

Relationship between Decision Making Styles and Life Regrets among Community Dwelling Older Adults

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Abstract

*Older adults have to take several decisions during their life. The older adults' distinctive manner and style of identifying and reacting to decision-making tasks is expected to yield some decision outcomes which may induce feeling of regret. Regret which is a hurting feeling in old age can ultimately impacts the individual's well-being. **Objective:** Determine the relationship between decision making styles and life regrets among community dwelling older adults. **Setting:** outpatient clinics of Farouk hospital, affiliated to the Ministry of Health, Alexandria, Egypt. **Subjects:** 205 older adults. **Tools:** Three tools were used for data collection: 1) Socio-demographic data structured interview schedule 2) Decision Making Questionnaire DMQ, and 3) Life Regrets Scale. **Results:** The present study findings showed that the study subjects showed different levels of life regrets which are significantly correlated with the manner they habitually approach and manage their decisions (decision making styles). **Conclusion:** Greater life regrets among the study subjects were associated with the usage of certain decision making styles such as instinctiveness and social resistance. Whereas, thoroughness, perfectionism and control styles are significantly related to lower life regrets among the study subjects. **Recommendations:** The gerontological nurses should assess the decision making skills and styles of the older adults. They should assume their role in helping older adults to learn new decision making styles in order to improve their decisions outcomes and prevent future regrets.*

Keywords: Life regrets; Decision making styles; Older adults; Community dwelling; Gerontological nurse.

Introduction

Individuals' decisions heavily influence their life circumstances. The consequences of these decisions probably shape individuals well-being⁽¹⁾. The ability to take decisions is an important skill for all ages, and is particularly significant in old age. Older adults face multiple decisions which may have a serious effect on their lives during their remaining years. Often older adults' life conditions are changing as a result of age related changes affecting all body systems. In particularly the brain which is responsible for all decision making, is affected more with ageing process than the other systems. So, older adults' decisions

making may be altered and become less effective⁽²⁾.

Decision outcomes assist in building inferences about the older adults' decision making style⁽³⁾. Scott & Bruce (1995) defined decision-making styles as "the learned habitual response pattern exhibited by an individual when confronted with a decision situation" and people are not described by a certain style but by a profile of styles⁽⁴⁾.

The theoretical background of variances in decision making styles remains vague⁽⁵⁻⁷⁾. The number of decision-making styles is subject to debate. Scott and Bruce (1995) proposed five styles of decision⁽⁴⁾.

Among these styles are the rational style which include in deep collection of information and logical appraisal of options, and the intuitive style that rely on intuitions and feelings^(8,9). However, Nygren (2000)⁽¹⁰⁾ suggested three decision making styles only. The French's decision making questionnaire (1993) identified seven decision making styles⁽¹¹⁾. The association between decision-making styles and cognitive functions has been examined⁽¹²⁾, yet little consideration has been given to the relation between decision making styles and actual-life consequences and their predictive power⁽¹³⁾.

It has been postulated that not only the resulting events from decision-making, but also how the older adults feel about their decision outcomes is an indicator of realistic decision outcomes. Making numerous decisions throughout life is expected to cause certain decision consequences that may make the older adults unsatisfied⁽¹⁴⁾. Regret, in particular, is commonly experienced as an aversive emotional consequence of incorrect decisions⁽¹⁵⁾. Regret occurs if the selected outcome is, or is thought to be, worse than a non-selected alternative⁽¹⁶⁾.

Decision justification theory supposes that, regret feeling after decision making includes outcomes comparison and recognizing responsibility for unjustified decisions⁽¹⁶⁾. However, regret research depends on participants of young age to a great extent⁽¹⁷⁾. Furthermore, it is important to study regret in older age because regret may work in a different manner than it does in younger adults. People of young age may recognize further chances to achieve their goals because they believe that there is extra lifetime available to accomplish these goals⁽¹⁸⁾. Consistent with the theory of socioemotional selectivity, as people become older, they perceive shrinkage of their available time in life⁽¹⁹⁾.

Regret caused by older adults' decision making styles may affect both mental and emotional domains of well-being. Poorer well-being levels were found to be

associated with greater regret levels⁽²⁰⁾. Jokisaari (2004) reported that education and work related regrets affect negatively life satisfaction among older adults⁽²¹⁾, while self-related regrets were related to depression in older adults⁽²²⁾. The ability to resolve and overcome regrets is found to contribute to better adults' well-being through ages^(20,23).

