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Resourcefulness, positive cognitions, relocation controllability and relocation adjustment among older people: a cross-sectional study of cultural differences

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Abstract

Background. The population of older people in both the United States and Egypt is expected to double by the year 2030. With ageing, chronic illnesses increase and many older people need to relocate to retirement communities. Research has shown that positive cognitions and resourcefulness are positively correlated with adaptive functioning and better adjustment.

Aims and objectives. The purpose of this study was to examine and compare relocation controllability, positive cognitions, resourcefulness and relocation adjustment between American and Egyptian older people living in retirement communities. The purpose of this cultural comparison is to gain insight into influencing factors in each culture that might lead to interventions to help relocated older adults in both cultures adjust to their new surroundings.

Design and method. A cross-sectional, descriptive design was used to compare relocation controllability, positive cognitions, resourcefulness and relocation adjustment of a convenience sample of American older people ($n = 104$) and a convenience sample of Egyptian older people ($n = 94$). The study was a secondary analysis of two studies of older people residing in six retirement communities in Northeast Ohio and in five retirement communities in Alexandria, Egypt.

Results. Examination of mean scores and standard deviations on the measure of positive cognitions using independent sample t -tests indicated that on average, the American older people reported more positive cognitions ($t(131.16) = 11.29, P < 0.001$), more relocation controllability ($t(196) = -6.78, P < 0.001$) and more relocation adjustment ($t(196) = 9.42, P < 0.001$) than the Egyptian older people. However, there was no significant difference between Egyptians and Americans in resourcefulness ($t(174.16) = -0.97, P > 0.05$).

Conclusion: The results provide direction for the development of positive cognition interventions and engaging older people in the decision-making process to help them to adjust to relocation.

Implications for practice. Positive thinking and resourcefulness training interventions can be used by nurses to help relocated older people to adjust to the stress of relocation to retirement communities. These interventions can be used on primary, secondary, and tertiary levels. Primary interventions can help to prevent the stress of relocation before happening by helping older people to use their positive thinking and their resources and work with them before relocating to retirement communities. Secondary prevention can be used by nurses to help older people who have already relocated to retirement communities and have already experienced stress of relocation to help them out by decreasing the stress that they are suffering. Tertiary prevention can be used to prevent further stress and deterioration for those who have suffered physical and psychological symptoms as a result of relocation.

Introduction

The population of older people is increasing exponentially in the United States and is expected to double to 71 million by the year 2030 [Centers for Disease Control and Prevention (CDC), 2003; U.S. Census Bureau, 2006a,b]. Similarly, in Egypt, the life expectancy has increased by 5 years during a 10-year period increasing from 62 years in 1993 to 67 years in 2003 (World Health Organization, 2004). As a result, statistics suggest that the percentage of Egyptian older people aged 80 years old and older will increase from 0.4% in 2000 to 1.4% in 2030. Furthermore, the percentage of those aged 65 and older will double from 4% in 2000 to 8.7% in 2030 (U.S. Census Bureau, 2006a,b).

With ageing, chronic illnesses increase (Rice & Fineman, 2004; Bekhet *et al.*, 2008, 2009) and they interfere with the functioning, daily activities and level of independence of older people (Bekhet *et al.*, 2011b). Thus, many older people require care and may need to relocate to retirement communities.

Indeed, the number of older people moving to retirement communities has increased significantly in recent years (Wilson, 2001; Hertz *et al.*, 2008; Sinunu *et al.*, 2009). Research suggests that relocation can be viewed by older people as either positive or negative, depending on many factors, including culture (Capezuti *et al.*, 2006; Keister, 2006; Rossen, 2007; Walker *et al.*, 2007; Bekhet *et al.*, 2009).

Literature review

In Egypt, there is an obligation and duty to care for older relatives (Boggatz & Dassen, 2005). In fact, relocation to long-term care facilities is a relatively new phenomenon that started in the 1980s because of the socio-economic changes that began to emerge three decades ago (Boggatz & Dassen, 2005; Sinunu *et al.*, 2009). These socio-economic changes include internal and international migration (Omran & Roudi, 1993), marriage at a later age (Rashad *et al.*, 2005), and completing higher education (El-Zanaty & Way, 2001). A recent study conducted by Sinunu *et al.* (2009) explored reasons why Egyptian older people relocate to long-term care facilities in Egypt from the perspective of their family caregivers. Caregivers expressed the belief that relocation to long-term care facilities is suitable for those older people who have no children or whose children live far away. They further pointed out that caring for an older relative should be limited to adult offspring, so those who do not have a close relative to care for should be placed in long-term care facilities (Sinunu *et al.*, 2009). These cultural beliefs may shape the perceptions of the relocated Egyptian elders, which can lead to negative thoughts and feelings of lack of control over their destiny, ultimately affecting their relocation adjustment.

