Self-Dependency Amelioration and Dignity Revival for South-East Asian Older Adults: Using Technology as a Means and Method

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Abstract: Self-Dependency in Older Adults is broadly a measure of their morale and self-worth. The purpose of this research is to understand how far the engagement and interaction between elderly and the younger members of their family affects their lifestyle and self-esteem and how technology can help revive the dignity of the elderly by helping them cope with the changes in their life and the fast-pacing world. Positive and Negative Engagement criteria from previous research has been employed to develop codes based on which questions have been designed. The lifestyle choices and past behaviour that the elderly and their younger family members hold is collected and quantified through two separate parallelly and strategically designed surveys which both factions have answered. It was observed that gender plays a role in the priorities of South-East Asian Older Adults, and they do not have any major discrepancies between the thinking of the elderly and their family member. Analysis of such insights helped generate themes which inform the model for technological intervention which can help revitalize the self-confidence of the elderly.

1 INTRODUCTION

There are several aspects in gerontology that contribute to the concept of 'Ageing Well'. Ranging from globalized general issues such as human rights, ethics (Pirzada et al., 2022), social security, and economic impacts of an ageing population to personalized concerns such as physical activities, mental disabilities, perceived isolation, and the impact of smaller social networks (Banerjee et al., 2021) on the psyche of the elderly, there is a lot of scope for technological intervention, which this research aims to assess. The central key to be able to understand the requirement of the interference, or the lack thereof, is to collect and assess the sensitivity and discernments of the elderly regarding their social environment, which is the objective of this paper.

One can only imagine the importance of the support received from healthcare professionals, caretakers, and family in the psychosocial abilities of the elderly. The aforementioned factions are elements that help the elderly cope up with prejudice, bias, vulnerabilities, and helplessness associated with ageing. The aim of this paper is to extend themes previously researched by the authors (Kamath and Rahaman, 2022) on the engagement of senior citizens in a family setting by understanding the perceptions of the elderly on those needs to quantify their preferences and requirements, done through gathering responses from a curated survey based on the codes derived from previous research.

2 LITERATURE REVIEW

The preservation of the dignity of the elderly has been fundamentalized to initiate through making the needs of the elderly and work towards a balance between providing them a safe environment to voice opinions and a 'cloak of invisibility' to shield their dignity, especially in healthcare settings (Clancy et al., 2021). This brings forward an opportunity for technology to play the role of a mediator and connector; to be able to support and protect the needs of the elderly.

Further, the perceptions of dignity are individualized among the elderly. Research conducted (Váverková et al., 2022) has shown that a differential exists for the same based on gender – men

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have a more negative outlook to ageing and a feeling of helplessness in their life. Hopelessness in Older Adults has been measured through the Social Hopelessness Questionnaire (Flett et al., 1993) which measured subjective well-being of the participants through positive and negative psychological factors (Heisel and Flett, 2022). Robot Companions specially catering to the needs of the elderly by paying special attention to their preferences (Coghlan et al., 2021) is one of many steps taken towards using technology to be able to help the elderly through Human-Robot Interaction Studies (Søraa et al., 2022). Research is being conducting to measure the quality of life (Kisvetrová et al., 2019) and its impact on mental deterioration of the elderly and how it can be handled (Banerjee et al., 2021) (Holthe et al., 2022) (Strnadová, 2018). Older Adults dynamically evaluate their care (Kabadayi et al., 2020); their experience provides context to research in "Ageing Well" and the use of technology to help practitioners and family provide customized care.