Older adults may be capable to expect regret⁽¹⁵⁾. So, regret is not only an emotion felt after decisions by the older adults, but it also helps to guide future decisions to avoid further regret. Nurses have to use valid tools to evaluate the degree to which older adults regret their actual life decisions and assess their decision making styles. Nurses should aid older adults in learning and use of new decision making styles known to be related to greater positive outcomes and lesser regrets.

Aim of the Study

The present study aimed to determine the relationship between decision making styles and life regrets among community dwelling older adults.

Research Question:

What is the relationship between decision making styles and life regrets among community dwelling older adults?

Materials and Method

Materials

Design: The study followed a descriptive correlational research design.

Setting: The study was carried out at Farouk hospital outpatient clinics, affiliated to the Ministry of Health, Alexandria, Egypt. The hospital comprises several outpatient clinics that include different specialties such as; dentition, ophthalmology, and diabetic clinics. The clinics work from Saturday to Thursday from 9 am to 12pm.

Subjects: The study included 205 older adults who fulfill the following inclusion criteria:

- Age 60 years and more
- Able to communicate effectively
- Accept to participate in the study
- Available at the selected setting during the period of data collection

The sample size was estimated using the EPI info 7.0 program based on these parameters; population size: 400, possible error 5 %, confidence coefficient 95%, and minimal sample size 180.

Tools: Three tools were used in the study to collect the necessary data as follows:

Tool I: Socio-demographic data structured interview schedule

This tool was developed by the researchers to determine the socio-demographic features of the study subjects such as age, sex, level of education, marital status and self-rating health.

Tool II: Decision Making Questionnaire (DMQ)

This is a 21 items tool developed by French et al, 1993⁽¹¹⁾ to assess the decision making styles. This questionnaire comprises seven decision making styles namely;

1. Thoroughness (4 items): extremely attentive to accuracy, plans, and details and follow a logical process of thinking and predicting outcomes of their actions and decisions.
2. Control (5 items): able to maintain emotional stability and think properly during stress.
3. Hesitancy (3 items): being undecided and if the older adult reaches a certain solution, they shift to another.
4. Social resistance (3 items): refuse consulting others or taking advices from them.

5. Perfectionism (2 items): try to reach the best among the alternatives.
6. Idealism (2 items): follow the principles and ideals regardless of their applicability in their environment.
7. Instinctiveness (2 items): depend on mainly on emotions rather than ideas.

Older adults indicated how often each statement applied to them, infrequently or never=1, quite frequently=2, frequently=3. The score is reversed for negative items. Higher mean percent score in each decision making style indicates increased frequency of using this style by older adults.

Tool III: Life Regrets Scale

Life regrets scale is a single-factor tool that developed by Pethtel, et al. 2012⁽¹⁾ in order to evaluate the degree to which participants feel regret for events that they have experienced in the past. Older adults rated 9 items on a 5-point Likert scale (e.g. Looking back on their life, how much do they regret decisions that they have taken and affected their finances, education, family relation, social relationship outside the family, health, work (or their role for unemployed elders), leisure time, and the way they handled their self, and regret about wrong decisions in life. Older adults indicated the degree to which they regret each item (no regret=1, slightly regret=2, moderately regret=3, strongly regret=4, very strongly regret=5). Scores are represented by mean percent, with higher scores showing very intense life regrets.

Statistically, the researchers classified the total score of this scale into five levels of life regrets as follows;

- No regret: 1-9
- Mild regret: 10-18
- Moderate regret: 19-27
- Severe regret: 28-36
- Very severe regret: 37-45

Method

- Permission to carry out the study from the responsible authorities of the Faculty of Nursing, Alexandria University was obtained.
- A letter was issued from the Faculty of Nursing, Alexandria University to the director of the study setting to obtain his approval for data collection.
- The responsible authorities of the study setting were informed about the purpose of the study, the date and time of data collection.
- Tool I was developed by the researchers to assess the sociodemographic data of the study subjects
- Tool II, and tool III were translated into Arabic language by the researchers. Tool II, and tool III were tested for content validity by three experts in the study field.
- Tool II, and tool III were tested for reliability. The result of Cronbach's Coefficient alpha was 0.77 for tool II and 0.81 for tool III.
- A pilot study was carried out on 25 older adults selected from the study setting. They were not included in the study sample. The pilot study was done to assess the applicability and clarity of the tools.
- Older adults who fulfill the inclusion criteria were interviewed by the researchers individually in the waiting area in the outpatient clinics to collect the necessary data after clarification of the study purpose.

