ORIGINAL RESEARCH

The relationship between psychological need satisfaction, job affective wellbeing and work uncertainty among the academic nursing educators

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ABSTRACT

Background: The growing recognition of the connection between employees' wellbeing, working conditions, satisfaction and productivity has increased the requirement for understanding the need for a culture of health, wellbeing and certainty in the workplace. Self-Determination Theory (SDT) posits innate universal psychological needs for autonomy, competence, and relatedness, which imply work climates allowing satisfaction of these needs facilitate work engagement and psychological wellbeing as well as promoting motivation and wellbeing in the work place. Purpose: This research study aims to continue this trend by investigating the relationship between psychological need satisfaction, job affective wellbeing and uncertainty at work among academic nursing educators at the Faculty of Nursing, Alexandria University.

Methods: A descriptive correlational design was used. All academic nursing educators who were available and willing to participate at the time of data collection were included (N = 169). Basic Psychological Need Satisfaction at work, Job-Related Affective Wellbeing Scale (JAWS), Personal and Work environment uncertainty scales were used to measure the study variables.

Results: The main finding of the study reveals perception of psychological need satisfaction among academic nursing educators is significantly related, and could lead to, higher feeling of job-related affective wellbeing, consequently increasing their tolerance of uncertainty at personal as well as work situations ($p < .05$).

Conclusions and recommendation: A positive and supportive work environment promoting employees' sharing, learning, autonomy, competence, belonging or relatedness and staff interaction should be supported by organizations. Also, identifying organizational obstacles to embracing uncertainty through a training program focuses on building employee uncertainty management skills and, how to use their resources to improve their uncertainty management practices are essential.

Key Words: Psychological need satisfaction, Job affective wellbeing, Uncertainty at work, Nursing educators

1. INTRODUCTION

An ongoing challenge for the organization is service accessibility and retaining professionals. These factors have led to organizational uncertainty and lack of resources and services, resulting in decreased sense of need satisfaction and wellbeing among employees. This growing recognition of the connection between employee wellbeing, working conditions, satisfaction and productivity has increased the requirement for understanding the need for a culture of health, wellbeing and certainty in the workplace.[1] A healthy workplace becomes an integral part of management practices to create a supportive and safe work environment and ensure employee

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wellbeing and satisfaction.[2] Another concern also, is how uncertainty in the environment impacts employees' behaviors and satisfaction. Nevertheless, most organization leaders seek out tools that reduce the perceived uncertainty. So, leaders can no longer ignore uncertainty and assume their organizations operate in stable environments.[3]

Nursing education is considered one of the academic disciplines with higher levels of job stress. The range of proficiencies required to perform well as a nursing faculty member begins with the academic triumvirate of teaching, scholarship, and service. However, nursing faculty members are often expected to maintain clinical competence[4,5] in addition to all faculty responsibilities. Workload is a major issue in academic nursing education as the demand for nursing graduates coupled with the faculty shortage present workload challenges for many programs.[5] Increasing the complexity of the faculty roles further are the dramatic changes that healthcare environments are facing from organizational leaders in nursing education. Therefore, although nursing faculty members are vital to the future of nursing education, the complexity of the nurse educator role is multifaceted, often overwhelming, and stressful.[6]

Moreover, stress in nursing education is gaining the attention of nurse educators and nurse researchers as the effects of stress on learning, persistence, academic success, and student satisfaction have been recognized. Nurse educators are facing the challenge of creating new ways of teaching and facilitating enhanced learning experiences in clinical practice environments that are inherently complex, highly demanding, and unpredictable. The literature consistently reports the negative effects of excess stress and unsupportive relationships on wellbeing, self-efficacy, self-esteem, learning, persistence, and success.[7]

Retaining faculty members is essential in nursing education today. Therefore, strategies to maintain or increase faculty satisfaction and wellbeing are crucial. There is a speculation, promoting the basic needs for autonomy, competence, and relatedness and decreasing uncertainty at work determine the extent to which employees are satisfied with their job. If employees find their work interesting and challenging, having a reasonable amount of decision latitude and positive relationships with the people they work with, it reasonably expect employees to be satisfied with their job, having job wellbeing and more satisfied with their lives overall.[8,9]

1.1 Study framework

The present study was guided by the self-determination model of work motivation and how psychological need satisfaction can relate to other variables such as job affective wellbeing as well as personal and work uncertainty.