Unfortunately, there is no reliable estimate regarding the number of long-term care facilities in Egypt (Boggatz & Dassen, 2005). The available resources indicate a projected increase in the number of long-term care institutions in urban areas, yet the number is still limited (Gadallah, 2002) and the nurses and other health care professionals are still not prepared to care for older people (Sinunu *et al.*, 2009). Long-term care facilities in Egypt are of two types: private and governmental. Private care facilities have a high cost and house older people from middle- to upper-class backgrounds (Sinunu *et al.*, 2009). On the other hand, relocation of American older people to retirement communities is well established in the United States and statistics show that the number of retirement communities is 30 000–40 000, which accommodates around 1 million American older people (Chao *et al.*, 2003).

A recent qualitative study, one of the parent studies from which the data for this analysis were obtained, investigated the reasons for relocation to retirement communities in relocated American older people. The themes evolved around three categories: 'pushing' factors, 'pulling' factors and 'overlapping' factors. Examples of pushing factors included one's own or spouse's failing health, getting rid of responsibilities, and not helped. Examples of pulling factors included facility location, familiarity and reputation of the facility, security, and joining friends. The 'overlapping' category indicated a combination of both pushing and pulling factors. Thus, American older people might be pushed or pulled by circumstances to relocate and many of them have control over their destiny and may, therefore, relocate voluntarily because of the location and reputation of the facility or to join friends (Bekhet *et al.*, 2009). Taken together, an elder's reasons for relocation and cultural beliefs influence his or her perceptions and thoughts, which contribute to relocation adjustment.

To arrive at a better understanding of factors that might contribute to relocation adjustment of elders representing two different cultures (Egyptian and American), the aim of this research was to examine three factors that were believed to affect older people's relocation adjustment, namely positive cognitions, resourcefulness and relocation controllability.

Theoretical framework

Resilience theory provided the theoretical framework for the study. Resilience has been defined differently by researchers, yet all definitions share the feature of overcoming adversity – in this case, the ability to not only tolerate the burden and stress associated with relocation, but also to grow into a stronger, more flexible and healthier person (Van Breda, 2001). Resilience theory proposes that individual resilience is the result of the interplay between risk and protective factors (Van Breda, 2001).

Risk factors involved in relocation may include relocation controllability, defined as having personal control over the move, which is reflected in the residents' ability to control and determine their destiny, exercise decision-making and manipulate some environmental aspects related to relocation (Tesch *et al.*, 1989; Lutgendorf *et al.*, 1999; Bekhet *et al.*, 2008, 2009, 2011a). Research has shown that diminished personal control over the move resulted in depression, anger, acting out, decrease adjustment and increase mortality rate (Chen *et al.*, 2007; Laughlin *et al.*, 2007; Bekhet *et al.*, 2008, 2009, 2011a). In turn, risk factors can weaken personal control, which can dangerously compromise resilience.

According to resilience theory, protective factors, or characteristics, virtues and conditions that have buffering effects, can strengthen the person's ability to overcome stress and result in adaptive and desirable outcomes (Greene *et al.*, 2003). Positive cognitions were conceptualised as protective factors in this study and were defined as positive thinking patterns that enhance persons' mental health and promote their abilities to manage daily activities (Zauszniewski *et al.*, 2002; Bekhet *et al.*, 2011a). Research has shown that positive cognitions are positively correlated with adaptive functioning and better adjustment (Lai, 2005; Bekhet *et al.*, 2011a,c). Resourcefulness, defined as a collection of cognitive behavioural self-control skills that help a person to function at an optimal level, is also a protective factor (Rosenbaum, 1990; Zauszniewski, 2006). Studies have shown that persons with greater resourcefulness are better equipped to deal with challenging situations in a constructive manner, and they have more adaptive functioning, life satisfaction, and better quality of life and adjustment than persons with low resourcefulness (Zarski *et al.*, 1990; Clanton *et al.*, 1992; Zauszniewski, 1996; Zauszniewski & Martin, 1999; Bekhet *et al.*, 2008).

Relocation adjustment, which refers to the ability of older people to deal with different demands and to stabilise as members within a residential home community, was conceptualised as an indicator of resilience in this study (Lee *et al.*, 2002).

