- *Basic Research*

Relationship between Resilience and Emotional Intelligence among Community-DwellingOlder Adults during COVID-19 Pandemic in Alexandria, Egypt

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Abstract

Introduction: High resilience and emotional intelligence in later life has been associated with successful aging, they may consider a protective factor against potentially dangerous consequences of the COVID-19 pandemic**. Aim:** to identify the relationship between resilience and emotional intelligence among community dwelling older adults during COVID-19 pandemic in Alexandria, Egypt. **Design**: A descriptive correlational research design was utilized. Setting: The study was conducted at three elderly clubs namely: El wafaa club, El haya and El Amal club, and El omr Zahabi club. **Subject**: This study included a convenience sample of one hundred and forty older adults, who have neither cognitive impartment nor depression. Tools: (1) Mini-Cog, (2) Patient Health Questionnaire-2 (PHQ-2), (3) Older adults' sociodemographic and clinical data structured interview schedule, (4) Wagnild & Young's Resilience Scale (RS), and (5) Trait Meta-Mood Scale (TMMS**). Results:** There are a statistically significant relation between studied elders' age, sex, marital status, living arrangement, having health problems, and with no psychosocial factors affecting health during the COVID-19 pandemic and their level of resilience. Also, a statistically significant relation was found between the studied elders' age, marital status, living arrangement, having health problems and their level of EI. **Conclusion**: There is a positive relationship was found between studied elders' level of resilience and their emotional intelligence during the COVID-19 pandemic. **Recommendations**: Assessment, evaluation, and attention should be offered to the older adults' level of resilience and EI especially during any pandemic.

Keywords: Resilience, emotional intelligence, community-dwelling, older adults, COVID-19 pandemic

Introduction

The American Psychological Association defines resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress" or "bouncing back" from difficult experiences [(1)]. High resilience in later life has been associated with optimal outcomes, such as reduced depression, and mortality risk [(2)] . Older adults are at higher risk for developing complications due to COVID-19 [(3,4)]. Being resilient and having the ability to adapt allows older adults to face the pandemic positively [(5)]. Resilience among older adults across countries is a novel issue, and research are limited [(6)]. A study by Yildirim et al. (2020) suggested that more attention should be given to hope and resilience for the development and improvement of well-being and psychological health during the time of COVID-19 crisis [(7)]. Salovey et al.(2000) defined emotional intelligence (EI) as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" [(8)] . Older adults have more opportunities than young adults to practice EI throughout their lives, being emotionally intelligent is considered a dominant resource for the aging process [(9)]. Moron et al. (2021) revealed that trait EI related to the dispositional regulation of the intensity of negative affect may consider a protective factor against potentially dangerous emotional consequences of the COVID-19 pandemic such as anxiety and depression [(10)] .

Slovey et al. (1999) theorized that "persons with higher EI cope better with the emotional demands of stressful events because they are able to accurately perceive and appraise their emotions, know how and when to express their feelings and can effectively regulate their mood states". EI is proposed to buffer the effects of aversive events through emotional self-awareness, expressions, and management [(11)] . Schneider et al. (2013) demonstrated that EI facilitates stress resilience. The four EI abilities appeared to facilitate resilient stress responses including challenge appraisals, more positive and less negative effect, and challenge physiology. Having higher EI is adaptive in stressful circumstances [(12)] . The higher resilience level and better use of EI help individuals to cope with challenging situations such as the COVID-19 pandemic [(5)]. The gerontological and public health nurse should boost efforts toward assessing the resilience and EI of older adults and to support programs for older adults in terms of coping skills during the COVID-19 pandemic. These programs should emphasize multiple interventions to promote optimism and positive emotions may be particularly effective in building resilience. Increasing positive emotions such as using cognitive behavioural therapy, mindfulness, and focused activities help to enhance happiness [(7,13)].

Aim of the study: To identify the relationship between resilience and emotional intelligence among community dwelling older adults during COVID-19 pandemic in Alexandria, Egypt.

Research question: What is the relationship between resilience and emotional intelligence amongcommunity dwelling older adults during COVID-19 pandemic in Alexandria, Egypt?

Materials:

Research design: The study was followed a descriptive correlational research design.

Setting and subjects: The study was conducted at three elderly clubs namely: El wafaa club, El haya and El Amal club, El omr Zahabi club. Those clubs are affiliated to the ministry of social solidarity and represents different districts in Alexandria . The study included a convenience sample of one hundred and forty four (144) older adults from the above mentioned settings, who have neither cognitive impartment nor depression. The Epi info program V 7.0 was used to estimate the sample size using the following parameters, population size 400 prevalence of the problem 50%, margin of error 5%, confidence level 95%, and minimum sample size 140.

