

**Aging, Learning, and Cognitive Maintenance: a Qualitative Study to Assess Learning
Needs of Armenian Seniors**

Master of Public Health Integrating Experience Project

Professional Publication Framework

by

Kristine Galstyan, MD, MPH (c)

Advising Team:

Ani Movsisyan, MPH, MSc, DPhil

Kristina Akopyan, MD, MPH

Turpanjian School of Public Health

American University of Armenia

Yerevan, Armenia 2019

Table of Contents

Acknowledgements	iv
List of Abbreviations	v
Executive summary	vi
Introduction	1
1. Ageing	1
2. Aging and cognitive decline (CD)	2
3. Learning as an intervention to delay CD in aging.....	4
4. Situation in Armenia	6
5. Rationale.....	7
6. Research Question.....	7
Methods	8
1. Study Design	8
2. Data Collection.....	8
3. Population.....	8
4. Sampling and Recruitment	9
5. Study Instrument	9
6. Data Analysis	10
Results	11
1. Administrative Results and Socio-Demographic characteristics of Participants	11
2. Thematic analysis	11
3. Thematic Map	25
Discussion	26
Strengths.....	29
Limitations	30
Recommendations for practice	31
Recommendations for further research implications	31
Conclusion	32
References	33
Tables	40
Table 1: Prevailing chronic disorders per 100 persons within >65 age category in US in 2005	40
Table 2: Socio-demographic characteristics of study participants	41

Table 3: Themes and sub-themes related to needs	42
Table 4: Theme and sub-themes related to experiences of aging	42
Figures.....	43
Figure 1: Population aged 0-4, 0-14 and aged 60 or over, 1950-2050	43
Figure 2. Actual and projected population aged 80 or over in the world from 1959-2050⁷. 43	43
Figure 3: Conceptual model of the Scaffolding Theory of Cognitive Aging (STAC)	43
Figure 4. The project Conceptual Map.....	44
Figure 5: Thematic Map.....	44
Figure 6: Triadic Lenses of Adult Continuing Education.....	45
Appendix 1: In-depth Interview guide for people aged 60 and above (English version)	46
Appendix 2: In-depth Interview Guide for people aged 60 and above (Armenian version) 52	52
Appendix 3: Interview Guide for Focus Group Discussions designed for people aged 60 and above (English version).....	56
Appendix 4: Interview Guide for Focus Group Discussion designed for people aged 60 and above (Armenian version)	60
Appendix 5: Demographic Form.....	64
Appendix 6: Consent form (English version)	65
Appendix 7: Consent form (Armenian version).....	66
Appendix 8: Screening checklist (English version).....	68
Appendix 9: Screening checklist (Armenian version)	70

Acknowledgements

I would like to express my sincere gratitude to many people guiding and supporting me on the path of this project development. First, special thanks to my advising team, namely, Ani Movsisyan and Kristine Akopyan for their devoted guidance. Due to their passionate participation, I have accomplished my expected outcomes.

Next, I would like to be thankful to our dean Varduhi Petrosyan, as beside provision of knowledge, she was also concerned with shaping me as a professional, by advising or merely by demonstrating her own expertise. It is a pleasure to have a person like her next to you to follow, with great example of well-structured principles, values and extreme dedication to work. I would like to extend my deepest thanks to all the faculty members, who have always been there in my mind as people full of readiness and willingness to support me in case I face difficulties.

My cordial appreciation to our keen librarian Hasmik Galstyan who demonstrated unselfish support being available every day at any hour.

In addition, I would fail, if I do not refer to all founders of the School of Public Health at the American University of Armenia, as this program was pivotal in my personal development, gifting me with courage to meet any challenges in my life and helping to reveal my hidden potential.

Finally, I have to express my profound appreciation to my relatives and family, specifically to my spouse and my mother, as through these years they unshakably believed in me and shared my other responsibilities giving me the opportunity to pass my way in AUA.

List of Abbreviations

AUA-American University of Armenia

AMD-Armenian Drams

CD- Cognitive Decline

CR- Cognitive Reserve

CEF-Constructionist Epistemological Framework

IDI-In-depth Interview

FGD –Focus Group Discussion

LL- Lifelong Learning

MISA-Ministry of Health and Social Affaires

NP- Neuroplasticity

QoL- Quality of Life

STAC-Scaffolding Theory of Aging and Cognition

UN- United Nations

US-United States

UK-United Kingdom

WHO-World Health Organization

Executive summary

Nowadays, globally population is facing the aging phenomenon, which means that the share of people aged 65 and over is growing faster than the share of people in any other age category resulting in demographic transition. Among health issues, cognitive decline (CD) in old age is a major concern, hence there is need to think of strategies, which might prevent CD. Learning and education in later life have been identified as preventive factors for CD. The learning process may contribute to the increase in neuroplasticity, as it prompts creation of new neuronal connections by their repeated activation. Our project is aimed to find out what are the learning needs of Armenian seniors.

Data was collected through 13 In-depth Interviews (IDI) and 2 Focus Group Discussions (FGD) until saturation was reached. For grouping and retrieval of the data Qualitative software QDA miner lite was applied. The Results of the study revealed that most of the seniors in Armenia have a need for learning, in addition to a broader set of needs as well, which during further analyses was linked to educational needs. Five global themes emerged from analysis, one of which related to Aging experiences of seniors in Armenia and the rest related to their needs: needs for Socialization, Financial protection, Social and Self-acceptance of old age image, Learning and Engagement. Participants were not familiar with the concept of “active aging”. New skills that people needed to obtain were technology management and language learning followed by playing a musical instrument, singing, pottery, painting, sewing, recitation, role-playing. From the new activities most of all they preferred to participate in mentored group discussions, volunteering, playing table games , concert watching, and organized city walking tours, cooking, and gardening.

Overall, the findings of our study were congruent with the results of studies done in other countries.

Introduction

1. Ageing

Old age is a multifaceted concept and there is no exact definition for old age. Chronological age has a paramount role in determining the dividing line between old and young population groups.¹ For example, according to the United Nations,¹ those people who are aged over 65 are considered to be elderly. In the meantime, the Indian Census defines the age above 60 as being elderly.² In documentation, the World Health Organization (WHO) also frequently defines old age as 60 years and above. Similarly, in most countries, age 60 - 65 is defined as a retirement age, and it is also perceived as the start of old age.³

Aging process is accompanied by multiple changes, such as, biological, psychological⁴, and socio-cultural.⁵ *Biological aging* refers to bodily changes during the later life period of a person; these are structural and functional alterations of different organs and tissues.⁶ *Psychological aging* refers to persons ability to adapt to societal and environmental changes and *socio-cultural aging* is known as changes in social roles, attitudes, and age-related behaviors in response to the societal demands.⁵ Findings from a study related to cultural analysis of old age reveal that changes in social roles is the leading factor in defining old age.¹

Ageing population is a growing global phenomenon characterized by demographic transition.⁷ As maintained by the UN demographic ageing scale, a population is considered to be aging if people aged 65 and older comprise more than 7% of the population.⁸ In 2010, 8% (524 million) of world's population were aged over 65, and in 2050 this number is projected to increase to 16% (1.5 billion)⁹ (see also **Figure 1, Figure 2**). While ageing population is more common for developed countries, it is also becoming relevant in developing countries. It is anticipated that

the increase of elderly population will be 250% in developing countries and only 71% in developed countries from years 2010 to 2050.⁹

There are several factors underlying aging population phenomenon. Firstly, declining mortality rate, as a result of improvement in health care delivery and life expectancy¹⁰; nowadays, global life expectancy at birth is 71 years, which is approximately a quarter-century higher compared to 1950¹¹. Secondly, progressive decrease in birth rate¹⁰; in 1950, the global fertility rate was five children per woman, nowadays it dropped to about 2.5 children¹¹. Finally, higher income, higher living standards, healthier living and longevity¹⁰ contributes to the increase in individual survival¹²;

Aging population has social and economic implications.⁹ With aging population, countries are facing challenges to provide *financial security and social protection* to older people.

Governments are not able to ensure social security, because of competing priorities and fiscal issues¹²; *sustainability and management of pension system*¹² is another challenge, as well as the increased healthcare needs associated with old age for the most prevalent chronic conditions among population aged 65 (see **Table 1**).

2. Aging and cognitive decline (CD)

The most feared and costly concern of aging and a major public health concern is the CD.

Statistics for 2015 revealed 46.8 million people having dementia globally; it expected to increased twice every 20 years comprising 131.5 million in 2050.¹³ In 2015, the total estimated cost of dementia globally comprised 818\$ billion, which is 1.09% of global Gross Domestic product (GDP).¹⁴

During the whole lifespan every person undergoes a process of cognitive aging, which varies in extent from person to person and is a natural consequence of age-directed changes in the brain.¹⁵

There are several factors associated with age-related CD and which may explain its individual variety: (i) health status correlates notably with CD; specifically evidence suggests that cardiovascular and neurological diseases may impair cognitive functioning;¹⁵ (ii) heritability is the strongest factor and explains 60% of individual variety of CD¹⁶, (iii) diet and nutrition,¹⁵ (iv) smoking and alcohol, consumption,¹⁵ (v) active and engaged lifestyle (e.g., socializing with family and friends and participation in cultural events),¹⁵ and (vi) high educational attainment and high complexity careers.¹⁷

The term “cognitive reserve”¹⁸ (CR) might explain the effectiveness of preventive activities in early stages of life. The concept was rooted in 1980, when autopsy of several patients revealed signs of Alzheimer deterioration of brain in the form of plaque, whereas those patients were diagnosed as healthy while alive. CR is the ability of the brain to utilize already stored resources while encountering with challenges. So, in the example above the patients had greater CR, which allowed their brain to hide the clinical expression of Alzheimer disease.¹⁹ We can think of CR as an individual health maintenance capacity, the larger it is the healthier is the person.¹⁹

Decay in cognitive functions starts from age 30 and intensifies after 50.²⁰ Recent advancement in neuroscience, suggest possibilities of prevention of intellectual faculties’ deterioration.

Specifically, the capability of the brain to maintain its functionality has been revealed, which has important implications for the delay of CD under certain conditions. The term for this capability is known as *neuroplasticity (NP)*.²⁰ According to the Scaffolding Theory of Aging and Cognition (STAC)²¹, brain builds new “scaffolds” in response to the age-associated degeneration: “cortical thinning, structural shrinkage, decreased white matter integrity, and depletion of dopamine

receptors”. “Scaffolds” are additional circuits that leverage the structures whose functions become inefficient.²¹ Prior to age-related changes, brain activates “compensatory scaffolding” trying to maintain its cognitive functions.²¹ **Figure 3** explains the conceptual model of STAC. The model shows how engagement in novel activities, such as, cognitive trainings, exercising, learning new things may enhance development of new neural circuits (i.e., scaffolds).

Besides neuroplasticity another protective process also exists, which is called *neurogenesis*, it continuous during whole lifespan and averts signs of aging.²⁰ It relates to replacement of damaged brain cells by non-specialized stem cells, which are able to transform into any type of cell.²⁰ Interestingly, it has been shown that physical exercises magnify proliferation of stem-cells, whereas cognitive stimulation handles survival and maturation of these cells.²¹

3. Learning as an intervention to delay CD in aging

Learning and education in later life have been identified as preventive factors for cognitive deterioration in the old age.^{22,23,24} In the contemporary world, where knowledge changes rapidly, a traditional view, that education should be completed before the end of biological development and social maturity, is no longer relevant.²⁵ Instead, the concept of lifelong learning (LL) is more actual, which implies that people should continue learning throughout their life cycle, inside or outside of educational institutions.²⁵ A study suggests, that adults may benefit from learning in several ways: (1) improvement of daily activities, (2) adaptation to changing circumstances, (3) obtaining skills and knowledge for specific needs, and (4) better accounting of the personal and social role changes .²⁶ Learning in adult age is characterized by some principle assumptions: (1) internal drivers motivate adults towards learning more than external drivers; they are self-directed and independent, (2) their focus on learning is more present-oriented and problem-

centered, (3) they need to learn in order to perform more effectively.²⁷ According to Wolf and Withnall old people who are stimulated mentally have lower CD and have better memory; moreover, their intellectual growth continues until late life.²⁸ Learning in old age is mostly non-formal learning,²⁴ that is, it takes places outside of formal institutions, such as in senior citizen centers.²⁵ Different types of non-formal learning programs currently exist for older people, including programs for training of memory, language capacity and calculation and brain fitness exercises.²⁶ Findings from the study of Individualized Piano Instruction reveals, that learning a new musical skill and rehearsing them could stimulate multiple cognitive functions²⁹, such as planning²⁹, memory, inductive reasoning, or speed of processing³⁰.

Engagement in different learning activities is known to be productive and receptive³¹; *productive* engagement results in completely novel behavior, as it utilizes new skills and schemas, whereas *receptive* stimulates existing behavior and utilizes existing schemas and familiar skills.

