

Age Differences in Physical and Emotional Reactivity to Daily Stressors among Psychiatric Nurses

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Abstract: Stressors encountered in daily life aspects, such as home, and work may increase physical and emotional reactivity to stress especially in persons working in the nursing field. Characteristics of the individual as age may limit or increase his reactivity to daily stressors. The aim of this study is to examine the age differences in physical and emotional reactivity to daily stressors among nurses working in Al-Abbassia Mental Health Hospital. A descriptive correlational design was utilized for the current study. Sample of convenience of 100 psychiatric nurses working in Al-Abbassia Mental Health Hospital were divided into two groups "middle age group" and "young age group". Four tools were utilized in the current study including socio-demographic Data Sheet, Daily Stressors Scale, Physical Symptoms of Stress Scale, and Psychological Distress Scale. The results showed that: middle adult group of nurses reported physical and emotional reactivity to daily stress less than younger adult group of nurses. The study concludes that, age plays an important role in controlling emotional and physical reactivity to stress among nurses working in Al-Abbassia Mental Health Hospital. Further investigation is needed to examine age groups' difference to stress, as well as, other factors that may be influential in stress development.

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1. Introduction

Psychiatric nurses, also commonly known as mental health nurses (MHNs), frequently care for patients with an array of psychiatric and psychological illnesses, including depression, anxiety, bipolar disorder, antisocial and borderline personality disorder, and disturbances of thought and perception (such as hallucinations and delusions) (White, 2006).

The nursing profession is a highly stressful occupation, and MHNs share many of the stressors that affect general nurses, but it is important to point out MHNs are subjected to additional stressors. For instance, violent incidents were found to be one of the most frequently reported work related stressors. In addition, research studies have shown that up to 70% of psychiatric personnel experience some kind of violence at work each year (Soares *et al.*, 2000). Other stressors frequently encountered by psychiatric nurses include inadequate preparation, potential suicides, physically threatening patients, difficult or demanding patients, verbal abuse, and inadequate staffing in potentially dangerous situations (Jenkins & Elliott, 2004; Pinikahana & Happell, 2004). These adverse work conditions would result in negative health outcomes (Wickrama *et al.*, 2008). Factors external to the work environment, such as family life

and related stress, influence work-related occupational stress. In general, the spillover of family-related stress on work-related stress is greater for females than for males, and it might be reasonable to assume that the pattern is similar for female nurses as well (Narayan *et al.*, 1999). For nurses, the interaction between demands of work and those of family life often exacerbate occupational levels of stress. In a study across six different occupations including nursing, the most significant sources of occupational stress that contribute to overall work stress were conflicting demands between work and family, and performance pressures (Chan *et al.*, 2000). The relationship between work-related stress and family-related stress is reciprocal since satisfaction and stressors experienced at work have an impact on satisfaction and stress at home, and vice versa (Swanson, *et al.*, 1998). Dual responsibilities are likely to add a significant load on nurses' physical and mental health, and the load itself might be an additional source of work-related stress. In one study done by (Burke & Greenglass 1999) showed that nurses reported significantly greater spillover of work on family life rather than of family life on work. This study suggests that family life is likely to suffer more than work. However, the study reinforces that the conflict between work and family life is associated

with less work satisfaction and greater psychological distress.

Although stressors in the domain of work and home life are often studied in isolation, it is important to acknowledge that the relationship between the demands of work and home is an important source of occupational stress (Parikh et al., 2005). Emotional reactivity is the likelihood that an individual will react emotionally to daily stressors. At the day level, emotional reactivity refers to the change in daily distress that ensues after a person experiences a stressful event. Thus, reactivity is an indirect measure of emotion regulation, such that people who are less upset by a stressful event will experience a smaller increase in distress than someone who is more upset by a stressful event. While, Physical reactivity is defined as increased in physical symptoms reported in response to stressors (Almeida, 2005). This physical reactivity is automatic and not under voluntary control appraised risk of situation. The riskier the situation, the more intense the response (Boyd, 2002). Reactivity to work stressors is very important because work stressors are linked with increased health problems (Chandola et al., 2006) and poorer emotional health (Pflanz, & Sonnek, 2002). Home stressors are also important to consider because they have been linked with increased anxiety (Evan, & Steptoe, 2002).

Many factors have been show great influence in determining reactivity to stressors such as age. Age plays an important role in daily stress process, and in determining the physical and psychological consequences of daily stressors (Mroczek, & Almeida, 2004; Neupert et al., 2007) and understanding the role of age in exposure and reactivity to daily stressors is important because it can help characterize daily experiences and wellbeing across life span (Sliwinski et al., 2009). The importance of work domain typically increased in midlife (Clark-Plaskie, & Lachman, 1999). Therefore, this domain is particularly important to examine from an adult life span perspective because of the shift in saliency in work that often accompanies aging: that is; work stressors could be particularly detrimental for people in midlife Neupert et al., 2007). They also found that younger adults reported more frequent home stressors than did middle age, we reexamine the relationship between age and frequency of home and work stressors among specific populations "psychiatric nurses in Egypt" and their physical and emotional reaction to stress.

2. Significance of the study

Nurse's position is vital and multidimensional, as a human being he/ she is prone to much stressors like, if not more than others, by virtue of age. Consequently, for the nurse to be an effective

therapist, self awareness should be enhanced by exploring the reactivity to daily stressors and the effect of age differences as a strong personal characteristics to examine for whom and under what circumstances reactivity to stressors would be buffered or exacerbated.

Aim of the Study

The aim of the study is to examine age differences in physical and emotional reactivity to daily stressors among psychiatric nurses

Research Question

What is the impact of age on reactivity to daily stressors among psychiatric nurses?

Subject and Method

Participants

Sample of convenience of 100 psychiatric nurses who work in Abbasia Mental Health Hospital (AMHH) were recruited for the study. Inclusion criteria were: females only were included. The first group of nurses included 50 nurses whose their ages ranged from 20-<40 years (younger adult group). The second group of nurses included 50 nurses whose their ages ranged from 40-59 years old (middle adult group). They work as supervisors and staff nurses at AMHH.

Setting

The study was carried out at AMHH in Cairo, this hospital was built in 1883, and it is the largest hospital of 5 mental health hospitals throughout Egypt affiliated to the Ministry of Health (MOH). The hospital provides care for patients diagnosed with acute and chronic mental illness that need institutional care. An annual average of 1800 patients is admitted to the inpatient departments and about 10.000 were followed up at the outpatient clinics.

Measures

1. Socio-demographic Data Sheet.

It includes personal data such as nurse's age, level of education, marital status, occupation, income, place of residence

2. Daily Stressors.

The questionnaire was designed by the investigator to assess daily stressors that had occurred in the last two months. It consists of 68 items divided into 2 subscales that represent two domains of stressors (home, work stressors). Respondents answered the questions by "yes = 2" if the stressor was experienced or "no = 1" if the stressor was not experienced.

The first subscale was developed after reviewing the related literatures (McCubbin, & Patterson, 1987; Hipp, 1995; Johnson, 1997; Taylor, 1999; Boyd, 2002; Greenberg, 2003). It was designed to measure home stressors that had occurred in the last two months (any things that happened at home

that could be stressful). It consists of 42 items. The respondents were asked questions such as: "were you exposed to any of these stressors in the last two months? Such as: major change in finance, physical abuse by husband or parents, change residence, landlord problems, and caring for elderly". In the current study, the calculated reliability of this subscale was good with an alpha coefficient of 0.81.

The second subscale was used to measure work stressors that had occurred in the last two months. Respondents were asked questions such as: "You have to work very intensively? Are you dissatisfied with payments?" The subscale consists of 26 items adapted from Smith et al. (2000) occupational stress scale. The calculated reliability of this subscale was good with alpha coefficient of 0.79.

3. Physical Symptoms of Stress.

The investigator assessed physical reactivity to daily stressors by using the symptoms checklist by Larsen and Kasimatis (1991), after modifications, by omission of items that overlapped with the psychological distress scale (e.g., nervousness, urge to cry, loss of interest/bored), and by adding some symptoms of stress such as: "feeling of being flushed, sweating, tingling sensation, menstrual period, and rapid heart rate, decreased sexual desire, and recurrent vaginal infections" (Repetti, 1993; Seaward, 1997). These symptoms include headache, backache, chest pain, nausea etc. The respondents indicated how frequently they experienced each symptom over the past two months on a 3-point scale that ranged from (3) always, (2) sometimes, (1) never. In the current study, the calculated reliability for this questionnaire was high with alpha coefficient of 0.87.

4. Psychological Distress.

The questionnaire was developed by the investigator to assess the emotional reactivity in response to daily stressors. This questionnaire was developed from the following instruments: Affect Balance Scale (Bradburn, 1969), the Manifest Anxiety Scale (Taylor, 1953), and Kessler psychological distress scale (Kessler *et al.*, 2002). Respondents were asked questions such as these: in the last two months, how often did you feel worthless; restless; that everything was an effort? They rated their response on a 3-point scale ranging from (3) often, (2) sometimes, (1) rarely. The reliability of this questionnaire was done and alpha coefficient was 0.64.

Procedure

An official permission was granted from AMHH after the investigator presented the documented papers issued from the Faculty of Nursing, Cairo University, including the title of the

research and its objectives. She introduced herself to the director of the hospital, director of the Patient Rights Committee, the supervisor of the female inpatient departments and outpatient clinic and administrative personnel.

Once the permission was granted to proceed with the study, all participants were approached. At that time, purpose and nature of the study were explained to gain their cooperation and a written informed consent was taken from each participant. The questionnaires were read and explained by the investigator. Questionnaires were answered and completed by nurses under the guidance of the investigator. Interview with each participant took from 30-40 minutes. The data collection took place in the period from the beginning of March 2011 till the end of May 2011.

Ethical Consideration

In order to collect data for this study, a primary approval was obtained from the Ethical Committee of the Faculty of Nursing, Cairo University in September 9, 2009.

All participants signed and received a copy from the informed consent and were informed that participation in the current study is voluntary, no names were included in the data collection sheets and anonymity and confidentiality for each participant were protected by the allocation of a code number for each participant. They were informed that, they can withdraw at anytime during the study without giving any reasons.

Participants were also informed that in case of withdrawal, it will not affect their relationship with the investigator. Confidentiality was assured and participants were informed that the content of the tool will be used for the research purpose only.

All consents were revised after completing data collection by the Ethical Committee of the Faculty of Nursing, Cairo University and final approval was obtained in June 13, 2011.

3. Results

Socio-demographic Characteristics of the Studied Sample.

Table (1) showed that, in relation to age, the first age group of the studied sample consisted of 50 psychiatric nurses (younger adult group) aged from 20-<40 with a mean age of 28.08 ± 5.38 , while the second age group consisted of 50 psychiatric nurses aged from 40-59 years (middle aged adult group) with a mean age of 45.12 ± 4.65 . Also, the table revealed that, 66%, 30%, and 4% of younger aged adult group were married, single, and divorced respectively, while, 82%, 10%, 8% of middle aged adult group were married, widowed, and divorced

respectively. As regards occupation, 94% of younger adult group were staff nurses, while 82% of middle adult group were supervisors.

Table (1): Socio-demographic Characteristics for both Younger Adult Group (n=50) and Middle Adult Group (n=50) of the Studied Sample.

Item	Younger Adult Group		Middle aged Adult Group	
	No	%	No	%
Age (years)				
20 - <30	31	62	0	0
30 - <40	19	38	0	0
40 - <50	0	0	41	82
50 - 59	0	0	9	18
Marital Status				
Married	33	66	41	82
Single	15	30	0	0
Divorced	2	4	4	8
Widow	0	0	5	10
Occupation				
Staff nurse	47	94	9	18
Supervisor	3	6	41	82

Figure (1) revealed that, there were no differences between age groups in relation to the educational level as 98 % of the two age groups of the studied sample were graduated from secondary nursing school while, 2% of both groups were graduated from technical nursing institute.

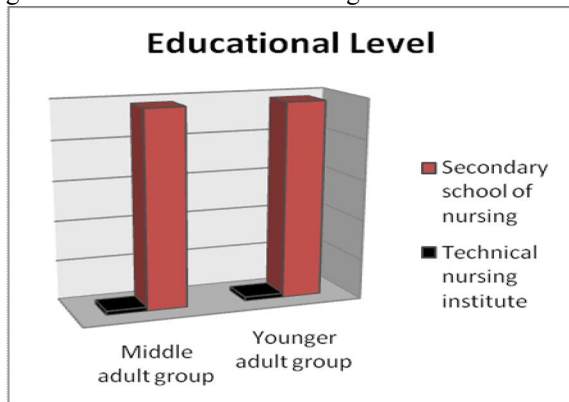


Figure (1) Frequency distribution of the studied sample according to level of education

As regards to income, figure (2) reveals that 90% of middle adult group compared to 12% of younger adult group had monthly income, 500 - <1000 Egyptian Pounds (EP), while 86% of younger adult group compared to 4% of middle adult group had monthly income less than 500 EP.

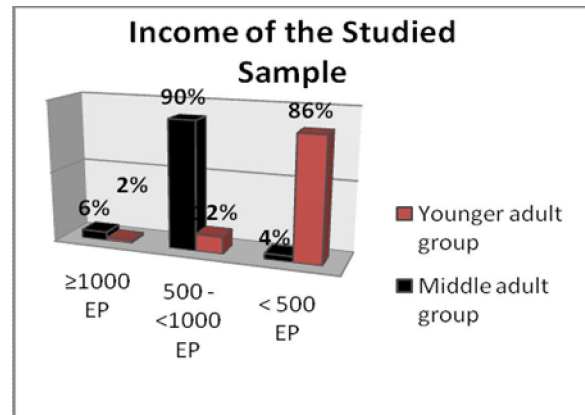


Figure (2) Frequency distribution of the studied sample according to income.

-The nature and Direction of Relations between the Study Variables.

Table (2) revealed that, there was a highly statistically significant difference between age groups in relation to work stressors, where younger adult group mean was 38.5±5.5, while middle adult group mean was 35.5±3.9, (t=3.14 at p= 0.002). However, there were no statistically significant differences between the two age groups in relation to home stressors.

Table (2): Age Differences in the Frequency of Daily Stressors (Home, and Work Stressors)

Variables	Younger adult group	Middle adult group	t	p-value
	M± SD	M±SD		
Home stressors	47.14 ± 4.061	47.73± 3.390	0.79	0.43
Work stressors	38.5±5.5	35.5±3.9	3.14	0.002**

**p<0.001 Highly significant

Table (3) revealed that, the two age groups were statistically different in relation to physical reactivity to daily stressors, as the younger adult group mean was 70.72±20.22, while middle adult group mean was 63.63±7.93 (t= 2.286 at p=0.024). Moreover, there was a highly statistically significant difference between the two age groups in relation to emotional reactivity to daily stressors, where the younger adult group mean was 32.92±9.07, while middle adult group mean was 23.94±3.567, (t=6.46 at p= 0.000).

Table (3): Age Differences in Reactivity to Daily Stressors.

Younger Adult Group M± SD	Younger Adult group	Middle Adult Group	t	p-value
	M±SD	M±SD		
Physical reactivity to daily stressors	70.72±20.22	63.63±7.93	2.286	0.024*
Emotional reactivity to daily stressors	32.92±9.07	23.94±3.567	6.46	0.000**

4. Discussion

The current study was conducted to examine the age differences in physical and emotional reactivity to daily stressors among psychiatric nurses.

Concerning the age differences in reactivity to daily stress, the findings of the current study revealed that there were statistically significant relationships between age and reactivity to daily stressors in which younger adults reported more physical and emotional reactivity to stress more than middle adult group. This is consistent with the findings of Hay and Diehl (2010), who found that age was negatively associated with physical reactivity of stress. Additionally, the study of Uchino et al. (2006) reported that there is reduced negative emotional reactivity to daily stressors with age. As well, Small et al. (2003); and Srivastava et al. (2003) mentioned that negative affect declines with age during middle and young-old adulthood especially for females. Similarly, Miech and Shanahan (2000) identified that symptoms of distress or depression are curvilinearly related to age—high in adolescence and young adulthood, low in middle-age, and greater again among older age groups. Additionally Schieman et al. (2001) found that, emotional distress is highest among young adults and decline among successively older age groups through midlife.

In accordance, the previous finding is congruent with socio-emotional selectivity theory of Carstensen et al. (1999), who indicated that emotional goals become increasingly important as people grow older, so resources could be directed at buffering the negative emotional effects of stressors. Deci, and Ryan (2000) added that enhanced emotional regulation could be due to learning through accumulation of experience as well as pursuing valued outcome.

Alternatively, the findings of the current study is inconsistent with that of Roddenberry and Renk (2010), who highlighted that younger adults "24 years old" experiencing of increased stress is related

to increased level of psychological symptoms but not physical symptoms, this may be attributed to the type of stress the author examined which is the "Academic stress". As well, the current study is contradicting with Diehl and Hay, (2010) who indicated that there is no age difference in reactivity to stress and age doesn't moderate the effects of daily stress on adults' daily negative emotion.

In this context, the current study result is in disagreement with Sliwinski et al. (2009), who found that there is an increase in emotional reactivity to daily stress, two possible reasons for this contradiction is that, the study of Sliwinski et al. (2009) is a longitudinal study for ten years and the study examined the reactivity to subjectively rated severity to stressors, while the current study examined reactivity to the presence of stressors not to the severity of stressors.

Moreover, the current study is incongruent with Salva et al. (2008), who indicated that age did not predict the daily emotional reactivity among individuals. In addition, Neupert et al. (2006) found that age was positively related to reactivity to cognitive stressors using salivary cortisol level to assess physical reactivity to cognitive stress. Furthermore, there is a cross-sectional evidence of age related increase in physiological reactivity to stress detected by Uchino et al. (2005) who found that age related changes in physiological reactivity during stress may be due to structural changes in systems of the body as people grow older.

Additionally, the present study finding disagreed with the study conducted by Knight, et al. (2002) who revealed that, there is no age difference in emotional reactivity to stress, one possible reason is that this research measured emotional reactivity to stress by using laboratory mood induction procedures, this age relevant mood induction relies on contents that reflect actual or potential experience.

The result of the current study would be explained in term of that middle adult people have a lot of experience, which let them to behave wisely toward any stressful situation they encounter, and the more people exposed to stress, the more mechanism of adjustments become mature and consequently, its impact become less traumatizing.

Conclusion

Age is very important factor that is considered correlates of physical and emotional reactivity to daily stressors. The study concludes that middle adults were less physically and emotionally reactive to stressors. . In addition, the results of the current study indicated that, work stressors were higher between younger nurses group. However, there is no age difference in the frequency of home

stressors among the two age groups of the studied sample.

Recommendations

Based on the study findings, the following recommendations were formulated:

Provide stress management training programs for nurses working in psychiatric inpatient settings.

Perform age-specific psychoeducational programs to teach younger and older adult nurses the positive adaptive coping methods, assertiveness strategies

Future research studies should be carried to examine the effect of nurses' reaction to stress on psychiatric patient recovery.

Larger sample size should be utilized in future research studies to generalize the studies' findings.

Stress management techniques should be taught elaborately in the nursing curriculums.

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