0.674$, $p<0.001$).

Section 5.0 Singaporeans and Financial Resources

The following section outlines how study respondents fared in terms of financial literacy and insurance coverage. These factors were specifically identified as financial resources of interest in this study as they offer potential avenues for intervention.

5.1 Financial Literacy

As outlined in the methodology section, financial literacy is determined based on three questions developed by Lusardi and Mitchell (2011). This measure has been widely used in various studies, such as the U.S Financial Capability Study, to assess financial literacy. Scores are calculated based on the number of correct responses to each of the three questions. Respondents who obtained a score of 0 answered all questions incorrectly, while those who scored 3 answered all questions correctly.

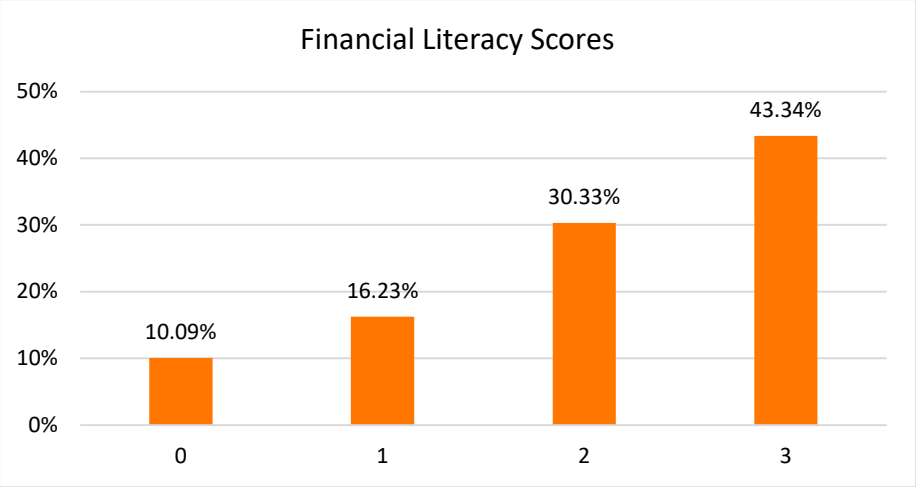

Figure 11. Distribution of financial literacy scores.

Based on the distribution of financial literacy scores, more than 2 in 5 (43.34%) were able to answer all questions correctly, demonstrating a good level of financial knowledge. Concerningly, about 1 in 10 respondents demonstrated poor financial understanding and responded incorrectly to all questions.

To identify vulnerable groups with lower levels of financial literacy, bivariate analysis using one-way analysis of variance was conducted across the demographic groups. Based on the results, significant differences were found across gender, employment status, housing type and age. Men reported higher levels of financial literacy than women. Employed respondents reported higher levels of financial literacy than those unemployed or those retired/homemakers. Respondents in larger housing types reported higher levels of financial literacy than their counterparts. Respondents aged 36-55 reported better financial literacy than respondents aged 66-78. (For brevity, please refer to Figures 30 to 33 in the Annex for the mean financial literacy scores across the demographic groups.)

One example of an intervention that can be enacted upon by organisations is the partnership with Monetary Authority of Singapore (MAS) to support the development and implementation of financial literacy programmes.

5.2 Insurance Ownership

In this section, we describe the insurance ownership of the study's sample. The table below provides information on the summary statistics of respondents for each of the following types of insurance[1]: life insurance, health insurance, wealth insurance, and legacy insurance, as well as the sum of all types of insurance.

	Life Insurance	Health Insurance	Wealth Insurance	Legacy Insurance	Sum of all types of insurance
Mean	0.693	1.26	0.602	0.756	3.308
Median	1	1	0	0	3
SD	0.756	1.06	0.743	0.982	2.897
Min/Max	0/2	0/3	0/2	0/3	0/10

Table 2. Descriptive statistics of each type of insurance and the sum of all types of insurance.

Overall, we found on average, respondents had a mean sum of 3.308 types of insurance policy types, with 77.8% of respondents owned at least one insurance policy. Slightly more than half of respondents (51.4%) of respondents owned at least one type life insurance policy, 69.0% of respondents owned at least one type of health insurance, 44.6% owned at least one type of wealth insurance, and 45.6% owned at least one type of legacy insurance. This suggests that most respondents have some form of insurance coverage.

We found that there are significant differences at the 95% confidence level in insurance ownership across the following demographics groups: age group, housing type, gender, marital status, and employment status.

5.2.1 Insurance Ownership by Age Group

A significant difference in the mean of each insurance type and sum of all insurance types was found across the different age groups. Generally, those in the younger age groups spanning ages from 36 to 55 have greater insurance ownership than those in the older age groups spanning ages from 56 to 78.

Older adults aged 56 to 66 and 66 to 78 averaged a sum of all types of insurance of 2.87 and 1.72 respectively, compared to the younger respondents aged 26 to 35, 36 to 45, and 46 to 55, who averaged a sum of all types of insurance of 3.52, 4.06 and 4.27 respectively, as illustrated in Figure 12 below.

Specifically, the oldest group of respondents aged 66 to 78 had significantly lower means for each insurance type when compared to all the younger age groups. This suggests that older respondents have less comprehensive insurance coverage across the different policy types compared to the younger respondents.

Similar findings were also identified in the 2017 Protection Gap Study conducted by the Life Insurance Association to identify the protection needs and gaps of working adults in Singapore. For more details, please refer to https://www.lia.org.sg/media/1526/2017_protection_gap_report_v20180426.pdf.

[1] The information presented indicates the number of policy types that respondents own and does not refer to the number of policies that they own, as some policies may qualify as more than one policy type. Please refer to Annex A for the survey questions and classifications of insurance ownership.

Possible factors for lower insurance coverage among older persons could include whether older persons are insurable, the process of health underwriting is perceived as being onerous and the higher cost of insurance with age.

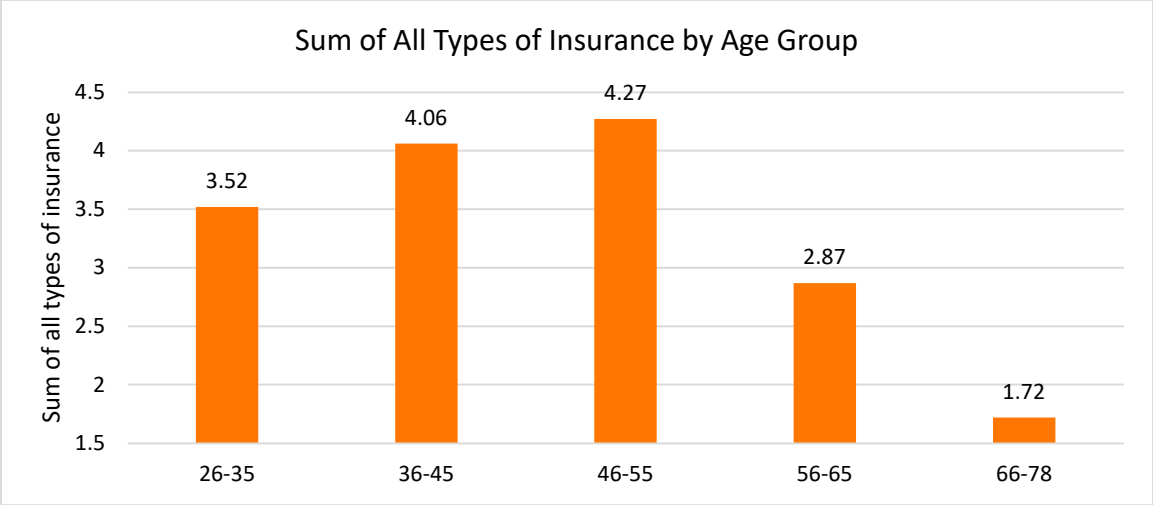

Figure 12. Insurance ownership by age group.

5.2.2 Insurance Ownership by Gender

We observed a significant difference in the mean for life, health, and legacy insurance and the sum of all insurance types between males and females. Males on average were more likely to own more policy types for life, health, and legacy insurance, and average a higher sum of all types of insurance of 3.56, compared to 3.07 for females.

This suggests that males generally had better insurance coverage than females as they owned more insurance types altogether.

