

The Impact of Aging on Egyptian Adults' Use of
Affective Language

أثر التقدم في السن على استخدام المصريين البالغين اللغة للتعبير عن
العواطف

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Abstract

The present paper adopts a psycholinguistic perspective in an attempt to study the impact of aging on the use of affective language. The paper provides a quantitative-qualitative analysis of a study conducted with 90 Egyptian adults of different age groups in order to investigate their emotional perception of words related to personal experiences and social relationships as well as their use of affective language to describe a real-life situation, adopting the framework of the Linguistic Inquiry and Word Count (LIWC) model proposed by Pennebaker, Booth and Francis (2001). The findings of the present study partially agree with the findings of previous research in regard to the inclination of individuals above 40 to use more positive affective language. Yet, contrary to previous research which found that the increase in positive affect continues well into old age, the present study found that positive affective language use starts to decline after the age of sixty.

Keywords: Psycholinguistics – aging – affective language use

أثر التقدم في السن على استخدام المصريين البالغين للغة للتعبير عن العواطف ملخص البحث

يتبنى هذا البحث منظورا من علم اللغة النفسي في محاولة لدراسة أثر التقدم في السن على استخدام اللغة للتعبير عن العواطف. ويقدم البحث تحليلا وصفيا وكميا لنتائج دراسة أجريت مع تسعين شخصا بالغاً يمثلون مجموعات عمرية مختلفة في المجتمع المصري للوقوف على وصفهم العاطفي للكلمات المتعلقة بالخبرات الشخصية والعلاقات الاجتماعية واستخدامهم للغة للتعبير عن عواطفهم فيما يتعلق بمواقف حياتية حقيقية، وتمت دراسة ذلك من خلال تبني منهج إطار التقصي اللغوي وحساب الكلمات (LIWC) الذي صممه بينيكر وبوث وفرانسيز (٢٠٠١). وتتفق نتائج هذه الدراسة جزئياً مع نتائج الأبحاث السابقة في هذا المجال والتي تشير إلى اتجاه البالغين أكثر من أربعين عاماً إلى التعبير اللغوي عن العواطف الإيجابية أكثر ممن يصغرونهم في السن، ولكن تتمثل نقطة الاختلاف بين هذه الدراسة والدراسات السابقة في أن الدراسات السابقة أظهرت أن التعبير عن العواطف الإيجابية يتزايد مع كبار السن بينما أظهرت الدراسة الحالية أن التعبير عن العواطف الإيجابية يتناقص بعد سن الستين.

الكلمات المفتاحية: علم اللغة النفسي – التقدم في السن – استخدام اللغة للتعبير عن العواطف

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Introduction

The analysis of people's language provides valuable information about their personality traits as well as their psychological needs and anxieties. Sociolinguists and psycholinguists have long believed that language use conveys people's social, economic and psychological worlds (Eckert, 1999; Lakoff, 1987; Pennebaker & Stone, 2003). Since language is considered an influential tool that helps reveal an individual's perception of self and others, it can also provide insights into how language use changes over the life span and how different age groups may reveal their emotions and perceptions differently through language.

Although traditional stereotypes about old age claim that old people usually feel lonely, sentimental, stubborn and withdrawn (Perdue & Gurtman, 1990) and that they often experience declines in intellectual abilities (Ryan, 1992), recent research findings seem to contradict this unhappy pessimistic view of old age. Carstensen (1995), Mroczek and Kolarz, 1998, Pennebaker and Stone (2003) and Carstensen et al (2011) found that aging can be associated with increased experience of happiness and that as people grow older, they give more value to affect and show better regulation of emotions. Moreover, no decline in cognitive complexity of language was found in association with aging (Pennebaker & Stone, 2003). However, most of the research done on the relationship between aging and emotional well-being was conducted in western societies, mostly in the United States, and focused on psychological rather than linguistic aspects of age-related differences in emotional information processing. Moreover, there is little research on the effect of aging on emotional wellbeing in Arab communities. Therefore, the present research paper aims to fill in the gap in research on the impact of aging on emotional wellbeing in the Egyptian community, with emphasis on the use of affective language across different age groups.

The present study investigates the impact of aging on the use of affective language in the context of the upper-middle social class in the Egyptian society. It provides a quantitative-qualitative analysis of the results of a study conducted on 90 mixed-gender Egyptian adults divided into three equal groups: young, middle-aged and elderly in order to investigate their emotional perception of words related to personal experiences and social relationships in terms of the six basic human emotions of love, happiness, surprise, anger, sadness and fear. The study also examines the participants' use of affective language to describe a memorable situation, adopting the framework of the Linguistic Inquiry and Word Count (LIWC) model proposed by Pennebaker, Booth and Francis (2001). Affective language refers to verbal material that has emotional content (Citron, Weekes & Ferstl 2014). In this regard, the paper aims to test the hypothesis that older adults experience more positive feelings and use more positive affect words, which is based on previous research findings (Carstensen, 1995; Carstensen et al, 2011; Charles & Carstensen, 2010; Mroczek & Kolarz, 1998; Pennebaker & Stone, 2003). The paper also attempts to examine the following research questions:

1) Which of the three age groups under study chooses more positive affective language to describe life experiences and social relations?