Objectives

The study examined differences in risk (relocation controllability) and protective (positive cognitions and resourcefulness) factors and an indicator of resilience (relocation adjustment) among American and Egyptian older people living in retirement communities. In addition, the study explored

relationships among relocation controllability, positive cognitions, resourcefulness and relocation adjustment within the context of the resilience framework.

The study addressed the following research questions:

1. Do relocated American and Egyptian older people differ in: (i) relocation controllability; (ii) positive cognitions; (iii) resourcefulness; and (iv) relocation adjustment?
2. What are the relationships among relocation controllability, positive cognitions, resourcefulness and relocation adjustment?

Methods

Design, sample and setting

A cross-sectional, descriptive design was used to compare positive cognitions, resourcefulness and relocation adjustment of a convenience sample of American older people ($n = 104$) and a convenience sample of Egyptian older people ($n = 94$). This study was a secondary analysis of data from two studies: (i) a study of American older people residing in six retirement communities in Northeast Ohio (Bekhet *et al.*, 2008); and (ii) a study of Egyptian older people residing in five retirement communities in Alexandria, Egypt (Bekhet *et al.*, 2011a,b,c). The two data files were merged.

Recruitment procedure

In the parent study of the Egyptian older people, the researcher met the directors of the facility to explain the study and to ask them for their collaboration in recruiting the subjects. At an agreed upon time and place within the facility, the researcher met with older residents to explain the purpose of the study. Those who were interested provided their contact information and they were contacted later to arrange for data collection. After obtaining consent from the older people, the Short Portable Mental Status Questionnaire (SPMSQ; Pfeiffer, 1975) was used to screen for cognitive deficits. A total of 99 participants were recruited; however, five older people were excluded because they scored seven or less on SPMSQ, indicating cognitive impairment. The remaining Egyptian older people ($n = 94$) were considered to be cognitively intact and retained as study participants (Bekhet *et al.*, 2011a).

The exact same procedure was followed with the older people who were recruited in the parent study of the American older people in four of the six retirement communities. However, in two retirement communities, social workers referred older people who met the study criteria (65 years or older, cognitively intact, speak, read and understand English) of the researcher, who double checked their eligibility in meeting the inclusion criteria and administered the SPMSQ to screen for cognitive deficits. A total of 114 participants were recruited from the six retirement communities; ten were excluded as they scored seven or less on the SPMSQ, resulting in 104 American study participants (Bekhet *et al.*, 2008).

Data were collected for both parent studies during face-to-face interviews with either the American or the Egyptian older people. For each study, all older people (American or Egyptian) participated in data collection interviews with a single trained data collector. The measures took 45–60 minutes to

complete (Bekhet *et al.*, 2008, 2011b). Timeframes for data collection were between December 2004 and May 2006 for the American study and between April and August of 2009 for the Egyptian study.

The sample size was evaluated for this analysis that required the use of *t*-tests and correlational analyses. As this was the first study to examine the relocation controllability, positive cognitions, resourcefulness, and relocation adjustment among American and Egyptian older people, a medium to large effect size was used to estimate power (Cohen, 1992). With a power of 0.80 and alpha level set at 0.05, the available sample of 198 older people was considered sufficient (Cohen, 1992).

Ethical consideration

Approval was obtained before conducting each of the two parent studies from respective institutional review boards (IRB). For the American study, IRB approval was obtained from Case Western Reserve University IRB in Cleveland OH, USA. For the Egyptian study, approval was obtained from Alexandria University in Egypt. After receiving IRB approval, the American study participants signed the informed consent prior to the study; they were informed that their participation was voluntary and that they had the right to withdraw from the study without penalty or loss of any privileges at the retirement facility. However, in Egypt, written informed consent was not required; informed consent was implied if the older person participated in the study. Like the American participants, the Egyptian older people were informed about voluntary participation and their right to withdraw from the study without penalty or loss of any privileges at the long-term care facility.

Instruments

Relocation controllability was measured by the Pressure to Move Scale (PTMS; Smider *et al.*, 1996). Responses on this six-point scale reflect the extent to which the respondent felt pressured or pushed by others or by certain circumstances to relocate. Scores may range from 9 to 54 after reverse-coding four items, with higher scores indicating greater pressure to move. An internal consistency estimate of 0.70 has been reported. As a newly developed scale, the reliability was considered adequate (Cronbach's $\alpha = 0.70$; Smider *et al.*, 1996).