Social Contexts and Assumptions also affect the view that elderly have towards themselves – thinking their lives are 'less worth' since they have aged, which is a major obstacle that must be overcome on the path to reviving self-worth. Research (Couto and Rothermund, 2022) has developed four 'prescriptive views' of Ageing which has inspired this research and is aligned to Positive and Negative Engagement from previous work. Social support is crucial for the Attributed Dignity of the elderly (LeBlanc and Jacelon, 2022) (Akhter-Khan et al., 2022) which is the focus of this paper – the external locus of their self-esteem. Majority of research conducted focusses on psychometry with respect to the elderly (Han et al., 2022) (Van Bijsterveld et al., 2022) and their requirements in a healthcare setting, albeit extremely varied (Johnson et al., 2022) (Scolaro and Formosa, 2022) (Bluck et al., 2022). This paper aims to extend current research and insights in psychology and technology specialized for encouraging self-reliance in the elderly. The three tenets of the Self-Determination Theory (Deci and Ryan, 2000) have been looked at through the model – focus is shed on autonomy motivated by (Mikus et al., 2022). By including the social vicinity of Older Adults through the attempt of using technology as a tool to help fulfil their social needs, self-independence is revived.

3 METHODOLOGY

To understand the concept of Ageing Well, it is paramount to understand the expectations of the elderly, and their relationship with their family (especially younger members and children), as aforementioned, being a huge part of their life becomes a fundamental aspect that needs to be investigated.

3.1 Research Questions

The research questions that were postulated are:
- Does gender have a significant role in the outlook development of the elderly?
- What can be understood as Positive and Negative Engagement for the elderly?
- Is there discrepancy between the responses of the elderly and the younger members in their family, indicative of a lack of communication and understanding?
- Do Older Adults want to learn technology from their younger family members?

Hence based on previous theorization and research conducted (Kamath and Rahaman, 2022), codes were generated to help answer the research questions and develop themes for possible technological intervention and the lack thereof.
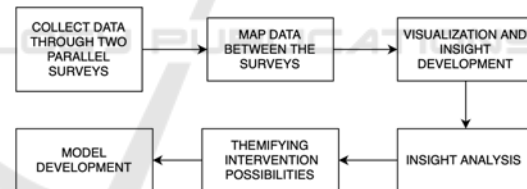

Figure 1: Methodology of the research conducted.

Based on the codes, questions were developed to further understand user views. There were two parallel questionnaires created, that allowed the input of dual data for the similar question, one from the older adults themselves (age threshold was set to 65 years and above), and other from the family of the elderly. Users were asked to rate their inclination of the conducting a particular process or action for their family which help quantize expectations of the elderly. This data collection methodology is akin to (Carvajal et al., 2021).

These questions were roped into a survey, and the response was to be a number on the scale of one to five for every question. The user could rate the possibility of them having conducted a particular action or behaviour in the past or the likelihood of

them performing the said action in the future which helped understand their stance. These questions majorly focussed on the engagement of Senior Citizens with the younger members of their family.

3.2 Survey Development

The survey developed consisted of eleven questions that were developed based on the codes and other questions asking for the certain non-intrusive personal details such as name and age (the questionnaire for the Younger Family Members (YFM) asked for their relation to the elderly).

Table 1: Codes and Corresponding Questions.

ID	Code	Engagement	Q No.
C1	Guidance	Positive	1, 3
C2	Support	Positive	2
C3	Independence	Negative	4
C4	Clash of Opinions	Negative	5
C5	Priorities	Negative	6, 7
C6	Attitude	Negative	8
C7	Lifestyle Choices	-	9, 10
C8	Tech Acceptance	-	11

This is an overview of the codes chosen based on Positive and Negative Engagement, specifically tailored for Older Adults. The questionnaire was designed in such a way that the questions were semantically simple to understand, short, and the required no more than two minutes to complete.

3.3 Participant Information

The purpose of conducting this survey was to understand how far younger members of the family are willing to help their elderly or wish to rely on them and to what extent Older Adults appreciate the same and wish to be a part of their family's life and derive self-gratification from it. Following is the summarization of data of the 41 Older Adults who took the survey. The gender ratio of the data pool is close to 1:1, with 20 Females and 21 Males.

Table 2: Older Adult Participants' Data Overview.

Age	No. of Older Adults	Gender
60-65	7	4 Female, 3 Male
66-70	16	7 Female, 9 Male
71-75	8	3 Female, 5 Male
75 +	10	6 Female, 4 Male

Pairs of elderly and family members who have answered the questionnaire, are lesser than the total number of Older Adults who did.