Engagements, which produce completely novel behavior (productive) improves cognition in adults more than familiar (receptive) engagements.³¹ “The idea of educational programs for elderly was conceived in 1973 in France by Pierra Vellas, who intended to improve the health and social image of elderly.³² Furthermore, universities of “Third Age” were developed to assist elderly to spend their spare time in cultural, sporting, and social environments”.^{32,25,33} These educational centers were aimed to update and provide knowledge to old age population, hence enable their integration with different generations, increase their self-esteem, and improve their Quality of Life (QoL).²⁵

The learning process might contribute to the increase in neuroplasticity, as it prompts creation of new neuronal connections by their repeated activation. However, learning in mature age might be challenging, because brain tissues are restructuring with age, which may result in the loss of

mental efficiency. Research, however, has shown that learning in old age can be successful if the brain is engaged in new challenging tasks, problematic, and complex activities.²⁰ This notion was supported by several other studies, including the Seattle Longitudinal Study and the Berlin Aging Study. After the creation of the STAC model, the National Institute of Aging funded the project “Synapse” with the aim to examine the relationship between engaged lifestyle and maintenance of cognitive vitality in older age.³⁴ It reveals that older adults, who have been continuously exposed to mentally challenging activities demonstrate enhanced modulation of the brain activity.

Figure 4 depicts a simple model developed on the basis of the concept of neuroplasticity and shows the principal logic of our research project:

4. Situation in Armenia

According to the National Statistical Services of Armenia, in 2016, the share of population aged 63 and over comprised 12.9%.⁸ Data taken from Armstat (statistical committee of the Republic of Armenia)³⁵ show that in 2017, those aged 65 years and above comprised 11.2% of the total population. In the meantime, the share of population of 65 and older in other lower-middle income countries, such as India, Pakistan, Sri-Lanka, Vietnam, Georgia in 2016 was 5.78%, 9.69%, 6.91%, 14.07%, respectively³⁶. Moreover, the Demographic Dependency Ratio (DDR), which is the measure of pressure on productive population (i.e., the ratio of population aged 0-15 and >60 over the population aged 16-59)³⁵ was 44.4%³⁷ in 2017 in Armenia. In other lower-middle income countries, such as, India, Pakistan, Sri-Lanka, and Georgia this number in 2017 was 51%, 65%, 52%, 52%, respectively³⁸. Life-expectancy at birth for total population comprised 75.4 years in 2017, which is even higher than global life expectancy of 71 years.³⁹ Based on these data we can infer, that Armenia currently is also dealing with aging population.

In 2016, in response to the urgent need for the creation of new models in the field of social services provisions to the elderly, a countrywide study was conducted in Armenia by the Ministry of Labor and Social Affairs (MLSA) to assess the needs of elderly. The results of the study revealed the most demanded four needs: (1) provision of all-day home-care or nursing programs; (2) social assistant services; (3) center for organizing leisure activities and enhancing cultural life of elderly; and (4) school-club for active aging and healthy life-styles⁴⁰. This study elucidated that the elderly population in Armenia are eager to lead active and healthy lifestyles.

5. Rationale

The evidence discussed above indicates that some societal reorganizations should be undertaken to meet the needs of the elderly, to help them be more productive and lead a satisfactory life. To our knowledge, there are no available continuous or third age learning programs in Armenia; this puts the Armenian society at higher risk of developing CD in old age and creates an urgent need for corresponding interventions. Prior to designing interventions to tackle CD it is important to understand local preferences for learning among Armenian elderly, as these preferences vary from culture to culture, from country to country.

6. Research Question

Our project aims to address the following research question: “*what are the educational needs of the population of Armenia aged 60 years and above*”. More specific questions include: (1) what are the new activities they want to be engaged in, (2) what are the the new skills they want to obtain, (3) how would they like to obtain this knowledge, and (4) what are the specific contextual factors underpinning these needs.

Methods

1. Study Design

A qualitative research was conducted following an Constructionist Epistemological Framework (CEF),⁴¹ which supports the view that truth or meaning is being constructed, but not discovered. Meaning is associated with mind, hence different people construct meaning diversely. As a form of scientific reasoning, a mix of inductive and deductive⁴² approaches was applied in this study. Deductive approach helped to draw on the existing general knowledge on the topic; in the meantime, since the research was completely new for the Armenian context, more specific inferences were produced by applying an inductive approach.

2. Data Collection

Data collection was conducted after receiving approval from Institutional Review Board (IRB) of American University of Armenia. Data collection was conducted using semi-structured IDI and FGDs, scheduled in advance and conducted around a set of pre-defined open-ended questions and additional emerging questions.⁴³ IDIs enabled delving deeply into personal stories of participants⁴³. Additionally, FGDs gave an opportunity for participants to share their experiences, reflect and make comments on others' opinions, which generated new insights, ideas, and, finally rich data.⁴⁴ Data collection was continued until no new topics emerged from interviews and focus groups. To collect demographic data special form was developed (see **Appendix 5**). Consent form and Screening checklist were developed in English and Armenian (see **Appendix 6-9**).

3. Population

The target population of the study was the general population of Armenia who were 60 years and older. The study population included the residents of Yerevan who were 60 years and above. As an inclusion criterion, participants' age was considered to be 60 years and older. This is five years younger than the UN definition of elderly (65 years and older), as we think it is important to understand education needs of this group and suggest preventive measures as early as possible. People with terminal illness, as well as, those who did not understand Armenian were excluded from the study, irrespective of their literacy level.⁴⁵

4. Sampling and Recruitment

A mix of purposive and convenient sampling was used to recruit participants into the study. Participants were chosen from the familiar environment of the student-investigator in line with the eligibility criteria, such as through asking friends and relatives. Within this population, purposive sampling was employed to balance participants' educational background.

Participants were allocated into two FGD groups according to their level of education: the first group involved participants with bachelor and higher educational degree (6 people), and the second group involved those with lower than the bachelor degree (4 people). Such separation prevented pressure on expression of opinions and decreased desirability bias among less educated participants, that is the alteration of their opinions to look more educated. The student-investigator explained the purpose, the nature, and the relevance of the study to participants. All the interviews were recorded based on the permission from the participants.

5. Study Instrument

The questionnaire for this study (see **Appendix 1**)⁴⁶ has been adapted from three different study questionnaires used in similar research projects^{46,34,35}. The student-investigator further added

and rephrased the questions to make them contextually relevant for the Armenian population. To check the appropriateness of the questionnaire, the student investigator conducted pilot testing among with a few seniors from the intended population: an individual interview and a FGD. Based on the pre-test results modifications were made to the questionnaire. In addition, two experts in the field thoroughly read the questionnaire making constructive suggestions towards increasing its validity. Finally, four questionnaires were developed for IDIs, FGDs in English and Armenian languages (see **Appendix 1-4**).

6. Data Analysis

Thematic analysis was the appropriate method for this study to analyze the data from an essentialist/realist perspective⁴². Semantic versus a latent approach⁴² guided the analysis of the data, because the study aimed to identify explicit meaning that the participants brought to the discussions instead of examining their underlying intentions. The analytic process of the research is mainly descriptive⁴²; however patterns were interpreted within the identified themes. QDA Miner Lite software program facilitated data management and analysis. The collected data were transcribed verbatim. Through open coding technique,⁴⁷ the transcripts were dissected into management pieces and relevant data were denoted and characterized. Following this, the number of codes was reduced by grouping them and creating categories and themes. The next step was the interpretation of findings through looking for patterns within the themes. Following this, a report of key findings was developed describing and illustrating the study findings.⁴⁷ All the records were kept under password protected files, code numbers were used instead of participants' name to maintain confidentiality of participants identity.^{48,49}

Ethical Consideration: The protocol approval was sought from the Institutional Review Board (IRB) of the American University of Armenia (AUA).

Results

1. Administrative Results and Socio-Demographic characteristics of Participants

Overall, 23 participants were recruited in the study with 13 IDIs and 2 FGDs. FGDs included 10 participants distributed into two groups of 4 and 6 respectively. The mean age of participants was 68,6 ranging from 60 to 79. The majority had bachelor degree and higher, and only 9 (39%) of participants had education lower than bachelor degree. Only 4 (17%) of participants reported current employment status and 21 (91%) were retired. The majority of participants were female (87%) and almost half of the sample (48%) reported having the highest level of income (see **Table 2** for more details). The average duration of IDIs and FGDs were 42 and 71 minutes, respectively. While this study aimed to assess the educational needs of the elderly in Armenia, during data collection we found that participants were more willing to discuss their needs more broadly, rather than focusing on specific educational needs. So, below we describe the needs of elderly in Armenia more broadly with a focus on those which might have impacted on the expression of educational needs.

2. Thematic analysis

We identified four themes related to the needs of the elderly in Armenia: “socialization”, “financial protection”, “social and self-acceptance”, and “learning and engagement”. The summary of these themes and their subthemes are presented in **Table 3**. In addition to the data on the needs, we identified another theme related to the “experiences of aging”. Below, we describe each theme supported with quotes from the original transcripts (see **Table 4**)

Armenian seniors’ experiences of aging

Participants commonly defined aging as a natural process.

□ Aging is a natural process; if we are born we should age. (04).

An interesting pattern was observed: those who had good career achievements, that is, successfully passed self-actualization in previous stages of their life, usually reported transitioning to old age without psychological challenges. Such people had positive attitude towards old age.

I had an extremely active career experience of journalist. Now I am not working and I think aging also is interesting (05).

Another participant also was welcoming old age by describing her current life and claiming that if it is an old age than she does not have any disagreement with it. When describing their aging status, all the participants reported having complete **autonomy** over their own life, that is, they felt free to choose their responsibilities, interests, and connections.

My lifestyle is under my complete control (14).

I am free in choosing my functions; I am doing whatever I want (09).

Furthermore, participants appreciated the **psychological maturity and confidence** associated with old age.

As I am aging I am getting emotionally more independent and self-confident; I do not depend on social opinion, I am doing whatever I want (08).

Having **potential and strength** in old age was another topic that almost all the participants agreed upon.

Maybe years are changing your shell, however, inside we still stay strong (14).

The thing is that I am not old, I am still healthy and strong (01).

I will never give up, instead I will move forward, as I feel a great strength inside of me (07).

I do not feel aging in any respect; I communicate with young people and feel as if I am also young (09).

In some respect such description either might be a result of denial of aging or regret for wasted and unrealized abilities.

Among the perceived common **signs of aging**, the most frequently reported were CD, physiological changes (wrinkles, body shape), and health issues.

One thing I am frustrated of is memory loss (02).

The speed of reasoning is getting slower. You are putting efforts to execute things, which previously you were doing without even thinking (03).

However, contrary to these, a few participants reported improvement of mental abilities.

I have improvement of linguistic skills (05).

The functionality of my brain is getting better, as it utilizes the experience of life (07).

Armenian seniors were not familiar with the concept of “active aging”. The majority interpreted it as “an accelerated aging process”, therefore expressed negative attitude towards it. Active

aging means fast aging. I feel how fast I am aging (11).

Only two participants tried to interpret the term differently.

It means that you should keep yourself up-to-date, close to the needs and interests of younger generation, to show society that you still have something to do (03).

Although, Armenian seniors were not aware of “active aging”, despite among their daily activities they reported constituents of it. Specifically, a range of activities were described, including following the news, walking, reading, doing sports, participating in cultural events, watching films, doing crosswords, gardening, cooking, searching in internet, listening to music, reading the Bible, travelling, meeting with friends, singing, and language learning. As one participant noted, daily activities and interests are determining factors supporting cognitive abilities.

Brain is developing during daily routine; there is no need to do special things to stimulate the brain. It would just be sufficient to lead an enhanced [active] lifestyle (08).

Socialization: making relationships, which make you feel connected with and meaningful for others.

Socialization was the most welcomed topic of discussion among Armenian seniors. Almost all participants expressed the need to have friends in old age. **Friendship** in old age was seen to have a different meaning, compared to young age. Besides being a mean for having a good time, seniors thought of friendship as a source of emotional and spiritual support and hope enabling a stronger sense of connection.

*In old age friends are becoming [a source of] spiritual support. I feel longing towards them (01).
We [friends] are next to each other whenever we have hard time, difficulties (05)*

Participants defined friendship.

Friendship is a way to communicate, share perceptions, emotions, ideology and being a member of the society (05).

Friendship was also viewed to take on a psychotherapeutic function. One of the participants noted:

Friendship is a type of psychotherapy. Whenever I feel depressed, I call to my friend and ask her: "May I come to you and cry "(05).

In this light, the importance of friendship was highlighted to the extent that one participant described overcoming a health condition to be able to be in a group of friends.

I have difficulties with walking, but the days of meeting with my friends I take medicine to be able to walk with them and I never show them that I get tired. I always try to be accommodating and meet the needs of a group (04).

Besides the aforementioned description of friendship, there was also another view, according to which friendship is a source of social learning; it was described as a mean to recognize and learn important social norms.

It is possible, that people have natural urge for communication. Although, I have difficulties to find someone who is of my mentality, I do not abandon all my social ties, as it is said, that everyone in some respect is a teacher, teaching either Right or Wrong, Good or Bad (08).