Convergent validity of the PTMS was demonstrated by significant correlations in the expected direction with measure of relocation adjustment ($r = -0.62$, $P < 0.01$; Bekhet *et al.*, 2011a).

Positive cognitions were measured by the Depressive Cognition Scale (DCS; Zauszniewski, 1995), which captures positive cognitions when scores are not reversed.

The DCS uses a six-point Likert scale ranging from strongly agree (5) to strongly disagree (0) to indicate the degree to which a certain statement describes the individual's current thoughts. Scores may range from 0 to 40. Higher scores indicate greater positive cognitions (Zauszniewski, 1997). The scale has been used to measure positive cognitions in previous research (Zauszniewski *et al.*, 2002), and acceptable and internal consistency have been reported (Cronbach's $\alpha = 0.78$; Zauszniewski, 1995). Construct validity for the DCS was demonstrated by significant correlations with measures of resourcefulness and adaptive functioning (r 's = -0.37 , -0.60 , respectively; $P < 0.001$; Zauszniewski, 1997).

Resourcefulness was measured by 16 items selected from the 36-item Self-Control Schedule (SCS; Rosenbaum, 1980) to assess the ability of individuals to apply self-control methods to solve the

problems (Rosenbaum, 1990). The same 16 items constitute the personal resourcefulness items on the 28-item Resourcefulness Scale (RS; Zauszniewski *et al.*, 2006), which was derived from Rosenbaum's (1990) SCS measure. Therefore, although the SCS was administered in the American study (Bekhet *et al.*, 2009) and the RS was administered in the Egyptian study (Bekhet *et al.*, 2011b), the 16 resourcefulness items were exactly the same. However, for the Egyptian study, the resourcefulness items were translated into Arabic (Bekhet *et al.*, 2011b).

The resourcefulness items use a six-point Likert scale ranging from 0 (not at all like me) to 5 (very much like me) (with higher scores indicating greater resourcefulness (Rosenbaum, 1990; Zauszniewski *et al.*, 2006). A Cronbach's α for the 16 personal resourcefulness items was reported to be 0.79 (Zauszniewski *et al.*, 2006). Construct validity was demonstrated by correlations in the expected directions with the Self-Control Schedule ($r = 0.85, P < 0.001$; Zauszniewski *et al.*, 2006). The personal resourcefulness scale is found to have factor loadings that exceeded the recommended criteria of 0.32, and 30% of the variance was explained by the personal resourcefulness scale (Zauszniewski *et al.*, 2006).

Relocation adjustment was measured using the Index of Relocation Adjustments scale (IRA) developed by Prager (1986). The scale consists of six items that uses a four-point Likert scale ranging from completely agree to completely disagree. Scores may range from 0 to 18 with higher scores indicating greater adjustment. Cronbach's α in previous research was 0.87 (Prager, 1986). Construct validity was demonstrated by a significant correlation with the 25-item General Contentment Scale (GCS; Hudson, 1982).

Instrument translations

For the Egyptian older people, all instruments were translated into Arabic by a fluent bilingual individual who translated the measures into the Arabic versions. Back translations were made by another two bilingual individuals who translated all the measures into the original English language without having seen the original measures (Yu *et al.*, 2004). Discrepancies were resolved between the original and the translated measures. The translated Arabic instruments were revised as required until the two language versions were similar in meaning, which is considered the most reliable method of deciding on cultural equivalence (Yu *et al.*, 2004). Detailed information about the reliability and content and face validity of the measures has been reported elsewhere (Bekhet & Zauszniewski, 2010; Bekhet *et al.*, 2011b).

The reliabilities of the Arabic and the English measures in this study are displayed in Table 1.

Table 1. Reliabilities of the measures used in this study

Measuring instruments	Cronbach's α	
	American older people	Egyptian older people
The Depressive Cognition Scale (DCS)	0.84	0.89
Personal resourcefulness (PR)	0.83	0.84
Pressure to Move Scale (PTMS)	0.71	0.70
Index of relocation adjustment (IRA)	0.86	0.70

Data management and analysis

A data codebook was developed to insure consistency in data coding and entry. Double entry was used and the data were checked for accuracy by comparing the two data files; discrepancies were checked against the raw data and corrected. Descriptive statistics, including means, standard deviations and ranges, were used to describe the sample. The independent *t*-test was used to compare the Egyptian and the American older people in regard to relocation controllability, positive cognitions, resourcefulness and relocation adjustment. Correlations were examined among the four major variables to clarify consistency with the proposed theoretical framework.