Table 3: Young Family Participants' Data Overview.

Age	No. of Older Adults	Gender
20-40	10	1 Female, 9 Male
41-50	11	5 Female, 6 Male
51-60	3	2 Female, 1 Male
60-65	1	1 Male

Thus, while the analysis of all Older Adult responses contributes towards better understanding of the concept of "Ageing Well", the pair data is specifically informing the aspect and importance of the engagement of Senior Citizens with younger members of their family. Mapping of the family member and Older Adult is done below.

Table 4: Pair Participants' Data Overview.

ID	Older Adult	Elder's Gender	YFM's Gender	Elder's Age	YFM's Age
F01	O01	Female	Female	77	53
F02	O02	Male	Male	68	42
F03	O05	Female	Female	73	46
F04	O03, O04	Female, Male	Male	68, 76	39
F05	O07	Female	Female	84	55
F06	O13	Female	Male	70	21
F07	O23	Male	Male	69	45
F08	O22	Female	Male	63	40
F09	O21	Male	Male	68	25
F10	O20	Male	Male	65	30
F11	O12	Male	Male	75	42
F12	O28	Female	Female	72	49
F13	O27	Female	Male	64	38
F14	O26	Female	Female	68	48
F15	O25	Male	Female	74	45
F16	O24	Male	Male	69	43
F17	O35	Male	Female	72	42
F18	O36	Male	Male	62	32
F19	O33	Male	Male	63	23
F20	O32	Female	Male	65	45
F21	O18	Male	Male	80	52
F22	O39	Female	Male	68	33
F23	O37	Female	Female	77	51
F24	O38	Male	Male	75	48
F25	O40	Female	Female	67	37
F26	O41	Male	Male	84	62

4 DATA ANALYSIS

To visualize the data collected, the metrics of gender was taken as the qualitative factor for Data Categorization, mapping it to the age of elderly as below. This helped understand that the pool was majorly homogenous; conclusion derived from the age visualization and the similarity of the responses.
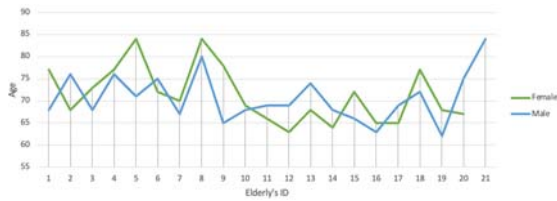
Figure 2: Visualization of the Data Pool.

The Aged Population was asked to self-report on questions such as "I feel purposeful when my family asks me for advice" (Q1), "I will support the younger members of my family financially if they need it" (Q2), "I will not tell my family about my opinions, because they will not agree with me or disrespect my opinion" (Q5), "I lash out at my family when they try to help me with chores" (Q8) and "I want to learn how to use new gadgets from my family" (Q11) through a scale of 1-5. Corresponding questions for the YFM were "I look to the elderly in my family for any advice I need" (Q1), "I don't mind asking my elderly to help me financially" (Q2), "I will not tell my elderly family members about my opinions, because they will not agree with me or disregard my opinion" (Q5), "I would keep helping my elderly family members, despite being shouted at" (Q8) and "I feel overjoyed when my parents attempt to learn new age technology from me" (Q11) which is how results were derived, by comparing the degree of miscommunication. Each of these questions, are coded to Positive and Negative Engagement, based on previous research (Kamath and Rahaman, 2022). The visualization of the self-report scores for each question (with corresponding code) are done below.

4.1 Visualizations

Figure 3: Mapping the Responses with Codes.