The majority of participants considered the level of their socialization as sufficient, while a few highlighted the need for a wider social network. Among the reasons for insufficient communication were family responsibilities (lack of time), changing the place of living (losing previous connections), and perceptions of insecurity associated with being in the centre of gossips.

Any talk might have bad consequences, any sentence might become a subject of a huge discussion (13).

This creates some inner contradiction: on one hand participants demonstrate a naturally driven need for being connected, and on the other, they are imposed to suppress the need, as they are concerned of being judged and misunderstood.

Some participants were more inclined to satisfy their communication needs inside of the **family**, they did not express the need for a wider social network.

I enjoy doing anything, which brings benefit to my family. I do not have any other need in my life. (07)

Another participant thought.

I would invest my potential to help my children as much as possible and only if something is left will use for me. (01)

The need for socializing with grandchildren was highly valued, including taking care of the grandchildren, playing with them, teaching and guiding them in their lives, or just being friends with them.

I enjoy talking to my grandchildren, watching films with them (04).

So it is obvious, that some of the participants preferred to socialize within the family, while had the need for wider connections outside of the family. A possible explanation of such a difference given by one participant was the time and resources available in prior life-stage.

My husband provided good financial maintenance to family and I was not overwhelmed with family duties and succeeded to develop my personal life (02).

Seniors benefited from **love, care and peace** that socialisation brought.

I am surrounded with my children, I love them and they love me, they are caring towards me, and I am happy (02).

I understand ideal aging as peace in our families, success of our children (09).

Learning and engagement: learning new things, obtaining new skills, and being engaged in new activities.

Overall, Armenian seniors expressed willingness to learn new things. Some of them even reported engaging in learning activities with the intention to prevent CD. This were the participants with higher social and educational level.

I am doing English classes every day and I am happy for any progress. I do it to prevent loss of memory (02).

Loss of memory is a natural process and I am worried how to prevent it. Keeping the mind active also slows down the intensity of the aging processes. For this reason, I am playing mental games almost 3-4 years and taking online courses (03).

I am taking literature classes for two years (05).

A few participants with low education and socio-economic status, however, initially treated the topic of learning new things as a joke. However, after explaining them what it implied, they changed their attitudes positively.

Learning new activities is closely related to learning new skills. Engagement in any new activity, as a form of informal learning, might result in development of new skills. However, in this study, participants referred to learning new skills in relation to productive and purposive learning, while learning new activities were perceived to be associated with doing something to spend the leisure time more meaningfully and pleasantly. The most frequently reported **new skills** that the study

participants needed to obtain related to technology and language. They want to learn technology to become more independent from younger generation; want to learn social networking, find information in internet. One of the participants even reported need for learning computer programming. A few participants refused language learning, because of a perceived decline in mental capacity.

In our age, learning language is a waste of time, because of our decreasing mental abilities. (04).

In contrast, some of the participants expressed willingness to meet the challenges of learning a language.

In old age learning is challenging, it is difficult to memorize new words. Nevertheless, I never give up; moreover, I am trying to be one of the best in our [English language] group, where mainly young people are studying. When I was young I used to be the first, now I am in the middle, but I am satisfied (05).

Besides language and technology people reported a variety of new skills they would like to obtain, such as, playing a musical instrument, singing, pottery, painting, sewing, recitation, and acting.

Discussion of the needs for **new activities** revealed that Armenian seniors most of all preferred to have the opportunity to participate in group discussions on different topics.

It would be better to read some book and have a discussion on it (03).

Volunteering and contribution to society was the second most commonly discussed need for new activities.

I would like to help someone in need in construction of his house (01).

I would like to talk to seniors who feel lonely and need to socialize (03).

In addition to funding and donations, one can help humanity even with small investments. For example, I could do dishwashing in an orphanage. I have great desire to do that (14).

Other needs for new activities included playing table games, physical activity (particularly swimming and yoga), mountaineering, attending concert, organized city walking tours, cooking, and gardening.

People reported several **motivational factors**, which drove seniors towards learning in old age.

The strongest of them was the strengthening of mental capabilities associated with learning.

It is impossible to stop natural processes, though I do not stop fighting. To prevent CD I started to study Spanish (05).

You should not entertain your mind, but cultivate it. Brain training is more important, than muscle training (14).

In this light, seniors reported solving crosswords and Sudoku, playing videogames, reading news, engaging in online activities to prevent CD.

Legacy and the sense of social worth were another commonly discussed reason for engaging in new activities.

I want my children to be proud of me. I want to be alert and show life to my grandchildren. I want to look knowledgeable talking to my friends (03).

We can show to new generation that we also are of great importance (05).

One participant reported curiosity as a motivating factor to learn.

People want to explore new things all life-long (04).

If people lack in interests, nothing could help them to learn something new (08).

People should follow their interests in any age and learn new things (14).

Armenian seniors supported the idea of creating a **senior development centre** in Armenia. Only five of them refused attendance to this centre. The main reason for refusal was lack of time due to employment: those who were currently employed reported that they would attend the centre after retirement.

After retirement I would like to attend such centre. My friend who lives in America tells that such a centre exist there and that it is a pretty good establishment (02).

People with high working potential also refused this centre as they thought that this would be waste of time.

I would rather work and get benefit, then just enjoy my time (07).

An interesting case was observed during an interview. A person who was engaged in art (needlework) refused not only the idea of the developing such a centre, but any other learning need. The participant perceived their current engagement in art is a good mean of getting new knowledge and skills, as well as, a way of self-actualization.

I do not need to attend any centre, do not want to learn new things, as I get everything from my art. Whenever I have the opportunity for an alternative activity, I choose needlework. It gives me more (08).

The main reason why seniors wanted to attend this centre was spending their leisure time with age mates and having relationships that were more meaningful.

I would attend this centre to have new relationships far from neighbour gossips and routine talks. (09)

They also perceived this centre as an opportunity to learn new things and engage in new activities, as an important location where some abovementioned activities might be undertaken, such as, having walking tours together, being informed on different cultural programs.

Would be better to get information on cultural events and participate on these events together in an organized way (09).

Would prefer to participate in city walking tours with my age-mates organized by the senior centre (09).

They expected to obtain knowledge in this centre adapted to the needs and abilities of old people.

It would be better to get knowledge in a speed compatible with the seniors abilities (13).

Challenges should reasonably meet our age boarders (14).

A few participants further expressed a need to take private classes. One of the participants suggested the strategy used in UK.

I would like to learn something new on my own, followed by group discussions and testing once a week in specialized centres as it is done in UK (03).

Financial protection: having sufficient resources to lead an ideal aging. Although, this study was not designed to discuss issues related to financial protection of Armenian seniors (e.g., **pension**), financial security emerged as a common topic, as it was seen as the basis of the most of the discussed needs. Participants highlighted a relationship between the broad social needs, interests in old age and financial wellbeing.

Socio-economic status reflects people's preferences 05.

In my neighbourhood everyone is socially and economically unprotected. Being able to buy only food, how they can think of cultural involvement ... I am able to take part in some events, only because my son provides me with the "pension" for entertainment purposes. Otherwise, I would also not be able to stay socially engaged (05).

Another participant wanted to spend money on travelling.

I would like to have higher pension to be able to travel somewhere. I think we deserved it (06).

One of the participants expressed a desire to spend extra money with his grandchildren.

If I have more money, I would often treat my grandchildren with tasty food to see their happiness (07).

In another interview a participant stated a need for money to enable and "afford" active aging.

Financial problems cause inner dissatisfaction. This is the reason I am not able to think about active aging (11).

I wish Armenian seniors to be financially secure to take care of their health, physical, and cognitive development (02).

...higher pension not only to buy food, but also to attend a cinema, theatre and concert ones a month or to travel somewhere (13).

Some of the participants reported the need for **employment**. These were mainly men with good working experience, who expressed sufficient working potential.

I was working until 65 years of age, however, now I would like to work as well (01).

Working in old age was also perceived to be rejuvenating.

I enjoy doing physical work, because I feel myself more young and active (07).

Social and Self-acceptance: Changing the image of “old age” on personal and social levels

The majority of old age population in Armenia reported having close family ties and their main function as providing assistance to their children in household work. They also reported having major role in educating their grandchildren. However, in this busy routine they often reported failing to attend to their “personal life”, that is taking care of themselves, investing in their personal development, having personal interests, respecting their personal space and expecting the respect from others. This was often perceived as culturally determined and thereby inevitable.

Our national values tightly attach us to our families. Even if I have the opportunity to lead my personal life I would refuse (09).

One of the respondents interpreted the reason of insufficient self-centred thinking in old age as an influence of Soviet era and social system.

Soviet era decreased people’s needs to a minimal survival level: food and clothing (14).

To decrease competition for social needs, it tried to develop family-centred society. People having impact of that time, usually, are living “family life” (14).

Nevertheless, opposite to this view, some participants with higher education and relative financial independence reported a need for leading their “personal life”.

If someone has an inner drive for self-actualization, he/she wants to live a creative life, wants to control own life independently (05 FGD).

I want to live my personal life, as people do not like interference into their life. I am in harmony with myself (08).

I want to live my own life, as it enables me to think and create (14).

Some of the participants reported successfully balancing the “personal” and “family” lives.

When you live in a separate household, you have the advantage to control your life more efficiently. Though, it does not prevent you from being a good Armenian grandmother (05 FGD).

It is a pleasure to take care of my grandchildren, although in the evenings, I want to enjoy my own life (05 FGD).

To those who appreciated the value of the “personal life”, “family life”-oriented old age was viewed as a threat to personal development, as they already have experienced the benefits of living their own lives. Suggestions were made to improve the situation on this regard on the national level.

It is possible to stimulate the need for “personal life” in our society through special state-level media programs and present it instead of senseless soap operas (14).

A ‘role model’ strategy needs to be used to change the mentality of people and the attitude towards themselves (03).

One respondent suggested starting changing mentality from initial stages of formation of child-parent relationships, by introducing an interpersonal distance in the families to respect the “personal space” and the “personal life”. They provided examples from Western societies.

In America parents say to their children ‘respect my space’. Despite love and care, parents try to keep individual distance between them and people in their surrounding (14).

Seniors also reported lack of respect towards their age from general public. As they have reported, public ignorance of elderly might be impoverishing to them; they might save from their diet to be able to pay taxi drivers to have a safe journey, instead of taking a public transport, as nobody gave them seats in the public transport. One possible reason for such ignorance may be lack of general awareness of the old age needs.

3. Thematic Map

The themes and sub-themes discussed above might be linked to each other. The thematic network showing the possible links between the identified themes and sub-themes and their pathway to educational needs of the elderly in Armenia is presented in **Figure 5**. It is obvious from the figure, that there are many factors driving the learning needs. **Financial and social protection** can be seen as the overarching need followed by the need for **socialization** (the higher the SES the higher the need for having social ties). Old age people who are socially engaged tend to be different from those who are not actively engaged in society. They have different perception of old age. In this research, people who socialised more reported higher potential, psychological stability, and autonomy. Positive perception of old age might further keep people motivated towards learning. In its turn having motivations in old age might positively impact self-perception. So, these two are interconnected. Furthermore, socialisation may determine the **recognition of aging signs**; for instance, sharing their experiences people may compare the level of their abilities and recognize the signs of CD. This recognition of the signs of CD may prompt people to start learning something new to recover their mental loss. . Obviously, through new engagements in old age people try to compensate age-related issues. Socialization also might define people's **interests**, which in its turn determine their **daily routine and activities**. All the daily activities might be viewed as a type of **informal learning**,^{25,50} as

any of them contribute to development of some skills; for example, news reading or listening result in better communication skills, while crosswords solving results in better reasoning and enhanced mental capacity. How people perceive the image of old age can further be linked to the **learning needs**. Those who think that old age is the end of their life in every terms are destined to stagnate in disappointment, waiting for this end. Those who do not assign to age such a power and think they are still capable to do changes in their lives will be more open to continuous learning. Armenian seniors also discussed the need for having a **senior centre**, as a source and location of learning accommodated to their age group.