Tools: Five tools were used to collect the data as follows:

Tool (I): Mini-Cog: It is a 3-minute instrument developed by Borson et al., 2000 that can increase detection of cognitive impairment in older adults. It can be used in both healthcare and community settings. It consists of two components, a 3-item recall test for memory and a simply scored clock drawing test. The Mini-Cog had the highest sensitivity (99%) and correctly classified the greatest percentage (96%) of subjects among older adults. Item Recall Score: 1 point for each word recalled without cues, for a 3-item recall score of 1, 2, or 3. 2 points for a normal clock or 0 (zero) points for an abnormal clock drawing. A normal clock must include all numbers (1-12), each only once, in the correct order and direction (clockwise). There must also be two hands present, one pointing to the 11and one pointing to 2. Hand length is not scored in the Mini-Cog© algorithm. The tool was translated into Arabic by Albanna et al., 2017 and proved to be valid and reliable in Arabic speaking older adults. As the sensitivity and specificity of the Arabic version is 61.6% [14,15].

Tool (II): Patient Health Questionnaire-2 (PHQ-2): The PHQ-2 inquires was developed by Chunyu , et al., 2007 about the frequency of depressed mood and anhedonia over the past two weeks included in 2 questions using 4 point Likert scale from (0) Not at all to nearly every day (3). The purpose of the PHQ-2 is to screen for depression in a "first-step" approach, the PHQ-2 is a valid screening tool for depression in older people. Patients who screen positive need further evaluation. APHQ-2 score ranges from 0-6. A score of 3 as the optimal cut point when using the PHQ-2 to screen for depression. If the score is 3 or greater, major depressive disorder is likely .The PHQ-2's criterion validity for major depression was good (sensitivity=100%, specificity=77%, AUC=0.88). Its sensitivity was 100% for each

subgroup, Specificity increased with age. The tool was translated into Arabic by Hafez et al., 2020 and proved to be valid and reliable in older adults (r= 0.965). [16,17]

Tool (III): Older adults' sociodemographic and clinical data structured interview schedule: wasdeveloped by the researchers to collect data such as age, sex, marital status, living arrangement, education, the presence of any chronic health problems, psychosocial factors that may affect the health during the COVID-19 pandemic.

Tool (IV): Wagnild & Young's Resilience Scale (RS):It was developed by Wagnild, and Young, 1993 .The RS comprises of 25 items. The respondents are asked to state the degree to which they agree or disagree with each item on a 7-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree). All items are positively scored. The RS has demonstrated adequate reliability and construct validity in subsequent studies of for older adults withCronbach's alpha ranges from .87 to .95 [18]. The tool was translated into Arabic by the researchers.

Tool (V): Trait Meta-Mood Scale (TMMS):The TMMS was developed as a general measure of Meta-Mood Experience , using a 5-point Likert scale with responses ranging from 1= strongly disagree and 5= strongly agree: (a) Attention to Feelings Subscale, measures attention to one's moods and emotions and that of others (b) Clarity of Feelings Subscale measures one's ability to discriminate among them and (c) Mood Repair Subscale, which tests one's ability to regulate them inself and in others TMMS- 24 shows high reliability coefficients in all the subscales (α Attention=0.90, α Clarity=0.90, α Repair=0.86), and a proper test-retest reliability. This tool is valid and reliable in older adult population (0.84-0.87) [9,19].

Methods:

Approval from research ethical committee, Faculty of Nursing, Alexandria University was obtained, and permission to carry out the study from the responsible authorities from the Faculty of Nursing, Alexandria University were obtained. Permission from the head of the study setting was obtained, and was informed about the purpose of the study, the date and the time of data collection.

Tool I and tool II were used by researcher to recruit the study subjects. Tool III was developed bythe researchers after a thorough review of relevant literature, tools IV and V were translated into Arabic by the researchers. Validity of tool IV and V were tested by a jury of five experts in the field of gerontological, medical surgical nursing and Community Health Nursing.

Reliability of tool IV and V was tested using the chronbach alpha test. Both tools have demonstrated adequate reliability in older adults as it was 0.763 for the RS, and 0.876 for the TMMS.

A **pilot study** was carried out on 15 older adults to assess the applicability, clarity and feasibility of the study tools. They were selected from El Sada club and were not included in the study subjects. Necessary modifications were done accordingly.

Preparation of the setting was done by the researcher in order to ensure a quiet, well arranged, comfortable, non-disturbing place with adequate lighting. The COVID-19 safety percussions were followed such as social distance and wearing face mask, to ensure safety of both the older adults and the researchers. The data collection lasted for three months from February 2021 to May 2021.

Ethical considerations: -

Informed written consent was obtained from each study subject included in this study after explanation of the aim of the study.

The right to refuse to participate in the study was emphasized to the study older adults beforeparticipation in the study and the right to withdraw from the study at any time

Privacy and anonymity of the study subjects as well as confidentiality of the collected datawas maintained during implementation of the study.

Statistical analysis:

The collected data were coded and entered in special format to be suitable for computer feeding. Following data entry, checking and verification process were carried out in order to avoid any errors. Data were analyzed using the statistical package for social science SPSS (version 20).