It was observed that while there was a majority agreement to Positive Engagement with Family, there was more of a neutral stance to most questions on Negative Engagement. Most participating Older Adults wished to learn operating technology from

their family member. The theory of the elderly having a strong external locus of esteem is not adequately supported by Question with Code Lifestyle and Independence, since responses were neutral.
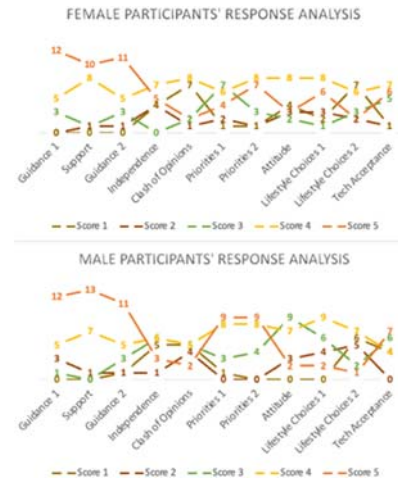

Figure 4: Determining Discrepancies in outlook based on Gender (Ratio being 1:1) for Older Adults.
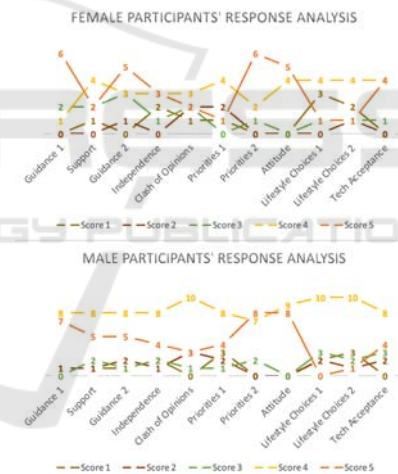

Figure 5: Determining Discrepancies in outlook based on Gender for Younger Family Members.

Comparing the gender wise response of Older Adults for every question, one can see that there is a significant change in question coded Priorities 1 and Lifestyle Choices 1. This can be attributed to the specific South-East Asian upbringing, which has long supported patriarchy and expects men and women to prioritize different tasks in life and expects them to live their lives differently. Yet, as times are changing this gap may be filled, as seen in Figure 5 (though, the pool of data for the YFM has more males than females – 17 men and 9 women, construing the visualization). Although, one can observe that while data is majorly

congruous between gender responses of the elderly and YFM, YFM male participants are more likely to give a radical response of 4 for most questions, which was not seen with the Older Adults.

5 RESULTS

In the pair data, no significant discrepancies were found between the perceptions of the elderly and the younger family member when answering any question, which shows that within the pool of data that was collected, the understanding shared was strong. In a culturally and socially diverse group, the same might not be observed. Hence, one may conclude that while for the South-East Asian culture RQ3 is a no, the same might not be true for other cultures. There is no significant observable difference between the outlook of male and female participants in the study as seen below. This shows that gender might not be a significant determining factor for the technological intervention answering RQ1. Positive Engagement had a higher variance between favourable and non-favourable responses as compared to Negative Engagement. This indicates that while most Older Adults agree to what actions they purport towards their family, they do not agree to the reactions they would give under certain difficult circumstances, giving an answer to RQ2.
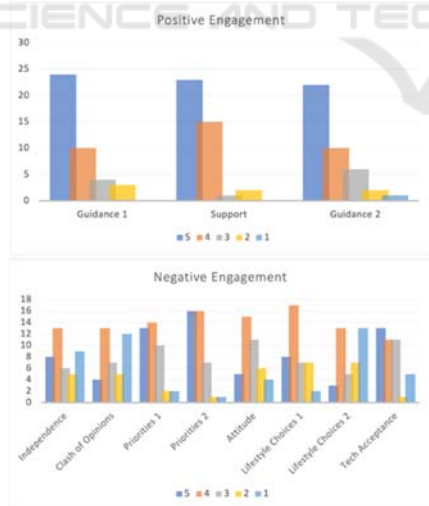

Figure 6: Visualization for Engagement Categories.