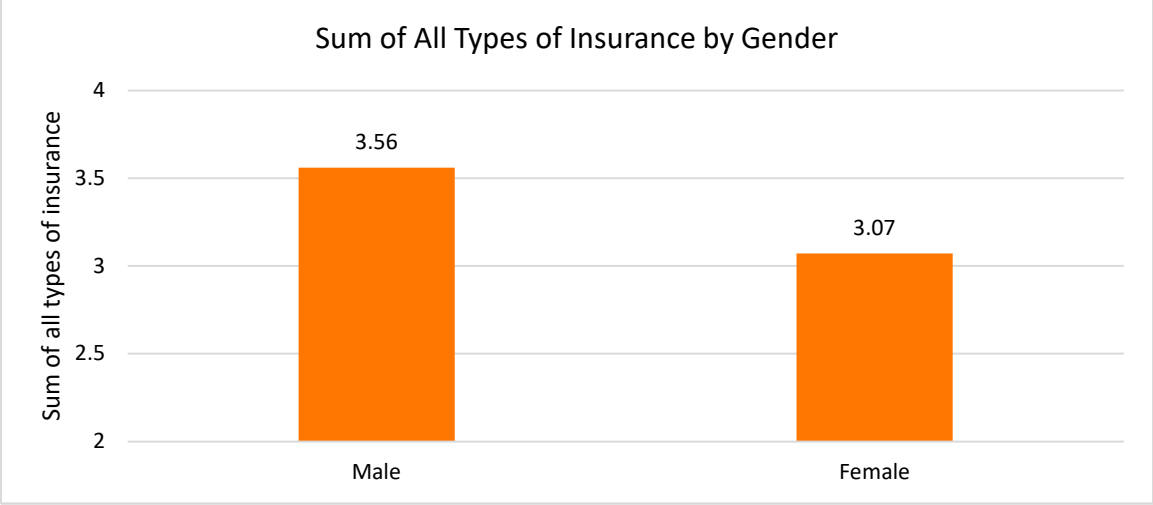

Figure 13. Insurance ownership by gender.

5.2.3 Insurance Ownership by Marital Status

There is a significant difference in the mean for life and legacy insurance, as well as the sum of all types of insurance by marital status. Married respondents had higher means of life and legacy insurance ownership, as well as a higher sum of all types of insurance, compared to single respondents.

Married respondents reported a sum of 3.42 of all types of insurance, while single respondents reported a sum of 3.03, suggesting that married respondents have better insurance coverage than single respondents.

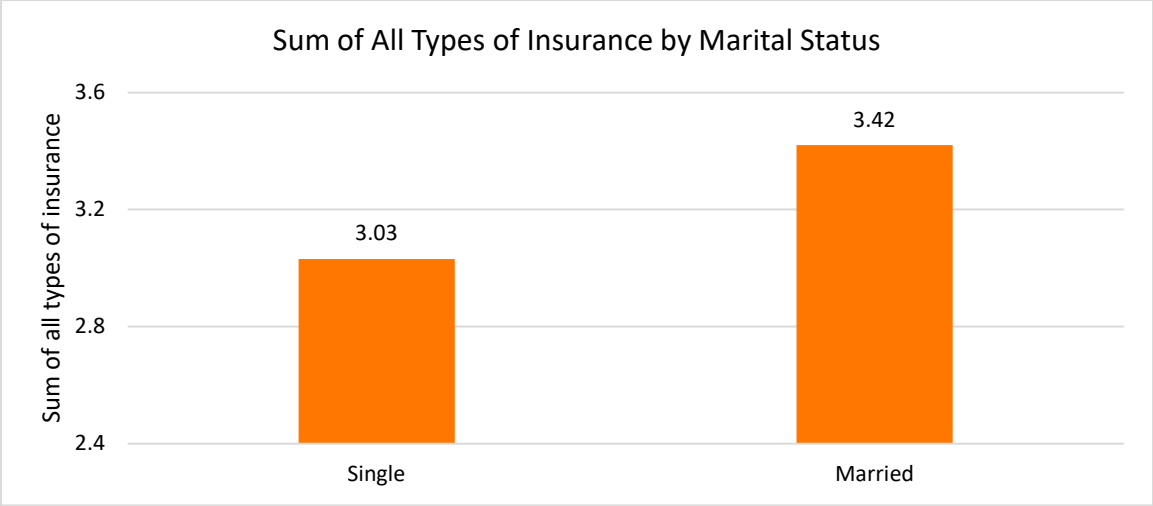

Figure 14. Insurance ownership by marital status.

5.2.4 Insurance Ownership by Housing Type

The mean for each insurance type and the sum of all insurance types were significantly different for respondents living in different housing types. Respondents living in larger housing types had higher averages of life, health, wealth, and legacy insurance ownership as well as a greater mean sum of all types of insurance, compared to respondents living in smaller housing types.

Respondents living in private housing reported the greatest sum of all types of insurance of 4.13, followed by respondents living in 4-5 room HDBs with 3.36, and respondents living in 1-3 room HDBs with the lowest mean sum of 2.35. This implies that respondents living in larger housing types, likely of higher SES, have better insurance coverage than respondents of lower SES.

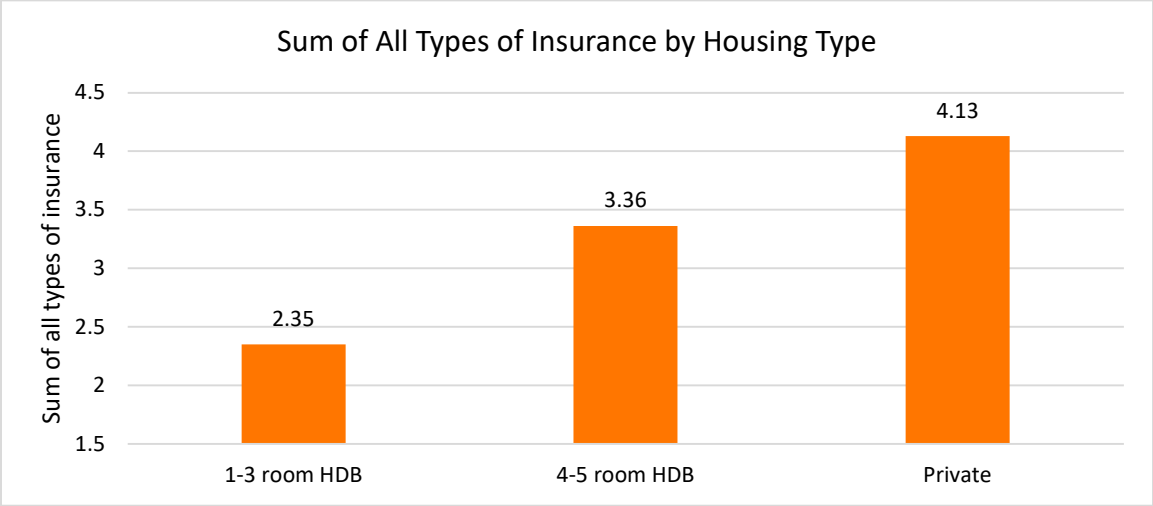

Figure 15. Insurance ownership by housing type.

5.2.5 Insurance Ownership by Work Status

Comparing employed, unemployed, and retired or homemaker respondents, we found a significant difference in the means for each insurance type and the sum of all insurance types. Generally, respondents who were employed had a greater number of life, health, wealth, and legacy insurance, as well as sum of all types of insurance, compared to respondents who were unemployed and retired or homemaker.

In terms of the sum of all types of insurance, employed respondents had a sum of 3.74, significantly higher than the mean sums of 2.06 and 2.12 of unemployed and retired or homemaker respondents. This is possibly because employed respondents are likely better able to financially afford more forms of insurance and be covered under their company's group health insurance. Thus, employed individuals have a higher sum of all types of insurance, indicating greater insurance coverage across the different policy types.

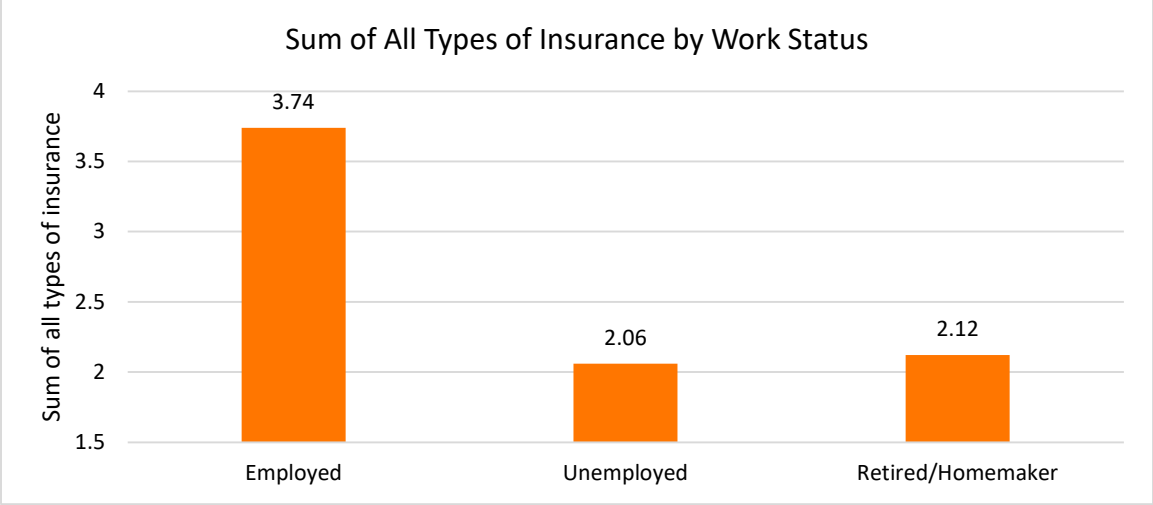

Figure 16. Insurance ownership by work status.