Discussion

This study focused on understanding the educational needs of old age population in Armenia. Although this is a new research topic for Armenia, it has already been studied in many other countries. For example, Rowena L. Escolar Chua describes needs and expectations of older adults from learning among Filipino elderly .²⁷The results of the study are depicted through three perspectives (**Figure 6**) claiming that older adults need education to cope with the changes in the environment and their own self, for remaining productive in society and families, and also for self-development. In this regard, our findings are congruent with this study. Similar findings are reported from the studies done in Brazil and Hong Kong.^{50,28}

The fact, that the study participants, irrespective of their social and educational status were completely unaware of the concept of “**active aging**” shows that no countrywide actions are being undertaken to educate the population how to meet aging challenges. However, the discussion of the topic about daily routine revealed, that seniors in Armenia are, nevertheless, involved in activities that contribute to “active aging”. The highest reported activity was news reading or listening, which might be due to recent political situation in Armenia. A study

conducted in India⁵¹ reveals the most demanding recreational activities among seniors. Some of the findings of this study are consistent with the needs of the Armenian seniors, such as, walking, gardening, yoga, mental exercises, volunteering, table games, art, and reading. Photography, bird watching, fishing, the art of living are not reported by our participants, whereas, they are mentioned in the Indian study. According to this study, old age might be viewed as a “second childhood”, when we should try to keep older adults busy in some activities to fill the gaps associated with old age.⁵¹

Socialization might be an influential factor for all the needs in old people. The study of Rowe and Kahn claims that social integration is the key factor for “successful aging”.⁵² According to the Armenian seniors, people share their knowledge, perceptions, cultural norms, attitudes, and mentality through socialization. While, they expressed willingness to socialize either with friends or with family, they predominantly used the term socialization to refer to the ties with friends. When talking about leisure time activities, participants always mentioned friends, while responsibilities they connected more with the family. Obviously, the role of family and friendship for social involvement was perceived differently, which is consistent with the findings from the Korean Longitudinal Study of Aging. This study explains that family relations are predetermined, while friendship is formed on a voluntary basis. Yet, the voluntary nature of friendship requires more efforts to maintain, than do family relations, hence they require more cognitive investment. Friendship provides feelings of companionship, assures social integration, and reassertion of self-worth; on the other hand, family provides social support; both are perceived as important sources of subjective well-being.⁵³

Participants with higher education and social status supported the idea of cognitive stimulation in old age, moreover, they even contained components in their daily routines to prevent CD, such as

language learning, social networking, other online activities, involvement in some kind of art, literature and others. This group reported a diverse set of **educational needs**, ranging from development and obtaining of new talents, promotion of health, language, crafts, technologies, and other hobbies. A study conducted in Australia revealed similar educational needs among seniors living there.²⁴ Conversely, some of the participants in our study treated this idea as an unreasonable joke, which was the result of lack of awareness.

Most of the respondents supported the idea of creating a **Senior Centre**, as a place of learning, communication, and social engagement. The need for creation of a school-club for seniors was supported also by the countrywide study conducted in Armenia by the MLSA in 2016.⁴⁰ It is perceived by older people as an opportunity to obtain new knowledge in line with their age-restricted abilities. According to another study, the programs designed for senior citizens should consider age characteristics: physical factors (hearing, vision, movement), psychological factors, cognitive changes (loss of memory), social factors (problems in social relations).³³ However, our participants expressed the willingness to get enrolled in this center after completion of their “working lives”. This fact creates a concern, as cognitive stimulation at later life stages might be less effective. Participation in the senior center might reduce the risk of social exclusion and mental disabilities. One of the studies found an association between attendance to senior centers and low risk of CD, independent of socio-demographic factors and health status. This association is explained by more involvement in emotionally and cognitively stimulating activities.⁵³

Financial protection is another determining factor for learning needs. Similar to socialization, it also influences most of the needs in old age. It determines the psychological state, perceptions, scope of interests, lifestyle, and even the need for socialization. Those who are hardly able to take care of the basic needs cannot think of having broad social ties or invest in their personal

development. The majority of people in Armenia are living a “family life”, which means these people schedule their life mainly based on the needs of the family members sharing the responsibilities for the younger generation; they find their importance and worth predominantly within the family. Briefly described, they are always available for family members, and very little for themselves. They even do not see an alternative to this. Take family from their lives and they will be lost, not knowing how to continue living personally for themselves. Only a small share of people are able to successfully balance “**family**” and “**personal**” lives. The problem is that having family-orientation, people usually become engaged in household duties, doing all day long the same routine work. This means, they may not have a need for further growth, learning, mental stimulation, as their existing abilities will be sufficient to execute the required tasks. On the contrary, leading a personal life stimulates new interests and functions, which prompts a need for learning new skills. Hence, promoting a “personal life” among Armenian population would be a preventive strategy for CD.

Strengths

1. **Data triangulation**⁵⁴: we used different data collection methods such as IDIs and FGDs to collect rich data : IDIs gave us chance to collect data moving in vertical direction deep into personal stories, whereas through FGDs we move horizontally and collect data generated after discussion of different opinions and insights. 2. Prior to data collection we tested the interview guide through one mock IDI and one mock FGD. 3. Student-researcher was engaged in all the phases of the research, which enables high level of compatibility with the data. 4. Data was collected and transcribed in Armenian language, which averts alteration of the meaning of collected information adding **trustworthiness**⁵⁵ to the research. 5. **Conformability**⁵⁵ assures accurate presentation of the data provided by participants and also considers that the

interpretation of the data does not invented by the researcher. In other words it might be explained as Reflexivity of the data and in our research it was supported through accurate reflection of provided information, researcher tried to prove every interpretation by representative quotations from original texts. 6. Qualitative analysis software was used, which helped with more systematic coding and classification of the data and retrieval. This enable a thorough analysis of the data. To assure **dependability**⁵⁵ (reproducibility) of the study demographic data for all the participants was provided and detailed description of methodology done, and audit trial attached.

Limitations

1. From the viewpoint of the evidence **transferability**⁵⁵, the student investigator tried to choose participants from different social and educational levels, however all the participants were citizens of Yerevan, which restricts application of study findings on other settings or groups.
2. The major limitation of the study was the application of convenient sampling, which results in predominance of participants with certain socio-demographic characteristics : most of the participants were females with high SES. Consequently, the results might be different among males and people with lower SES.
3. Stakeholders other then seniors were not included in the study, for example, family members, policy makers.
4. Prior to data collection it was planned to conduct data analysis in parallel with data collection to recognize saturation and do more effective grouping of the data. However, data transcription, took longer than was planned and additional time was required to do simultaneous coding. Nonetheless, participants were scheduled beforehand and given a time-constrain, rescheduling was impossible. Hence, data was first collected and then analyzed. Nonetheless, data was collected until researcher felt that new topics are no longer emerging. So, subjective saturation was reached.
5. Given time-constraints

of the master thesis project, it was not possible to involve different investigators in the analysis process, so the study findings fall short of **investigator triangulation**.⁵⁴ 6. The findings of the study were not triangulated with participants and other stakeholders (family members, policy-makers) again because of limited time-resources.

Recommendations for practice

Based on the findings of the research it is possible to make some reorganizations by involving state and local governments, NGOs to help older adults to fulfill their learning needs and preserve their cognitive abilities. Specific recommendations include: (i) creating job opportunities for seniors and helping them to become more productive; (ii) conducting countrywide awareness raising programs to teach people how to meet aging challenges, to get familiar with the concept of “active aging”, to create non-discriminative old age image in the society, to help people to get rid of age-related inferiorities, increase self-efficacy of older people, and motivate them towards prevention of CD; (iii) creating a Senior Centre, where Armenian seniors might get knowledge adapted to their abilities, as well, get involved in recreational activities adapted to their needs (this program further might be expanded to suburbs);(iv) creating opportunities for volunteering to increase social engagement of older people; and finally; (v) increase pension to make old age population more independent.

Recommendations for further research implications

1. This study further might be expanded to rural areas, as picture might considerably differ in rural settings: it is possible to find more patterns, learning needs and barriers.
2. Further would be better to capture also perspectives of other stakeholders, family members and policy-makers.
3. Apply stratification on different socio-demographic characteristics to make sample more heterogeneous.
4. Apply Grounded Theory to explore factors determining educational needs

among seniors and come up with theory, based on which would be possible to promote these needs, and stimulate new behaviors among seniors leading to better mental functioning.

Conclusion

This is the first qualitative study conducted in Armenia to explore learning needs of Armenian seniors. Old population in Armenia is interested in specific learning activities. However, our country does not currently support opportunities to promote learning in old age. There are neither public nor private facilities, geriatric programs and geriatric educators. Hence, the findings of this study might be an initiative for new reforms and creation of an old-age friendly society, where people would be able to have longer and healthier lives utilizing greater mental capacity in old age.

References

1. *Life Expectancy 2011/12 2050 Projection Setting the Scene Global Population Ageing*.
www.unpopulation.org,. Accessed January 31, 2019.
2. Bindu. Impact of Development on Loneliness among Elderly Women Living alone in Chandigarh. *Indian J Heal Wellbeing*. 2017;8(10):1114-1117.
3. Mulawka M. Chapter 1 – Introduction. *Mol Imprinting From Fundam to Appl*. 2004:1-8.
doi:10.1016/B978-0-323-26617-8.00001-6
4. Troen B. The Biology of Aging. *Mt Sinai J Med*. 2003;70(1):3-22.
5. Loucks WL. Age Related Change and the Individual. 1981;57(4):833-850.
6. MISHRA A. BIOLOGY, CULTURE AND AGEING: A COMPARATIVE STUDY.
7. Bergman H, Karunanathan S, Robledo LMG, et al. Understanding and meeting the needs of the older population: a global challenge. *Canadian geriatrics journal : CGJ*.
doi:10.5770/cgj.16.60
8. National Statistical Service of Republic of Armenia, Ministry of Health of Armenia, ORC Macro Calverton. *Armenia Demographic and Health Survey*.; 2005.
doi:10.1017/CBO9781107415324.004
9. Suzman R, Beard J. *Global Health and Aging*. Vol 1.; 2011. doi:11-7737
10. Uhlenberg BP. Demography Is Not Destiny : The Challenges and Opportunities of Global Population Aging. *Generations*. 2013;37(1):12-18.
11. Bloom DE, Mitgang E, Osher B. *Demography of Global Aging*.; 2016.
<http://www.hsph.harvard.edu/pgda/working/>.

12. United Nations Population Fund (UNFPA) and HelpAge International. *Ageing in the Twenty-First Century: A Celebration and A Challenge.*; 2012. doi:978-0-89714-981-5
13. Luigi Ferrucci, MD, PhD, a,* Francesco Giallauria, MD, PhD, a and Jack M. Guralnik, MD P. Epidemiology of AgingNo Title. doi:[10.1016/j.rcl.2008.07.005]
14. Dementia statistics | Alzheimer’s Disease International.
<https://www.alz.co.uk/research/statistics>. Accessed April 26, 2019.
15. Deary IJ, Corley J, Gow AJ, et al. Age-associated cognitive decline. *Br Med Bull.* 2009;92(1):135-152. doi:10.1093/bmb/ldp033
16. McClearn GE, Johansson B, Berg S, et al. Substantial genetic influence on cognitive abilities in twins 80 or more years old. *Science (80-).* 1997;276(5318):1560-1563. doi:10.1126/science.276.5318.1560
17. Caroline N. Harada, a, b Marissa C. Natelson Love c and KT. Normal Cognitive Aging. *Clin Geriatr Med.*
18. What is Cognitive Reserve. *Harvard Heal Publ.* <https://www.health.harvard.edu/mind-and-mood/what-is-cognitive-reserve>.
19. Tucker AM, Stern Y. Cognitive reserve in aging. *Curr Alzheimer Res.* 2011;8(4):354-360. doi:10.2174/156720511795745320
20. Guglielmo E. The Ageing Brain: Neuroplasticity and Lifelong Learning. *AcademiaEdu.* 2012;(June):1-7. http://www.academia.edu/download/29557888/In-depth_29_2-1.pdf.
21. Joshua O. Goh and DCP. Neuroplasticity and cognitive aging: The scaffolding theory of aging and cognition. *Restor Neurol Neurosci.* 2009;27(5):391–403. doi:10.3233/RNN-

2009-0493

22. Štatiienė S. Learning in Later Life: The Perspective of Successful Ageing. *Appl Res Heal Soc Sci Interface Interact / Sveik ir Soc Moksl Taikom Tyrim Sandura ir Saveika*. 2015;12(1):11-23. doi:10.1515/arhss-2015-0003
23. Jin B. The Impact of Participation in Educational Programs on Elderly 's Life Satisfaction. 2017.
24. Boulton-lewis GM. Education and learning for the elderly: why, how, what. 2020;(2006):213-228. doi:10.1080/03601270903182877
25. Villar F. Learning in later life : Participation in formal , non-formal and informal activities in a nationally representative Spanish sample. 2013;(April). doi:10.1007/s10433-012-0257-1
26. Boog B. Healthy ageing through music and the arts : a conceptual framework. 2009.
27. Escolar Chua RL, de Guzman AB. Do You See What I See? Understanding Filipino Elderly's Needs, Benefits, and Expectations from an Adult Continuing Education Program. *Educ Gerontol*. 2014;40(1):1-15. doi:10.1080/03601277.2012.700810
28. Tam M. Active ageing, active learning: policy and provision in Hong Kong. *Stud Contin Educ*. 2009;33(3):289-299. doi:10.1080/0158037X.2010.515573
29. Bugos J, Perlstein WM, Mccrae CS, Brophy TS. Individualized Piano Instruction enhances executive functioning and working memory in older adults Individualized Piano Instruction enhances executive functioning and working memory in older adults. 2007;(May 2014). doi:10.1080/13607860601086504

30. Wolinsky FD, Unverzagt FW, Smith DM, Jones R, Library R. The Effects of the ACTIVE Cognitive Training Trial on Clinically Relevant Dec... *Library (Lond)*. 2006;61(5):281-287.
31. Stine-Morrow DCPAHGMLMEAL. Improving Cognitive Function in Older Adults: Nontraditional Approaches. *Journals Gerontol*. 2007;62(1).
32. Cunha G, Cantarelli F et al. University of the Third Age: the impact of continuing education on the quality of life of the elderly. 2017;4(20):545-555.
<http://dx.doi.org/10.1590/1981-22562017020.160192>.
33. Nistor G. New Educational Strategies Regarding Quality of Life for Elderly People. *Procedia - Soc Behav Sci*. 2014;142:487-492. doi:10.1016/j.sbspro.2014.07.653
34. Bischof N, Park DC. The Synapse Project: Engagement in mentally challenging activities enhances neural efficiency. 2015;(October). doi:10.3233/RNN-150533
35. No Title. <https://www.armstat.am/en/?nid=81&id=1847>.
36. No Titl. <https://www.populationpyramid.net/hnp/population-ages-65-and-above-of-total/2016/>.
37. Armenia Demographics Profile 2018.
https://www.indexmundi.com/armenia/demographics_profile.html. Published 2018.
Accessed January 31, 2019.
38. Age dependency ratio (% of working-age population).
<https://data.worldbank.org/indicator/SP.POP.DPND>.
39. Statistical Yearbook of Armenia / Statistical Committee of the Republic of Armenia.

www.armstat.am/en/?nid=586&year=2018. Published 2018. Accessed January 31, 2019.