Yet, analysis of gender as a primary factor for categorization as seen in Figure 4, one can observe that males are more likely to want co-habitation than females who tend to prioritize the needs of their family more than their own. This seeds from a

patriarchal society rampant in South-East Asia and a consequent generational upbringing difference as aforementioned. RQ4 is answered through the survey, wherein Older Adults do want to learn technology from their Younger Family Members and the YFM also wish to engage and teach the former.
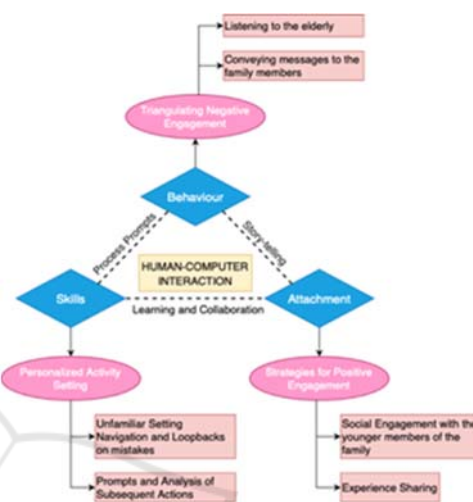
5.1 Themes Generated

Figure 7: Themes for Technological Intervention.

The themes generated are based on the Self-Determination Theory and cover the three major tenets – Autonomy (Behaviour), Competence (Skills), and Relatedness (Attachment).
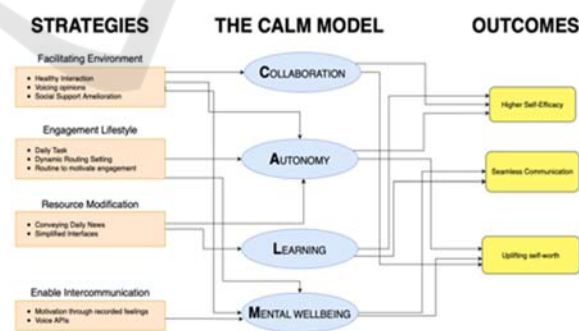
5.2 Technological Intervention Model

Figure 8: Technological Intervention Model – CALM.

Strategies developed in the model include Facilitating the Environment (Involving healthy interaction between machine and the elderly and the elderly and their family members, Giving the elderly a platform to voice their opinions, and Social Support provided through interaction with elderly of similar age groups), Engagement Lifestyle (providing the elderly

with a daily list of tasks to complete, setting a dynamic routine for them based on changing needs and a daily time to interact with friends and family), Resource Modification (changing the means to convey information to the elderly making it easier for comprehension and interaction through interface modification and content modulation) and Enabling Intercommunication (allowing the elderly to speak with the system and then interact back with them through a Voice API to enable a feeling of companionship). These Strategies Fuel the CALM model as seen in Figure 7 and results in Revival of the Dignity of the elderly.

The technological intervention model, relays the above defined themes to systemize interfaces and create software that cater to the needs of the elderly, promoting Positive Engagement and reducing Negative Interactions by creating a clear communication channel. Further for privacy:

- There should be a threshold to the information that is being collected from the Senior Citizens.
- Any information that is being relayed must go through a channel that is authorized.
- The model developed for Behavioural Analysis must keep in mind the past experiences of the elderly, producing Context-informed and Trauma-Informed tasks.

6 DISCUSSION

In this research, technology refers to interfaces and devices that being generally used currently. This is the technology that is readily available in the market, and cater to a broad range of users, not just the Older Adults. Hence, this study has been conducted to understand the role of this technology and how it must be modified to suit the Older Adults better, and more importantly, the role of intergenerational conversation in training Older Adults and acclimatizing them to technology and a subsequent boost in their morale and dignity.

When the survey was circulated, the users were informed to answer the questions based on their understanding. The final question, which asked the users whether they wanted to learn/teach technology, they understood that being common devices they use daily to complete their tasks such as mobile phones for calling (specifically smart phones which Older Adults found complicated in general) and other screens (like tablets, laptops) which they use occasionally. This is similar to the idea the researchers had while conceiving the survey.

Users were selected based on their age. The Older Adults would have to be 65 and older, and their children (caregivers and other family members such as nieces and nephews have not been included in the study) were taken to form a pair. Then the data from this pair was matched to see if their attitude and responses towards corresponding questions was same.