5.2.6 Insurance Ownership by Education Level

Significant differences in insurance ownership across all categories were identified among respondents of different levels of education. Respondents with higher levels of education reported having more insurance ownership.

Respondents with a university degree or above reported the highest total sum of all insurance policy types (4.43), followed by respondents with a post-secondary education (3.43), secondary education (2.01), those with primary education or lower with the lowest mean sum (0.868). Similar to the findings above on housing types, the differentials in insurance ownership across educations is likely indicative of differences across SES.

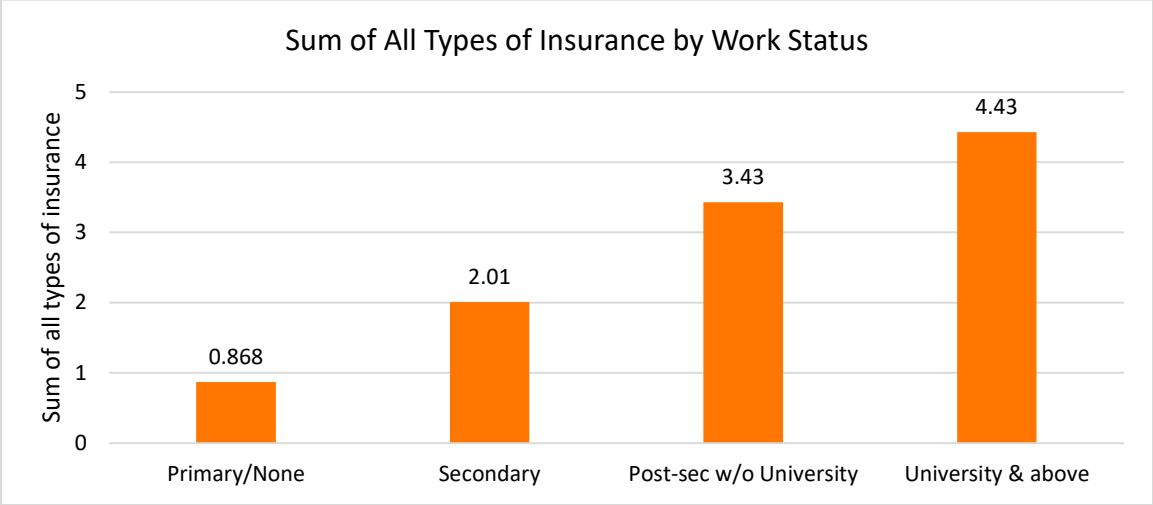

Figure 17. Insurance ownership by education level.

5.2.7 Insurance Ownership and Resilience

We conducted a one-way ANOVA to determine if there is statistical evidence that resilience levels differed across individuals of different insurance coverage.

Overall, the findings suggest that there is a significant difference in the mental, social, physical, and financial resilience of individuals with different levels of insurance coverage. Respondents who own more of each type of insurance policy reported greater levels of mental, social, physical, and financial resilience. These trends can be observed in Figures 18 to 21 below.

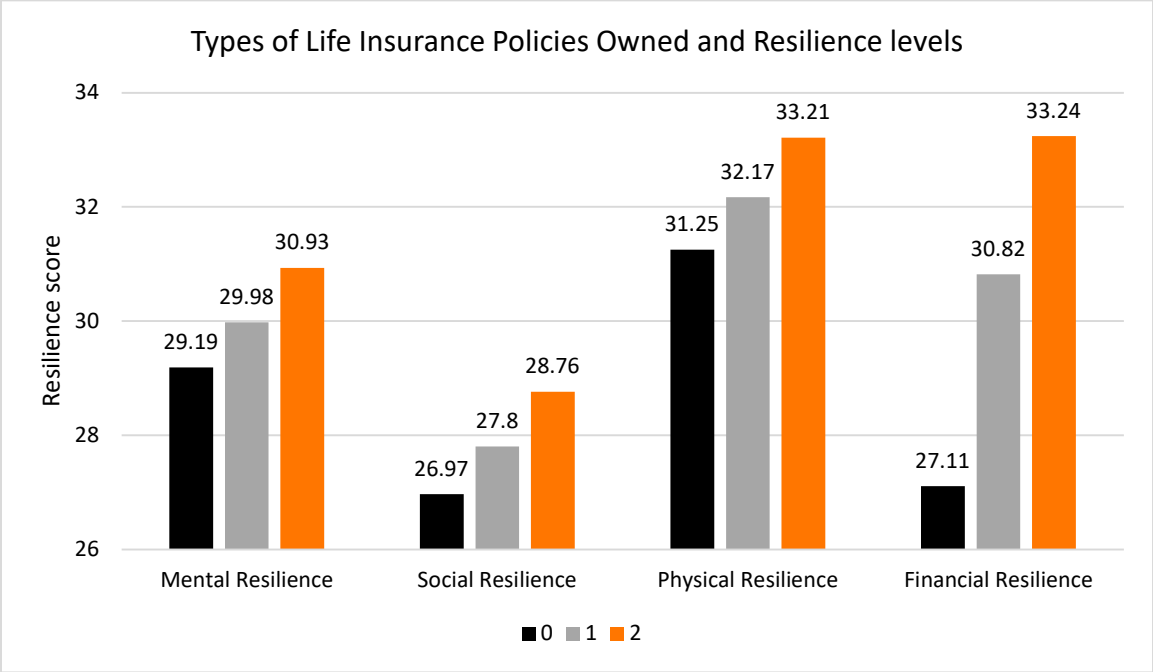

Figure 18. Types of life insurance policies owned (0, 1, or 2) against mental, social, physical, and financial resilience levels.

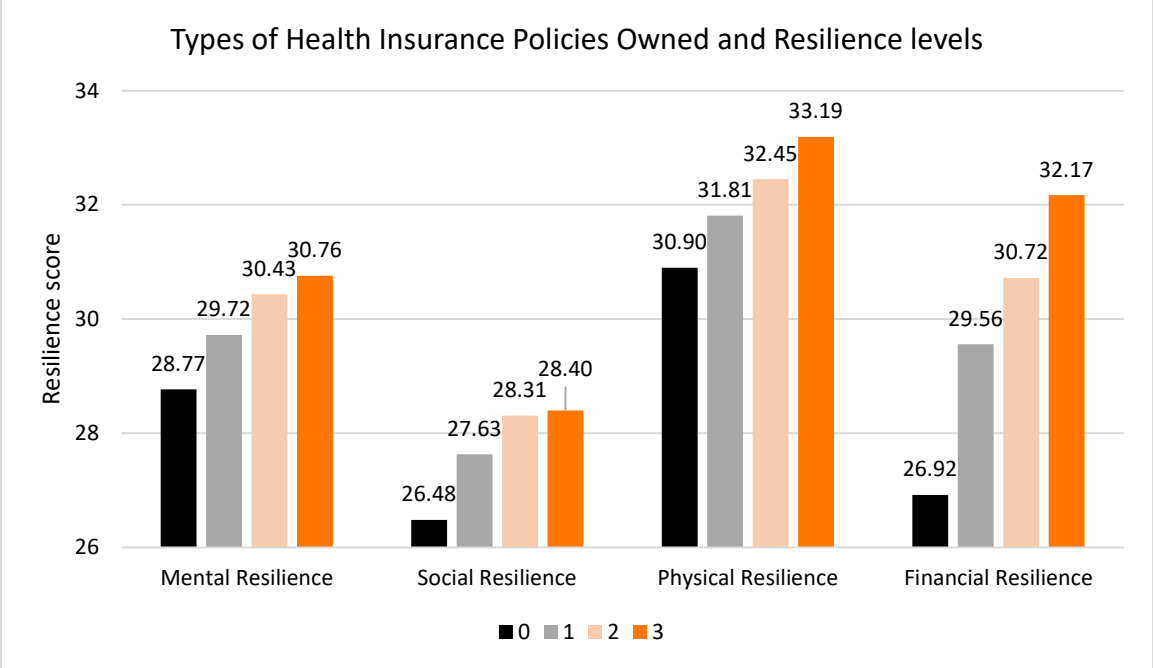

Figure 19. Types of health insurance policies owned (0, 1, 2, or 3) against mental, social, physical, and financial resilience levels.