Ethical considerations:

Informed witness consent was obtained from each study subject after clarification of the study purpose. Anonymity and privacy of the study subjects were maintained. Confidentiality of the collected data and the subject's right to withdraw at any time from the study were assured.

Statistical Analysis

Data collected were analyzed by computer using the Statistical Package for Social Sciences (SPSS) software version 20. Reliability of the tools was determined by Cronbach Coefficient alpha. Data were presented by descriptive statistics in the form of frequencies and percentages for qualitative variables, and arithmetic mean, mean percent and standard deviation for quantitative variables. Pearson Correlation Coefficient was used for testing relationship between variables. Significant difference was considered if $p \leq 0.05$.

Results

Table (1) shows the socio-demographic data of the study subjects. Their mean age is 64.35 ± 5.22 years, 73.7% are females, 66.8% married, and 53.7% are illiterate. A small percent, 12.2%, completed their secondary school education and only 9.8% had university degree. Housewives constituted 52.7% of the study subjects and the rest were employee 22.4%, skilled workers 13.7%, or unskilled workers 11.2%. Study subjects who are current workers constitute 15.1% of the sample. Monthly income is reported to be inadequate by 74.6% of the study subjects. Also, 61.0% live in urban and 89.3% live with their family. Only 11.8% of the study subjects rated their health as very good and 37.6% reported poor self-rating health.

Table (2) illustrates that only 2.9% of the study subjects reported no feeling of life regrets, while, mild, moderate, severe, and very severe life regrets are reported by 16.6%, 50.7%, 27.3% and 2.4% respectively. The mean percent score of life regrets is 42.56 ± 19.50 .

Table (3) shows the main types of regrets among the study subjects. The greater mean percent score of life regrets is related to the way they deal with themselves 81.71 ± 35.11 followed by the regret about making wrong choices generally in their past life 68.66 ± 37.74 , health related regret

65.61±38.27, and education related regret 63.29±44.32. The lowest mean percent of life regrets among the study subjects is related to the way they pursued their leisure 12.07±27.52.

Table (4) indicates the mean percent scores of decision making styles as adopted by the study subjects as follows; idealism 77.93±35.06 followed by thoroughness 56.16±28.70, hesitancy 51.63±29.43, and instinctiveness 48.41±31.81. Control style of decision making is the lesser used style by the study subjects 35.80±34.26.

Table (5) shows significant positive relations between adoption of certain decisions making styles as instinctiveness and social resistance styles and greater life regrets among the study subjects, $r=0.201$, $p=0.004$, $r=0.158$, $p=0.024$ respectively. On the other hand, use of other decision making styles as thoroughness, perfectionism and control by the study subjects is significantly related to lower life regrets, ($r=-0.190$, $p=0.006$), ($r=-0.270$, $p<0.001$), ($r=-0.393$, $p<0.001$) respectively.

Discussion

Understanding how and why older adults experience regret and how their choices and decision making styles influence their feeling of regret are important research questions. While, earlier researches focused mainly on participants of young age⁽¹⁷⁾, this study aimed to determine the relationship between decision making styles and life regrets among community dwelling older adults.

With reference to the relationship between decision making styles and life regrets among the study subjects, the present study results reveal that use of social resistance and instinctiveness styles of decision making are significantly associated with higher life regrets among the study subjects (table 5). This result may be due to that, the study subjects may underestimate their friend's abilities as decision makers. For example, their friends and social network around them may be within the

same level of education, occupation and low decision making competencies. So, they avoid consulting them or accepting their advices due to expected or actual negative outcome of their solutions. Indeed, the study subjects may adopt this style of decision making due to their fear from disclosure of their problems and secrets in front of others. As a result, they may deprive themselves from the benefits of others' experiences and the attempts of people who experienced similar situations. In this respect, Geisler et al. (2017) reported the significant role of social network on shaping the individuals' decision making style and their feeling of regret⁽⁷⁾.

Also, in using the instinctiveness style, the study subjects may depend on their internal feelings to determine what to do. Most of time, the internal emotions depend on no logical evidence or process. These emotions may affect their way of decision making especially if their decisions are related to their children or to those whom they love and care. So, the outcome can't be controlled when it depends only on feelings. Later on, study subjects might regret the decisions they made. Several researches postulated the significant role of emotion in decision making outcomes^(24,25).

Regarding the use of thoroughness, perfectionism, or control styles of decision making, these were found to be significantly and negatively related to life regrets among the study subjects (table 5). The present study results can be explained by the fact that study subjects who use the thoroughness style of decisions making will follow a sequence of logical process of thinking during assessing the stressful situations and then determine the available choices and their consequences. After that, they select the appropriate one. So, later on, life regrets would be less. The present study results are in accordance with what was reported by other researches which indicated that in thoroughness style of decision making, older adults become more thoughtful and less risk

taking. Moreover, they are usually satisfied with their decision outcomes^(26,27).

Regarding perfectionism style, the study subjects who adopted this style may seek the best decisions and will not be satisfied with only the available solutions or choose the first easiest one. But, they will search for the best or other solutions for their problems. It was reported by other authors that older adults who use the perfectionism style are better qualified individuals and they are able to solve difficult problems^(3,5).

With reference to control style of decision making, it may help the study subjects to be calmer during stressful situations, to think logically while searching for solutions, and to take free choices with little chances of faults or poor outcomes. The present study result supports what was reported by Hashimoto et al. (2004)⁽²⁸⁾. Zeelenberg et al. (2016) reported correlations between different decision making styles and life regrets⁽²⁹⁾.

The present study result reveals that most of the study subjects feel some degree of life regrets varying from mild to very severe life regrets (table 2). The present study result may be due to the poor economic, educational and occupational status of the study subjects which limit the available choices for the individuals and the chance to have volunteer independent decisions is usually diminished. Study subjects may usually select the safest solution avoiding the risk for another solution even if it seemed to be the best. The present study result support many other researches which indicated that regret is systematically related to aging⁽³⁰⁻³²⁾. Choi NG and Jun J (2009) revealed that regret in old age is associated with inadequate monthly income⁽³³⁾. Also, education, and occupational status were found to be correlated with feeling of regret as reported by Lecci et al. (2004)⁽³⁴⁾. Moreover, study subjects with unsatisfying socioeconomic status may be mainly present oriented not future oriented and have no plan to achieve

their goals or hobbies. They just satisfy their present needs. With time, they found that they didn't achieve their goals or dreams and their regrets would be greater. Giloviqh et al. (2005) revealed that the decision making is a complex and conflict process. With a lot of needs to be met, older adults determine their priorities to meet their needs, so, regret for having made wrong choices are challenging⁽³⁵⁾.

Regarding the main types of life regrets among the study subjects, the present study finding shows that they regret mainly the way they handled themselves, making wrong decisions in their life, and the decisions they did concerning their health and education (table 3). This can be justified by that inadequate economic status may make the older adults especially females to devote all of their efforts and energy to satisfy the needs of their husband's and children's and neglecting their own needs. Sometimes they may postpone meeting of their needs until their economic conditions may be improved in the future. They might neglect their rights to live independently, to have recreational activities, to have follow up for their health or to get enough educational chances due to their poor economics. So, later on, they may regret decisions they made regarding these self-basic needs. The present study finding is supported by what was reported by other researches which indicated that the main life events regrets are related to occupation, education, social relationships, self-right, finance, and health^(17,18,36).

With reference to the main decisions making styles adopted by the study subject, the present study result reveals that these styles are idealism followed by thoroughness and hesitancy (table 4). Style of idealism may be the main decision making style among the study subjects due to the nature of the Egyptian culture which implies rules, regulations, traditions, norms and religion that control the individual's behaviors, thoughts and decisions. Among these culture items is the obligation to follow the agreed

and known principles and what is right regardless the outcome of the action and regardless the reactions of those who are involved in the situations.

Concerning thoroughness decision making style, study subjects may depend on a logical process in their decision making to limit the draw backs of their decisions especially if the available alternatives are usually limited. Also, hesitancy style may be adopted by the study subjects and being undecided due to their possible fears from leaving outside the area of stability and comfort to make new action which carry unknown results. Moreover, the present study result indicates that the control style of decision making is the lesser one adopted by the study subjects. This may be due to several losses in old age which might harm the study subjects' internal locus of control causing them to lose their decision making power to some extent in the stressful situations. It was suggested by several authors that decision making in old age mainly involves logical process of thinking as in thoroughness style through selecting the choice that is most expected to meet their aims by thinking through the available alternatives and comparing all the options^(37,38).

Conclusion

Based on the present study results, it can be concluded that the way the study subjects habitually approach and manage their decisions are significantly related to their life regrets. More specifically, the present study results indicated that study subjects who reported use of instinctiveness and social resistance as decisions making styles have significant greater overall life regrets. On the other hand, other decision making styles as thoroughness, perfectionism and control are significantly related to lower life regrets among the study subjects.

Recommendations

Based on the findings of the present study, the following recommendations are suggested:

- Nurses who are caring for older adults should determine how older adults' decision making styles differ among them. It may help in planning suitable information and decision aids to each older adults.
- Nurses can help older adults in predicting and preventing future regret through correctly managing decision making situations and learning effective decision making styles.
- Nurses should carry out thorough history of older adults to determine those who are suffering from regret and identify its possible causes and consequences on their current health and wellbeing.
- Nurses have the responsibility to assist older adults to manage their feeling of regret to limit its negative outcomes.

The future researches in this field could include:

- Studies are needed to determine the effect of nursing interventions for enhancing decision making competencies and styles on psychosocial wellbeing among older adults.

Table (1): Distribution of the study subjects according to their socio–demographic data

Socio–demographic data	No. = 205	Frequency %
Age (in years)		
>70	168	82.0
70 – 80	32	15.6
80 years and more	5	2.4
Sex		
Male	54	26.3
Female	151	73.7
Mean ± SD.	64.35 ± 5.22	
Social status		
Married	137	66.8
Widow	60	29.3
Single	8	3.9
Educational level		
Illiterate	110	53.7
Basic education	50	24.3
Secondary education	25	12.2
University education	20	9.8
Work prior to retirement		
Employee	46	22.4
Housewife	108	52.7
Skilled worker	28	13.7
Unskilled worker	23	11.2
Current work status		
Yes	31	15.1
No	174	84.9
Monthly income		
Enough	52	25.4
Not enough	153	74.6
Place of Residence		
Urban	125	61.0
Rural	80	39.0
Living style		
With family	183	89.3
Alone	22	10.7
Self-rating health		
Very good	24	11.8
Good	57	27.8
Faire	47	22.9
Poor	77	37.6

Table (2): Distribution of the study subjects according to their levels of life regret

Levels of life regret	No. = 205	Frequency (%)
▪ No regret	6	2.9
▪ Mild regret	34	16.6
▪ Moderate	104	50.7
▪ Severe regret	56	27.3
▪ Very severe regret	5	2.4
Mean \pm SD %.	42.56 \pm 19.50	

Mean \pm SD %: mean percent score

Table (3): Distribution of the study subjects according to their types of life regrets

Types of life regrets	Mean \pm SD.	Mean \pm SD%.
▪ Oneself	4.27 \pm 1.40	81.71 \pm 35.11
▪ Wrong decisions in general	3.75 \pm 1.51	68.66 \pm 37.74
▪ Health	3.62 \pm 1.53	65.61 \pm 38.27
▪ Education	3.53 \pm 1.77	63.29 \pm 44.32
▪ Work\ role	2.24 \pm 1.38	31.10 \pm 34.38
▪ Family relation	2.09 \pm 1.39	27.32 \pm 34.71
▪ Finance	1.75 \pm 1.06	18.66 \pm 26.59
▪ Social relation outside family	1.59 \pm 1.10	14.63 \pm 27.55
▪ Leisure time	1.48 \pm 1.10	12.07 \pm 27.52

Mean \pm SD %: mean percent score

Table (4): Distribution of the study subjects according to their decision making styles (n=205)

Decision making styles	Total score	Mean percent score
	Mean \pm SD.	Mean \pm SD %.
▪ Idealism	5.12 \pm 1.40	77.93 \pm 35.06
▪ Thoroughness	8.49 \pm 2.30	56.16 \pm 28.70
▪ Hesitancy	6.10 \pm 1.77	51.63 \pm 29.43
▪ Instinctiveness	3.94 \pm 1.27	48.41 \pm 31.81
▪ Social resistance	5.51 \pm 2.11	41.87 \pm 35.11
▪ Perfectionism	3.54 \pm 1.61	38.41 \pm 40.26
▪ Control	8.58 \pm 3.43	35.80 \pm 34.26

Mean \pm SD %: mean percent score

Table (5): Relationship between decision making styles and life regrets among the study subjects

Decision making styles	Life regrets	
	R	P
1- Instinctiveness	0.201*	0.004*
2- Thoroughness	-0.190*	0.006*
3- Idealism	0.049	0.486
4- Perfectionism	-0.270*	<0.001*
5- Hesitancy	-0.020	0.781
6- Social resistance	0.158*	0.024*
7- Control	-0.393*	<0.001*

r: Pearson coefficient

**: Statistically significant at $p \leq 0.05$*

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