Results

Description of sample characteristics

The ages of the American participants ranged between 65 and 95 years (mean = 82; SD = 7.5), while the Egyptian participants ranged from 60 to 95 years (mean = 67; SD = 19.7). In terms of gender, 66% ($n = 69$) of relocated American elders were women and 34% ($n = 35$) were men. For the Egyptian elders, 54% ($n = 51$) were women and 46% ($n = 43$) were men. More detailed information about the American and Egyptian elders whose data were used for this secondary analysis is published elsewhere (Bekhet *et al.*, 2008, 2011b).

Comparisons between relocated American and Egyptian older people

American and Egyptian older people were compared on a risk factor, relocation controllability, which was believed to influence their resilience in adjusting to relocation. A significant between-group difference on mean scores for relocation controllability was found between the two groups ($t(196) = -6.78$, $P = 0.001$). On average, the Egyptian older people had higher relocation controllability scores ($M = 28.69$, $SD = 8.75$) than American older people ($M = 20.39$, $SD = 8.47$; see Table 2), indicating that the Egyptian participants felt more pressure to move and less control over their relocation than their American counterparts.

Table 2. Means and standard deviations of positive cognitions, resourcefulness and relocation adjustment for American and Egyptian older adults

Variable	Total sample ($n = 198$)		<i>t</i> -test	<i>P</i> -value
	American ($n = 104$)	Egyptian ($n = 94$)		
	Mean (SD)	Mean (SD)		
Positive cognitions	33.31 (5.80)	17.94 (12.00)	11.29*	0.001
Resourcefulness	57.38 (11.38)	59.21 (14.78)	-0.97*	0.049
Relocation controllability	20.39 (8.47)	28.69 (8.75)	-6.78*	0.001
Relocation adjustment	12.96 (3.59)	8.15 (3.59)	9.42 [†]	0.001

*Equal variances are not assumed.

[†]Equal variances assumed.

Next, we compared the American and Egyptian participants who were then compared on two protective factors, positive cognitions and personal resourcefulness, both of which were considered important in affecting their resilience in adjusting to relocation. A significant between-group difference on mean scores for positive cognitions was found between the two groups ($t(131.16) = 11.29$, $P =$

0.001). On average, the Egyptian older people had lower positive cognition scores ($M = 17.94$, $SD = 12.00$) than American older people ($M = 33.31$, $SD = 5.80$), indicating that the American participants reported more positive thinking patterns than the Egyptian older people (see Table 2). However, positive cognition scores were more widely distributed in the Egyptian participants than in the Americans, as indicated by the larger standard deviation in the Egyptian sample.

For the second protective factor, personal resourcefulness, no significant between-group difference was found ($t(174.16) = -0.97$, $P > 0.05$). The mean score for the Egyptian older people ($M = 59.21$, $SD = 14.78$) was similar to the mean of the American older people ($M = 57.38$, $SD = 11.38$), indicating that the two groups were similar in their personal resourcefulness (see Table 2).

The final comparison between the American and Egyptian older people was made on their relocation adjustment, which we selected as an indicator of their resilience. An independent samples t -test was used to compare the mean scores of the American and Egyptian older people on relocation adjustment. We found a significant difference between the two groups ($t(196) = 9.42$, $P < 0.001$). The mean relocation adjustment score of the Americans ($M = 12.96$, $SD = 3.59$) was significantly higher than the mean for the Egyptians ($M = 8.15$, $SD = 3.59$). Thus, the American older people had better relocation adjustment than the Egyptian older people (see Table 2).

Correlations between relocation controllability, positive cognitions and resourcefulness and relocation adjustment

Relocation controllability was negatively and significantly correlated with relocation adjustment for both the American and the Egyptian older people ($r = -0.62$, $P < 0.01$, $r = -0.37$, $P < 0.01$), respectively, indicating the greater the pressure to move (i.e. less control over relocating) was associated with poorer relocation adjustment (see Table 3). Next, correlations between the two protective factors, positive cognitions and personal resourcefulness, and relocation adjustment were examined. Among the American and Egyptian older adults, positive cognitions were strongly correlated with relocation adjustment ($r = 0.46$, $P < 0.01$, $r = 0.46$, $P < 0.01$), indicating that with greater positive cognitions, relocation adjustment is better. However, correlations between personal resourcefulness and relocation adjustment for the American and Egyptian older people differed. For the Americans, personal resourcefulness was not correlated with relocation adjustment ($r = 0.08$, $P > 0.05$); however, personal resourcefulness was significantly correlated with relocation adjustment for the Egyptian older people ($r = 0.35$, $P < 0.01$; see Table 3).

Table 3. Relationships between positive cognitions, resourcefulness, relocation controllability and relocation adjustment

Variables	Total sample ($n = 198$)					
	American older adults ($n = 104$)			Egyptian older adults ($n = 94$)		
	PR	RA	RC	PR	RA	RC
Positive cognitions (PC)	0.26**	0.46**	-0.37**	0.41**	0.46**	-0.41**
Personal resourcefulness (PR)		0.08	-0.01		0.35**	-0.51**

Relocation adjustment (RA)			-0.62**			-0.37**
Relocation controllability (RC)			1			1

** $P < 0.001$.

Discussion

This study is the first to examine the relocation controllability, positive cognitions, personal resourcefulness and relocation adjustment among American older people who relocated to retirement communities and Egyptian older people who relocated to long-term care facilities. The study found that the American older people were better adjusted to relocation than the Egyptians. One possible explanation is that the American older people in this study had more positive cognitions than the Egyptians. This is consistent with the finding that greater positive cognitions were strongly correlated with better relocation adjustment for both American and Egyptian older people. These findings are also consistent with the findings of Zauszniewski *et al.* (2002) that positive cognitions reduced the effects of some negative situations and with the findings of Smider *et al.* (1996) that older people who viewed challenging situations as opportunities for personal growth had more positive experiences with relocation than those who did not. Lai (2005) also found that having a positive view of the self and the world was associated with adaptive functioning, which may be a hallmark of relocation adjustment.

Another explanation of the better adjustment among relocated American older people is that relocated American older adults reported more controllability that has greater control over the move and were less pressured to relocate than the Egyptian older adults as was shown by the results of this comparative study. This, in fact, is consistent with previous studies that showed that a lack of personal control over the move can lead to depression, withdrawal, poorer relocation adjustment and increased mortality rates among relocated older people (Chen *et al.*, 2007; Laughlin *et al.*, 2007; Bekhet *et al.*, 2011a).

This study found no significant difference between Egyptian and American older people with respect to resourcefulness.

Limitations

Limitations of the study include the use of convenience samples in the parent studies of American and Egyptian older people, limiting the generalisability of the findings. In addition, the study was cross-sectional, making it difficult to assess changes in the study variables over time. Furthermore, data were collected during face-to-face interviews, so social desirability might have affected the study findings; perhaps, respondents were unable or unwilling to report their thoughts or feelings on sensitive topics (Fisher, 1993). Social desirability has been found to exist when self-report measures are used, particularly in social science research (Fisher, 1993). Future studies might consider measuring social desirability through the use of a standardised scale to ensure that the study measures truly reflect the older person's relocation experiences. Another limitation is the fact that the measures were administered in two different languages (Arabic and English). However, content and face validity of all the Arabic measures were assessed to assure cultural equivalence.

Conclusion

The population of relocated older people is expanding. Multifactor challenges interfere with the abilities of older people to adjust to relocation. The results of this cultural comparative study indicated that older people who have more positive cognitions and more control over their move were more able to adjust to relocation. Despite the study limitations, it provides a basis for developing interventions to strengthen positive cognitions among relocated American and Egyptian older people and attenuate the stress of relocation and to engage them in the decision-making process regarding their relocation. Cognitive interventions might help older people recognise and modify self-defeating thought patterns (Rook, 1984; Rush & Beck, 2000; Fava *et al.*, 2004), which in turn would improve their sense of belonging and their relocation adjustment.

Implications for practice

- The results of this research provide a better understanding of the relationships among the major components of resilience theory namely; a risk factor (relocation controllability), protective factors (positive cognitions and personal resourcefulness) and an indicator of resilience (relocation adjustment), which may narrow the gap in nursing knowledge and will advance nursing science.
- This study provides direction for nurses who work with relocated older adults to include in their nursing interventions those strategies that strengthen positive cognitions and personal resourcefulness skills in order to help older people to think in more positive ways and to help them to use internal and external resources to adjust to relocation. Positive cognitions and use of personal resourcefulness might include, using positive self-talk, reframing the situation positively, changing from one's usual reaction and exploring new ideas.
- Future research might consider measuring the effects of social resourcefulness among relocated older people.
- Interventions should be directed toward helping older adults to have control over their relocation. This can be achieved through engaging them in the decision-making process regarding their relocation, listening to their concerns, addressing their fears and facilitating them to participate in making choices. Longitudinal research is needed to determine the immediate, the lagged and the extent effects of interventions on older adults' abilities to adjust to relocation.

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