Psychological need satisfaction. Deci and Ryan (2000, 2002)[10,11] developed Self-Determination Theory (SDT), which considered a contemporary theory of psychological needs relevant for understanding personal thriving within group contexts. Self-determination theory posits there are innate universal psychological needs for autonomy, competence, and relatedness, which imply that work climates allow satisfaction of these needs facilitate both work engagement and psychological wellbeing and promote motivation and wellbeing in work place. Contextual variables may affect need satisfaction.[10,11]

Autonomy need, indicates employees need to feel a sense of autonomy and control over their work. The satisfaction of the need for autonomy involves the experience of choice and the feeling that one is the initiator of one's own actions, but also that one's actions are in accordance with one's values as opposed to being controlled by external forces or internal pressures. Competence need, refers to being effective in dealing with the environment in which a person finds oneself. The satisfaction of the need for competence is fulfilled by the experience that one can effectively bring about desired effects and outcomes. While, Relatedness need, reflects the universal want to interact, be connected to, and experience caring for others. Satisfaction of the relatedness need pertains to feelings that one is securely connected to and understood by others. According to SDT, variations in needs satisfaction will directly predict variations in indices of psychological and physical wellbeing and the three basic psychological needs must be satisfied to foster wellbeing and health.[10,11]

Job wellbeing is exactly what employees are seeking. They expect higher levels of satisfaction, a sense of meaning and the ability to enjoy their lives both within and outside of the workplace.[1] Job affective wellbeing is a dynamic state in which the individuals are able to develop their potential, work productively and creatively, build strong and positive relationships with others and contribute to their community. It is enhanced when individuals become able to fulfill their personal and social goals and achieve a sense of purpose in society.[12] Job affective wellbeing at work is determined by the interaction between the working environment, the nature of the work and the individuals. Job affective wellbeing is associated with a range of positive outcomes such as reduced stress and improved productivity and facilitated by actions within organizations that support clear outcome expectancies, give basic material support, encourage individual contribution and fulfillment, give a sense of belonging, and a chance to progress and learn continuously.[13]

Individual differences in uncertainty orientation may be im-

portant moderators on the effect of uncertainty on wellbeing and vice versa.[14] Uncertainty, is another aspect that affects employee need satisfaction in the workplace.[15] It is primarily, a self-perception about one's own cognitions or ability to derive meaning. Uncertainty exists when an individual lacks information about the requirements of his or her role, how those role requirements are to be met, and the evaluative procedures available to ensure that the role is being performed successfully.[16, 17]

According to Clampitt and Williams (2000) and Williams and Clampitt (2003),[3, 18] there are two constructs related to uncertainty. The first construct is Personal uncertainty, which indicates how employees individually manage uncertainty in their organization. Personal uncertainty included three factors: (1) Perceptual uncertainty, addresses the individual's willingness to actively look at different perspectives, new ideas, or signs that the situation is changing, (2) Process uncertainty, addresses the employee's comfort in making a decision on intuition or a hunch, and (3) Outcome uncertainty, assesses the degree to which the employee needs detailed plans or a specific outcome before starting a project. While, the second contrast related to Work uncertainty, concerns employees' perception of how their organization manages uncertainty. The three factors for the work environment uncertainty are: (1) Perceptual uncertainty, assesses the degree to which the organization is willing to actively look for new ideas to address problems or signs that the situation is changing, (2) Expressed uncertainty, assesses the degree to which the organization encourages employees to express doubts or misgivings, and (3) Outcome uncertainty, assesses the degree to which the organization needs detailed plans or a specific outcome before starting a project. Translating the uncertainties of organizational life into a viable communication strategy is challenging for leaders. The more communication and transparency leaders create, the more they can reduce the spread of hearsay, and uncertainty at work place.[19]

1.2 Significance of the study

Krahn (2000) studied the stressors experienced by college nurse educators, reported exhaustion from enlarged teaching assignments, perceived lack of support, and decreasing job satisfaction, feeling devalued, bowing to the "status quo", uncertainty, and conflicting with others which in turn, affect their satisfaction and wellbeing.[20] There has been a growing trend recently to examine employees' affective wellbeing in order to better understand the attitudes and behaviors of employees in the workplace. Moreover, the satisfaction of the basic psychological needs for autonomy, competence, and relatedness has been identified as an important predictor of individuals' optimal functioning in various life domains. Furthermore, employee psychological wellbeing has been found to be in the best interests of employers and organizational success.[21]

Researches in the West, not the east, are rich with these relationship. It noteworthy, up to the knowledge of the current researchers, no published national study in Egypt has explored the nature of the explict relationship may exist between psychological need satisfaction, job affective wellbeing, and uncertainty at work setting specifically in nursing education. The present study may provide evidence in supporting the self-determination model of work motivation in nursing education field. In response to these identified needs, the current study aims to investigate this relationship. It hoped that such study will provide knowledge on how to improve nursing educators' need satisfaction and wellbeing that will be reflected positively on their work, and organization.

1.3 Aim of the study

The purpose of this study was two-fold:

- To investigate the relationship between psychological need satisfaction, and job affective wellbeing and uncertainty at work among academic nursing educators.
- To explore how academic nursing educators perceive their psychological need satisfaction, job affective wellbeing and uncertainty at work.

1.4 Research questions

- What is the relationship between psychological need satisfaction, and job affective wellbeing and uncertainty at work among academic nursing educators?
- How do academic nursing educators perceive their psychological need satisfaction, job affective wellbeing and uncertainty at work?

2. Material and methods

2.1 Research design and setting

A descriptive correlational research design was used to conduct this study. The study was conducted in Faculty of Nursing, Alexandria University. It is the first nationally accredited nursing faculty in Egypt seeks excellence in the dissemination of scientific knowledge through offering high quality advanced educational programs that are evaluated periodically according to the international quality standards for both Baccalaureate and post-graduate students.[22]

2.2 Participants

All academic nursing educators who working at Faculty of Nursing, Alexandria University and available and willing to participate at the time of data collection were included (N = 169).

2.3 Study instruments

2.3.1 *Basic psychological need satisfaction questionnaire*

It was developed by Broeck, Vansteenkiste, Witte, Soenens, and Lens, (2010).[23] It composed of 21 items used to assess three subscales namely: Autonomy satisfaction (7 items), competence satisfaction (6 items) and relatedness satisfaction (8 items). Responses were measured on 7-point likert scale, ranged from (7) = very true to (1) = not true at all. High mean indicated psychological need satisfaction among participants.

2.3.2 *Job-related affective wellbeing scale (JAWS)*

It was developed by Katwyk *et al.* (1999).[24] It included 20 items used to assess employee' emotional reactions toward work. Responses were measured on 5-point likert scale, ranged from (5) = extremely often or always to (1) = almost never. High mean represented high level of job affective wellbeing.

2.3.3 *Personal and work environment uncertainty scales*

It was developed by Clampitt and Williams (2000)[3] included two constructs; Personal Uncertainty Scale, was used to assess an employee's desire to embrace uncertainty. It composed of 11 items reflected three dimensions namely; Perceptual uncertainty (3 items), Process uncertainty (4 items) and Outcome uncertainty (4 items). Responses were measured on 7-point likert scale, ranged from (7) = strongly agree to (1) = strongly disagree. The items on this scale were summed so that a high mean indicated a greater tendency for the person to embrace and tolerate uncertainty. Work Environment Uncertainty Scale, reflected an organization's desire to embrace uncertainty. It contained 11 items that reflected three underlying dimensions; Perceptual uncertainty (4 items), Expressed uncertainty (4 items), and Outcome uncertainty (4 items). Responses were measured on 7-point likert scale, ranged from (7) = strongly agree to (1) = strongly disagree. High mean indicated that organization has a greater tolerance for uncertainty and was viewed as more desirable.

In addition to, the socio-demographic and work-related characteristics for academic nursing educators, included questions about (age, sex, academic position, department and years of experience).

2.4 Procedures

2.4.1 *Reliability and validity*

All study instruments were tested for internal reliability using the Cronbach's alpha correlation coefficient. The results proved instruments to be reliable with a correlational coefficient α value of 0.763, 0.94, and, 0.75 for the Basic Psychological Need Satisfaction Questionnaire, Job-Related Affective Wellbeing Scale (JAWS), and Personal and Work Environment Uncertainty scales respectively while the statistical significance level was set at $p < .05$. Also, study instruments were, tested for content validity and relevance to be suited for Egyptian culture by five academic faculty members in the field of study including, a professor and a lecturer from Nursing Administration Department, a Professor, an assistant Professor and a lecturer from Psychiatric and Mental Health Nursing Department. Accordingly, some items were modified to be more clearer. In addition, a pilot study was conducted on 17 nursing educators (10%) excluded from the study subjects to ensure the clarity and applicability of tools and to estimate the time required to complete the study questionnaires. In the light of the findings of the pilot study, no changes were made in the study instruments.

2.4.2 *Data collection*

Written approval was obtained from administrative authority in the identified setting to collect the necessary data. The questionnaires were distributed by the researchers to faculty members who agreed to participate in the study. Each member took about 30 minutes to complete the questionnaires. Data were collected from participants after obtaining their acceptance using the questionnaires in six months, 2013.

2.4.3 *Ethical considerations*

Approval was obtained from Ethical Committee at Faculty of Nursing, Alexandria University. The researchers explained the aim of the research to all participants. Their privacy and confidentiality of data were maintained and assured by obtaining subjects' oral consent to participate in the research before data collection. The anonymity of participants was granted.

2.5 Data analysis

Data were coded by the second researcher and statistically analyzed using SPSS (Statistical Package for the Social Science) version 20. Cronbach's alpha correlation coefficient was used to test study's instruments for internal reliability. Frequency and percentages were used for describing demographic and work-related characteristic. Arithmetic Mean and Standard Deviation (SD) were used as measures of central tendency and dispersion respectively for quantifying variables under the study. Pearson correlation coefficient analysis (r) was used to test the nature of the relationship between study variables. One-way ANOVA (F) was used to compare the mean scores of more than two groups of academic members. All statistical analyses were performed using two-tailed tests and an alpha error of .05. P values less than .05 were considered significant.

3. Result

3.1 Background characteristics of the participants

The valid response rate in the current study was 77.0%. 38.8% of academic nursing educators had between 24 years old and less than 30 years old, 31.8% had between 30-40 years old while, 29.4% had more than 40 years old. The majority (96.1%) of staff were female. 19.4% and 15.5% of them were worked at medical surgical and obstetrics and gynecology nursing departments respectively. While, 7.8% of them worked at nursing education as well as psychiatric and mental health nursing departments. The highest percentage of staff (42.6%) were demonstrators just had a bachelor of nursing science, 18.6% were assistant lecturers with a master of nursing science and 17.8% were lecturers with doctorate of nursing science. While, 10.1% and 10.9% were professors and assistant professors respectively with post doctorate researches. Furthermore, 27.1% of academic nursing staff had less than 5 years of work experience and, 26.4% had from 10 as well as above 20 years of experience while, 20.2% of staff had from 5 to 10 years of work experience.

3.2 Perception of psychological need satisfaction, and job-affective wellbeing, personal and work environment uncertainty

Table 1 reveals academic nursing educators had a high overall satisfaction of their psychological needs at their work represented by mean (4.71 $\pm$ 0.55). The highest mean was related to autonomy satisfaction represented by mean (5.29 $\pm$ 3.84) followed by competence and relatedness satisfaction (5.03 $\pm$ 0.74 and 5.24 $\pm$ 0.93 respectively). Also, they feel moderate job affective wellbeing at their work represented by mean (2.79 $\pm$ 0.78). In addition, academic nursing educators perceived a high tolerance of overall personal and work environment uncertainty represented by mean (4.12 $\pm$ 0.49). Personal uncertainty represented by mean (4.71 $\pm$ 0.55 with the highest mean related to outcome uncertainty (4.48 $\pm$ 0.55). On the other hand, work environment uncertainty perceived with moderate tolerance and, represented by mean (3.40 $\pm$ 0.57) with the highest mean related to outcome uncertainty (3.80 $\pm$ 0. 85).

Table 1. Academic nursing educators' perception of psychological need satisfaction, and job affective wellbeing, personal and work environment uncertainty

Study Variables	Mean ± SD
Psychological need satisfaction (overall)	4.71 ± 0.55
1) Autonomy satisfaction	5.29 ± 0.84
2) Competence satisfaction	5.03 ± 0.74
3) Relatedness satisfaction	5.24 ± 0.93
Job-Related Affective Wellbeing (overall)	2.79 ± 0.78
Personal and Work environment uncertainty (overall uncertainty)	4.12 ± 0.49
Personal uncertainty (overall)	4.71 ± 0.55
1) Perceptual uncertainty	3.93 ± 0.83
2) Process uncertainty	4.20 ± 0.66
3) Outcome uncertainty	4.48 ± 0.55
Work environment uncertainty (overall)	3.40 ± 0.57
1) Perceptual uncertainty	3.13 ± 0.58
2) Expressed uncertainty	3.35 ± 1.01
3) Outcome uncertainty	3.80 ± 0.85

Note. Mean value: <2.5 = low, 2.5-3.75 = moderate, > 3.75 = high.

3.3 Correlation between psychological need satisfaction, and job-affective wellbeing, personal and work environment uncertainty

Table 2, reveals positive significant correlations between psychological need satisfaction and each of; job-related affective wellbeing (r = 0.269, p = .002), personal uncertainty (r = 0.271, p = .002), and work environment uncertainty (r = 0.354, $p \leq .001$). Also, there are positive significant correlations between personal uncertainty and each of work environment uncertainty (r = 0.326, $p \leq .001$), and job-related affective wellbeing (r = 0. 239, p = .006). In addition, there is a positive significant correlation between work environment uncertainty and Job- affective wellbeing (r = 0.430, $p \leq .001$).

Table 2. Correlation between psychological need satisfaction, and job affective wellbeing, personal and work environment uncertainty

Study Variables	Job-Related Affective Wellbeing		Personal Uncertainty		Work Environment Uncertainty	
	r	*p*	*r*	*p*	*r*	*p*
Psychological need satisfaction.	0.269	.002*	0.271	.002*	0.354	< .001*
Personal uncertainty	0.239	.006*			0.326	< .001*
Work environment uncertainty	0.430	< .001*				

Note. r: Pearson coefficient; *: Statistically significant at $p \leq .05$.

3.4 Perception of study variables by work-related characteristics

Table 3 shows no significant difference among academic nursing educators at different academic departments regarding their perception of psychological need satisfaction (f = 0.888 , p = .529), job-affective wellbeing (f = 1.645, p = .119), personal uncertainty (f = 0.505, p = .850), and work environment uncertainty (f = 0.596, p = .780).

Table 3. Perception of psychological need satisfaction, and job affective wellbeing, personal and work environment uncertainty by Academic Nursing Department

Academic nursing department	Psychological Need Satisfaction	Job-Related Affective Wellbeing	Personal Uncertainty	Work Environment Uncertainty
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Obstetrics and Gynecology	4.70 ± 0.53	2.68 ± 0.58	4.20 ± 0.63	3.43 ± 0.82
Community Health	5.10 ± 0.50	2.76 ± 0.81	3.97 ± 0.39	3.53 ± 0.33
Nursing Education	4.69 ± 0.43	2.42 ± 0.69	4.22 ± 0.46	3.15 ± 0.48
Medical Surgical	4.62 ± 0.72	3.09 ± 0.94	4.13 ± 0.59	3.28 ± 0.49
Pediatric Nursing	4.60 ± 0.33	2.46 ± 0.79	4.11 ± 0.32	3.38 ± 0.46
Geriatric Nursing	4.68 ± 0.52	2.75 ± 0.61	4.02 ± 0.48	3.48 ± 0.55
Nursing Administration	4.74 ± 0.45	2.72 ± 0.64	4.24 ± 0.41	3.42 ± 0.68
Critical Care Nursing	4.69 ± 0.56	3.26 ± 0.78	4.03 ± 0.47	3.55 ± 0.57
Psychiatricand Mental Health	4.73 ± 0.69	2.77 ± 0.92	4.04 ± 0.38	3.39 ± 0.36
F test	0.888	1.645	0.505	0.596
p value	.529	.119	.850	.780

Note. ^{F}p: p value for F test f (ANOVA) *: Statistically significant at $p \leq .05$.

Table 4 reveals significant differences among academic nursing educators at different academic positions regarding their perception of psychological need satisfaction (f = 5.809, p = .001, Job-affective wellbeing (f = 3.156, p = .016), personal uncertainty and work environment uncertainty (f = 4.824, 4.872, p = .001). Professors had the highest mean among different academic staff regarding perception of these variables while, assistant lecturers had the lowest mean.

Table 4. Perception of psychological need satisfaction, and job affective wellbeing, personal and work environment uncertainty by Academic Position

Academic position	Psychological Need Satisfaction	Job-Related Affective Wellbeing	Personal Uncertainty	Work Environment Uncertainty
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Professors	5.21 ± 0.51	3.50 ± 0.67	4.59 ± 0.36	3.92 ± 0.61
Assistant Professors	4.90 ± 0.57	2.65 ± 1.05	4.14 ± 0.34	3.57 ± 0.81
Lecturers	4.87 ± 0.35	2.72 ± 0.62	4.09 ± 0.46	3.27 ± 0.54
Assistant Lecturers	4.57 ± 0.60	2.70 ± 0.79	3.91 ± 0.53	3.17 ± 0.50
Demonstrators	4.55 ± 0.53	2.74 ± 0.72	4.10 ± 0.47	3.38 ± 0.43
F test	5.809	3.156	4.824	4.872
p value	< .001*	.016*	.001*	.001*

Note. ^{F}p: p value for F test f (ANOVA);*: Statistically significant at $p \leq .05$.

Table 5 reveals significant differences among academic nursing educators with different years of experience regarding their perception of psychological need satisfaction as well as personal uncertainty (f = 8.368, $p \leq .001$ and f = 2.939, 0.036) respectively. Academic staff who had more than 20 years of work experience perceived higher psychological need satisfaction as well as tolerance of personal uncertainty. While, academic staff who had less than 5 years of work experience had the lowest means. On the other hand, there was no significant difference among academic nursing educators with different years of experience regarding their perception of Job-Affective Wellbeing (p = .116) as well as Work en-

vironment uncertainty (p = .096). However, academic staff who had more than 20 years of work experience still had the highest mean.

Table 5. Perception of psychological need satisfaction, and job affective wellbeing, personal and work environment uncertainty by Years of Experience

Years of Experience	Psychological Need Satisfaction.	Job-Related Affective Wellbeing	Personal Uncertainty	Work Environment Uncertainty
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
<5	4.42 ± 0.57	2.73 ± 0.76	4.09 ± 0.47	3.45 ± 0.42
5–	4.56 ± 0.50	2.84 ± 0.72	4.05 ± 0.50	3.28 ± 0.45
10-20	4.89 ± 0.46	2.58 ± 0.68	4.0 ± 0.51	3.26 ± 0.59
>20	4.96 ± 0.51	3.03 ± 0.90	4.32 ± 0.42	3.56 ± 0.71
F test	8.368	2.013	2.939	2.161
p value	< .001*	.116	.036*	.096

Note. ^{F}p: p value for F test f (ANOVA); *: Statistically significant at $p \leq .05$.

4. Discussion

A work environment, which autonomy support characterizes, will elicit overall need satisfaction and result in greater work engagement and psychological wellbeing. Because satisfying all psychological needs is essential for wellbeing, collective need satisfaction relates positively to motivation and wellbeing. Research has shown that autonomous motivation predicts persistence and leads to effective performance, especially on difficult or heuristic tasks that demand creativity and innovative problem-solving and uncertainty.[25] Thus, the present study was intended, in part, to investigate psychological need satisfaction, job affective wellbeing and uncertainty at work as perceived by academic nursing educators and how these variables correlate to each other. The primary findings of the present study revealed that academic nursing educators were highly satisfied with their psychological needs with the highest mean of autonomy need satisfaction. Also, they had moderate feeling of job affective wellbeing at their work. This result may be attributed to the awareness of academic staff to their psychological need for satisfying their desire for autonomy, competence and relatedness which are essential for optimal human wellbeing and career development. In turn, lead to positive organizational outcomes. They may feel that sense of autonomy is the leading factor and essential for satisfying other needs of competence and affiliation which make them feel affective wellbeing. This result go in the same line with Lynch, Plant and Ryan (2005), who clarified, autonomy and competence support and promote a quality of relationship that fosters satisfaction of relatedness and affiliation need. Feelings of warmth and respect proceed from feeling listened to and understood (autonomy), and feeling valued and appreciated (competence).[26]

Also, Milyavskaya and Koestner (2011) showed, satisfying the basic needs for autonomy, competence and relatedness leads to autonomous motivation. This, in turn, leads to positive employee and organizational outcomes.[27] According to Sheldon and Houser-Marko (2001), employees who set themselves autonomous goals can achieve them and increase their motivation and wellbeing.[28] Moreover, Macky and Boxall (2008) found that, a greater sense of involvement in decision making is associated with less stress and better life-work balance. This means the purpose of life is more than just work. Thus, making employees more involved into work can improve employees' wellbeing.[29] In sum, the study of Baard, Deci, and Ryan (2004), in line with previous studies, showed workers' report both perceived autonomy support from their supervisors and their own orientation toward experiencing environments as autonomy supportive were positively associated with the workers' level of need satisfaction and work outcomes and sense of wellbeing.[30] In this respect, Deci and Ryan (2008a, 2008b, 2011) recommended, organizations should create environments that support the satisfaction of psychological needs. They can achieve this by considering the perspectives of employees, encouraging initiative and a sense of choice, being responsive to the ideas, questions and initiatives of employees as well as promoting learning, competence and belonging. Providing a meaningful rationale for completing tasks, acknowledging that employees might not find activities interesting and emphasizing choice rather than control will contribute to satisfaction and wellbeing motivation.[25,31,32]

Moreover, the present study revealed Academic nursing educators had high tolerance of overall personal as well as work environment uncertainty with the highest mean related to outcome uncertainty. This result may related to the degree of their maturity and the nature of their job which considered

challenging and require more, tolerance and effort to control work conditions. Although Academic nursing educators may perceive that uncertainty sometimes make them uncomfortable, feel doubt and anxious, they reported that uncertainty at work stimulates and motivates them for innovation, change and development rather than being in routine work environment so, they used to tolerate these uncertainties related to life and work situations. This result could be confirmed by what Clampitt and Williams (2000) stated, while many people and organizations view uncertainty as undesirable, others are more tolerant. Personality factors, past experiences, and cultural conditioning appear to be contributing factors to the comfort level associated with uncertainty. Indeed, some become bored with the straightforwardness and stability of certainty, and thus perceive uncertainty as energizing, stimulating, and necessary for growth or development.[3] Also, Bevan (2010) stated, healthier employees are, in general, more resilient and better able to cope with the changes, uncertainty and ambiguity which are now more common in modern organizations.[33]

However, Grebner *et al.* (2003) clarified, task related stressors such as work overload, concentration demands, uncertainty are found to be negatively related with employee's job affective wellbeing.[34] In this respect, Bordia *et al.* (2004) emphasized the reduction of uncertainty and increased control over the change are important for employees' wellbeing and adaptation to change because people dislike situations in which they lack of control, they try to regain control by some means.[14] Also, Clampitt and DeKoch (2001) reported, organizations could best use their scarce resources to improve their uncertainty management practices rather than build individual employee skills. For instance, an exercise designed to identify organizational obstacles to embracing uncertainty would be preferable to a training program focuses on building employee uncertainty management skills. Presumably, such exercise would help identify organizational practices, procedures and policies that suppress uncertainty. These might include overly formal presentations, authoritarian edicts, and rigid planning processes.[35]

Importantly, the most prominent finding of the present study is the positive significant correlation found between Academic nursing educators' satisfaction of their psychological needs, and their feeling of job affective wellbeing, and their tolerance for personal, as well as work environment uncertainty. These positive correlations indicate, the higher satisfaction of psychological needs among academic nursing educators, the higher feeling of job-related affective wellbeing, in turn, the increased their tolerance of personal and work environment uncertainty. Staff reported that when they feel satisfaction of their needs of autonomy, competence and relatedness in their work, they feel better wellbeing which make them autonomous and motivated to tolerate any stressors or uncertainties in their life or work situations. These result are similar to the findings of Baard, Deci, and Ryan (2004) who explored the relation between need satisfaction on the job and both work performance and psychological adjustment. The study supported the self-determination model, in that workers' perceptions of their supervisors' autonomy support and the workers' individual differences in autonomous orientation independently predicted the degree to which the workers were able to satisfy their needs for competence, autonomy, and relatedness on the job, which in turn, predicted the workers' performance ratings as well as their wellbeing. Also, they added, the degree of autonomy-supportiveness of the work climate predicted overall need satisfaction, and need satisfaction in turn, predicted both task engagement and wellbeing. Thus, by showing that satisfying these needs promotes work motivation and mental health. It can be said that employees' wellbeing at work decreases as they perceive uncertainty increased.[30]

These results are consistent with ideas from positive psychology and from self-determination theory in particular (Deci and Ryan, 2000) that feeling competent and effective, free to choose on issues of personal importance, and in possession of strong social relationships, are particularly important psychological inputs leading to the experience of wellbeing.[10] Also, a study by Lyubomirsky, King, and Diener (2005) revealed positive associations between self-reported wellbeing and a variety of other factors including, relationship satisfaction, success in work domains, physical health, and life expectancy. Satisfaction of basic psychological needs has repeatedly been shown to be a strong predictor of psychological wellbeing.[36] In this respect, Grant, Christianson and Price (2007) found that organizations like to contribute more resources to improving employees' wellbeing because people including managers believe happy-productive worker hypothesis, workers with more happiness will be more productive.[37] Also, Baptiste (2008) argue that management relationship behavior in the form of developing trust in employees can promote employee wellbeing.[38]

Additional findings of the current study revealed that , Professors were satisfied with their psychological needs, had feeling of job affective wellbeing as well as more tolerance for personal and work uncertainty higher than other academic nursing educators. Also, Academic staff who had more than 20 years of work experience perceived higher psychological need satisfaction as well as tolerance of personal uncertainty. This result may related to the age and the experience gained from work time and frequent stressors in their personal and work life as well as multiple roles they encountered which

acquire them the ability of knowing how to satisfy their needs and find the happiness in their work. This result could be confirmed with (Robbins, and Judge, 2009) who clarified that, older employees may not experience stress as strongly as the younger ones because older employees may have learned how to cope with stressors (*e.g.*, organizational change) from their past experiences.[39] As it is known, job experience has a moderator effect on perception of stress. Also, Bordia *et al.* (2004) suggest that individual differences in uncertainty orientation may be important moderators on the effect of uncertainty on wellbeing.[14]

5. Conclusion

The current research attempted to investigate the relationship between psychological need satisfaction, and job affective wellbeing and uncertainty at work among academic nursing educators and how academic nursing educators perceive these variables in their work place. Based on the results of this research, we can argue that higher satisfaction of psychological needs among academic nursing educators increase their feeling of job-related affective wellbeing, and consequently enhance their tolerance of personal and work environment uncertainty. In addition, Professors were satisfied with their psychological needs, had feeling of job affective wellbeing as well as more tolerance for personal and work uncertainty higher than other academic nursing educators. Therefore, the following recommendations are suggested:

- Nursing Faculty's administrators should support the satisfaction of academic staff psychological needs by enhancing a more positive and supportive work environment that promote their sharing, learning, autonomy, competence, belonging or relatedness and staff interaction.
- Also, Nursing Faculty's administrators should identify organizational obstacles to embracing uncertainty through a training program focuses on building employees' uncertainty management skills and, how to use their resources to improve their uncertainty management practices.
- Educational managers should embark on proactive measures to ensure that academic nursing educators participate in decision making processes though regular meetings with them that will enhance the educational and organizational outcomes. Also, they should consider differences in academic staff generations' needs and working on satisfying these differences in needs.

Limitations and strengths of the study

This study had several limitations. Firstly, the sample was relatively small and the result cannot be generalized. Secondly, the researchers could not prove the causality of relationships because the findings of the study used correlational data.

Despite these limitations, the current study sheds new light on the meaning and nature of psychological needs and how they could be relate to other variables in work place in Egyptian nursing education literature for first time. In addition, the study takes steps to bridge the relationship among important variables at work place such as need satisfaction, wellbeing and tolerance for uncertainty. In doing so, educational managers could identify and apply the different strategies for enhancing these variables at different work place.

Future research implications

Future researches are needed to address some of the shortcomings of the present study and the relevant literature. First, based on the results of this study along with previous investigations, it is apparent that the large and more representative sample must be included, personality factors, differences in generation and setting that may affect study variables may be addressed in future research. Second, future research also, could examine the antecedents of psychological need satisfaction at work using a longitudinal design and multivariate analysis.

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Conflicts of Interest Disclosure

The authors declare that there is no conflict of interest statement.

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