While this research is set without assumptions, it does apply only quantified data. In-person qualitative interviews could not be conducted which would have given a deeper in-depth understanding into the lives of the elderly and their expectations from their life and their reliance on themselves and their family. Quantitative Data usage along with Surveys as a method of Data Collection was chosen not only to broaden the pool of people who are involved, but also to check if the elderly were willing to use technology to answer the survey. Further, their behavioural tendencies were self-measured which reduces bias. Yet, it is understandable that the usage of qualitative data is essential to Computer Supported Cooperative work (CSCW) and has been flagged as the future scope of this research. Furthermore, the number of responses that could be collected isn't majorly extensive, and analysis could be made further accurate with a larger response pool. There is no significant research done on which of the codes/aspects is most important, and the number of questions if more for a particular code, are not due to the rank of the importance of the code, but because there were multiple aspects within the code which could be covered and quantized through the survey. Primary research in integrating technology with Ageing includes five "domains of well-being" – Health, Safety, Activities of Daily Living, Social and Financial (Lorenzen-Huber et al., 2011), which inspired the themes developed. The themes generated keep well-being at the centre of the intervention and privacy is a major aspect that must be balanced.

Ethnicity of the individuals was not taken as a measure or altering factor because the survey conducted on a homogenous sample of older adults of differing ages. Due to cultural differences, there can be a marked change expected in the responses which is a theme further research shall explore. It is recognized that the responses received are not completely representative of every ethnicity within the country itself, and its role in familial bondage can be an interesting line of research. Further, the current model postulated doesn't keep in mind, the possible discrepancies that might arise due to miscommunication and possible handles for the same.

Describing the Technological Intervention Model:

- Facilitating Environment refers to having continuous interaction among the generations of family members, and healthy communication between family members wherein they are completely honest with each other about their thoughts and feelings with or through the encouragement of technology.
- Engagement Lifestyle majorly will deal with the daily tasks that a person is conducting which can be dynamically set and reset by the Older Adult which will help motivate them to complete their routine tasks which they might feel they cannot complete due to some psychological or physical disability or because they simply do not feel up to it.
- Resource Modification helps conveying daily information (news) for the Older Adults to keep on top of general world issues. These message conveying platforms can be Simplified Interfaces, Voice Interfaces, Augmented Reality and other emerging technologies or a combination of the aforementioned.
- Enabling Intercommunication helps users to stay motivated to share their feelings and express themselves through their medium of choice (conversation or writing) which technology (mobiles, laptops etc.) can certainly help with.
- The CALM Model involves Collaboration, Autonomy, Learning and Mental Wellbeing which inputs the strategies from the Model to generate outcomes such as Higher Self-Efficacy (making the Older Adults feel like they can accomplish anything they want to or set their mind to), Seamless Communication (which can help users communicate efficiently with the world, and their family members) and Uplifting self-worth to be able to 're-believe' in themselves and their abilities.

7 FUTURE RESEARCH

Ethnicity and culture of individuals plays a major role in the shaping up of human personality. Hence, future research would focus on this aspect. One needs to warrant if intergenerational interaction is welcome in all cultures and how integral it is to the maintaining the dignity in Older Adults. Further studies to understand which fields technology can be applied to help revive their dignity is a future scope of this study while focussing on the modalities being used.

8 CONCLUSIONS

The major metrics for Ageing well, in extension to previous research is the Quality of Life and Healthcare Policies that must be systemized. The model proposed keeps this in mind, and constraints to the same must be set based on policies that might have to be legalized for the betterment of the ageing population. The impact of generational difference should be mitigated as time progresses and the current youth ages, due to a more egalitarian society in the present. This paper has analysed data collected from a specific demographic and answered the research questions proposed specific to the demographic. To support the health and well-being of the elderly, such a behavioural technological model is a first step of many towards "Ageing Well". The authors hope to further this research by interface development and usability testing.

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REFERENCES

Akhter-Khan, S. C., Prina, M., Wong, G. H. Y., Mayston, R., & Li, L. (2022). Understanding and Addressing Older Adults' Loneliness: The Social Relationship Expectations Framework. *Perspectives on Psychological Science*, 10.1177/17456916221127218.

Banerjee, D., Rabheru, K., Ivbijaro, G., de Lima, C. A. (2021). Dignity of Older Persons With Mental Health Conditions: Why Should Clinicians Care?, *Frontiers in Psychiatry, vol. 12,* p. 774533.

Banerjee, D., Rabheru, K., de Lima, C. A., Ivbijaro, G. (2021). Role of Dignity in Mental Healthcare: Impact on Ageism and Human Rights of Older Persons. *The American Journal of Geriatric Psychiatry, vol. 29, no. 10*, p. 1000-1008. DOI: 10.1016/j.jagp.2021.05.011.

Bluck, S., Mroz, E. L., Wilkie, D. J., Emanuel, L., Handzo, G., Fitchett, G., Chochinov, H. M., Bylund, C. L. (2022). Quality of life for older cancer patients: Relation of psychospiritual distress to meaning-making during dignity therapy. *American Journal of Hospice and Palliative Medicine, vol. 39, no. 1*, p. 54-61. DOI: 10.1177/10499091211011712.

Carvajal, B. P., Molina-Martínez, M. Á., Fernández-Fernández, V., Paniagua-Granados, T., Lasa-Aristu, A., & Luque-Reca, O. (2022). Psychometric properties of the Cognitive Emotion Regulation Questionnaire

(CERQ) in Spanish older adults. *Aging & Mental Health*, vol. *26*, no. 2, p. 413-422. DOI: 10.1080/13607863.2020.1870207.

Clancy, A., Simonsen, N., Lind, J., Liveng, A., Johannessen A. (2021). The meaning of dignity for older adults: A meta-synthesis. *Nursing Ethics, vol 28, no. 6,* p. 878-894. DOI: 10.1177/0969733020928134.

Coghlan, S., Waycott, J., Lazar, A., Neves B. B. (2021). Dignity, Autonomy, and Style of Company: Dimensions Older Adults Consider for Robot Companions. In *Proceedings of the ACM on Human-Computer Interaction, vol 5, CSCW1, Article 104,* p. 1-25. DOI: 10.1145/3449178.

De Paula Couto, M. C., Rothermund, K. (2022). Prescriptive Views of Aging: Disengagement, Activation, Wisdom, and Dignity as Normative Expectations for Older People. *Subjective Views of Aging, International Perspectives on Aging, vol. 33*, p. 59-75. DOI: 10.1007/978-3-031-11073-3_4.

Deci, E. L., Ryan, R. M. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist, vol. 55, no. 1, p. 68-78.* DOI: 10.1037//0003-066X.55.1.68.

Flett, G. L., Hewitt, P. L., & Gayle, B. (1993). The Social Hopelessness Questionnaire: Development, validation, and association with measures of adjustment. In *101st annual conference of the American Psychological Association, Toronto, Canada.*

Han, S., Ji, M., Leng, M., Zhou, J., Wang., Z. (2022). Psychometric properties of self-reported measures of active ageing: a systematic review protocol using COSMIN methodology. BMJ Open, vol. 12, no. 3, DOI: 10.1136/bmjopen-2021-059360.

Heisel, M. J., & Flett, G. L. (2022). The Social Hopelessness Questionnaire (SHQ): Psychometric properties, distress, and suicide ideation in a heterogeneous sample of older adults. *Journal of affective disorders, vol. 299*, p. 475-482. DOI: 10.1016/j.jad.2021.11.021.

Holthe, T., Halvorsrud, L., Lund, A. (2022). Digital Assistive Technology to Support Everyday Living in Community-Dwelling Older Adults with Mild Cognitive Impairment and Dementia. *Clinical Interventions in Aging, vol. 17*, p. 519-544. DOI: 10.2147/CIA.S357860.