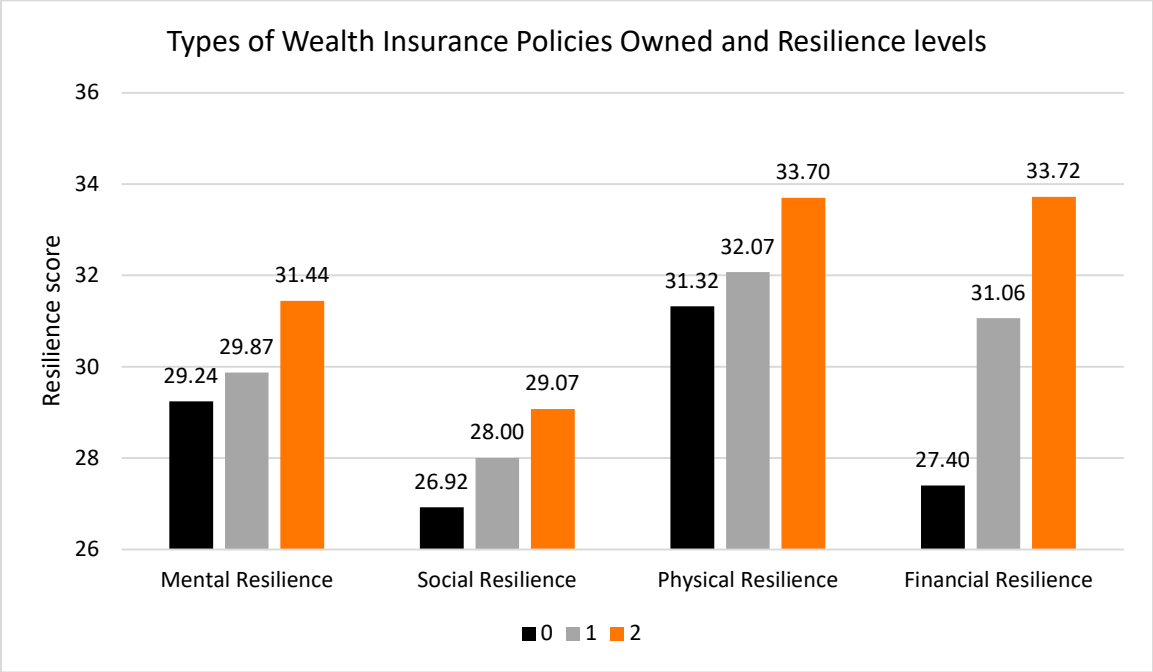

Figure 20. Types of wealth insurance policies owned (0, 1, or 2) against mental, social, physical, and financial resilience levels.

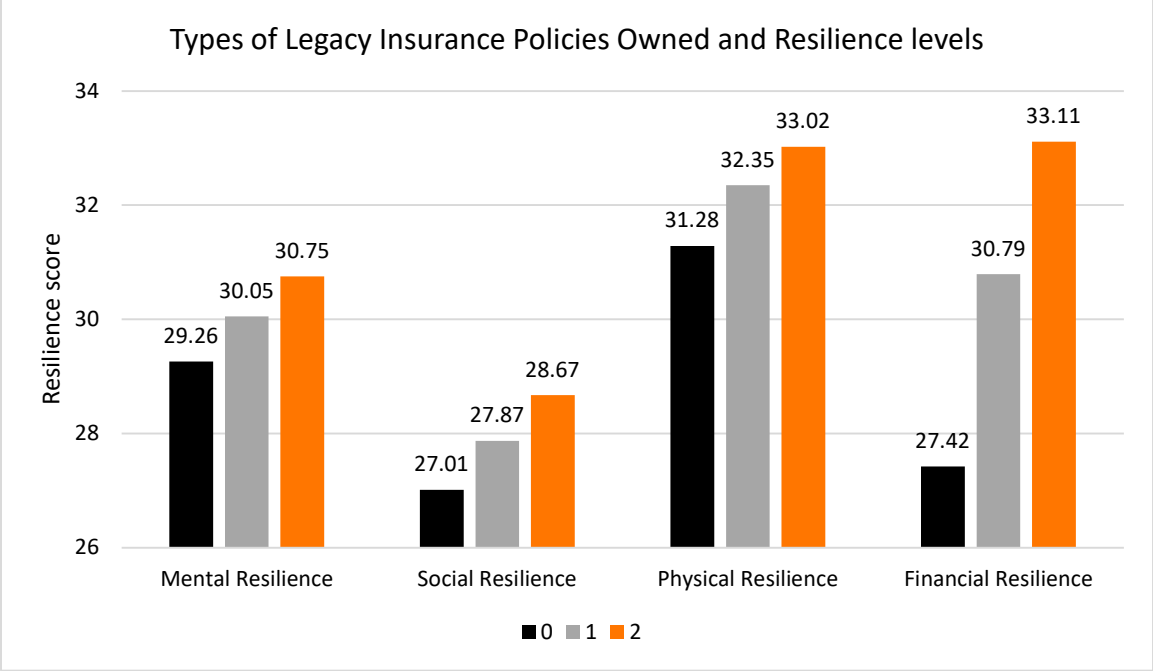

Figure 21. Types of legacy insurance policies owned (0, 1, or 2) against mental, social, physical, and financial resilience levels.

Section 6.0 Resources, Resilience and Well-being Model

Building on the correlations established in the previous sections, a structural equation model (SEM) was then conducted to examine the direct and indirect effects of resources associated with resilience, resilience, and well-being. SEM provides us with a more holistic appreciation of the mechanisms through which resilience and the resources associated with it influence well-being and enables us to identify possible gaps that can be addressed through interventions. The current model specifically elaborates on the roles social and financial resources (i.e., social support, social engagement, financial literacy and insurance coverage) play in enabling resilience and well-being. As these resources are widely accessible within the community, focusing on these factors will allow for the implementation of sustainable interventions.

The following hypotheses were tested in the model (see Figure 22):

H1: Social engagement, social support, insurance coverage, financial literacy and resilience are positively associated with well-being.
H2: Social engagement, social support, insurance coverage, and financial literacy are positively associated with resilience.
H3: Resilience mediates the relationship between social engagement, social support and financial literacy, insurance coverage, and well-being.
H4: Financial literacy is positively associated with insurance coverage.

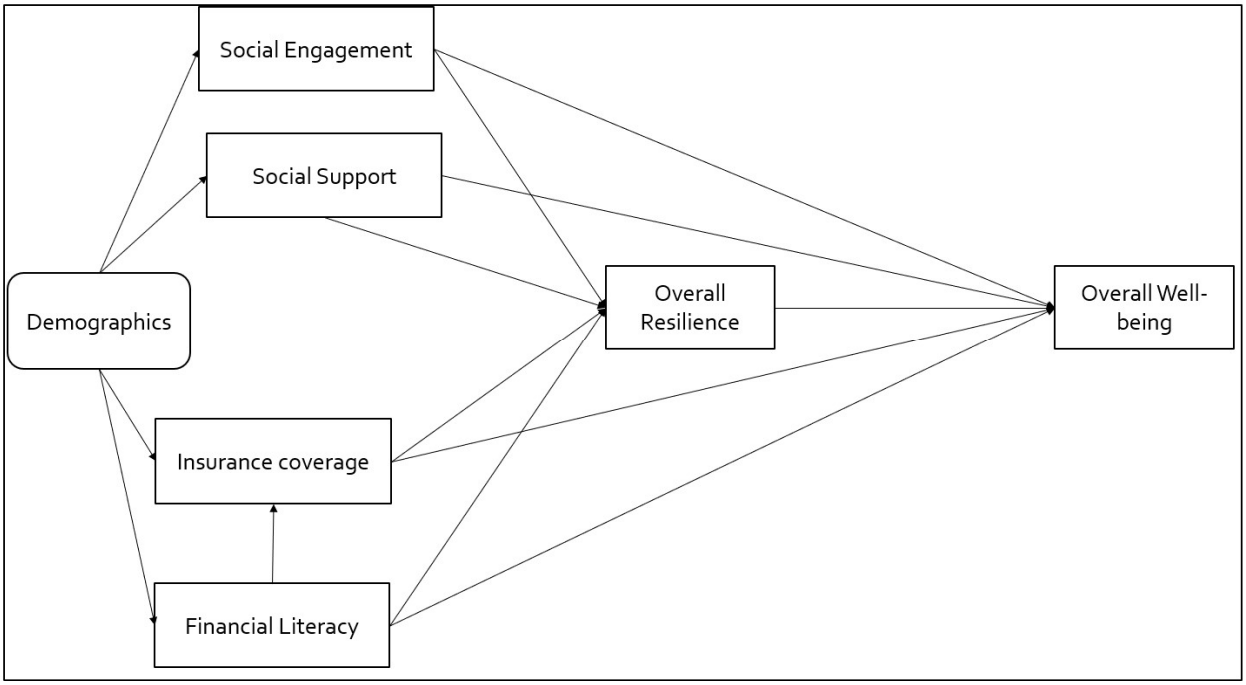

Figure 22. Hypothesised model.

Demographic information such as age, education, housing type, gender and employment status were included as predictors of social engagement, social support, insurance coverage and financial literacy in the model. Overall resilience and overall well-being scores were calculated by summing up the relevant domains respectively, and insurance coverage was calculated based on the number of insurance policy types owned.