The following statistical analysis measures were used:

Descriptive statistical measures, which included: numbers, percentages, and averages (Minimum, Maximum, Arithmetic mean ($\bar{X}$), Standard deviation (SD).

Statistical analysis tests, which included: Chi square, student T test and paired T test.

Graphical presentation included: Bar graphs were done for data visualization.

Results

Table (I) illustrates that the age of the studied elderly ranged from 60 to 72 years old, with a mean age of 65.64±3.728 years old. Females were more prevalent in the study; they constituted 71.5% of the study sample. Regarding the marital status and the living arrangement, 66.7% were married , and 66.7 % of the subjects reported living with their partner. As regards the presence of health problems, 70.8 % of them reported to have at least one health problem. Figure (1) shows that the 29.2 % of the studied elderly exhibited moderate and on the low levels of personal competence respectively, as a subscale of resilience in relation to being dependent on self, being person people can generally rely on, looking at a situation in a number of ways, and having self-discipline. 35.4% of the study subjects showed moderately high levels of acceptance of self & life. No one of the studied elderly reported high resilience in relation to the acceptance of self & life, and only 3.5% of them reported high level of resilience regarding their personal competence. As regards the total resilience level, no one of the studied elderly reported high level of resilience, while 31.3%, 31.9%, and 23.6% of them reported on the low, moderate, and moderate high level ofresilience respectively.

Figure (2) displays that, 62.5 % of the studied elderly reported to have a moderate level of attention to feelings subscale. While 61.8 % and 56.3 % of them reported to have a high level of clarity of feelings subscale, mood repair subscale respectively. 63.2% of the studied elderly reported to have high level of emotional intelligence.

Table (II) noted that the studied elderly who aged 70 years and older exhibited higher levels of resilience than the younger age groups and the difference is a statistically significance (X^2=30.021, P=0.000*). Additionally, the studied male participants reported to have moderately higher levels of resilience than the female group, and the difference is a statistically significance (X^2= 19.860, P=0.001). As well, those who are not working exhibited high level of resilience than those who are still working, and the difference is a statistically significance (X^2= 28.445, P=0.000). Moreover, the married studied elderly reported to have higher levels of resilience than those who are widowed or single, and the difference is a statistically significance (X^2= 56.857, P=0.001). As for the living arrangement of the studied elderly, those who are living with their children, and relatives reported to have moderate level of resilience while, those who are living with their spouses reported on the low level of resilience, and the difference isa statistically significance (X^2= 67.105, P=0.001). Furthermore, the studied elderly who have children reported to have higher levels of resilience than those who do not have, andthe difference is a statistically significance (X^2= 11.071, P=0.026). In addition to, those who have health problems

exhibited high level of resilience than those who reported not having any health problems, and the difference is a statistically significance (X^2= 10.184, P=0.037). Regarding the psychosocial factors that may affect the health status of the studied elderly during the COVID-19 pandemic as they reported, were decrease physical activity, deterioration in the memory, death of a friend, death of a significant family member, deterioration in the health of a family member, divorce or separation of the children, poor social interaction and isolation. Those who reported having psychosocial factor affect their health were reported on the low and moderate level of resilience while, 66.7% of moderately high level of resilience have no psychosocial factor affecting their health, and the difference is a statistically significance (X^2= 27.663, P=0.000).

Table (III) illustrates that the studied elderly who aged 70 years and older exhibited higher levels of EI than the younger age groups and the difference is a statistically significance (X^2=21.018, P=0.000*). As well, the studied participants who are not working have higher levels of EI than those who are still working, and the difference is a statistically significance (X^2= = 12.716, P=0.002). Furthermore, the divorced, widowed and married studied elderly reported to have higher levels of EI than those who are single, and the difference is a statistically significance (X^2= 38.702, P=0.001). Regarding the living arrangement, the studied elderly who were living with their spouses, children and relatives reported to have higher levels of EI than those who are living alone, and the difference is a statistically significance (X^2= 47.846, P=0.000). Those who have children reported to have higher level of EI than those who do not have children, and the difference is a statistically significance (X^2= 26.318, P=0.000). The studied elders who suffered from health problems reported higher level of EI, and the difference is a statistically significant (X^2= 13.638, P=0.001). There is no a statistically significant relation was found between having psychosocial factors affecting the health and EI of the studied elders (X^2= 0.987, P=0.611).

Table (I): Distribution of the studied elderly according to their sociodemographic and clinicaldata:

Elderly characteristics	Total N=144	
	No.	%
Age (years)		
▪ 60-	69	47.9
▪ 65-	35	24.3
▪ ≥70	40	27.8
Min – Max 60 – 72 / Mean ± SD	65.64±3.728	
Sex		
▪ Male	41	28.5
▪ Female	103	71.5
Current work		
▪ Working	53	36.8
▪ Not working	91	63.2
Marital status		
▪ Single	16	11.1
▪ Married	96	66.7
▪ Divorced/ Widowed	32	22.2
Living arrangement #		
▪ Alone	17	11.8
▪ Husband/wife	96	66.7
▪ Son/daughter	11	7.6
▪ Brother/sister	15	10.4
▪ Relatives	5	3.5
Presence of current health problems		
▪ No	42	29.2
▪ Yes	102	70.8
Duration of health problems (years)	N= 102	
▪ < 5	44	43.1
▪ 5-	30	29.4
▪ 10-15	28	27.5
Min -Max 1- 15 / Mean ± SD	4.01 ± 4.068	

Multiple responses were allowed

Figure (1): Distribution of the studied elderly according to their levels of resilience during theCOVID-19 pandemic

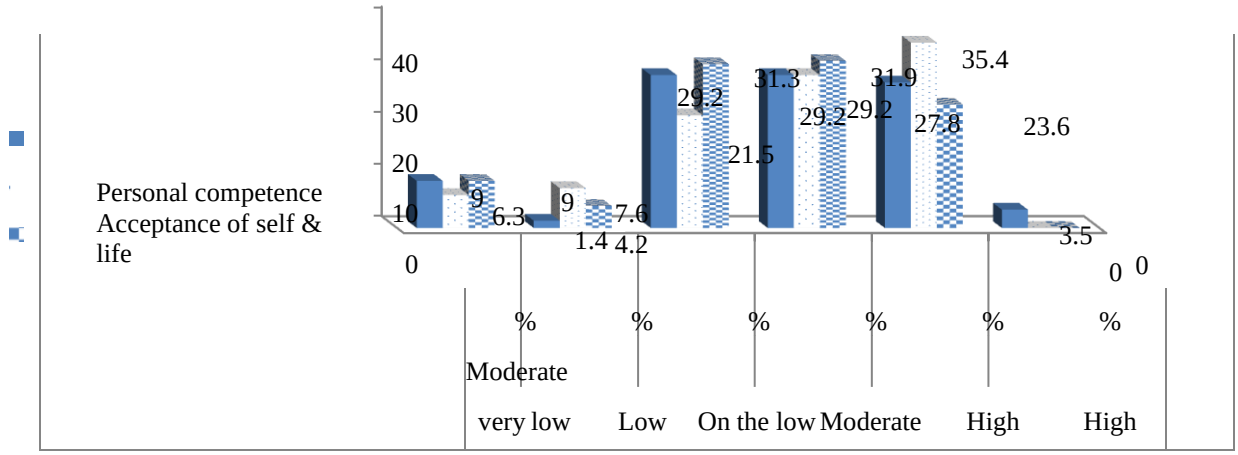

Figure (2): Distribution of the studied elderly according to their level of Emotional Intelligenceduring the COVID-19 pandemic

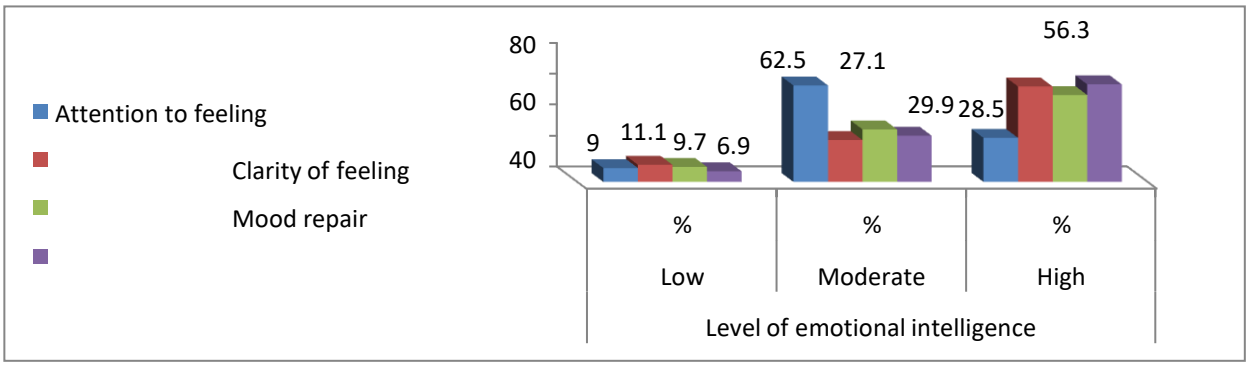

Table (IV) shows the relationship between the studied elders' EI level and their resilience level. The studied elders who have moderate and moderately high resilience level reported high level of emotional intelligence by 71.7% and 85.3% respectively. Concerning the low level of EI of the studied elders also had a low level of resilience by 33.3%. 66.7% among moderate level of emotionalintelligence elders had a low level of resilience, and the difference is a statistically significance (X^2=30.913, P=0.000). **Table (V)** displays that there is a statistically significant relation was found betweentotal score of resilience of the studied elderly, and total score of their EI, (Pearson correlation coefficient = 0.491, P =0.000). As for the personal competence one of the subscales of resilience, there is a

positive significant relation with the clarity of feelings and mood repair (Pearson correlation coefficient = 0.326, 0.585 respectively, P =0.000). While the acceptance of self is negatively correlates with attention to feelings (Pearson correlation coefficient = -0.161, and the relation is significant (P =0.054). Moreover, the acceptance of self is positively correlates with the clarity of feelings and the relation is a statistically significant, (Pearson correlation coefficient=0.360, P =0.000). Additionally, the acceptance of self is positively correlates with mood repair as asubscale of EI (Pearson correlation coefficient = 426, and the relation is significant (P =0.000).

Table (II): The relationship between the studied elderly' resilience levels and their basiccharacteristics during the COVID-19 pandemic

Items	Levels of Resilience										Total N=144		Test of significance
	ery Low (N=13)		Low (N=6)		)n the Low (N=45)		Ioderate (N=46)		Moderately High (N=34)				
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Age													
60- 65- ≥70	7 0 6	10.1 0.0 15.0	5 0 1	7.2 0.0 2.5	22 19 4	31.9 54.3 10.0	26 7 13	37.7 20.0 32.5	9 9 16	13.0 25.7 40.0	69 35 40	47.9 24.3 27.8	χ^2=30.021 P=0.000*
Sex													
Male Female	5 8	12.2 7.8	3 3	7.3 2.9	10 35	24.4 34.0	5 41	12.2 39.8	18 16	43.9 15.5	41 103	28.5 71.5	^{2}= 19.860 P=0.001*
Current work													
Working Not working	6 7	11.3 7.7	3 3	5.7 3.3	29 16	54.7 17.6	6 40	11.3 44.0	9 25	17.0 27.5	53 91	36.8 63.2	X^2=28.445P= 0.000*
Marital status													
Single Married Divorced/ Widowed	3 9 1	18.8 9.4 3.1	1 0 5	6.2 0.0 15.6	4 39 2	25.0 40.6 6.3	8 22 16	50.0 22.9 50.0	0 26 8	0.0 27.1 25.0	16 96 32	11.1 66.7 22.2	^{2}= 56.857 P=0.000*
Living arrangement													
Alone Husband/wife Son/daughter Brother/sister Relatives	0 9 0 4 0	0.0 9.4 0.0 26.7 0.0	1 0 2 3 0	5.9 0.0 18.2 20.0 0.0	0 39 1 5 0	0.0 40.6 9.1 33.3 0.0	8 22 8 3 5	47.1 22.9 72.7 20.0 100.0	8 26 0 0 0	47.1 27.1 0.0 0.0 0.0	17 96 11 15 5	11.8 66.7 7.6 10.4 3.5	^{2}= 67.105 P=0.000*
Have children													
No Yes	4 9	12.5 8.0	4 2	12.5 1.8	5 40	15.6 35.7	12 34	37.5 30.4	7 27	21.9 24.1	32 112	22.2 77.8	X^2= 11.071 P=0.026*
Presence of current health problems													

No Yes	4 9	9.5 8.8	3 3	7.1 2.9	19 26	45.2 25.5	12 34	28.6 33.3	4 30	9.5 29.4	42 102	29.2 70.8	X^2=10.184 P=0.037*
uration ofhealth problems	**N= 9**		**N= 3**		**N=26**		**N=34**		**N=30**		**N=102**		
< 5 5- 10-15	0 0 9	0.0 0.0 32.1	1 2 0	2.3 6.7 0.0	12 13 1	27.3 43.3 3.6	19 1 14	43.2 3.3 50.0	12 14 4	27.3 46.7 14.3	44 30 28	43.1 29.4 27.5	^{2}= 55.146 P=0.000*
Having psychosocial factors affecting the health status during COVID-19 pandemic											N= 144		
No Yes	4 9	33.3 6.8	0 6	0.0 4.5	0 45	0.0 34.1	0 46	0.0 34.8	8 26	66.7 19.7	12 132	8.3 91.7	X^2= 27.663 P=0.000*

X^2 Chi Square Test ***** statistically significant at ≤0.05

Table (III): The relationship between the studied elderly' emotional intelligence levels and theirbasic characteristics during the COVID-19 pandemic

Items	Levels of Emotional Intelligence						Total N=144		Test of significance
	Low (N=10)		Moderate (N=43)		High (N=91)				
	No.	%	No.	%	No.	%	No.	%	
Age									
60-	10	14.5	26	37.7	33	47.8	69	47.9	X^2=21.018
65-	0	0.0	11	31.4	24	68.6	35	24.3	P=0.000*
≥70	0	0.0	6	15.0	34	85.0	40	27.8	
Sex									
Male	2	4.9	14	34.1	25	61.0	41	28.5	X^2= 0.750
Female	8	7.8	29	28.2	66	64.1	103	71.5	P=0.687
Current work									
Working	4	7.5	25	47.2	24	45.3	53	36.8	X^2= 12.716
Not working	6	6.6	18	19.8	67	73.6	91	63.2	P=0.002*
Marital status									
Single	5	31.2	7	43.8	4	25.0	16	11.1	X^2= 38.702

Married	1	1.0	30	31.2	65	67.7	96	66.7	P=0.000*
Divorced/ Widowed	4	12.5	6	18.8	22	68.8	32	22.2	
Live arrangement									
Alone	4	23.5	0	0.0	13	76.5	17	11.8	X^2= 47.846
Husband/wife	1	1.0	30	31.2	65	67.7	96	66.7	P=0.000*
Son/daughter	1	9.1	1	9.1	9	81.8	11	7.6	
Brother/sister	4	26.7	11	73.3	0	0.0	15	10.4	
Relatives	0	0.0	1	20.0	4	80.0	5	3.5	
Have children									
No	8	25.0	13	40.6	11	34.4	32	22.2	X^2= 26.318
Yes	2	1.8	30	26.8	80	71.4	112	77.8	P=0.000*
Have health problems									
No	8	19.0	12	28.6	22	52.4	42	29.2	X^2= 13.638
Yes	2	2.0	31	30.4	69	67.6	102	70.8	P=0.001*
Duration of health problems	N=2		N=31		N=69		N=102		
<5	0	0.0	16	36.4	28	63.6	44	43.1	X^2= 8.0829
5-	2	6.7	10	33.3	18	60.0	30	29.4	P=0.089
10-15	0	0.0	5	17.9	23	82.1	28	27.5	
Have psychosocial factor affect health during COVID-19 pandemic							N=144		
No	0	0.0	4	33.3	8	66.7	12	8.3	X^2= 0.987
Yes	10	7.6	39	29.5	83	62.9	132	91.7	P=0.611

X^2 Chi Square Test ***** Statistically significant at ≤0.05

Table (IV): The relationship between the studied elderly' emotional intelligence levels and theirresilience level during the COVID-19 pandemic

Items	Levels of Emotional Intelligence						Total N=144		Test of significance
	Low (N=10)		Moderate (N=43)		High (N=91)				
	No.	%	No.	%	No.	%	No.	%	
Resilience level									
▪ Very low	0	0.0	8	61.5	5	38.5	13	9.0	X^2=30.913
▪ Low	2	33.3	4	66.7	0	0.0	6	4.2	P=0.000*
▪ On the low	4	8.9	17	37.8	24	53.3	45	31.2	
▪ Moderate	4	8.7	9	19.6	33	71.7	46	31.9	
▪ Moderately high	0	0.0	5	14.7	29	85.3	34	23.6	

X^2 Chi Square Test ***** Statistically significant at ≤0.05

Table (V): Correlation matrix among the subscales of resilience and emotional intelligence ofthe study subjects during the COVID-19 pandemic

Dimensions		Scale of resilience		
Scale of emotional intelligence	r	Personal competence	Acceptance of self	Total Resilience
Attention to feelings	r	0.229	-0.161	0.042
	p	0.124	0.054*	0.616
Clarity of feelings	r	0.326	0.360	0.360
	p	0.000*	0.000*	0.000*
Mood repair	r	0.585	0.426	0.573
	p	0.000*	0.000*	0.000*
Total EmotionalIntelligence	r	0.515	0.333	0.491
	p	0.000*	0.000*	0.000*

r = Pearson correlation * Significant p at ≤0.05

r ≥0.9 very high correlation r 0.7-<0.9 high correlation r 0.5-<0.7 moderate correlation r < 0.5low correlation

Discussion:

This study reported that more than one-half of the participants fall into two categories, either moderate or moderately high levels of resilience. As for the level of EI among the studied elders, it was found that two-thirds of them reported having a high level of EI. Izadi-Avanji et al., 2017 and Phillips et al., 2016 came in line with the present study and revealed that the mean resilience in the older adults was at a moderate level [6,20] . With the increased greying of the population, a growing field of research has arisen on the concept of resilience and ET among older adults and its role in successful aging. Aging implies important adaptive changes, EI can be a key factor in the development of adaptive strategies. Macleod et al., 2016 contradicted the present finding and reported that 14.5% of the older adults were found to have a high resilience level [21].

he results of the present study revealed that the age of the participants had a significant effect on their resilience. The studied elders aged 70 years and more exhibited a higher level of resilience than the younger age groups. Macleod et al., 2016 supported the present finding and revealed that higher levels of resilience are associated with increasing age and suggesting that the younger old are not always as resilient as those who are older [21]. Additionally, the present study found that the male elderly had a higher level of resilience than the female elderly group, it might be related to the ongoing exposure of the female elderly with stressors such as chronic medical conditions, physical disabilities, loss of income, and poverty. Izadi-Avanji et al., 2017 came in the line with the present finding and reported that the older men demonstrated higher levels of resilience than older women [20]. More than one study contradicted the present study and reported that a higher resilience level was found among women [6,21].

A married couple profited from a higher level of self-confidence and support accounting fora higher level of resilience. The present finding revealed that married studied elderly reported to havehigher level of resilience than those who are widowed or single. Izadi-Avanji et al., 2017, and Barbe et al., 2021 confirmed the present finding and found a significantly higher level of resilience in married individuals, and having a partner plays a role in providing emotional support needed [5,20]. Greater resilience was associated with good quality relationships, integration into the community, and high use of coping methods to solve problems. Also, the present study found that the studied elderly who live with their relatives and children had a better level of resilience than others. Phillips et al., 2016 agreed with the present finding and reported that resilience was strongly linked with current social engagement, and there was a significant increase in resilience. The impact of support from a partner, children, and friends, having supporting children and relatives was linked to a high resilience score [6]. Physical characteristics and health tend to be associated with higher resilience including independence in Activities of Daily Living (ADLs), being physically

active, and better physical health with fewer chronic conditions. The present study's findings revealed that studied elders who have health problems exhibited a higher level of resilience. Nygren et al., 2005 and Wellset al., 2012 agreed with the present study and concluded that having a lower level of physical health does not necessarily reduce the level of resilience in older adults. The present finding can be attributed to the higher coping mechanism and adaptation of the studied elders who suffered from health problems toward their conditions [22,23].

Higher resilience scores were associated with lower COVID-19 related worries as well as a reduced rate of anxiety and depression. Resilience is a psychosocial factor that protects in critical situations [24]. The present study revealed that two-thirds of the studied elders who reported a moderately high level of resilience reported having no psychosocial factor that affected their health during the COVID-19 pandemic, while the group who reported psychosocial factors had a low level of resilience.

Mecleskey and Gruda 2021 supported the present finding and observed that risk-averse participants who score high on trait resilience report lower state anxiety and psychosocial problems compared to individuals who score low on trait resilience [4]. However, these results are only significant in older participants. The present study also illustrated that there is a significant effect of age of the studied elders on their EI; the older subjects had a higher level of EI than the younger age group. Chen et al., 2016, in their study confirmed the present finding and found a positive relationship between age and EI. They suggested that older adults may obtain higher EI due to lifelong learning and accumulating knowledge [25]. Bermejo-Martins et al., 2021 contradicted the present finding and showed that young people reported higher levels of EI than older groups. The present study found that there is no relationship between sex and studied elders' EI. The finding of Galdone et al., 2018 result and indicated a non-significant sex effect in the three subscales of TMMS and EI. Bermejo-Martins et al., 2021 did not confirm thepresent study and found that women reported a higher level of EI [9,13].

Another factor is the association between EI and social support. That is to say that higher EI is related to increased social support, and better quality of social and marital relationships. Research on emotional clarity and repair were positively and significantly related to social support among the elderly [26,27]. The present study revealed that there is a significant relationship between the marital status of the studied elders and their EI. In which the married, divorced, and widowed elders had a higher level of EI than the single. Chen et al., 2016 supported the present study when examining the relationship between marital status and EI and found that older adults who had higher EI had a socialsupport system[25]. The present study found that there is a significant relationship between the living arrangement of the studied elders and their level of EI. Elders who were living with their

spouses, children, and relatives have reported a higher level of EI. Also, those who have children are reported to have a higher level of EI than those who do not have. Vicente-Galindo et al., 2017 came in line with the present study and revealed that a positive relationship was found between clarity, emotional repair, and social relation [28].

Previous studies indicated that higher EI is linked to better physical health, both subjectively and objectively [26,29]. The findings of the present study showed that studied elders who have health problems reported a higher level of EI. Vicente-Galindo et al., 2017 supported the present finding and revealed that there is a relationship between EI and health, and both specific disorders and general well-being are related to EI [28]. While Aust et al., 2013 opposed the present study and revealed that EI is associated with better physical and psychological health. The studied elders in the present study with health problems reported higher EI[30]. It may be related to that the people with higher EI know how to analyze and cope with the possible effects of their problems. Thepresent study found also that there is no significant relationship between psychosocial factors affecting health and EI. These findings supported the idea of the coping and adaptation of the studied elders to their physical and psychosocial problems. Chen et al., 2016 concluded that older adults could adjust their goals selectively and use optimization and compensation strategies to feel better about their lives [25]. Moron et al., 2021 added that the protective role of EI during the COVID-19 pandemic was associated with experiencing negative emotions such as fear and anxiety less intensely. They supported the present finding in which psychosocial problems related to COVID-19 did not affect their EI and EI protect them from suffering [10].

Regarding EI and resilience, emotionally intelligent individuals show more resilience, this facilitating better adaptation to changes in stressful situations and appraising stress as a challenge rather than a threat [31]. The present study revealed that there is a significant relationship between the studied elders' level of EI and their level of resilience. A higher level of EI is associated with a higher level of resilience. Also, it found that there is a positive relationship between personal competence, acceptance of self, clarity of feeling, and mood repair. Most of the research in this area supported the present finding and showed that people with better EI have better resilience. In particular, Schneider et al., 2013 demonstrated that EI facilitates resilient stress responses including challenge appraisals, more positive and less negative effects, and challenge physiology [12]. Likewise,Magnano et al., 2016 confirmed the present study and showed that EI plays a significant role in resilience [32]. In the same vein as the present finding, Armstrong et al., 2011 revealed that EI was related to psychological resilience. According to the present study and these authors, having higherEI is adaptive in stressful circumstances [33]. Barbe et al., 2021, and Bermejo-Martins et al., 2021 revealed that being resilient and having the ability to adapt allows one to positively face the pandemic, emotionally intelligent people are more aware of behaviors that promote health during the COVID-19 pandemic [5,13].

Conclusion:

It can be concluded from the results of the present study that male older subjects, married, living with their children, relatives, and spouses, having health problems, and not having psychosocial factors affecting their health during the COVID-19 pandemic reported to have a higher level of resilience than others. Also, the studied elders who were older, married, divorced, or widowed, living with children, relatives, and spouses, having health problems reported a higher levelof EI. There is a positive statistical relationship between studied elders' level of resilience and their emotional intelligence during the COVID-19 pandemic.

Recommendations:

Health educational programs should be implemented by the gerontological and public health nurses to enhance nursing staff knowledge to explore the older adults' level of resilience and EI and factors affecting them.

Health professionals who work with older adults may focus on helping them to improve understanding of their own and others' emotions and use effective emotional strategies to regulate their EI.

The gerontological and public health nurses should design socio-emotional interventions programs to enhance coping, adaptation, psychological well-being, and resilience of older adults, especially during the stressful pandemic.

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الملخص العربي

العلاقة بين المرونة و الذكاء العاطفى بين كبار السن الذين يعيشون بالمجتمع اثناء وباء كورونا المستجد في الاسكندرية ,مصر

المقدمة : ترتبط المرونة العالية والذكاء العاطفي في تقدم السن بالاعمار الناجح ، ونوعية حياة افضل، وتحسين سلوكيات عاملا وقائيا من العواقب الخطيرة المحتملة لوباء كورونا المستجد.

الهدف من الدراسة : يهدف نمط الحياة. قد يعتبر ذلك البحث الى تحديد العلقة بين المرونة والذكاء العاطفي بين كبار السن المقيمين في المجتمع أثناء جائحة كورونا في الاسكندرية ، مصر.

أسئلة البحث : ما هى العلقة بين المرونة و الذكاء العاطفى بين كبار السن الذين يعيشون بالمجتمع اثناء وباء كورونا المستجد في الاسكندرية , مصر؟

تصميم البحث :تم استخدام تصميم بحثى وصفي مترابط. مكان اجراء البحث : أجريت الدراسة في ثلثة أندية لكبار السن : نادي الوفاء ، ونادي الحياة والامل ، ونادي العمر الذهبي .**عينة البحث** :اشتملت هذه الدراسة على عينة ملئمة من مائة وأربعين من كبار السن ، الذين ليس لديهم ضعف ادراكى وال اكتئاب.

أدوات البحث : تم استخدام 5 ادوات لتجميع بيانات البحث كالتى :)1)مقياس معرفي صغير Cog-Mini))،) 2(استبيان صحة المريض (2 (PHQ-،) 3)استبيان لقياس البيانات الاجتماعية والديموغرافية والاكلينيكية لكبار السن ،)4Wagnild & Young's(مقياس المرونة ، و)5)مقياس تغير سمات المزاج او الذكاء العاطفى (.TMMS(**نتائج الدراسة** :وجود علقة ذات داللة إحصائية بين عمر كبارا لسن الذين شملتهم الدراسة ، والنوع ، والحالة الاجتماعية ، وترتيب المعيشة ، ووجود مشاكل صحية ، وعدم وجود عوامل نفسية واجتماعية تؤثر على الصحة خلل جائحة كورونا ومستوى المرونة لديهم. كما وجدت علقة ذات داللة إحصائية بين عمر كبار السن والحالة الاجتماعية وترتيب المعيشة والمشكلت الصحية ومستوى الذكاء العاطفي لديهم.

الخلاصة : على ضوء هذه النتائج نستخلص وجود علقة إيجابية بين مستوى مرونة كبار السن الخاضعين للدراسة وذكائهم العاطفي خلل جائحة كورونا. كما افضت نتائج هذه الدراسة بأنه يجب عمل تقييم وتقويم مع الاهتمام بمستوى المرونة لدى كبار السن والذكاء العاطفى لديهم خاصة أثناء أي جائحة.