Johnson, I. G., Morgan, M. Z., Jones, R. J. (2022). Oral care, loss of personal identity and dignity in residential care homes. *Gerodontology*, p. 1-7. DOI: 10.1111/ger.12633.

Kabadayi., S., Hu, K., Lee, Y., Hanks, L., Walsman, M., Dobrzykowski, D. (2020). Fostering older adult care experiences to maximize well-being outcomes: A conceptual framework. *Journal of Service Management, vol. 31, no. 1*, p. 953-977. DOI: 10.1108/JOSM-11-2019-0346.

Kamath, S., Rahaman, S. (2022). Engagement of Senior Citizens in a Family Setting to Help Revive Dignity: A Study. In *Proceedings of the 8th International Conference on Information and Communication Technologies for Ageing Well and e-Health - ICT4AWE,* p. 307-314. DOI: 10.5220/0011074800003188.

Kisvetrová, H., Herzig, R., Bretšnajdrová, M., Tomanová, J., Langová, K., Školoudík, D. (2019). Predictors of quality of life and attitude to ageing in older adults with and without dementia. *Ageing and Mental Health, vol. 25, no. 3*, p. 535-542. DOI: 10.1080/13607863.2019.1705758.

LeBlanc, R. G., Jacelon C. S. (2022). Social Influences on Perceptions of Sense of Control and Attributed Dignity Among Older People Managing Multiple Chronic Conditions. *Rehabilitation Nursing, vol. 47, no. 3*, p. 92-98. DOI: 10.1097/RNJ.0000000000000369.

Lorenzen-Huber, L., Boutain, M., Camp, L. J., Shankar, K., Connelly K. H. (2011). Privacy, Technology, and Aging: A Proposed Framework. *Ageing International, vol. 36*, p. 232-252, DOI: 10.1007/s12126-010-9083-y.

Mikus, J., Grant-Smith, D., & Rieger, J. (2022). Cultural Probes as a Carefully Curated Research Design Approach to Elicit Older Adult Lived Experience. In *Social Justice Research Methods for Doctoral Research*, p. 182-207.

Pirzada, P., Wilde, A., Doherty, G. H., Harris-Birtill, D. (2022). Ethics and acceptance of smart homes for older adults. *Informatics for Health and Social Care, vol. 47*, p. 10-37. DOI: 10.1080/17538157.2021.1923500.

Scolaro, A., Formosa, M. (2022). Residents' Perceptions of Dignity in Nursing Homes for Older Persons: A Maltese Case-Study. In *Perspectives on Wellbeing: Applications from the Field* (pp. 225-239). DOI: 10.1163/9789004507654_014.

Strnadová, I. (2018). Transitions in the Lives of Older Adults With Intellectual Disabilities: "Having a Sense of Dignity and Independence. *Journal of Policy and Practice in Intellectual Disabilities, vol. 16, no. 1*, p. 58-66. DOI: 10.1111/jppi.12273.

Søraa, R. A., Tøndel, G., Kharas, M. W., & Serrano, J. A. (2022). What do Older Adults Want from Social Robots? A Qualitative Research Approach to Human-Robot Interaction (HRI) Studies. *International Journal of Social Robotics*, p. 1-14. DOI: 10.1007/s12369-022-00914-w.

Váverková, R., Kisvetrová, H., Bermellová, J. (2022). Gender Differences in the Perceptions of Dignity among Hospitalized Older Adults. *Ošetřovatelské perspektivy, vol. 5, no. 2*, p. 31-43. DOI: 10.25142/osp.2022.011.

Van Bijsterveld, S. C., Barten, J. A., Molenaar, E. A. L. M., Bleijenberg, N., de Wit, N. J., & Veenhof, C. (2022). Psychometric evaluation of the Decision Support Tool for Functional Independence in community-dwelling older people. *Journal of Population Ageing*, p. 1-23. DOI: 10.1007/s12062-022-09361-x.