40. mlsa.am. Հայաստանի Հանրապետությունում Տարեցների Սոցիալական Կարիքների և Տարեցներին Սոցիալական Ծառայություններ Տրամադրելու Հայեցակարգում Ներկայացված Նոր Մոդելների Նկատմամբ Պահանջարկի Ուսումնասիրության Տվյալների Վերլուծություն.; 2016.
41. Crotty M. *Foundations of Social Research.*; 1998.
42. Braun V, Clarke V, Braun V, Clarke V. Using thematic analysis in psychology. 2017;0887(August):76-101.
43. Kirubakaran A, Moorthy M, Chitra R, Prabakar G. Effect of fenugreek, garlic and black pepper supplementation on chemical properties of fresh and frozen broiler meat. *Indian Vet J.* 2016;93(12):20-22. doi:10.1111/j.1365-2929.2006.02418.x
44. Krueger RA, Casey MA. Participants in a Focus Group. *Focus Groups A Pract Guid Appl Res.* 2009:63-84. doi:10.1016/S0002-9394(14)70178-3
45. Escolar Chua RL, de Guzman AB. Learning in later life: Participation in formal, non-formal and informal activities in a nationally representative Spanish sample. *Educ Gerontol.* 2014;40(1):1-15. doi:10.1080/03601277.2012.700810
46. Boulton-Lewis, G.M., 1 Pike, L., 2 Tam, M., 2 Buys L. AGEING, LOSS AND LEARNING: HONG KONG AND AUSTRALIAN SENIORS. https://www.researchgate.net/profile/Gillian_Boulton-Lewis.
47. Burnard P, Gill P, Stewart K, Treasure E, Chadwick B. Analysing and presenting qualitative data. *Br Dent J.* 2008;204(8):429-432. doi:10.1038/sj.bdj.2008.292

48. Understanding Confidentiality and Anonymity | The Evergreen State College.
<https://www.evergreen.edu/humansubjectsreview/confidentiality>. Accessed February 7, 2019.
49. Guidelines on Anonymity and Confidentiality in Research. 2017.
<https://www.ryerson.ca/content/dam/research/documents/ethics/guidelines-on-anonymity-and-confidentiality-in-research.pdf>.
50. Cachioni M, Nascimento Ordonez T, da Silva TBL, et al. Motivational Factors and Predictors for Attending a Continuing Education Program for Older Adults. *Educ Gerontol*. 2014;40(8):584-596. doi:10.1080/03601277.2013.802188
51. Singh B, Kiran U V. Recreational Activities for Senior Citizens. *IOSR J Humanit Soc Sci*. 2014;19(4):24-30. doi:10.9790/0837-19472430
52. Cornwell B, Laumann EO, Schumm LP. The Social Connectedness of Older Adults: A National Profile*. *Am Sociol Rev*. 2008;73(2):185-203.
<http://www.ncbi.nlm.nih.gov/pubmed/19018292>. Accessed May 24, 2019.
53. Lee SH, Kim YB. Which type of social activities may reduce cognitive decline in the elderly?: a longitudinal population-based study. *BMC Geriatr*. 2016;16(1):165.
doi:10.1186/s12877-016-0343-x
54. Different kinds of triangulation. :2013.
55. Forman J, Damschroder L. Qualitative Content Analysis. *Adv Bioeth*. 2007;11:39-62.
doi:10.1016/S1479-3709(07)11003-7
56. Nations U. World Population Ageing. 2015.

57. Purdie N, Boulton-Lewis G. The learning needs of older adults. *Educ Gerontol.* 2003;29(2):129-149. doi:10.1109/ICIII.2011.206
58. Thematic EU, Organised M, Directorate-general EC, et al. Background document and key messages for the EU thematic conference : “ Mental Health and Well-being in Older People - Making it Happen ”. 2010;(April).

Tables

Table 1: Prevailing chronic disorders per 100 persons within >65 age category in US in 2005.¹³

Condition	Men %	Women %
Hypertension	44.6	51.1
Arthritis diagnosis	40.4	51.4
Chronic joint symptoms	39.7	47.7
Coronary heart disease	24.3	16.5
Cancer (any type)	23.2	17.5
Vision impairment	14.9	18.7
Diabetes	16.9	14.7
Sinusitis	11.5	16.0
Ulcers	13.1	10.4
Hearing impairment	14.8	8.4
Stroke	8.9	8.2
Emphysema	6.3	4.1
Chronic bronchitis	4.5	6.3
Kidney disorders	4.1	3.9
Liver disease	1.4	1.4

Table 2: Socio-demographic characteristics of study participants

Characteristic	N = 23
Mean age (range)	68,6 (60-79)
Education, n (%)	
School (10 years)	6 (26.1)
Professional technical education	3 (13.0)
Institute/University	13 (56.5)
Postgraduate	1 (4.3)
Employment, n (%)	
Currently employed	5 (21.7)
Currently unemployed	18 (78.3)
Sex, n (%)	
Male	3 (13.0)
Female	20 (87.0)
Income, n (%)	
> 50,000 AMD	2 (8.7)
51,000-100,000 AMD	1 (4.3)
101,000-200,000 AMD	7 (30.4)
201,000-300,000 AMD	2 (8.7)
< 301,000 AMD	11 (47.8)

Table 3: Themes and sub-themes related to needs

Theme and sub-themes	Description
Socialisation	Making relationships which make you feel connected and meaningful for others
-[Friendship]	-Having support and a therapeutic environment
-[Family]	-Living inside a family and spending time with grandchildren
-[Love and care]	Experiencing a sense of belonging and caring attitude
-[Cultural participation]	-Being informed on existing cultural events. Having motivating programs for seniors to attend cultural events
Financial Protection	Having sufficient resources to lead an ideal aging
-[Employment]	-Having workplaces to give a chance to be employed.
-[Pension]	-Having higher pensions, hence “affording” higher needs of active aging
Social and self-acceptance	Changing the image of “old age” on personal and social levels
-[Perceived self-worth]	- Getting rid of perceived age-related inferiorities, promoting development of “personal space”
-[Social image/respect]	- Enjoying higher social respect and social engagement as seniors
Learning and Engagement	Learning new things, obtaining new skills, and being engaged in new activities
-[New Skills]	-Learning new skills
-[New Activities]	-Engaging in new activities to spend the spare time more meaningfully
-[Motivational factors]	-Encouragement to learn new things
-[Development Centre]	- Creation of a development centre for Seniors as a source of obtaining knowledge in old age.

Table 4: Theme and sub-themes related to experiences of aging

Experience/perception of aging	How Armenian seniors experience aging
Signs of aging	Changes people undergo during aging; how seniors meet and interpret these changes; perceptions
Awareness of active aging	What does the concept of active aging mean to Armenian seniors
Daily activities	Activities that seniors usually do in terms of their everyday duties and interests

Figures

Figure 1: Population aged 0-4, 0-14 and aged 60 or over, 1950-2050⁵⁶

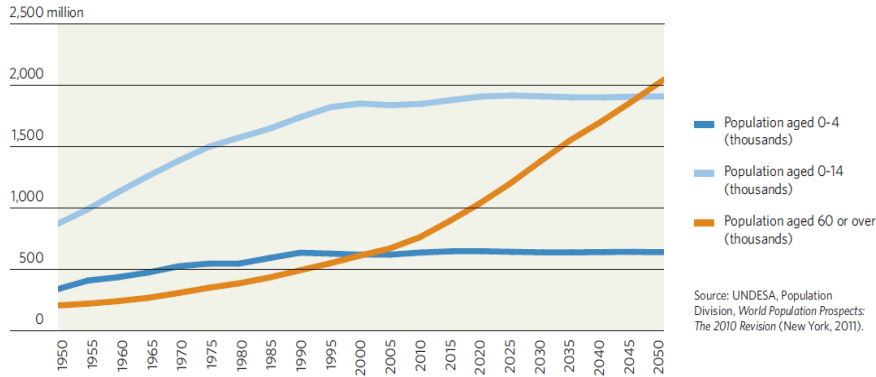


Figure 2. Actual and projected population aged 80 or over in the world from 1959-2050⁷

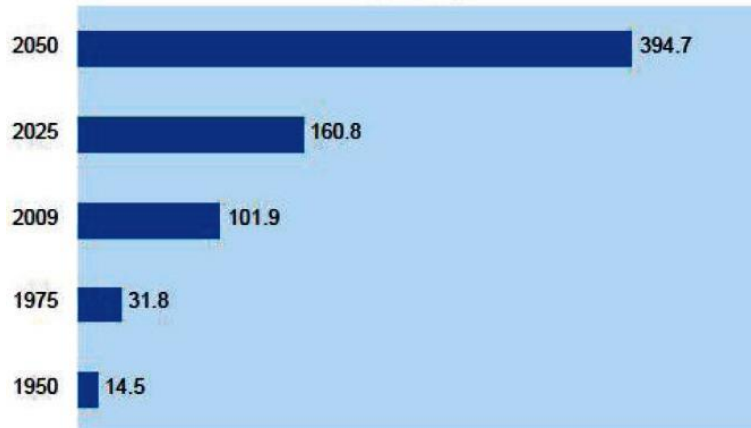


Figure 3: Conceptual model of the Scaffolding Theory of Cognitive Aging (STAC)