2) Which age group mentions more positive experiences when asked to describe a significant real-life situation?

The answers to the above research questions and the validation or refutation of the set hypothesis aim to clarify the impact of aging on the use of affective language among Egyptian adults and the implication this may have on the emotional and social wellbeing of different age groups.

Literature Review

Recent research shows that emotional wellbeing improves from early adulthood into old age and that emotional experiences become more stable with advancing age (Carstensen et al, 2011). Contrary to the popular belief that youth is the best stage in life, Carstensen et al (2011) found that the peak of emotional wellbeing may not start until

well into the seventh decade. They also found that individuals who had relatively positive feelings and used positive affective language were more likely to survive longer (Carstensen et al, 2011).

Contrary to the negative stereotype that old people are generally unhappy and demonstrate decline in cognitive and linguistic complexity (Perdue & Gurtman, 1990), researchers have found that aging is often associated with increased experience of happiness (Carstensen, 1995; Mroczek & Kolarz, 1998). Carstensen (1995) found that as people grow older, they give more value to affect and show better regulation of emotions, the matter which leads to an increase in positive affect and a decrease in negative affect. Positive affect is defined as having a positive attitude and feeling happy about one's life and is often considered as a predictor of more survival years for senior citizens (Lyyra, Tormakangas, Read & Berg, 2006). Positive affective language and social experiences have been associated with better health conditions while negative social exchanges have been related to poorer health and depressive symptoms in the elderly (Newsom, Mahan, Rook & Krause, 2008). As for linguistic abilities, researchers found no decline in verbal ability from age 25 to age 88 (Schaie, 1994) and no decline in cognitive complexity of language with aging (Pennebaker & Stone, 2003).

Pennebaker and Stone (2003) found that aging was accompanied by drops in negative emotion words and increases in positive emotion words after carrying out a study in which they examined spoken and written samples from over 3000 research participants in three countries, the United States, New Zealand and England, to explore the link between language use and aging. They analyzed the samples in terms of variables such as positive and negative emotion words, first-person singular and plural pronouns, social references and time-related words. The results of their research showed that aging was associated with an increase in the use of positive emotion words and a decrease in the use of negative emotion words. Also, references to the self and others dropped in old age, and the old adults tended to use more present and future tense verbs and less past tense verbs. This could be attributed to

the fact that with the constrained time span the elderly expect to have left, they tend to focus more on the present and short-term future goals (Pennebaker & Stone, 2003).

Old age is often related to decreases in negative affect and lower states of feelings of anger and anxiety (Piazza & Charles, 2006). In a study asking a group of young adults and a group of old adults in the United States to describe their social experiences, older adults reported higher levels of positive emotional experiences when interacting with family members than did the younger adults (Charles & Piazza, 2007). In another study where adults from different age groups were faced with a problem-solving task, the older adults reported more positive affect and described their feelings using less negative affect words than did the younger adults (Lefkowitz & Fingerman, 2003). Moreover, older adults were found to be less likely to engage in conflicts and more likely to avoid escalation of a tense situation than were younger adults (Birditt, Fingerman & Almeida, 2005).

Several other studies found similar results showing older adults to favor positive affect over negative one. Charles, Mather and Carstensen (2003) found that older adults demonstrated an increase in the processing of positive emotional information, which is referred to as the positivity effect. Turk-Charles, Reynolds and Gatz (2001) studied positive and negative affect in a longitudinal sample spanning from 1971 to 1994 and representing four different generations of American families. The results revealed that negative affect decreased with age for all generations while positive affect showed stability in younger and middle-aged adults but decreased slightly with older adults. In another study where 184 adults ranging in age from 18 to 94 years were asked to rate 19 different emotions, the negative description of emotions dropped while the description of positive emotions increased across age (Carstensen, Pasupathi, Mayr & Nesselroade, 2000).

Several explanations and theories have been proposed to account for older adults' positive emotional wellbeing. The socio-emotional selectivity theory developed by Carstensen (1992) maintains that with increasing age, people become increasingly selective, focusing

more on emotionally meaningful goals and activities. In order to attain emotional satisfaction, older adults often spend more time with familiar individuals, with whom they have had rewarding relationships, thus maximizing positive emotional experiences and minimizing emotional risks. Also, as one ages, there may be a shift in perspective with the realization that time is running out. Such perspective of a limited time span may lead old people to focus on immediate goals over long-term ones and to select positive emotional content and avoid negative one (Carstensen & Mickels, 2005).

In old age, physical health declines, cognitive ability decreases and social networks shrink. Yet, this seemingly depressing picture does not imply that old people undergo negative emotional processing as they age (Charles, 2010). In fact, older adults have demonstrated ability to move out of negative emotional states faster than younger adults. Also, middle-aged and old adults seem to be less easily provoked by stressors than younger adults, and they engage less in conflict strategies such as yelling and name calling (Neupert, Almeida & Charles, 2007). There are two possible explanations for older adults' lower reactivity to negative emotional experience. One is that older adults are more able to regulate their emotions than younger adults, and the other is that older adults do not experience negative feelings as intensely as younger adults do (Mather & Carstensen, 2005).

In order to account for differences in people's positive and negative affective language, several measurement tools have been used in previous research studies. These involve the use of affective databases offering visual stimuli, both non-verbal (based on pictures) and verbal (based on words). Examples of non-verbal databases include the International Affective Picture System (IAPS) and the Nencki Affective Picture System (NAPS). Examples of verbal databases include the Nencki Affective Word List (NAWL), the Berlin Affective Word List (BAWL), and the Affective Norms for English Words (ANEW). These affective measurement tools basically require the subjects to rate their feelings towards a given picture or word using a given list of affective terms (Wierzbica et al, 2015).

Pennebaker et al. (2001) designed a Linguistic Inquiry Word Count (LIWC) program to compute the percentage of positive and negative emotion words in autobiographical descriptions. However, such a program may be problematic as it is insensitive to subtleties of language such as irony, sarcasm or negation. For example, the program may categorize 'not happy' as a positive emotion expression since it is designed to count the word 'happy' as showing positive emotion. Also, a word like 'mad' is listed as a negative emotion word in the program database, but the program will fail to recognize the positive emotion content in an expression like 'I'm mad about him' (Schryer, Ross, St. Jacques, Levine & Fernandes, 2012). Yet, in spite of the shortcomings of the LIWC program, it has been successfully used in research studies and has shown that older adults used more positive emotion words than younger adults in writing autobiographical memories (Schryer et al., 2012).

3. Methodology

The present paper adopts a psycholinguistic perspective in an attempt to link the psychological findings on age-related differences in emotion processing to age-related differences in the use of affective among Egyptian adults. The paper provides a quantitative-qualitative analysis of the results of a study conducted on 90 mixed-gender Egyptian adults divided into three equal groups: young, middle-aged and elderly through the last quarter of the year 2015 in order to investigate their emotional perception of words related to personal experiences and social relations in terms of the six basic human emotions of love, happiness, surprise, anger, sadness and fear. The study also examined the participants' use of affective language to describe a memorable situation, adopting the framework of the Linguistic Inquiry and Word Count (LIWC) model proposed by Pennebaker et al. (2001) to measure the density of affective words.

The subjects were 90 Egyptian adults divided into three different age groups: 20-39, 40-59 & 60-79. Each group had 30 subjects with an equal number of males and females to rule out the effect of gender differences on the survey results. The participants were chosen

from three different convenient samples: academic and administrative staff working at a private university in Cairo, administrative staff in a government institution and members of a social club in Cairo. All the subjects in the young and middle-aged groups had a white collar profession, and the subjects in the oldest group held a white collar profession before retirement. The subjects all held at least a B.A. university degree and represented members of the middle and higher-middle social classes in Egypt. This choice of subjects' socioeconomic social class makes the subjects representative of the majority of educated Egyptian citizens who have a social circle of acquaintances and can therefore make appropriate judgments on the use of affective language.

A questionnaire of two main sections was distributed among the subjects. The first section asked about the respondents' emotional perception of 12 given words related to personal experiences and social relations in terms of the six basic emotions of love, happiness, surprise, anger, sadness and fear proposed by Ekman (1992) and Shaver et al (1987). The second section studied the subjects' use of affective language to describe significant situations in their lives.

In the first section, the respondents were asked to assign one of the basic emotions (i.e. love, happiness, surprise, anger, fear, and sadness) to each of 12 given words related to personal experience and social relations to express how they felt about each word. The 12 words were divided into six words referring to personal life experiences and six words referring to social relations. The words related to personal life experiences were: past, present, future, health, wealth and work, while the words referring to social relations were: spouse, parents, children, relatives, friends and society.

The researcher provided a list of words referring to the six emotions of love, happiness, surprise, anger, fear and sadness proposed by Ekman (1992) and Shaver et al (1987). The first page of the questionnaire included instructions on how to answer the questions and how the basic human emotions are classified. The questionnaire was

written in Arabic so it could be understood by the majority of the Egyptian subjects representing the different age groups. A list of 8 words was provided under each of the primary six emotion words to provide examples of secondary emotions falling under the category of that word. For example, the emotion word 'happiness' has secondary emotions like enthusiasm, cheerfulness, enjoyment, pride, triumph, hope, optimism and satisfaction under it. This made it easier for the subjects to know which basic emotion word to use to describe the 12 given words related to personal life experiences and social relations. The list of basic emotions was prepared according to the model that uses judges' evaluation of affective terms proposed by Pennebaker et al. (2001). The list of basic emotions used in the present study was prepared by having three judges, the researcher herself and two other judges holding a PhD in psychology, evaluate lists of emotion words adopted from Ekman (1992) and Shaver et al. (1987) and translated in Arabic by two translation experts to ensure that the closest meaning to each English word was attained. The judges then chose ten secondary emotions to go under each of the six primary emotions of love, happiness, surprise, anger, fear and sadness. A final list of eight secondary emotions under each primary emotion word was created after filtering the choices made by the three judges. A term was included in the list under each primary emotion if at least two of the judges agreed it should be.

The development of a list of emotion words in each language is of significant value in the fields of psychology and psycholinguistics. Scherer (1986) reported on the results of research done by a team of psychologists to translate emotional words in five different languages in order to account for universal basic emotions. The five languages were English, French, German, Italian and Spanish. It was difficult to find labels with exactly equivalent meanings across all languages, but the list served as a convenient starting point for compiling multilingual dictionaries of affective meaning (Scherer, 1986). No such list has been done to translate affective words into Arabic, so the present research

may be a starting point to prepare a list of Arabic words representing universal basic emotions.

The first part of the questionnaire examined the subjects' description of the 12 words representing life experiences and social relations using the list of affective words provided. The results of this part were analyzed quantitatively showing the percentage of subjects describing each of the twelve words using a positive affective term across the three age groups. For the analysis of this part of the questionnaire, the provided affective words were further classified into two lists: a list of positive affective words and a list of negative affective words. The classification of positive and negative words was based on the judgment of the three evaluators as well as the findings of previous research (Andries, 2011; Stephan & Stephan, 1985).

Previous research maintains that positive emotions refer to pleasant states and emotional wellbeing resulting from fulfillment of desires and a feeling of gratitude, whereas negative emotions reflect unpleasant states and are associated with unmet needs and overall dissatisfaction with one's conditions (Andries, 2011). Positive emotions include feelings of relief, joy and love while negative emotions refer to feelings of fear, hate and disgust (Stephan & Stephan, 1985). Accordingly, in the present paper, love and happiness were classified as positive emotions while the remaining four emotions (surprise, fear, anger and sadness) were classified as negative emotions. This classification matches with the classification of previous researchers like Shaver et al (1987) and Meadows (2014). Although the emotion of surprise may be aroused by both positive and negative experiences, the way it was referred to by the subjects in this study, as was clear from their writings, suggests that they used it to refer to experiences that they criticized or satirized.

The second part of the questionnaire required the subjects to write about a recent situation which they had felt strongly about, making reference to the provided list of emotions to describe how they felt about that situation. Each respondent wrote a short paragraph of

about 30 words describing that situation and his/her feelings towards it. The written paragraphs were then analyzed using the framework proposed by Pennebaker et al. (2001). The positive and negative affective words used in the paragraphs were counted and analyzed in terms of age differences among the respondents. The researcher analyzed the data manually, with the help of the two other judges who agreed upon the classification of the basic human emotions used in the study. The researcher did not rely on computer software as the Linguistic Inquiry and Word Count (LIWC) program developed by Pennebaker et al. (2001): first, because there was no such computer software with Arabic affective language corpus; second, because automatic data collection techniques may have their drawbacks. One limitation of such techniques is that they do not consider irony or sarcasm, nor do they consider the context in which the language was used (Pennebaker & Stone, 2003).

In the following section of the paper, the analysis of the two parts of the questionnaire discussed above helps the researcher validate or refute the hypothesis that older adults experience more positive feelings and use more positive affect words, which is based on previous research findings (Carstensen, 1995; Carstensen et al, 2011; Charles & Carstensen, 2010; Mroczek & Kolarz, 1998; Pennebaker & Stone, 2003). The data analysis also addresses the following research questions:

- 1) Which of the three age groups under study chooses more positive affective language to describe life experiences and social relations?
- 2) Which age group mentions more positive experiences when asked to describe a significant real life situation?

The answers to the above research questions and the validation or refutation of the set hypothesis help clarify the impact of aging on the use of affective language in the Egyptian society and the implication this may have on the emotional wellbeing of different age groups.

4. Results and Discussion

This section represents the results of the two parts of the questionnaire used with 90 Egyptian adults in three different age groups to investigate their choice of affective language to describe words related to life experiences and social relations and their use of affective language to describe real life situations.

4.1 Affective Language Chosen to Describe Life Experiences and Social Relations

The participants' choice of affective words to describe life experiences and social relations was analyzed in terms of positivity and negativity. Words under the categories of love and happiness were considered positive affective words, while those under the categories of surprise, fear, anger and sadness were considered negative affective words. The following table shows the percentage of the participants' choice of positive affective words to describe personal life experiences.

Table 1 Percentage of respondents choosing positive affective words to describe personal life experiences of each age group

Life experiences	Percentage of respondents choosing positive affective words in each age group (N= 30)		
	20-39	40-59	60-79
Past	67%	70%	80%
Present	37%	60%	63%
Future	20%	33%	50%
Health	83%	60%	60%
Wealth	60%	87%	90%
Work	53%	67%	70%

The above table shows that the old age group felt most positive about their past, present, future, wealth and work, followed by the middle-aged then the young. The old and middle-aged groups were close in their ratings of most life experiences with the old group showing significant increase in choosing positive affective words to describe the future. This finding is supported by Pennebaker and Stone

(2003) who found that older adults made more positive references to the present and the future. This could be attributed to the fact that with the constrained time span the elderly expect to have left, they tend to focus more on the present and short-term future goals (Pennebaker & Stone, 2003). The young group, on the other hand, felt least positive about the present, future, wealth and work, which implies that they have worries about these life experiences as they are still at the beginning of their work career. The young group showed the highest rate of describing health with positive words, which implies that they enjoy better health conditions than the middle-aged and the old, and that the older groups have more worries about health as it naturally declines with age.

As for the participants' choice of affective language to describe social relations, the following table shows the percentage of the choice of positive affective words to describe social relations of each age group.

Table 2 Percentage of respondents choosing positive affective words to describe social relations of each age group

Social Relations	Percentage of respondents choosing positive affective words in each age group (N= 30) (N= 30)		
	20-39	40-59	60-79
Life partner	80%	90%	87%
Parents	97%	87%	77%
Children	83%	87%	90%
Friends	73%	70%	67%
Relatives	83%	53%	67%
Society	13%	20%	40%

The above table shows that the significant differences among the three age groups were in the affective descriptions of parents, relatives and society. The oldest group was lower than the other two groups in the positive rating of parents due to the fact that several members in this group felt sad about their parents' death, while many subjects in the other two groups had living parents and felt happier

about them. As for relatives, the youngest group showed the most positive rating, followed by the oldest then the middle-aged. This implies that the younger subjects are more attached to their family members perhaps because they are still not occupied with many responsibilities and have more time to spend with their relatives. As they grow older, however, people get more occupied with work and family responsibilities and may not have the chance to socialize with relatives or distant family members. As for their feelings towards the society at large, all respondents chose more negative than positive words to describe how they felt about the society, which may be related to the social, economic and political circumstances the Egyptian society has recently gone through with the Arab Spring uprising that took place in 2011 and the political and social changes that followed. However, the oldest group showed more positive feelings towards society than the other two groups, which implies that either the oldest group are not in direct contact with the surrounding society, being now retired and out of reach of most social circles, or that the elderly are more willing to accept people around them with all their flaws.

The findings of the first part of the questionnaire show that, in general, the choice of positive affective words to describe life experiences and social relations increased among the older groups. These findings agree with the hypothesis that older adults experience more positive feelings and use more positive affect words, which is based on previous research findings (Carstensen, 1995; Carstensen et al, 2011; Charles & Carstensen, 2010; Mroczek & Kolarz, 1998; Pennebaker & Stone, 2003).

4.2 Affective Language Used to Describe Real Life Situations

The findings of the first questionnaire section discussed above show the participants' preference of affective terms in describing life experiences and social relations, but the preference is shown through the subjects' selection of given words rather than the production of their own words. Therefore, the researcher designed the second section of the questionnaire, which required the participants to write a short paragraph

describing a real life situation that they have recently felt strongly about, whether in a positive or a negative way. The paragraphs written by the respondents were analyzed in terms of two dimensions: affective language description, and use of reference pronouns.

4.2.1 Affective Language Description

The paragraphs written by the participants in the young and old age groups referred to more negative situations than positive ones and included more negative than positive affect words. The following table shows the percentage of subjects choosing positive and negative situations to write about in each age group.

Table 3 Percentage of positive and negative situations mentioned by each age group

Situation	Percentage of positive and negative situations mentioned by each age group		
	20-39	40-59	60-79
Positive	37%	53%	13%
Negative	63%	47%	87%

The above table shows that the group which referred to most positive situations was the middle-aged group, followed by the young and then the old. The positive situations mentioned by the participants can all be grouped under three main topics: family satisfaction, job satisfaction and social satisfaction. Family satisfaction refers to topics such as satisfaction with the good health, success or marriage of a family member (usually a close family member like parent, spouse, sibling or child). Job satisfaction is related to feeling happy about job achievements and current position, and social satisfaction indicates feeling satisfied with friends and society. The following table shows the percentage of participants choosing each positive topic in each age group.

Table 4 Percentage of positive topics mentioned by each age group

Positive topic	Percentage of positive topics mentioned by each age group		
	20-39	40-59	60-79
Family satisfaction	23%	30%	7%
Job satisfaction	7%	20%	0
Social satisfaction	7%	3%	7%

The above table shows that there is a slight increase in the percentage of positive situations related to family and job satisfaction with the increase in age from the young group to the middle-aged, but the percentage dropped in old age. Also, there is no significant difference in the choice of social satisfaction as very few respondents mentioned it. This again reflects the subjects' negative feelings about the surrounding society, which is one of the findings of the analysis of the first part of the questionnaire.

The negative situations mentioned by the participants can be classified into the four topics of family problems, job problems, social dissatisfaction and death. Family problems refer to problems such as break up or divorce, sickness of a family member or academic failure of a child. Job problems are related to problems such as striving to achieve job accomplishments or having to work under stress. Social dissatisfaction refers to disappointment with friends, acquaintances or the society at large. Finally, death refers to the death of a family member or a friend. The following table shows the percentage of the participants choosing each negative topic in each age group.

Table 5 Percentage of negative topics mentioned by each age group

Negative topic	Percentage of negative topics mentioned by each age group		
	20-39	40-59	60-79
Family problems	7%	7%	23%
Job problems	3%	23%	0%
Social dissatisfaction	23%	10%	37%
Death	30%	7%	27%

The above table shows that the oldest group mentioned more negative topics related to family problems, which implies that the elderly are usually worried about the welfare of their family members, especially their children, possibly due to the fact that they have become more dependent on them in their old age. On the other hand, the middle-aged group mentioned more negative topics related to job problems, which implies that the middle-aged subjects have reached higher positions at work, the matter which makes them more likely to face challenges to prove their efficiency. None of the elderly group members mentioned situations related to job problems since they were all retired at the time the study was conducted. In regard to social dissatisfaction, the oldest group mentioned more negative situations followed by the youngest then the middle-aged. This appears to contradict the results of the first part of the questionnaire where more elderly subjects described the society with positive emotion words. This may indicate that although the elderly had experienced disappointing situations with those around them, they accepted the whole society they lived in, perhaps feeling that they were unable to change it. What supports this finding is that at least half of the elderly members pointed out to the researcher, after filling in the questionnaire, that they chose the emotion 'happiness' to describe certain life experiences and social relations because it includes the emotion of 'satisfaction' as a secondary emotion. They further explained that this emotion word implied to them the idea of acceptance of people or situations as they are because they cannot be changed. Finally, negative situations referring to death were mentioned more by the youngest group followed by the oldest then the middle-aged. The young were disturbed by the death of their old family members, while the oldest group showed grief over the loss of life partners or friends.

The written paragraphs were then analyzed using the framework proposed by Pennebaker et al. (2001). The positive and negative affective words used in the paragraphs were counted and analyzed in terms of age differences among the respondents. The researcher analyzed the data manually with the help of two other raters, namely the

two judges who agreed upon the classification of the basic human emotions used in the first part of the questionnaire. The total number of words written is 752 in the youngest group, 760 in the middle-aged and 755 in the oldest group. The following table shows the word count and density (shown by percentage) of the affective words used by the participants after classifying them into words referring to the six basic emotions of love, happiness, surprise, fear, anger and sadness.

Table 6 Word count of affective terms related to the six basic emotions

Basic emotion referred to	Affective word count by age group					
	20-39 (N=752)		40-59 (N=760)		60-79 (N=755)	
	Word count	%	Word count	%	Word count	%
Love	9	1.2%	12	1.6%	0	0%
Happiness	30	4%	45	6%	12	1.6%
Surprise	12	1.6%	6	0.8%	12	1.6%
Fear	0	0%	12	1.6%	3	0.4%
Anger	18	2.4%	12	1.6%	21	2.8%
Sadness	36	4.8%	21	2.8%	51	6.7%

The above table shows that the emotion words which had the highest densities were those related to happiness in the middle-aged and youngest groups' writings (6% and 4% respectively), and sadness in the oldest and youngest groups' writings (6.7% and 4.8% respectively). This implies that the group which used the most positive emotional language is the middle-aged group followed by the youngest group then the oldest one. Also, the fact that none of the members of the oldest group mentions words related to the emotion of love, in contrast to the other two groups, implies that the elderly are not as concerned with romantic issues or love relationships as the other age groups are.

In order to compare the percentage of positive affective words to that of the negative affective words used in each group, the affective words related to love and happiness can be counted as positive feelings, while those related to surprise, fear, anger and sadness can be counted as negative feelings. Hence, the percentage of positive affective words used in the three age groups becomes 5.2%, 7.6% and 1.6% respectively, whereas the percentage of negative affective words becomes 8.8%, 6.8% and 11.5% respectively. This shows that the group which uses the highest density of positive affective words and lowest density of negative affective words is the middle-aged group, while the group that uses the highest density of negative affective words and lowest density of positive affective words is the oldest group.

The data analysis of this part of the questionnaire does not totally support the hypothesis that older adults experience more positive feelings and use more positive affect words, which is based on previous research findings (Carstensen, 1995; Carstensen et al, 2011; Charles & Carstensen, 2010; Mroczek & Kolarz, 1998; Pennebaker & Stone, 2003). Though the data findings show that there is an increase in the use of positive affective words and a decrease in the use of negative affective words in the middle-aged group in comparison to the youngest group, the oldest group show less use of positive affective words and more use of negative affective words than the other two groups. In this regard, the findings of the present study show more support of Carstensen et al (2000) who found that self-reported negative emotions drop across the life span until the age of 60 at which they either remain constant or increase.

4.2.2 Reference Pronouns

The paragraphs the participants wrote in the second part of the questionnaire show differences in using reference pronouns among the three age groups. In terms of the situations described, 33% of the young group subjects and 40% of the middle-aged group subjects describe personal situations while none of the old group subjects refers to personal situations. As for the use of personal pronouns, the old group use less first person pronouns and more third person pronouns than the

other two groups. The following table shows the number and type of personal pronouns used by each age group.

Table 7 Use of personal pronouns

Personal pronouns	Number of personal pronouns used by each age group		
	20-39	40-59	60-79
First person singular (I, me)	50	55	20
First person plural (we, us)	8	10	0
Third person singular & plural (he, she, they)	100	90	150

The above table shows that the oldest group make the fewest self- references through the use of first person plural pronouns, and these are used to indicate personal opinion (such as ‘I think’) rather than to talk about their own personal lives. The oldest group also show more use of third person singular and plural pronouns to refer to situations concerning other people, the matter which implies that they tend to be more concerned with others than with themselves. This finding partially supports Pennebaker and Stone (2003) who found that older people used fewer first person pronouns, but it does not agree with their finding that older people used less third person pronouns too.

The analysis of the two parts of the questionnaire, which are related to the subjects’ use of affective language, indicates that the results of the study partially supports the hypothesis that older adults experience more positive feelings and use more positive affect words. The present study shows that with age increase, people tend to use more positive affective words; however, this seems to occur during middle age (between 40 and 60), but there tends to be a decline in the use of positive affective words in old age (sixty and above). This finding contradicts findings of previous research conducted in western societies which claims that the older adults above 60 enjoy a more positive emotional wellbeing and give more value to affective language (Carstensen, 1995; Carstensen et al, 2011; Charles & Carstensen, 2010; Mroczek & Kolarz, 1998; Pennebaker & Stone, 2003). The difference

between the Egyptian elderly and their western counterparts in their overall emotional wellbeing and use of positive affective language could be related to two social dimensions. First, the elderly in western countries may feel more positive about their life circumstances due to the advanced health services and facilities provided to them. Second, the elderly in the Egyptian society, like many other eastern societies, are more attached to their families and feel more dependent on their children, which may lead them to feel disappointed if their children or other family members fail to take good care of them.

The analysis of the above findings also addresses the two research questions; that is, which of the three age groups under study chooses more positive affective language to describe life experiences and social relations, and which age group mentions more positive experiences when asked to describe a significant real life situation. The answer to the first question is provided by the above results showing that the age groups that choose more positive affective language to describe life experiences and social relations are the old and the middle-aged groups. As for the second question, the answer is provided through the analysis of the participants' written paragraphs which reveals that the middle-aged group mentions more positive experiences and uses more positive emotional language to describe those experiences, followed by the young and then the old group.

Limitations

The present study has some limitations that need to be attended to in future research. One limitation is the difference between standard Arabic and colloquial Egyptian Arabic, which led to some of the participants using slang words to refer to positive and negative affective language. This required more effort on part of the judges to classify the affective words used into positive and negative affective terms. Sometimes, also, a slang word would have both a positive and a negative meaning depending on the context. This requires the compilation of a large corpus of both standard and colloquial Arabic words to be used in computer software like the one designed by Pennebaker et al. (2001), which makes the analysis of affective language easier and more accurate. The absence of such corpus is one of the reasons the researcher did not use computer software to count the affective words used by the participants in the present study.

Another limitation is the cultural and religious implications that are inherent in the connotations of some affective words. For example, the word ‘satisfaction’, which comes under the emotion of happiness, is translated as ‘Arridha’ in Arabic, which has the connotation of ‘acceptance’; that is, accepting a certain situation because of the inability to change it, and because a person has to accept God’s will in all cases. This is the view held by most Egyptians, whether Muslims or Christians, as explained by many of them after filling in the questionnaire. The cultural and religious connotations of a word like ‘satisfaction’ explain the high percentage of older participants using the emotion of happiness to describe life experiences and social relations even though they tend to mention negative situations and use negative affective words when asked to write about a situation that they have recently felt strongly about.

Conclusion

The present study provides a contribution to the literature on the impact of aging on affective language or language describing basic human emotions. The findings of the present research study conducted with three Egyptian adult age groups partially agree with the findings of previous research conducted in western communities with regard to the inclination of individuals above 40 years of age to use more positive affective language. Yet, contrary to previous research which found that the increase in positive affect continues well into old age, the present study has found that positive affective language use starts to decline after the age of sixty. The results of the present study can serve as a starting point for developing tools to measure large scale affective communication patterns across different languages with the aim of highlighting universal aspects of affective language use.

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Appendix I

Questionnaire (Arabic Version)

استطلاع رأي

الأسئلة التالية تهدف لاستطلاع رأيكم فيما يتعلق باستخدام اللغة للتعبير عن المشاعر المختلفة، وهي تمثل جزءاً من بحث أكاديمي أقوم به في مجال علم النفس اللغوي، ويسعدني مشاركتكم في هذا الاستطلاع مع ضمان عدم كشف هويتكم أو الإشارة إليها بأي شكل من الأشكال. أولاً: بيانات خاصة بالمشارك:

ضع علامة (√) أمام الإجابة المناسبة لكل من الأسئلة التالية:

١. المرحلة العمرية:

(أ) من ٢٠ إلى ٣٩

(ب) من ٤٠ إلى ٥٩

(ج) ٦٠ فما فوق

٢. النوع:

(أ) ذكر

(ب) انثى

ثانياً: بيانات الاستطلاع

يمكن تقسيم المشاعر التي يشعر بها المرء في المواقف المختلفة إلى ستة مشاعر أساسية وهي:

الحب – السعادة – الدهشة – الغضب – الحزن – الخوف

ويوضح الجدول التالي أمثلة من المشاعر الثانوية التي قد تندرج تحت كل من المشاعر

الأساسية السابق ذكرها:

الحزن	الغضب	الخوف	الدهشة	السعادة	الحب
اليأس	الضيق	الرعب	التعجب	الحماس	العاطفة
الحرص	الغيظ	الصدمة	الاستغراب	البهجة	الشوق
الأسف	الكراهية	القلق	الحيرة	الاستمتاع	الرغبة
التعاطف	الحقد	الارتباك	الشك	الفخر	اللهفة
الاكتئاب	الانتقام	الاضطراب	الذهول	الانتصار	الإعجاب
الوحدة	الرفض	الجزع	المفاجأة	الأمل	الانجذاب
الذنب	العداء	التوتر	التساؤل	التفاؤل	الاهتمام
الإحباط	الاشمئزاز	الهلوع	الفضول	الرضا	الحنان

والآن يرجى الانتقال للصفحة التالية للإجابة عن أسئلة استطلاع الرأي.

الجزء الأول: وصف المشاعر المتعلقة بالتجارب الحياتية والعلاقات الإنسانية

ضع علامة (√) تحت إحدى المشاعر الأساسية الأكثر تعبيراً عن شعورك نحو كل من الكلمات التالية الخاصة بتجاربك الحياتية وعلاقاتك الإنسانية. (برجاء اختيار شعور واحد فقط أمام كل كلمة وهو الذي يعبر عن أكثر احساس تشعر به عند ذكر تلك الكلمة).

التجارب الحياتية	الحب	السعادة	الدهشة	الخوف	الغضب	الحزن
الماضي						
الحاضر						
المستقبل						
الصحة						
الثروة						
العمل						

العلاقات الإنسانية	الحب	السعادة	الدهشة	الخوف	الغضب	الحنن
شريك الحياة						
الأب والأم						
الأبناء						
الأقارب						
الأصدقاء						
المجتمع						

الجزء الثاني

اذكر بإيجاز في فقرة مكونة من ثلاثين كلمة أكثر موقف كان له تأثيرا إيجابيا أو سلبيا عليك في الفترة الماضية وصف مشاعرك نحوه ثم وضح أية كلمة من الكلمات التي تصف المشاعر الأساسية الموضحة أعلاه هي الأكثر دقة في وصف مجمل مشاعرك إزاء هذا الموقف.

Appendix II

Questionnaire (English Translation)

The following questions aim to investigate your view on the use of language to express different emotions, and your answers will be used as the basis of an academic research I am currently conducting in the field of psycholinguistics. Your contribution is highly appreciated, and I assure you that your identity will not be revealed under any circumstances.

I. Demographic questions

A. Circle the age range that you belong to.

1. 20-39
2. 40-59
3. 60-79

B. Specify your gender

1. Male
2. Female

II. Questionnaire Items

Human emotions may be divided into the six basic emotions of love, happiness, surprise, fear, anger and sadness. The following table shows these six primary emotions with a list of secondary emotions that fall under each of them.

Love	Happiness	Surprise	Fear	Anger	Sadness
Affection	Enthusiasm	Exclamation	Horror	Annoyance	Despair
Longing	Cheerfulness	Astonishment	Shock	Irritation	Embarrassment
Desire	Enjoyment	Confusion	Anxiety	Hate	Pity
Passion	Pride	Doubt	Agitation	Envy	Sympathy
Infatuation	Triumph	Amazement	Disturbance	Vengefulness	Depression
Attraction	Hope	Surprise	Alarm	Resentment	Loneliness
Caring	Optimism	Wonder	Tension	Hostility	Guilt
Compassion	Contentment	Curiosity	Panic	Disgust	Disappointment

Proceed to the following page to start answering the questionnaire items.

Part One

Put a check mark under the basic human emotion word that best describes your feelings towards each of the 12 given terms related to your life experiences and social relations. (Specify one emotion word only to describe each term).

Life Experience	Love	Happiness	Surprise	Fear	Anger	Sadness
Past						
Present						
Future						
Health						
Wealth						
Work						
Social Relations	Love	Happiness	Surprise	Fear	Anger	Sadness
Partner						
Parents						
Children						
Relatives						
Friends						
Society						

Part Two

Write a short paragraph of about 30 words describing a situation that you have recently felt strongly about (either in a positive or a negative way) and explain your feelings towards it. You need to refer to one of the basic emotions listed above to describe how you generally felt about that situation.