The goodness of fit indices indicate that the model fits the data well (Chi-square = 124.387, CFI = 0.971, TLI = 0.913, RMSEA = 0.05, SRMR = 0.042). Most pathways were significant and supported most of our hypotheses (see Figure 23). First, social engagement (β=0.082, p<0.001), social support (β=0.144, p<0.001), financial literacy (β=0.048, p<0.001), and overall resilience (β=0.674, p<0.001) had a significant direct positive effect on overall well-being. The direct effect of insurance coverage on overall well-being was not significant. Second, social engagement (β=0.177, p<0.001), social support (β=0.466, p<0.001), insurance coverage (β=0.197, p<0.001) and financial literacy (β=0.074, p<0.001) had a significant direct positive effect on overall resilience. Third, financial literacy had a direct positive effect on insurance coverage (β=0.262, p<0.001).

Regarding the impact of demographics, Singaporeans residing in larger housing types are associated with higher levels of social support, and being unemployed is associated with lower levels of social support. In terms of social engagement, Singaporeans with higher levels of education, men and retirees/homemakers are more socially engaged. Singaporeans with higher levels of insurance coverage tend be individuals who are younger, with higher levels of education, larger housing types and who are employed. Finally, older Singaporeans, with higher levels of education, residing in larger housing types and who are employed are associated with higher levels of financial literacy.

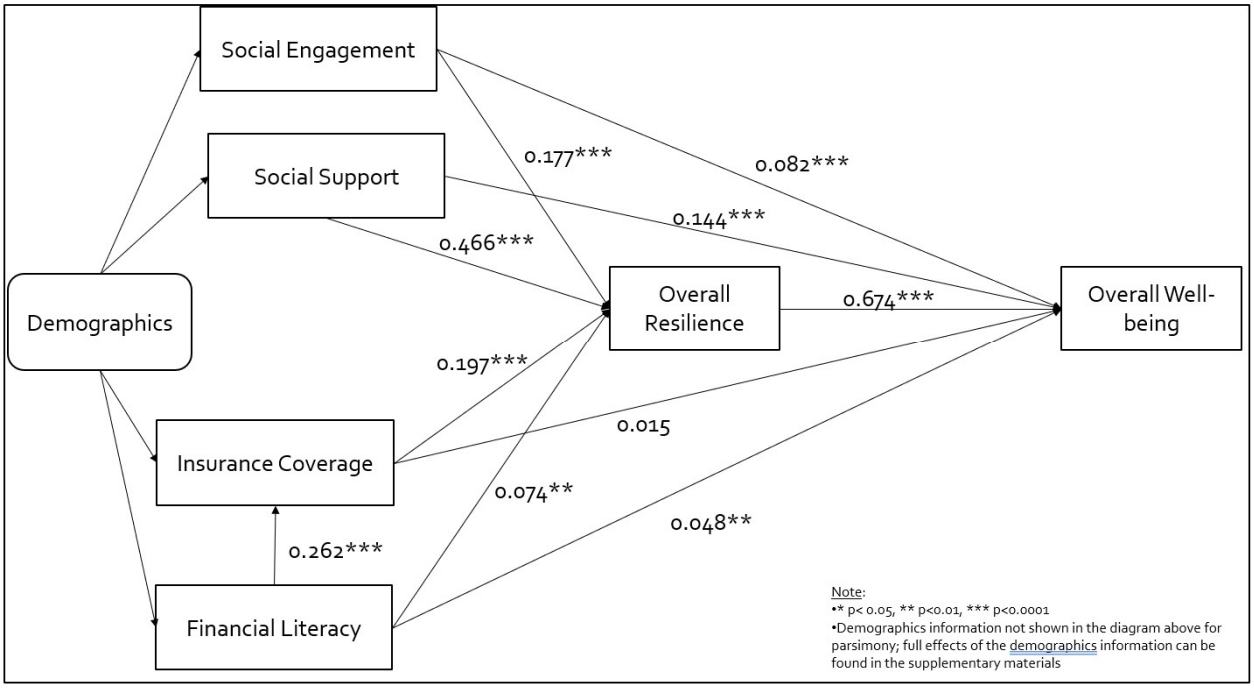

Figure 23. Final structural equation model with standardised estimates.

Section 7.0 Discussion and Recommendations

Findings from the model above indicate resilience, social support, social engagement, and financial literacy to be important resources that ensure for overall well-being. Additionally, such benefits to well-being are not only conferred directly, but also through the development of resilience.

In line with extant research, these findings demonstrate the integral role of social engagement and social support on well-being (Pinquart & Sorensen, 2000; Siedlecki et al., 2014). According to Baumeister and Leary's (1995) belongingness hypothesis, people, as social creatures, have an innate need to form and maintain close relationship with others. By engaging in more social activities and a stronger perception of support within one's network, individuals may feel more embedded in a community and experience higher levels of well-being as they have fulfilled the fundamental need for social connection.

Additionally, not only do social engagement and social support impact well-being directly, but also indirectly through resilience. This relationship is supported by Cohen and Wills' (1985) stress-buffering hypothesis. The stress-buffering hypothesis asserts that stress has deleterious effects on well-being, but with the presence of social support, it alleviates the impact on well-being. Social support plays a protective role through the provision of 1) tangible support (e.g., material resources), 2) appraisal support (e.g., coping strategies) and 3) emotional support (Cohen & McKay, 2020). Within a cohesive community and with the ready availability of support, individuals are better able to adapt and overcome challenges, and, thus, develop resilience (Masten & Obradovic, 2008).

Financial literacy was also found to contribute directly to well-being, as well as indirectly through the direct development of resilience and indirect impact on resilience through insurance coverage. The ability to process economic information and make informed financial decisions is an important life skill that is closely associated with one's financial well-being, as financially literate individuals are more likely to practice financially desirable behaviours (Adam, Frimpong & Boadu, 2017; Chu et al., 2017). Such financially desirable behaviours include that of long-term retirement planning, equity investments and building of financial security. This could explain the association between financial literacy and insurance coverage, as individuals who are more financially literate may view insurance as an important protective measure for their finances. Further, with the ability to make financially savvy decisions, individuals are better able to accumulate the means to cushion themselves against unforeseeable financial difficulties, and thus, develop greater financial resilience. These findings mirror that of Philippas and Avdoulas (2019), who similarly found that financially literate students were better able to weather unexpected financial shocks, i.e., they were more financially resilient.

Socioeconomic distinctions in terms of the availability of the examined resources were observed in the model. Broadly, such findings point towards the need to safeguard and nurture the resources of Singaporeans of lower socioeconomic status (SES), measured by proxy indicators education and housing type, and those who are unemployed.

Specifically, Singaporeans living in smaller housing types and those who are unemployed were found to report lower levels of social support. This means that Singaporeans who are unemployed and living in 1-3 room HDBs felt less confident that they could rely on someone for assistance with day-to-day activities and emotional support should they require such support. Possibly, these individuals may not have people within their social networks who are able to fully empathise with their circumstances or possess the resources to provide the help which they need. Thus, in addition to the natural support systems (i.e., friends and family) that individuals may commonly rely on for help, policy interventions could address the deficiency of support by introducing accessible formal support systems for vulnerable individuals to approach. For instance, establishing peer support groups for individuals who have faced or are facing unemployment within the community could be one possible intervention. With the guidance of a professional, such a support group could allow individuals to discuss similar experiences of adversity and develop the skills to cope and overcome the challenges associated with unemployment.

With regard to social engagement, individuals with higher levels of education, retirees/homemakers and men were associated with higher levels of participation. Conversely, these findings imply that individuals with lower levels of education, women and those who are still in the labour force are less socially active. The association between lower levels of social activity and the former, is likely associated with time constraints encountered by these groups of individuals. With the unequal division of labour within the household, time obligations of work, and longer working hours commonly associated blue-collar work, women, working adults, and those with lower levels of education may, thus, have less time to participate in leisure or social activities. In order to actuate meaningful change that allows the former to engage in more social activities, cultural shifts in how we value and view both formal and informal work, and how such work is compensated must first take place.

In terms of financial literacy, individuals of higher SES (measured by proxy indicators housing type and education), men and those who are active in the labour force are associated with better financial literacy. Additionally, given financial literacy's association with insurance coverage, the results predictably suggest Singaporeans of higher SES, employed and those who are younger to have better insurance coverage. Thus, these findings highlight the need to target financial literacy programmes particularly towards individuals with less education, smaller housing types, and those retired/homemakers. Additionally, for retirees and homemakers specifically, it is important to underscore the importance of maintaining financial literacy to ensure that they can continue making sound financial decisions despite not being an active member of the workforce. Furthermore, our findings point towards the need for local insurers to better cater towards the needs of older Singaporeans, those of lower SES and those who have either retired, are homemakers or are unemployed. Offering comprehensive insurance policies that are low in risk and cost specifically for such groups and marketing them in a clear and understandable manner could have the potential to improve their financial capacity to weather unforeseen financial and health crises and improve upon their resiliency and well-being.

Future qualitative research on resilience could help better identify the specific needs vulnerable groups require to develop resilience and further shed light onto the mechanisms through which the various resources identified in the model develop resilience.

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Annex A.

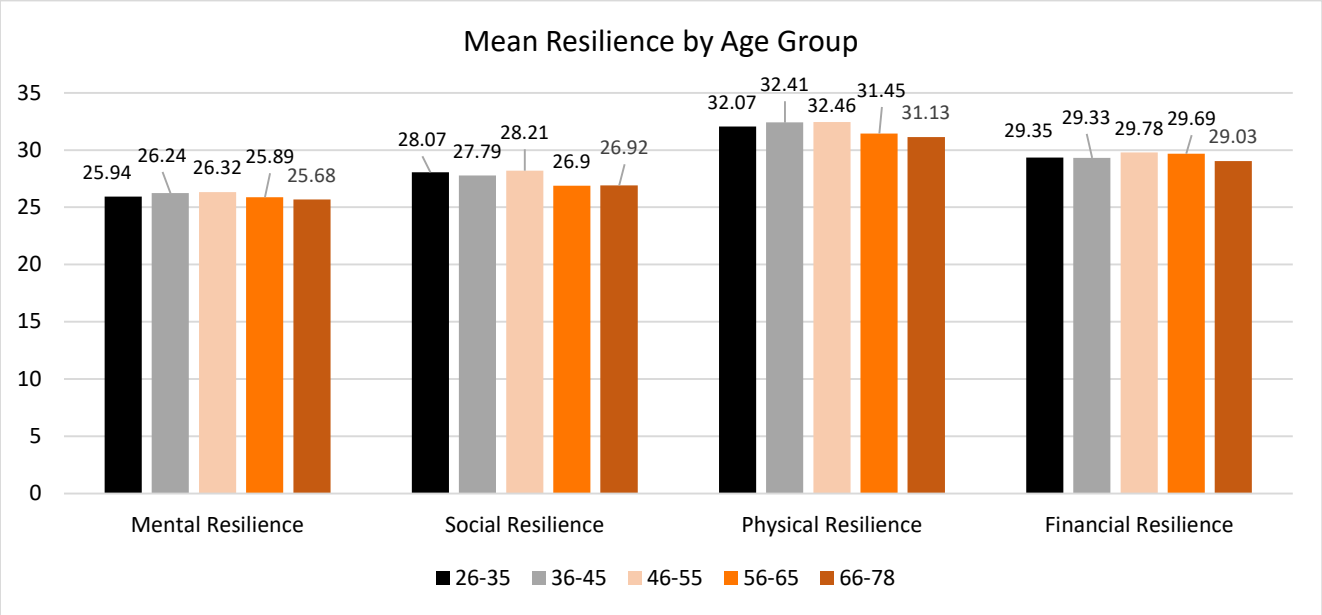

Figure 24. Resilience by age group.

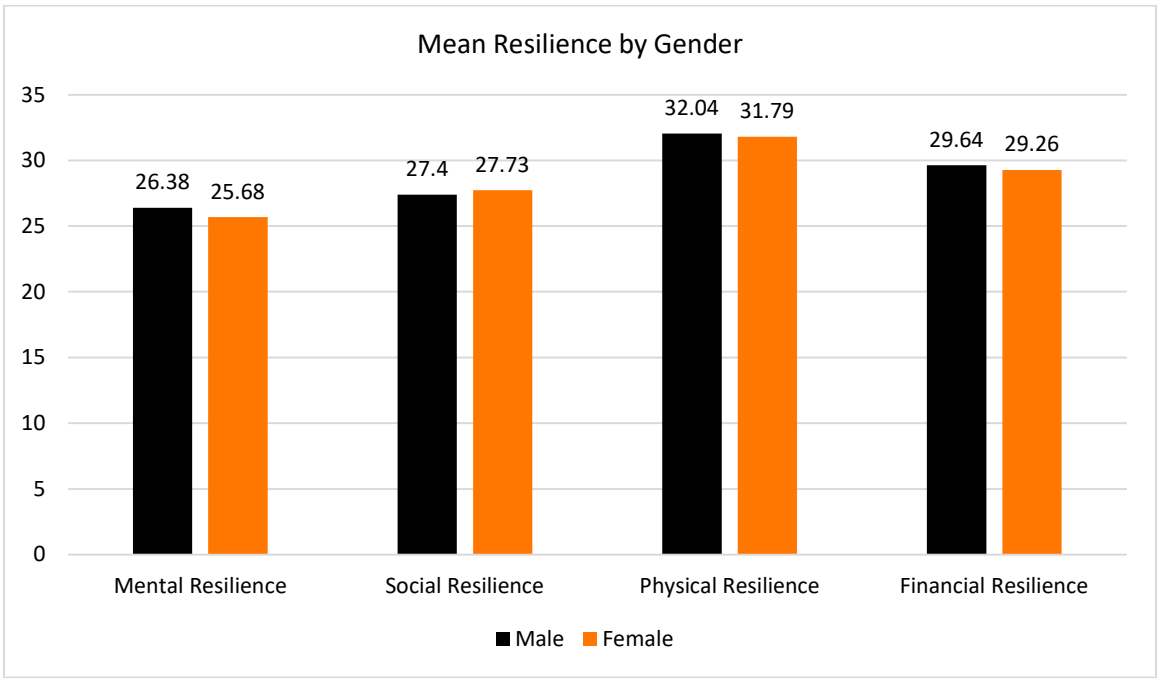

Figure 25. Resilience by gender.

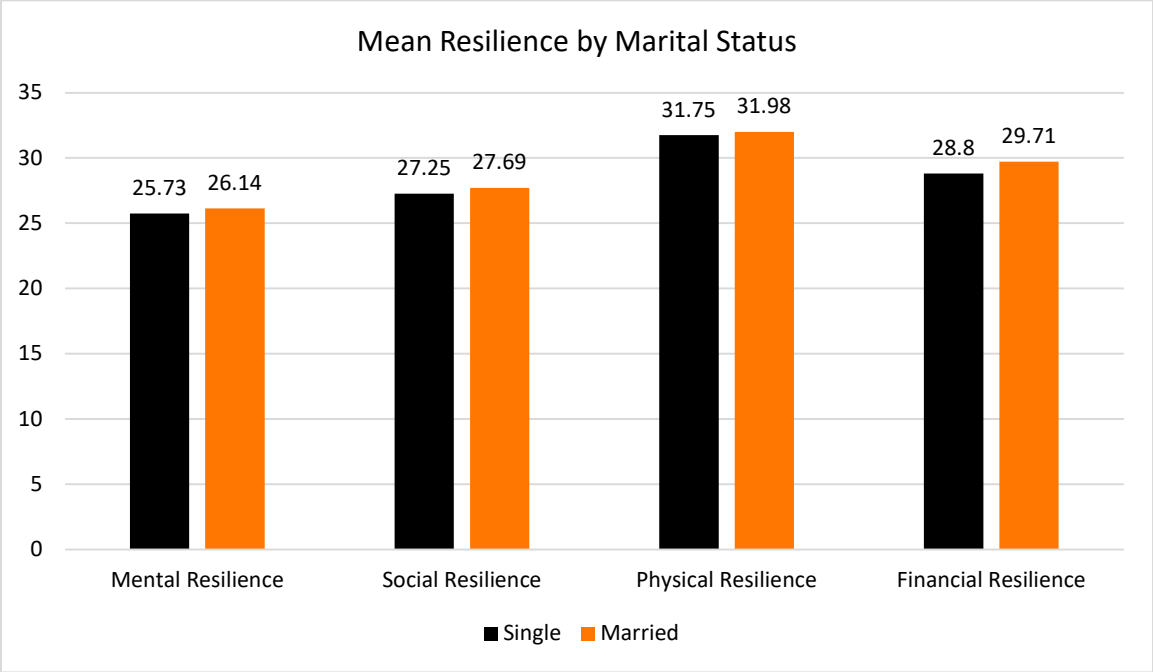

Figure 26. Resilience by marital status.

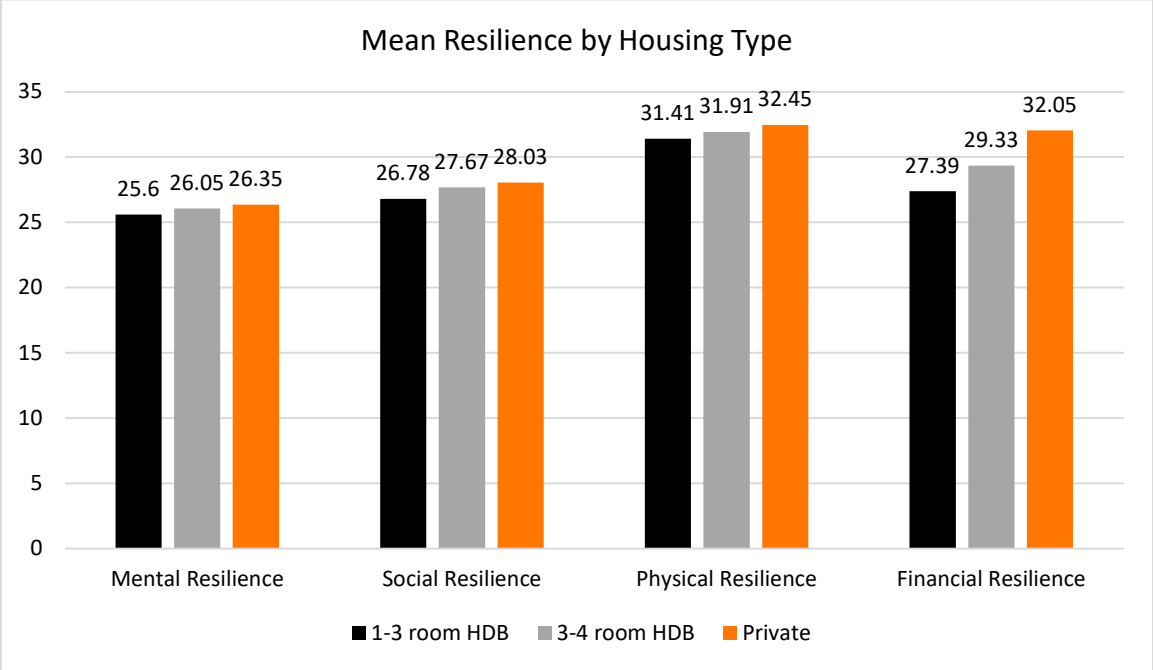

Figure 27. Resilience by housing type.

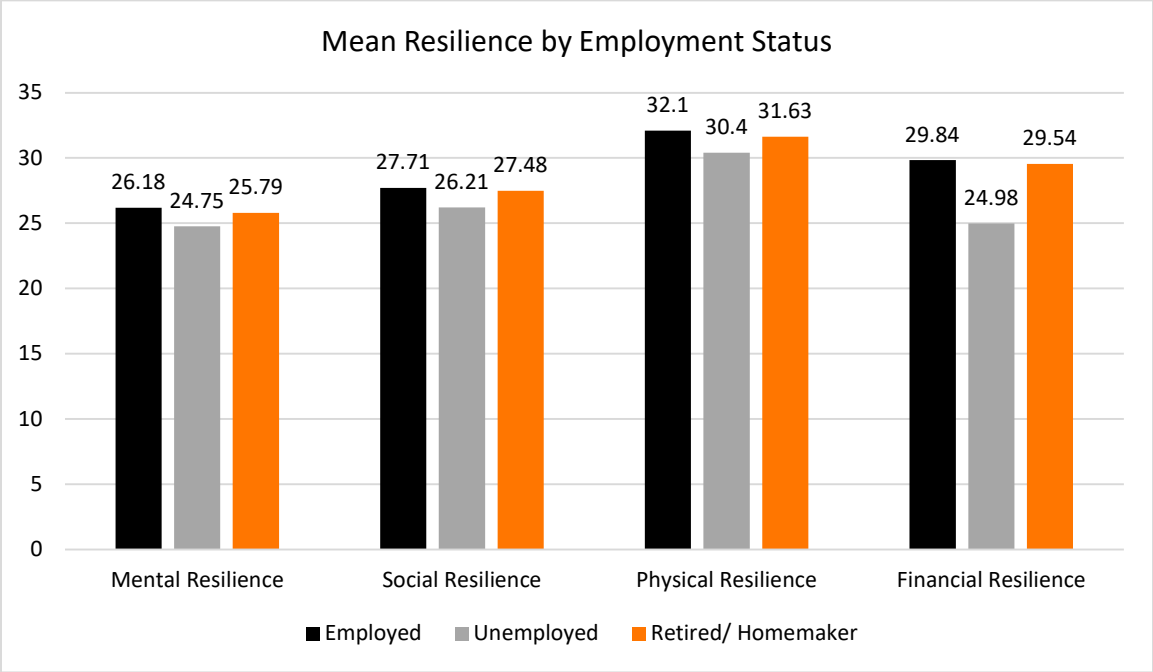

Figure 28. Resilience by employment status.

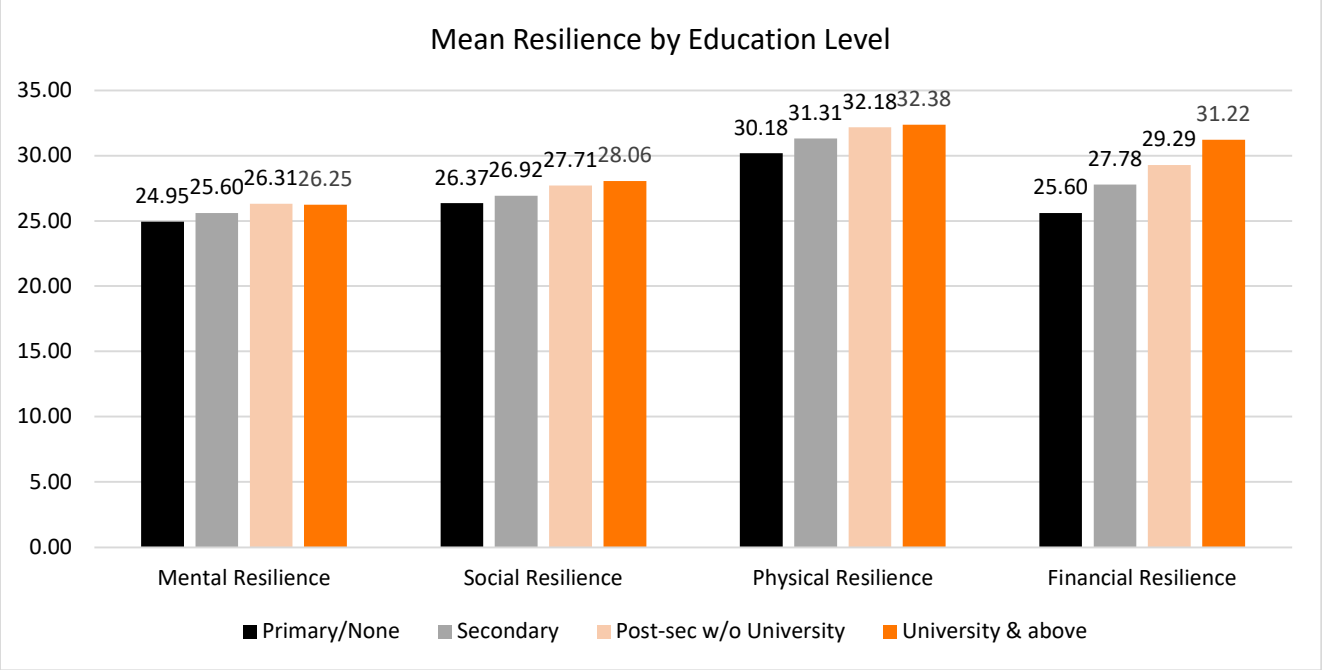

Figure 29. Resilience by education level.

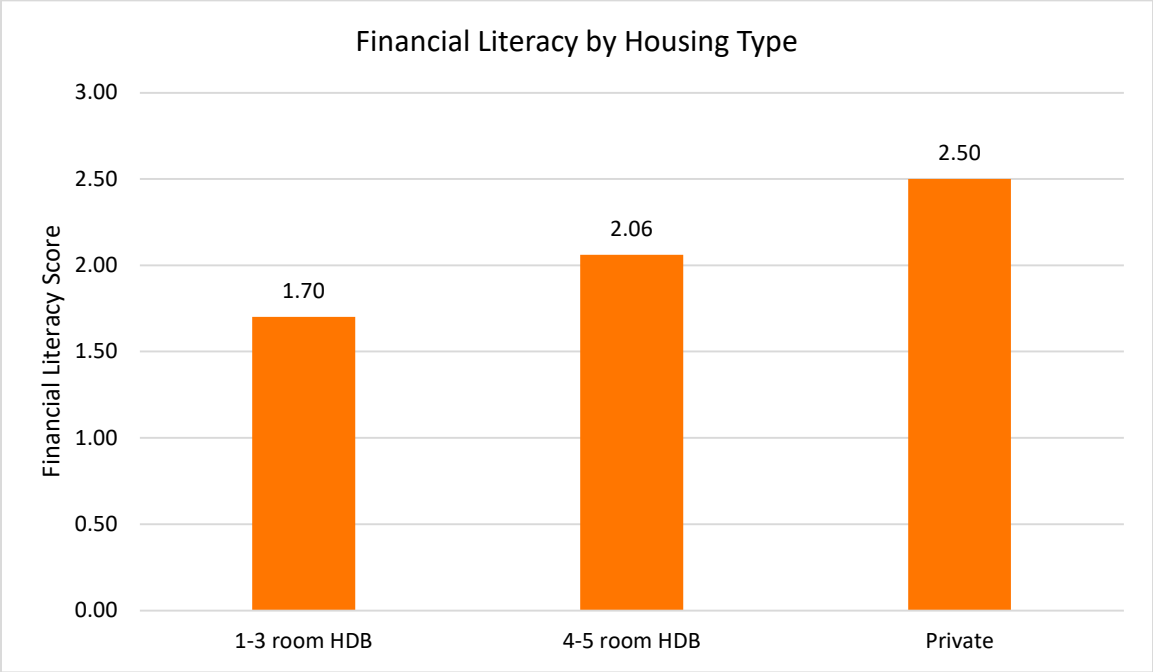

Figure 30. Financial literacy by housing type.

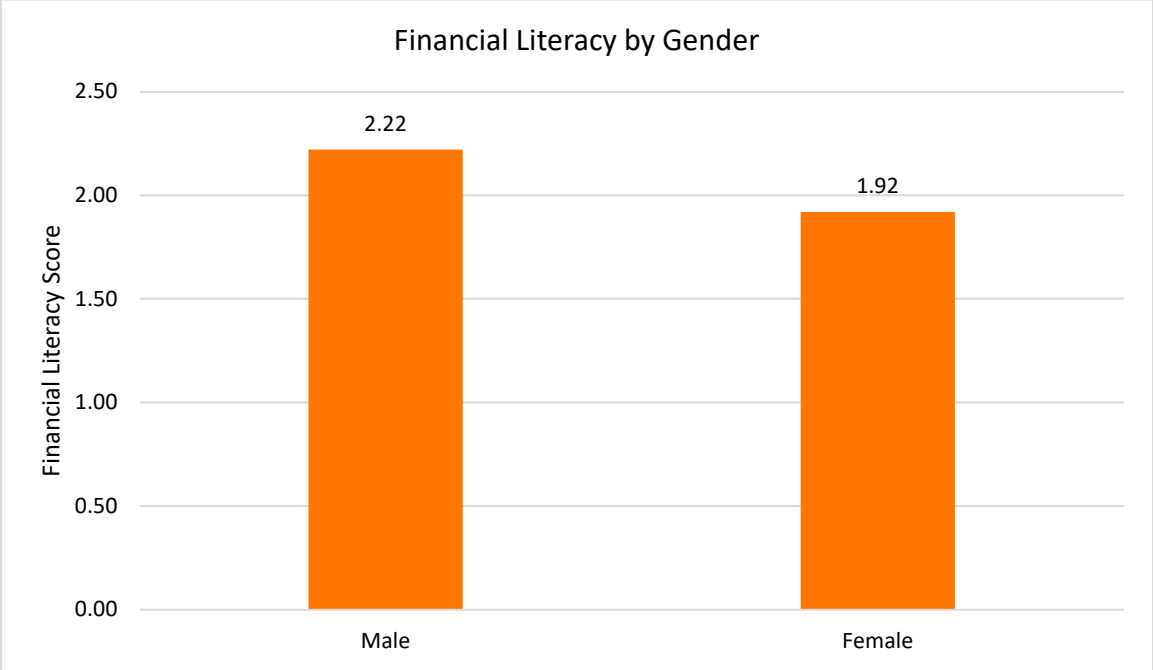

Figure 31. Financial literacy by gender.

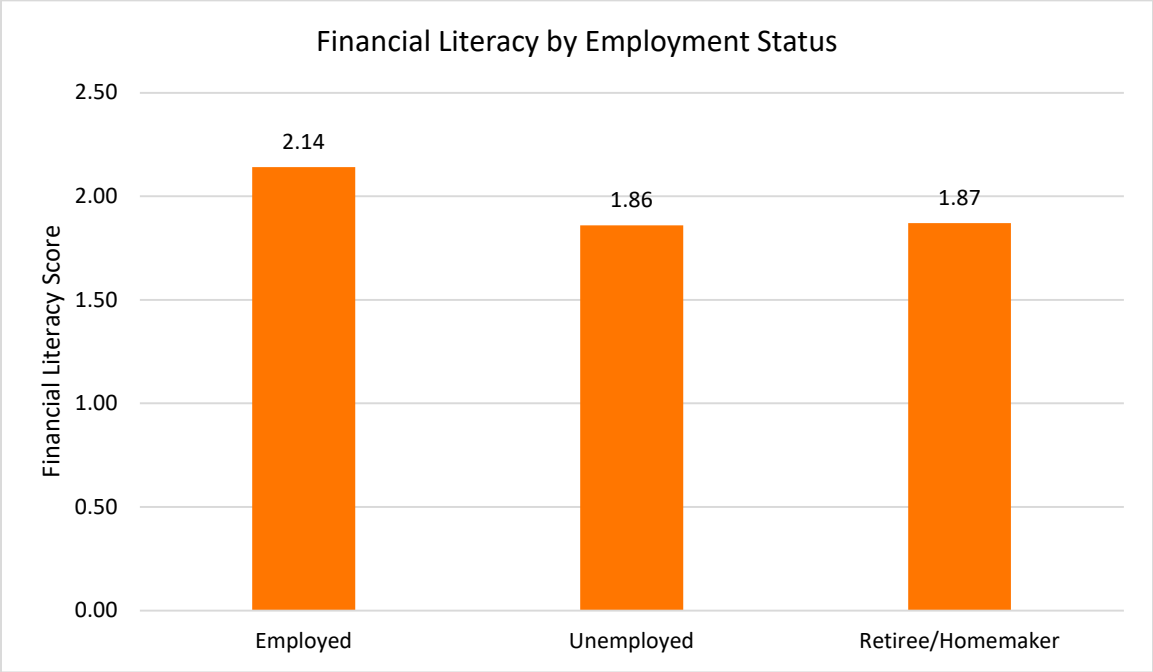

Figure 32. Financial literacy by employment status.

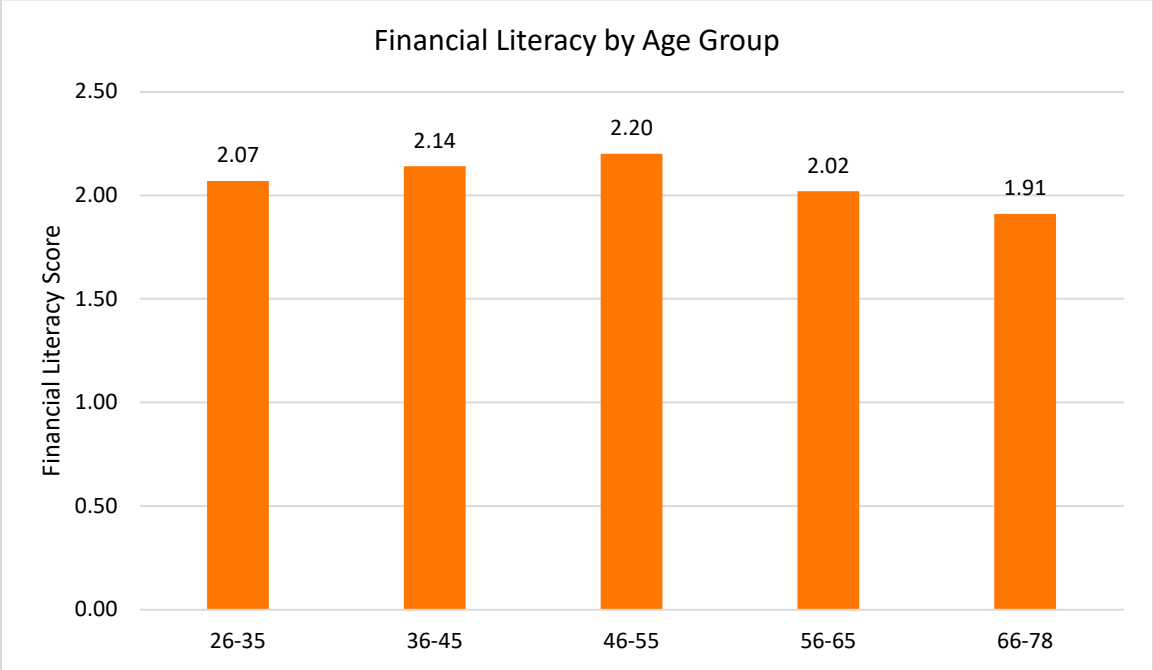

Figure 33. Financial literacy by age group.

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ROSA's Supporters

The Ngee Ann Kongsi

The Ngee Ann Kongsi is a non-profit Teochew philanthropic organisation focused on educational, cultural and charitable activities in Singapore, while placing a deep emphasis on preserving the Teochew heritage. The organisation is an active advocate in education. It was founded in 1845 by Teochew immigrants from China to provide welfare services for its members, and was formally incorporated under the Ngee Ann Kongsi (Incorporation) Ordinance in 1933.

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