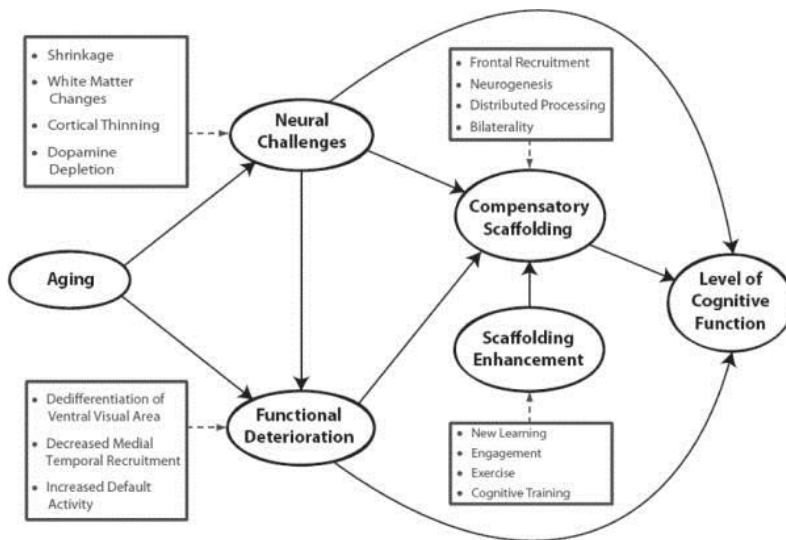


Figure 4. The project Conceptual Map

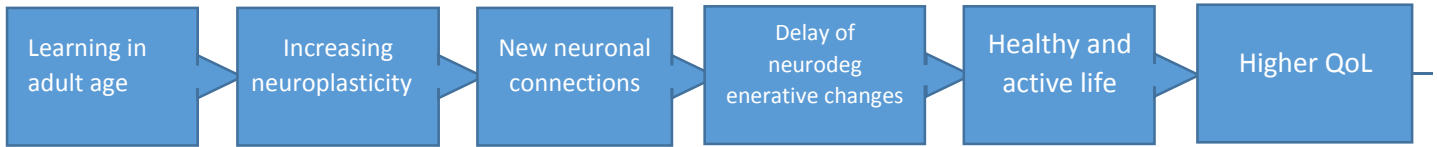


Figure 5: Thematic Map

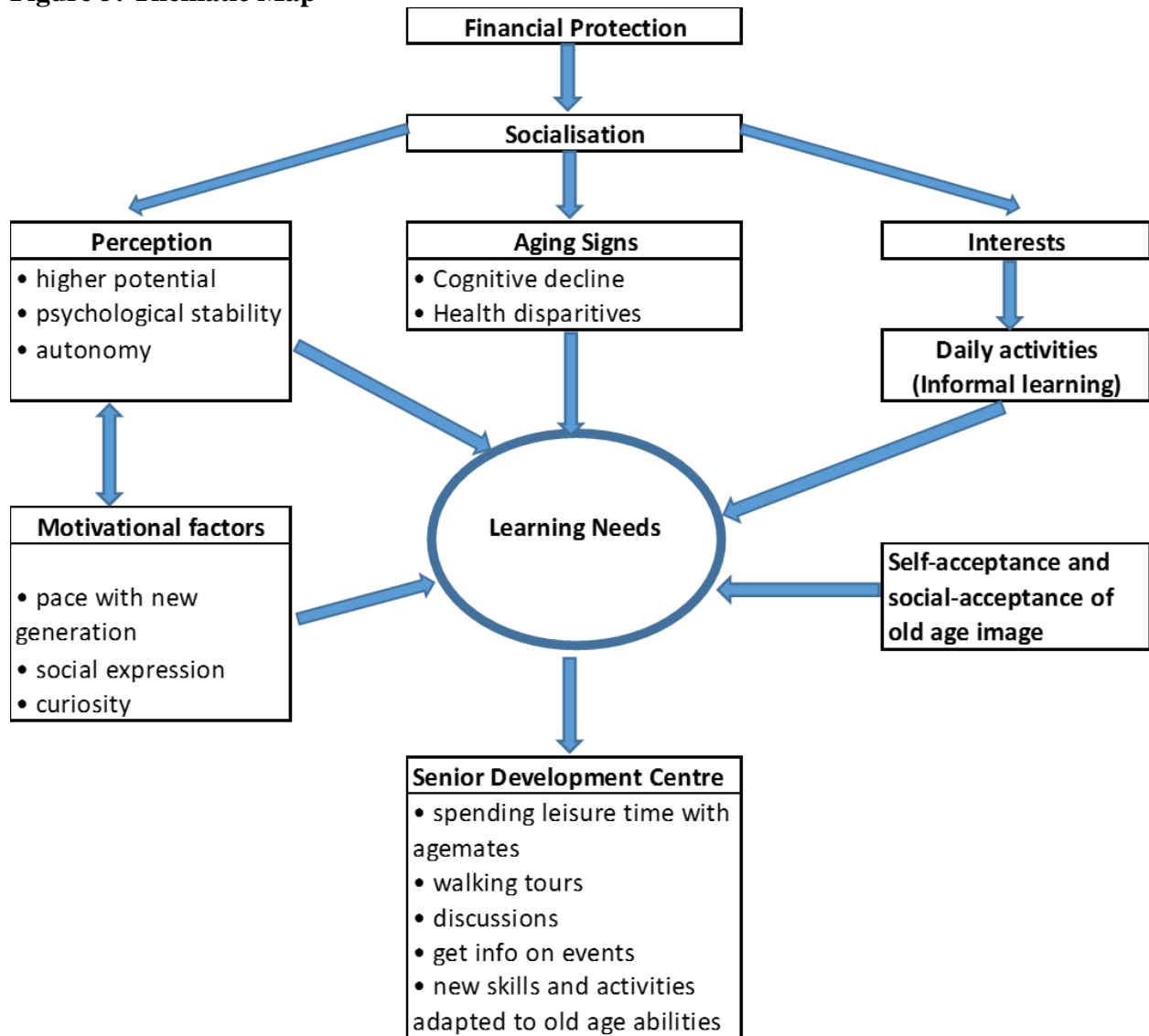
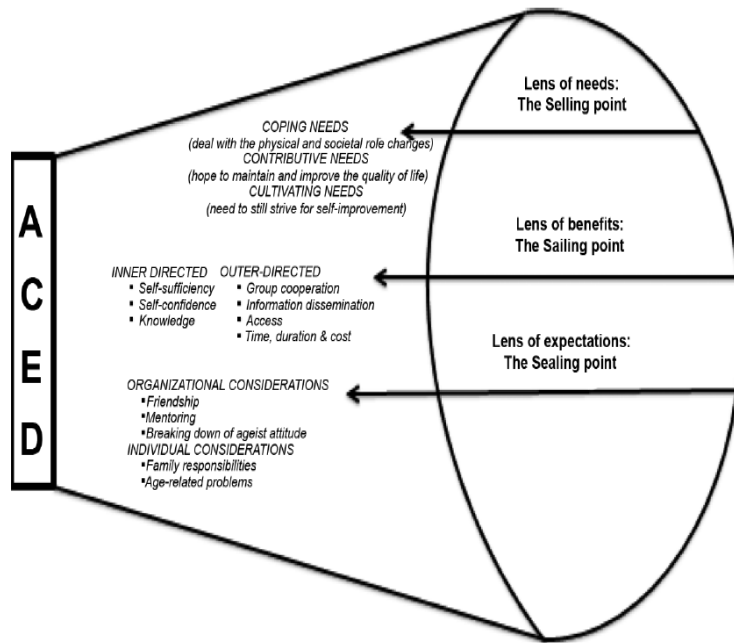


Figure 6: Triadic Lenses of Adult Continuing Education⁴⁵



Appendix 1: In-depth Interview guide for people aged 60 and above (English version)

ID: _____

Date: _____

Place: _____

Time: _____

Interviewer: _____

Introduction of the topic: As I already introduced in the consent form, this research is aimed to identify whether people living in Armenia want to be engaged in education in later life period and what are their educational needs. Therefore, I would like to discuss with you questions related to your aging, skills you would like to obtain, activities you would like to be engaged in. Your answers and opinions may help us develop and implement educational programs in Armenia for adult people to improve their life.

The experience of aging

1. How do you feel about getting older?⁴⁶

1.1. What is different in your life now compared to couple of years ago?

1.1.1. What changes are you experiencing in terms of health, independency, and psychological wellbeing? Probe: Could you please provide examples?

2. How would you describe the ideal way of life for you as you get older?⁴⁶ Could you, please say a bit more about your preference?

Probes: For example, would you prefer to dedicate your life to your family, help your children with household duties, take care of your grandchildren, or you would like to lead a more private life, that is invest in your personal development, socializing with friends, travelling, visiting museums?

Life and interests in aging

3. Returning to the life you currently lead, could you, please, describe your daily routine?

3.1. What are the things you are responsible for during your daily routine? Could you, please, describe your typical day?

3.2. Could you please provide a couple of examples of activities you like doing the most? Probes: (e.g., cooking, gardening, listening to music, shopping, TV watching, visiting museum, cinema, traveling, meeting friends, taking care of children/grandchildren).

3.3. How often are you meeting with your friends?

3.3.1. Would you like to meet them more frequently? If so, why?

3.3.2. Where do you usually meet them? Please explain, which place you prefer most and why?

3.3.3. What does “friend” mean in old age? What are their contributions to your life during ageing?

3.3.4. Would you prefer to have more friends? Please explain why?

4. Nowadays many people talk about active aging. What are your views on active aging? What does it mean to you?

4.1 How successful are you in terms of “active aging”? Please bring an example and explain.

4.2. If you are not successful in “active ageing”, could you, please explain what are your main barriers/obstacles? What would you need to overcome those obstacles and be more “active”?

4.3 What are the changes you have made recently in your life in terms of “active ageing”? What are the changes you plan to make? Could you, please, elaborate a bit about these changes?

5. Would you like to attend some centre if it is available in Armenia to spend your day-time among your peers in cultural, educational, social environment? Could you please justify your opinion, why yes or not?

5.1. How would you like to spend your time in this center, what would you like to do here? Probes: (what would you like to do there? E.g., taking some classes: dancing, cooking, chess, language, or something else, or just socializing with people).

5.2. Would you consider doing some social volunteering activity and helping others? Probes: (Which type of volunteering you would like to do? sewing clothes or preparing food for soldiers, orphans, planting flowers in public places/yards, painting park benches or community fences, prepare toys for children in hospitals, collect clothes for orphanages, and teach computer skills to other old people)

5.3. How many of your friends do you think would like to attend this centre? Why in your opinion, people of old age might refuse to attend this centre? (e.g., socio-economic status, family, culture, education, health status, awareness).

Learning in aging

6. What do you think about learning as you get older? Would you like to be engaged in learning? If so, why?

7. What are the new skills you would like to obtain as you get older? Probes: (e.g., cooking, dancing, singing, playing some musical instrument, learning a new language, investigating something new, learning how effectively use technologies, internet, social network)

7.1 Could you, please, say why would you like to learn this skill? Is it something which you got interested in recently or is it a lifelong desire?

7.2 How and where you would like to obtain these skills? Probes: (e.g., self-learning, attending some specialized centres for general population or for seniors, hiring private specialist)

7.3. Would you like to be engaged in something complex, problematic, which requires putting efforts? Please bring an example to support your answer. What motivates you to stay engaged in complex activities?

8. What do you think are the major obstacles/barriers for learning in later life?

8.1 What solutions do you see to these obstacles?⁵⁷

9. *Summative question*: Is there anything else you would like to say about your (learning) needs in older age? (any last comments or suggestions)?

Further probes as follows⁴⁶;

1. Could you, please tell me a bit more about...?
2. What do you think about that? How does that make you feel?
3. And so you believe that...?
4. If I understand you correctly...?
5. Do you mean to say that...?
6. Could you, please, bring an example...?

Now I would like to gather some basic information about you and your living situation.

Appendix 2: In-depth Interview Guide for people aged 60 and above (Armenian version)

ID _____

Ամսաթիվ _____

Տեղ _____

Ժամանակացույց _____

Հարցազրուցավար _____

Ներածություն

Ինչպես արդեն նշվեց իրազեկ համաձայնության ձևում, այս հետազոտությունը

նպատակադրված է պարզել արդյոք 60 և ավելի տարիքային խմբի

ներկայացուցիչները Հայաստանում ունեն կրթական կարիքներ և եթե այո, ապա

որոնք են այդ կարիքները: Ուստի, ես կցանկանայի քննարկել Ձեզ հետ հարցեր, որոնք

կվերաբերվեն ձերացման գործընթացին, հմտություններին, որոնք Դուք

կցանկանայիք ձեռք բերել, ինչպես նաև գործունեությանը, որում Դուք կցանկանայիք

ընդգրկված լինել.

Հարցաշար հարցազրույցի համար

Ծերացման փորձառություններ

1. Ինչպե՞ս եք վերաբերվում ծերացման գործընթացին: Ինչպիսի՞ զգացողություններ են Ձեզ ուղեկցում:

1.1 Ի՞նչ փոփոխություններ են տեղի ունեցել ձեր կյանքում վերջին մի քանի տարվա ընթացքում:

1.1.1. Ի՞նչ փոփոխություններ եք կրել առողջության, ինքնուրույնության և հոգեբանական կարգավիճակի առումով: Կարո՞ղ եք մի քանի օրինակ բերել:

2. Ինչպիսի՞ն է Ձեր պատկերացմամբ իդեալական ծերացումը: Կարո՞ղ եք փոքր-ինչ խոսել Ձեր նախասիրությունների մասին:

Կյանքը և հետաքրքրությունները ծերացման ընթացքում

3. Այժմ վերադառնալով Ձեր ներկա կյանքին, կարո՞ղ եք նկարագրել Ձեր առօրյան:

3.1 Ի՞նչ պարտականություններ եք կրում Ձեր առօրյա կյանքում:

3.2 Կարո՞ղ եք մի քանի օրինակով ներկայացնել այն գործերն ու զբաղմունքները, որոնք Դուք ամենից շատ եք նախընտրում անել:

3.3 Որքա՞ն հաճախ եք հանդիպում Ձեր ընկերներին:

3.3.1 Կցանկանալի՞ք ավելի հաճախ տեսնել նրանց:

3.3.2 Որտե՞ղ եք սովորաբար հանդիպում Ձեր ընկերներին: Խնդրում եմ ներկայացրեք, թե ո՞րն է ամենահարմարավետ հանդիպման վայրը:

3.3.3 Ի՞նչ է ընկերությունը ենթադրում Ձեր տարիքում: Ո՞րն է ընկերության դերը ծերացման ընթացքում:

3.3.4 Կցանկանալի՞ք արդյոք ավելի շատ ընկերներ ունենալ: Մեկնաբանեք խնդրեմ Ձեր պատասխանը:

4. Մեր օրերին շատ մարդիկ են օգտագործում «ակտիվ ծերացում» հասկացությունը: Ո՞րն է Ձեր վերաբերմունքը «ակտիվ ծերացմանը»: Ի՞նչ է նշանակում դա Ձեզ համար:

4.1 Որքանո՞վ եք Ձեր ծերացումը «ակտիվ» համարում: Խնդրում եմ մեկնաբանեք:

4.2 Եթե Ձեր կարծիքով Ձեր ծերացումը «ակտիվ» չէ, խնդրում եմ նշեք հնարավոր խոչընդոտները: Որո՞նք են այն միջոցները, որոնք կօգնեն Ձեզ հաղթահարել այդ խոչընդոտները:

4.3 Ի՞նչ փոփոխություններ եք արել վերջերս Ձեր կյանքում «ակտիվ» ծերացմանն ընդառաջ: Ի՞նչ փոփոխություններ եք պատրաստվում անել: Կարող եք, խնդրեմ, փոքր-ինչ ներկայացնել այդ փոփոխությունները:

5. Կցանկանայի՞ք հաճախել տարեցների կենտրոն Հայաստանում, եթե այդպիսին լինեք, Ձեր ժամանակն անցկացնելու Ձեր հասակակիցների հետ մշակութային, կրթական, սոցիալական միջավայրում: Խնդրում եմ մեկնաբանեք Ձեր պատասխանը՝ ինչու այդ կամ ոչ:

5.1 Ինչպե՞ս կցանկանայիք անցկացնել Ձեր ժամանակն այս կենտրոնում, ինչո՞վ կնախընտրեիք զբաղվել:

5.2 Կցանկանայի՞ք արդյոք կամավորական աշխատանքների մասնակցել, ուրիշներին օգնել:

5.3 Արդյո՞ք Ձեր ընկերներից շատերը կցանկանային հաճախել այս կենտրոնը: Ձեր կարծիքով, ի՞նչը կարող է պատճառ լինել, որ մարդիկ խուսափեն հաճախել այս կենտրոնը (սոցիալ-տնտեսական կարգավիճակը, ընտանիքը, մշակույթը, կրթությունը, առողջությունը, իրազեկվածությունը)

Կրթություն և ծերացում

6. Ինչպե՞ս եք վերաբերվում կրթությանը ծերանալուն գուզընթաց: Կցանկանայի՞ք ընդգրկված լինել որևէ ուսումնական գործընթացում: Եթե այո, ապա ինչու՞:

7. Որո՞նք են այն հմտությունները, որ կցանկանայիք ձեռք բերել:

7.1 Կարո՞ղ եք արդյոք ներկայացնել պատճառը, ինչի համար Դուք ուզում եք ձեռք բերել այս հմտությունները: Արդյո՞ք դա նոր հետաքրքրություն է, թե շարունակական նպատակ:

7.2 Ինչպե՞ս և որտե՞ղ Դուք կնախընտրեիք ձեռք բերել այս հմտությունները (ինքնուսուցում, հատուկ մասնագիտացված կենտրոնների հաճախում՝ ընդհանուր կամ տարեցների համար նախատեսված, անձնական մասնագետի վարձում)

7.3 Դուք կցանկանայի՞ք բարդ գործերով զբաղվել, որոնք ջանքեր են պահանջում: Խնդրում եմ օրինակ բերեք: Ինչը՞ կարող է Ձեզ շահագրգռել բարդ գործ կատարել:

8. Ի՞նչ էք կարծում որոնք են մեծ տարիքում կրթվելու ամենամեծ խոչընդոտները :
Ինչպե՞ս կառաջարկեք հաղթահարել այդ խնդիրները:

9. Ամփոփիչ հարց. արդյո՞ք կցանկանայիք ինչ-որ բան ավելացնել
մեծահասակների կրթական կարիքների մասին(Ձեր վերջին առաջարկը)

Շնորհակալություն Ձեր տրամադրած ժամանակի և հետազոտությանը մասնակցելու
ցանկության համար: Ձեր կարծիքները և մտքերը այլ մասնակիցների
պատասխանների հետ միասին կամփոփվեն հետազոտության վերջնական
զեկույցում: Եթե Դուք կամենաք, ես ուրախ կլինեմ Ձեր հետ կիսելու այս
հետազոտության արդյունքները:

Appendix 3: Interview Guide for Focus Group Discussions designed for people aged 60 and above (English version)

ID: _____

Date: _____

Place: _____

Time: _____

Interviewer: _____

Introduction of the topic: As I already introduced in the consent form, this research is aimed to identify whether people living in Armenia want to be engaged in education in later life period and what are their educational needs. Therefore, I would like to discuss with you questions related to your aging, skills you would like to obtain, activities you would like to be engaged in. Your answers and opinions may help us develop and implement educational programs in Armenia for adult people to improve their life. For making the discussion more effective I would suggest not to interrupt people who are expressing their thoughts during the discussion and talk one at a time.

Questionnaire for interviews/focus group discussions

The experience of aging

1. How do you feel about getting older?

1.1. What is different in your life now compared to couple of years ago?

1.1.1. What changes are you experiencing in terms of health, independency, and psychological wellbeing? Probe: Could you please provide examples?

2. How would you describe the ideal way of life for you as you get older? Could you, please say a bit more about your preference?

Probes: For example, would you prefer to dedicate your life to your family, help your children with household duties, take care of your grandchildren, or you would like to

lead a more private life, that is invest in your personal development, socializing with friends, travelling, visiting museums?

Life and interests in aging

3. Returning to the life you currently lead, could you, please, describe your daily routine?

3.1. What are the things you are responsible for during your daily routine? Could you, please, describe your typical day?

3.2. Could you please provide a couple of examples of activities you like doing the most? Probes: *(e.g., cooking, gardening, listening to music, shopping, TV watching, visiting museum, cinema, traveling, meeting friends, taking care of children/grandchildren).*

3.3. How often are you meeting with your friends?

3.3.1. Would you like to meet them more frequently? If so, why?

3.3.2. Where do you usually meet them? Please explain, which place you prefer most and why?

3.3.3. What does “friend” mean in old age? What are their contributions to your life during ageing?

3.3.4. Would you prefer to have more friends? Please explain why?

4. Nowadays many people talk about active aging. What are your views on active aging? What does it mean to you?

4.1 How successful are you in terms of “active aging”? Please bring an example and explain.

4.2. If you are not successful in “active ageing”, could you, please explain what are your main barriers/obstacles? What would you need to overcome those obstacles and be more “active”?

- 4.3 What are the changes you have made recently in your life in terms of “active ageing”? What are the changes you plan to make? Could you, please, elaborate a bit about these changes?
5. Would you like to attend some centre if it is available in Armenia to spend your day-time among your peers in cultural, educational, social environment? Could you please justify your opinion, why yes or not?
- 5.1. How would you like to spend your time in this center, what would you like to do here? Probes: (*what would you like to do there? E.g., taking some classes: dancing, cooking, chess, language, or something else, or just socializing with people*).
- 5.2. Would you consider doing some social volunteering activity and helping others? Probes: (*Which type of volunteering you would like to do? sewing clothes or preparing food for soldiers, orphans, planting flowers in public places/yards, painting park benches or community fences, prepare toys for children in hospitals, collect clothes for orphanages, and teach computer skills to other old people*)
- 5.3. How many of your friends do you think would like to attend this centre? Why in your opinion, people of old age might refuse to attend this centre? (*e.g., socio-economic status, family, culture, education, health status, awareness*).

Learning in aging

6. What do you think about learning as you get older? Would you like to be engaged in learning? If so, why?
7. What are the new skills you would like to obtain as you get older? Probes: (*e.g., cooking, dancing, singing, playing some musical instrument, learning a new language, investigating something new, learning how effectively use technologies, internet, social network*)
- 7.1 Could you, please, say why would you like to learn this skill? Is it something which you got interested in recently or is it a lifelong desire?
- 7.2 How and where you would like to obtain these skills? Probes: (*e.g., self-learning, attending some specialized centres for general population or for seniors, hiring private specialist*)

7.3. Would you like to be engaged in something complex, problematic, which requires putting efforts? Please bring an example to support your answer. What motivates you to stay engaged in complex activities?

8. What do you think are the major obstacles/barriers for learning in later life?

8.1 What solutions do you see to these obstacles?

9. *Summative question:* Is there anything else you would like to say about your (learning) needs in older age? (any last comments or suggestions)?

Thank you, for your time and willingness to participate in our study. Your thoughts and opinions will be put together with what is said by other participants and summarized in the research report. If you would like me to, I would be happy to share a summary of the main findings of this research with you once we have the results of this project.

Appendix 4: Interview Guide for Focus Group Discussion designed for people aged 60 and above (Armenian version)

ID _____

Ամսաթիվ _____

Տեղ _____

Ժամանակացույց _____

Հարցազրուցավար _____

Ներածություն

Ինչպես արդեն նշվեց իրազեկ համաձայնության ձևում, այս հետազոտությունը նպատակադրված է պարզել արդյոք 60 և ավելի տարիքային խմբի ներկայացուցիչները Հայաստանում ունեն կրթական կարիքներ և եթե այո, ապա որոնք են այդ կարիքները: Ուստի, ես կցանկանայի քննարկել Ձեր հետ հարցեր, որոնք կվերաբերվեն ծերացման գործընթացին, հմտություններին, որոնք Դուք կցանկանայիք ձեռք բերել, ինչպես նաև գործունեությանը, որում Դուք կցանկանանայիք ընդգրկված լինել: Որպեսզի մեր քննարկումը լինի էլ ավելի արդյունավետ, պետք է թույլ տալ բոլոր մասնակիցների արտահայտել իրենց կարծիքները առանց ընդհատելու նրանց:

Հարցաշար հարցազրույցի / ֆոկուս քննարկման համար

Ծերացման փորձառություններ

1. Ինչպես եք վերաբերվում ծերացման գործընթացին: Ինչպիսի զգացողություններ են Ձեզ ուղղեկցում:

1.1 Ի՞նչ փոփոխություններ են տեղի ունեցել ձեր կյանքում վերջին մի քանի տարվա ընթացքում:

1.1.1. Ի՞նչ փոփոխություններ եք կրել առողջության, ինքնուրույնության և հոգեբանական կարգավիճակի առումով: Կարող ե՞ք մի քանի օրինակ բերել:

2. Ինչպիսի՞ն է Ձեր պատկերացմամբ իդեալական ծերացումը: Կարող ե՞ք փոքր-ինչ խոսել Ձեր նախասիրությունների մասին:

Տարբերակներ՝ արդյո՞ք դուք կնախընտրեիք ավելի շատ ընդգրկված լինել ընտանեկան հոգսերի և խնդիրների մեջ՝ օգնել երեխաներին կենցաղում, թոռնիկներին խնամել, թե կցանկանայիք Ձեր անձնական կյանքը վարել, այն է *ներդրում կատարել Ձեր անձնական զարգացման վրա, ընկերների հետ շփվել, ճանապարհորդել, այցելել թանգարաններ:*

Կյանքը և հետաքրքրությունները ծերացման ընթացքում

3. Այժմ վերադառնալով Ձեր ներկա կյանքին, կարող ե՞ք նկարագրել Ձեր առօրյան:

3.1 Ինչ պարտականություններ ե՞ք կրում Ձեր առօրյա կյանքում:

3.2 Կարո՞ղ եք մի քանի օրինակով ներկայացնել այն գործերն ու զբաղմունքները, որոնք Դուք ամենից շատ եք նախընտրում կատարել:

Տարբերակներ՝ *խոհարարություն, այգեգործություն, առևտուր, երաժշտության ունկնդրում, հեռուստացույց դիտում, այցելություն թանգարաններ, ճանապարհորդություն, շփում ընկերների հետ, թոռնիկների խնամք:*

3.3 Ինչքա՞ն հաճախ եք հանդիպում Ձեր ընկերներին:

3.3.1 Կցանկանայի՞ք էլ ավելի հաճախ տեսնել նրանց:

3.3.2 Որտե՞ղ եք սովորաբար հանդիպում Ձեր ընկերներին: Խնդրում եմ ներկայացրեք թե ո՞րն է ամենահարմարետ հանդիպման վայրը:

3.3.3 Ի՞նչ է ենթադրում ընկերությունը Ձեր տարիքում: Ո՞րն է ըստ ձեզ ընկերության դերը ծերացման ընթացքում:

3.3.4 Կցանկանայի՞ք արդյոք ավելի շատ ընկերներ ունենալ: Մեկնաբանե՞ք խնդրեմ Ձեր պատասխանը:

4. Մեր օրերին շատ մարդիկ են օգտագործում «ակտիվ ծերացում» հասկացությունը: Ո՞րն է Ձեր վերաբերմունքը «ակտիվ ծերացմանը»: Ի՞նչ է նշանակում դա Ձեր համար:

4.1 Ինչքանո՞վ եք Ձեր ծերացումը «ակտիվ» համարում: Խնդրում եմ մեկնաբանեք:

4.2 Եթե Ձեր կարծիքով Ձեր ծերացումը «ակտիվ» չէ, խնդրում եմ նշեք հնարավոր խոչընդոտները: Որո՞նք են այն միջոցները, որ կօգնեն Ձեզ հաղթահարել այդ խոչընդոտները:

4.3 Ինչ փոփոխություններ եք արել վերջերս Ձեր կյանքում «ակտիվ» ծերացմանն ընդառաջ: Ի՞նչ փոփոխություններ եք պատրաստվում անել: Կարող եք, խնդրեմ, փոքր-ինչ պարզաբանել այդ փոփոխությունները:

5. Կցանկանայի՞ք հաճախել տարեցների կենտրոն Հայաստանում, եթե այդպիսին լինեք, Ձեր ժամանակն անցկացնելու Ձեր հասակակիցների հետ մշակութային, կրթական, սոցիալական միջավայրում: Խնդրում եմ մեկնաբանեք Ձեր պատասխանը՝ ինչու այդ կամ ոչ:

5.1 Ինչպե՞ս կցանկանայիք անցկացնել Ձեր ժամանակն այս կենտրոնում, ինչո՞վ կնախընտրեիք զբաղվել:

5.2 Կցանկանայի՞ք արդյոք կամավորական աշխատանքների մասնակցել, ուրիշներին օգնել:

Տարբերակներ՝ շորեր կարել, սնունդ պատրաստել զինվորների և որբ երեխաների համար, բույսեր տնկել, ցանկապատեր ներկել հասարակական վայրերում, խաղալիքներ պատրաստել հիվանդ երեխաների համար, հագուստ հավաքել և որբանոցներ ուղարկել, ուսուցանել Ձեր սովորած հմտությունները մեկ այլ տարեցի

5.3 Արդյո՞ք Ձեր ընկերներից շատերը կցանկանային հաճախել այս կենտրոնը: Ձեր կարծիքով, ինչը կարող է պատճառ լինել, որ մարդիկ խուսափեն հաճախել այս կենտրոն (*սոցիալ-տնտեսական կարգավիճակը, ընտանիքը, մշակույթը, կրթությունը, առողջությունը, իրազեկվածությունը*)

Կրթություն և ծերացում

6. Ինչպե՞ս եք վերաբերվում կրթությանը ծերանալուն ընթացքում: Կցանկանայի՞ք ընդգրկված լինել որևցե ուսումնական գործընթացում: Եթե այո, ապա ինչու՞ :

7. Որո՞նք են այն հմտությունները, որ կցանկանայիք ձեռք բերել:

Տարբերակներ՝ խոհարարություն, պար, երգ, որևիցե երաժշտական գործիք նվագել, նոր լեզվի իմացություն, նոր հետազոտություն, նոր տեխնոլոգիաների կիրառում, սոցիալական ցանցերի շահագործում

7.1 Ի՞նչ նպատակով կուզենայիք ձեռք բերել այդ հմտությունները: Արդյո՞ք դա նոր հետաքրքրություն է, թե շարունակական նպատակ:

7.2 Ինչպե՞ս և որտեղ կնախընտրեիք ձեռք բերել այս հմտությունները (*ինքնուսուցում, հատուկ մասնագիտացված կենտրոնների հաճախում՝ ընդհանուր կամ տարեցների համար նախատեսված, անձնական մասնագետի վարձում*)

7.3 Կցանկանայի՞ք բարդ գործերով զբաղվել, որոնք ջանքեր են պահանջում: Խնդրում եմ օրինակ բերեք: Ինչը՞ կարող է Ձեզ շահագրգռել բարդ գործ կատարել:

8. Ի՞նչ եք կարծում որոնք են ամենամեծ խոչընդոտները մեծ տարիքում կրթվելուն: Ինչպե՞ս կառաջարկեք հաղթահարել այդ խնդիրները:

9. Ամփոփիչ հարց. արդյո՞ք կցանկանայիք ինչ-որ բան ավելացնել մեծահասակների կրթական կարիքների մասին (Ձեր վերջին առաջարկը/մեկնաբանությունը)

Շնորհակալություն Ձեր տրամադրած ժամանակի և հետազոտությանը մասնակցելու համար: Ձեր կարծիքները և մտքերը կամփոփվեն այլ մասնակիցների պատասխանների հետ միասին հետազոտության վերջնական զեկույցում: Եթե Դուք կամենաք, ես ուրախ կլինեմ Ձեր հետ կիսելու այս հետազոտության արդյունքները:

Appendix 5: Demographic Form

ID _____

1	Where do you live?	1. Yerevan 2. Other
2	What was the year you were born?	
3	Indicate the highest level of education that you have completed:	1. School (less than 10 years) 2. School (10 years) 3. Professional technical education (10-13 years) 4. Institute/University 5. Postgraduate
4	Are you employed?	1. Yes 2. No
5	In average, how much money does your family spend monthly?	1. Less than 50,000 AMD 2. From 51,000 to 100,000 AMD 3. From 101,000 to 200,000 AMD 4. From 201,000 to 300,000 AMD 5. Above 301,000 AMD 88. Don't know/refusal

Thank you, for your time and willingness to participate in our study. Your thoughts and opinions will be put together with what is said by other participants and summarized in the research report. If you would like me to, I would be happy to share a summary of the main findings of this research with you once we have the results of this project.

Appendix 6: Consent form (English version)

Oral Consent Form American University of Armenia

Institutional Review Board #1

Hello. My name is Kristine and currently I am a second-year student of the Master of Public Health program at the American University of Armenia. Within the scope of my Master's Thesis Project, we are conducting a research to investigate the educational needs among population in Yerevan aged 60 and above. You are invited to participate in this study since you are living in Yerevan and your age is above 60. I would like to ask you to participate in this study to share your opinion and attitude on this topic. Your participation in this study is completely voluntary. There is no penalty if you refuse to participate. Your participation will involve an interview/ a focus group discussion with the duration of 30-60 minutes. During the interview/focus group discussion I will ask questions regarding your daily routine and activities. You can leave the interview/focus group discussion whenever you consider it necessary. Your participation in the study poses no risk for you. The information received from you is very important for the study. There is no direct benefit from the participation; however, your participation will contribute to better understanding of old age peoples' educational needs, and in future, to design appropriate programs to address those needs. In order not to miss any important information provided by you I would like to record this interview/ focus group discussion. However, you should be informed that it is your right to request turning off the recorder at any time during the interview/discussion. In order to keep your confidentiality, all identifiable data will be destroyed upon the completion of the data collection. Your recorded data will be deleted upon the completion of data analyses. The information provided by you is fully confidential and will be used only for the purposes of this study. Your name, contact information and other identifiable information will not appear on the final report.

If you have any questions regarding this study you can contact the Principal Investigator, Mrs. Kristine Akopyan via email (akopyank@aua.am). If you feel you have not been treated fairly during this study or think you have been hurt by joining the study, you should contact Dr. Varduhi Hayrumyan, the Human Subject Protection Administrator of the American University of Armenia (060) 61 25 61.

Do you agree to participate? Thank you.

Appendix 7: Consent form (Armenian version)

Իրազեկ համաձայնության ձև

Հայաստանի ամերիկյան համալսարան

Գիտահետազոտական էթիկայի թիվ 1 հանձնաժողով

Բարև Ձեզ, իմ անունը Քրիստինե է և ես սովորում եմ Հայաստանի Ամերիկյան Համալսարանի Թրփանճեան Հանրային առողջապահության մագիստրոսական ծրագրի ավարտական կուրսում: Մագիստրոսական թեզի շրջանակներում, իրականացնում եմ հետազոտություն, որի նպատակն է ուսումնասիրել Երևանում բնակվող 60 և ավելի տարիքային խմբի ներկայացուցիչների կրթական կարիքները: Դուք հրավիրված եք մասնակցելու այս հետազոտությանը հաշվի առնելով այն փաստը, որ դուք ապրում եք Երևանում և Ձեր տարիքը 60 և ավելին է: Ես ուզում եմ խնդրել ձեզ մասնակցել այս հետազոտությանը և կիսել ձեր կարծիքն ու վերաբերմունքը այս թեմայի վերաբերյալ: Ձեր մասնակցությունն այս հետազոտությանն ամբողջությամբ կամավոր է: Ձեզ ոչինչ չի սպառնում, եթե Դուք հրաժարվեք մասնակցել: Ձեր մասնակցությունը սահմանափակվում է այս անհատական հարցազրույցով/ ֆոկուս խմբակային քննարկումով, որը կտևի 30-60 րոպե: Հարցազրույցի ընթացքում հարցեր կլինեն Ձեր առօրյա կյանքի և զբաղմունքների մասին: Դուք կարող եք հրաժարվել պատասխանել ցանկացած հարցի կամ ցանկացած պահի ընդհատել հարցազրույցը: Ձեր մասնակցությունը այս հետազոտությանը չի ունենա որևէ բացասական հետևանք: Ձեր կողմից տրամադրված ինֆորմացիան անչափ կարևոր է մեր հետազոտության համար: Հետազոտությունում Ձեր մասնակցությունը չի նախատեսում որևէ անմիջական օգուտ, սակայն, Ձեր անկեղծ պատասխանները չափազանց կարևոր են, քանի որ կօգնեն ավելի խորն ուսումնասիրել ծերերի կրթական կարիքները և ապագայում հնարավորություն կընձեռնեն ստեղծել համապատասխան ծրագրեր բավարարելու այդ կարիքները: Ձեր

համաձայնությամբ ես կձայնագրեմ մեր հարցազրույցը, որպեսզի ոչ մի կարևոր ինֆորմացիա բաց չթողնեմ: Սակայն, տեղեկացնում եմ Ձեզ, որ Ձեր իրավունքն է պահանջել անջատել ձայնագրիչը հետազոտության ընթացքում ցանկացած պահի: Ձեր անձի գաղտնիության պահպանման նկատառումներով ցանկացած ինֆորմացիա, որ կարող է նպաստել Ձեր անձի բացահայտմանը կոչնչացվի տվյալների հավաքագրումից հետո: Ձեր հարցազրույցի ձայնագրությունը կոչնչացվի տվյալների վերլուծությունից անմիջապես հետո: Ինֆորմացիան, որ դուք կտրամադրեք ամբողջովին գաղտնի է և կօգտագործվի միայն հետազոտական նպատակներով: Ձեր անունը, կոնտակտային տվյալները և ձեր անձը բացահայտող որևէ ինֆորմացիա չի ընդգրկվելու վերջնական զեկույցում:

Այս հետազոտության վերաբերյալ հարցեր ունենալու դեպքում կարող եք կապվել հետազոտության համակարգողի՝ Քրիստինե Հակոբյանի հետ էլ.փոստի միջոցով (akopyank@aua.am): Եթե Դուք կարծում եք, որ Ձեզ լավ չեն վերաբերվել կամ այս հետազոտությանը մասնակցելու դեպքում Ձեզ վնաս է հասցվել, կարող եք զանգահարել Հայաստանի ամերիկյան համալսարանի գիտահետազոտական էթիկայի հարցերով համակարգող՝ Վարդուհի Հայրումյանին (060) 61 25 61 հեռախոսահամարով:

Համաձայն եք մասնակցել (այո կամ ոչ):

Շնորհակալություն:

Կարո՞ղ եմք շարունակել

Appendix 8: Screening checklist (English version)

ID _____

Hello! My name is Kristine. I am a graduate student at the American University of Armenia, School of Public Health. I am conducting a study to understand what are the educational needs of population aged 60 and above in Yerevan. Thank you for your interest to participate in our study through sharing your ideas during an interview. Before inviting you to the interview I would like to ask you a couple of questions.

1) Are you living in Yerevan?

1. Yes

2. No

1) What is your educational level?

1. School (less than 10 years)

2. School (10 years)

3. Professional technical education (10-13 years)

4. Institute/University

5. Postgraduate

2) Would you like to participate in individual interview or in focus group discussion together with a group of your peers?

1) IDI _____

2) FGD _____

3) What is your preferred date for interview?

DD/MM/YY _____

Thank you for your time, I will make a reminder call a day prior to interview.

Appendix 9: Screening checklist (Armenian version)

Մասնակցի հետ կոնտակտի և ընտրման ձև

ID _____

Բարև Ձեզ: Իմ անունը Քրիստինե է: Ես սովորում եմ Հայաստանի Ամերիկյան Համալսարանի Հանրային Առողջապահության ֆակուլտետի ավարտական կուրսում: Իրականացնում եմ հետազոտություն, որի նպատակն է պարզել Հայաստանի 60 և ավելի տարիքային խմբի հասարակության կրթական կարիքները: Շնորհակալ եմ Ձեր պատրաստակամության համար մասնակցելու մեր հետազոտությանը և կիսելու Ձեր կարծիքները տվյալ թեմայի շրջանակներում: Մինչ հարցազրույցին մասնակցելը ես կցանկանայի պարզաբանել մի քանի հարց՝

1) Արդյոք Դուք բնակվում եք Երևանում

1. Այո

2. Ոչ

2) Ի՞նչ կրթություն ունեք:

1. Դպրոց (10 տարուց քիչ)

2. Դպրոց (10 տարի)

3. Մասնագիտական տեխնիկական կրթություն (10-13 տարի)

4. Ինստիտուտ/ համալսարան

5. Հետդիպլոմային կրթություն

3) Կցանկանայի՞ք մասնակցել արդյոք անհատական հարցազրույցի թե ֆոկուս խմբային քննարկման (ՖԽՔ)

1) Անհատական _____

2) ՖԽՔ _____

4) Ո՞րն է հարցազրույցի Ձեր նախընտրած օրը

Օր/Ամիս/Տարի _____

Շնորհակալ եմ Ձեր տրամադրած ժամանակի համար, հարցազրույցից մեկ օր առաջ հիշեցման նպատակով դարձյալ կզանգահարեմ Ձեզ: