

Nurses' generalized self-efficacy in relation to their workplace

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ABSTRACT

Introduction: Self-efficacy in nurses appears to be of great importance, and is one of the indicators of behaviour

Purpose: Nurses' self-assessment of their generalized self-efficacy in relation to their workplace.

Material and methods: The study involved random sample of 570 nurses. A diagnostic survey was carried out using the standardized Generalized Self-Efficacy Scale (GSES).

Results: The average value of self-efficacy amounted to 29.3 ± 30 . Among the respondents, 56.8% represented category of "high efficacy", whereas others were of "average efficacy" (32.3%) and "low efficacy" (10.9%). The overall assessment of the nursing profession was higher in participants who presented higher values on GSES scale ($R=0.12$). The average general level of satisfaction in terms of 20 aspects of professional work was connected with self-efficacy which proved statistically significant. Analysis of self-efficacy

score did not indicate statistically significant differences among workplaces.

Conclusion: Over half of the participants represented the category of "high efficacy". The group of nurses employed in district hospitals presented the least instances of low self-efficacy assessment. Individuals who were satisfied with their nursing professional development opportunities had a higher self-efficacy. The higher the perception of self-efficacy, the higher the workplace satisfaction. The average level of satisfaction resulting from various aspects of nursing profession depended on the perception of self-efficacy in the following areas of assessment: professional development opportunity, decision-making autonomy, sense of purpose at work, and, to a lesser extent, occupational safety, maintaining work-life balance, and the possibility of communicating with people.

Key words: Nurses, work, self-efficacy

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INTRODUCTION

The notion of perceived self-efficacy was introduced by Albert Bandura (1977) who focused on human behaviour modification, as mentioned by Juczyński [1]. Bandura defines self-efficacy, also referred to as auto-efficacy, as a belief in one's own ability to perform actions required in a particular situation [2,3].

The literature on the subject [2,3] indicates four sources of faith in oneself and in one's own abilities:

- experience gained through learning (during performing similar tasks in the past) (*mastery experience*);
- indirect experience, substitute experience (imitating and observing others performing similar tasks) (*vicarious experience*);
- verbal persuasion (opinions of so-called significant others);
- physiological and emotional reactions (e.g. anxiety) which appear when performing specific tasks

Higher perception of self-efficacy increases individual's motivation to act and results in better performance.

According to Bandura [4], factors which influence the perception of self-efficacy are as follows:

- task accomplishment – each success increases expectations of one's competences. When after numerous successful accomplishments perception of self-efficacy is formed, single failure will not have such significance,
- substitute experience – observing others perform actions; “if others can, then I surely can as well”. Observing behaviours and their results increases perception of self-efficacy more than observing actions without attention to their results,
- verbal persuasion – appears to be the least effective method; raised expectations of efficacy are usually weak and short-term,
- emotional state – belief in performance success also depend on emotional arousal. People expect success especially when they do not face unpleasant pressures or unwanted and uneasy arousal,
- situational circumstances – some situations require more effort to achieve success. Assessment of circumstances of an individual also influences predictability of efficacy.

Perception of efficacy presents three important features [4]:

- range/scale – refers to types of tasks which involve perception of efficacy. If it is not big, then perception of efficacy is only limited to

simple tasks, however, if the range is big, then the perception of efficacy also refers to difficult tasks and challenges.

- generality – when convictions of efficacy concern narrow group of actions, then the perception of efficacy is specific. When convictions of efficacy concern a whole life, then their generality is considered high. Differentiation to specific and general efficacy concerns either our expectations of success in specific tasks or in life generally.
- power of perception of self-efficacy – it determines how easily a belief in success can be suppressed. It can be observed that people with strong convictions of their self-efficacy constantly renew their efforts despite failures – perception of efficacy will be strong and will not be suppressed despite lack of success. Among people with weak conviction of self-efficacy, the initial certainty of self-efficacy may pass quickly due to experiencing even a small number of lack of success.

Perception of self-efficacy differentiates people in terms of thinking, feeling and acting. According to Locke and Latham, as stated by Juczyński [1], the stronger conviction of self-efficacy an individual has, the higher they aim, and the more involved they are despite forthcoming failures. Low self-efficacy is related to depression, anxiety and helplessness [1]. The aim of this paper was for nurses to assess the generalized self-efficacy in relation to their workplace.

MATERIALS AND METHODS

The research was conducted from January 2014 to June 2014 after obtaining the approval of the Bioethics Committee of Medical University of Białystok (granted under R-I-002/59/2014) and the Director of the Regional Hospital No. 2 in Rzeszów, the Director of the Regional Hospital in Przemyśl, and the Director of District Hospital in Sędziszów Małopolski as well as the Director of Independent Public Healthcare Centre in Kolbuszowa and the Director of Public Healthcare Centre No.2 in Rzeszów.

The study involved random sample of 570 nurses, including 260 nurses employed in regional hospitals, 110 in district hospitals and 200 in public healthcare centres.

During the study a diagnostic survey was carried out using the standardized Generalized Self-Efficacy Scale (GSES), authored by R. Schwarzer, M. Jerusalem and adapted by Z. Juczyński, which is utilized to assess individual's convictions in terms of efficacy in dealing with hardships and obstacles which helps to predict intentions and actions in various realms of human activity [5].

GSES comprised of 10 self-efficacy statements which referred to one factor [5]. Contrary

to the scales for measuring self-efficacy in specific situations, GSES measured the strength of individual's general conviction of efficacy in dealing with hardships and obstacles. Participants circled the answers represented by numbers. Each question was provided with four answers: no – 1; rather not – 2; rather yes – 3; yes – 4. The sum of all points produced *general indicator of self-efficacy*, which fell between 10 and 40 points. The higher the result, the stronger the perception of self-efficacy. The general indicator, after it was changed to standardized units, underwent interpretation according to sten scores. The results which fell between 1 – 4 sten were considered low, whereas results between 7 – 10 sten were high, and values of 5 and 6 sten were average [5].

The analysis of number values of generalized self-efficacy scale was based on compiling the values of basic descriptive statistics (mean, median, standard deviation) in three comparative groups and assessing differences among them with the use of the Kruskal-Wallis test. The probability value was also assessed by chi-square independence test. In order to specify the difference among the groups, the multiple-comparison procedure was used. In this study, there were used statistical tests which determine whether dependences and relations observed in the sample result from more general regularity concerning the whole population or they are merely accidental. The result constituted a so-called probability value (p) which low values are a proof of the statistical significance of a considered dependence. The following rules were agreed upon: if $p \geq 0.05$ then there are no grounds to reject the null hypothesis which means that the tested difference, dependence, effect are not statistically significant; if $p < 0.05$ then the statistical significance is observed (the value is marked with * symbol); $p < 0.01$ is a high significant dependence (**); $p < 0.001$ is a very high significant dependence (***)

RESULTS

Participants of the study comprised of 570 nurses, including 21.3% with an age range of 20-30 years, 13.9% aged 31-40, 39.1% aged 41-50, and 24.9% aged 51-60. In the sample group, women constituted majority (96.3%). Over half of the participants came from urban areas (60.2%), while 228 respondents (39.7%) lived in rural areas. Married participants were dominating (71%). Others were unwed (21.7%), divorced (4.2%), and widowed (3.1%). Social conditions were assessed as good by 55.2% of respondents, whereas 21.7% decided they were average. For 17.9% of respondents social conditions were very good, for 3.8% - poor, and for 1.4% - very poor. One in three nurses (33.2%) had an undergraduate degree, 21% had a medical secondary school certificate, and 25.6% of respondents had a medical vocational college certificate. Participants with a postgraduate degree in nursing constituted 17.9%, while 2% had other postgraduate degrees.

In regional hospitals there were employed 45.6% of participants, 19.3% worked in district hospitals, and 35.1% in primary healthcare centres. Participants' workplaces were most often general medical units (34.1%). Others worked in surgical wards (28.5%), medical treatment wards (17.7%), outpatient clinics (0.5%), endoscopic laboratory (0.3%), pulmonary practice, treatment practice, ophthalmic practice, and pediatric unit (0.2% in each), or in other units (18.1%).

Self-efficacy assessment was conducted with the use of GSES questionnaire. The results were presented in a point-based scale (the range of 10-40 points), as it is illustrated in Table 1, as well as by means of three-level categorization (low, average and high perception of self-efficacy).

The average assessment of self-efficacy was relatively high and amounted to over 29 points. It is noteworthy that there was an enormous accumulation of results between 27 and 31 points which was the case for over a half of the respondents.

Table 1. Perception of self-efficacy illustrated by a point-based scale

Perception of self-efficacy	<i>N</i>	\bar{x}	Me	<i>s</i>	<i>c</i> ₂₅	<i>c</i> ₇₅	min	max
GSES (points) ↑	570	29.3	30	4.2	27	31	10	40

Over half of the respondents (56.8%) presented "high efficacy", whereas 32.3% demonstrated "average efficacy", and 10.9% had a "low efficacy".

The analysis also concerned the relation

between perception of self-efficacy with selected aspects of nursing profession. Results showed that individuals who assessed the professional development opportunities better had a higher self-efficacy ($R = 0.15$) (Table 2).

Table 2. Aspects of nursing profession and the perception of self-efficacy

Aspects of nursing profession	GSES (perception of self-efficacy)
decision-making autonomy	0.11 (p = 0.0067**)
occupational safety	0.11 (p = 0.0095**)
good organizational workflow	0.04 (p = 0.3129)
good relations with subordinates	0.06 (p = 0.1343)
good relations with colleagues	0.07 (p = 0.0856)
organizational culture	0.02 (p = 0.6567)
ease of getting a job	0.04 (p = 0.3947)
possibility of promotion	0.04 (p = 0.3008)
maintaining work-life balance	0.10 (p = 0.0147*)
possibility of communicating with people	0.07 (p = 0.1088)
possibility of helping others	0.09 (p = 0.0280*)
possibility of shift work	0.04 (p = 0.3536)
professional development opportunity	0.15 (p = 0.0004***)
relevant salary	0.05 (p = 0.2163)
sense of job security	0.12 (p = 0.0057**)
sense of purpose at work	0.13 (p = 0.0015**)
being respected in society	0.03 (p = 0.5287)
appreciation from superiors	0.06 (p = 0.1444)
the job is interesting	0.07 (p = 0.1148)
social benefits	-0.02 (p = 0.6539)
Average level of Satisfaction	0.12 (p = 0.0032**)

The overall assessment of nursing profession was higher for participants with higher values on GSES ($R = 0.12$). The scatter diagram illustrates that the power of correlations, even those statistically significant, was very small. The diagram shows the relation of general level of satisfaction from 20 aspects of professional work in relation to self-efficacy (Figure 1).

Average level of satisfaction with various aspects of nursing profession depended on perception of self-efficacy for the following elements of assessment: professional development opportunity, decision-making autonomy, sense of purpose at work, and, to a lesser extent, occupational safety, maintaining work-life balance, and the possibility of communicating with people (Table 3).

General and average level of satisfaction with 20 aspects of professional work was, in a statistically significant manner, related to perception of self-efficacy. The higher the perception of self-efficacy, the higher the job satisfaction (Figure 2).

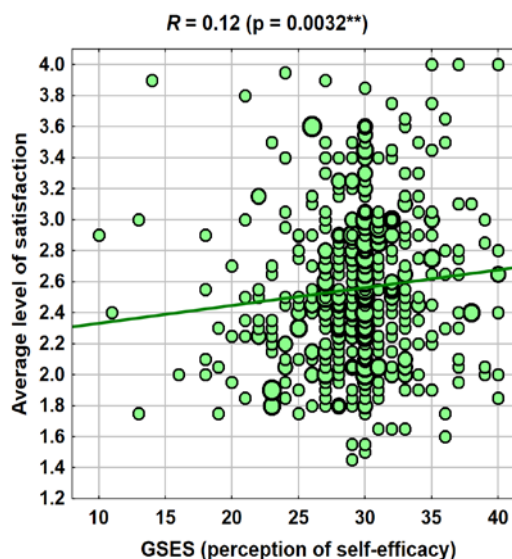


Figure 1. Relation of general level of satisfaction with 20 aspects of professional work

Table 3. Level of satisfaction with various aspects of nursing profession in relation to perception of self-efficacy

Aspects of nursing profession	Perception of self-efficacy			p
	low	average	high	
decision-making autonomy	2.31	2.41	2.59	0.0029**
occupational safety	2.48	2.49	2.66	0.0391*
good organizational workflow	2.61	2.65	2.66	0.8131
good relations with subordinates	2.71	2.66	2.81	0.1800
good relations with colleagues	2.95	3.03	3.13	0.1883
organizational culture	2.52	2.59	2.57	0.7262

ease of getting a job	2.11	2.17	2.19	0.8015
possibility of promotion	1.94	2.03	2.04	0.6581
maintaining work-life balance	2.44	2.50	2.67	0.0353*
possibility of communicating with people	2.98	2.90	3.08	0.0126*
possibility of helping others	3.02	3.07	3.15	0.1031
possibility of shift work	2.58	2.80	2.73	0.1211
professional development opportunity	2.16	2.45	2.61	0.0009***
relevant salary	1.77	1.82	1.91	0.2352
sense of job security	2.19	2.29	2.50	0.0112*
sense of purpose at work	2.63	2.81	2.95	0.0076**
being respected in society	2.29	2.43	2.47	0.3430
appreciation from superiors	2.21	2.46	2.49	0.1204
the job is interesting	2.63	2.70	2.77	0.3341
social benefits	2.03	2.03	1.99	0.9353

p – probability value determined by the Kruskal-Wallis test

Analysis of point-based scale of self-efficacy in three groups of nurses determined by the type of their workplace did not result in statistically significant differences among employees of regional hospitals, district hospitals or primary healthcare centres (probability value $p = 0.762$).

However, after categorization of point values and creating three-level scale using adjectives, the statistically significant differences appeared in answers given by the respondents. Yet again, the most representative was the group of nurses employed in district hospitals who showed the least number of individuals with low self-efficacy (almost 4% in comparison to over 10% in other two groups, respectively). The results are illustrated in Table 4.

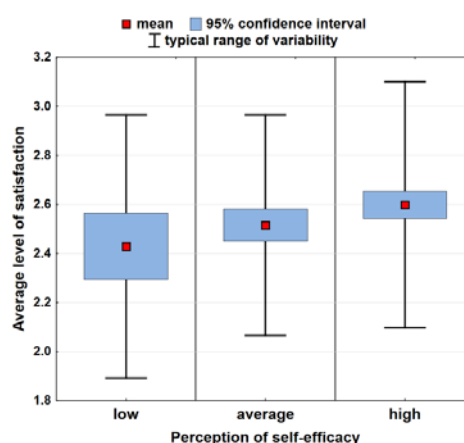


Figure 2. Average level of satisfaction with professional work and perception of self-efficacy

Table 4. Categorization of perception of self-efficacy in relation to type of medical facility

Perception of self-efficacy	Medical facility ($p = 0.0209^*$)			Total
	regional hospital N=260	district hospital n=110	Primary health care n=100	
low	37 (14.3%)	4 (3.7%)	21 (11.1%)	62
average	75 (29.1%)	45 (42.1%)	63 (33.2%)	183
high	148 (45.5%)	61 (10.7%)	116 (20.4%)	325
Total	260	110	200	570

p – probability value assessed by chi-square independence test

DISCUSSION

The literature on the subject [1,5-9] suggests that perception of self-efficacy allows to predict intentions and actions in various spheres of human activity, including health behaviours.

Self-efficacy is a factor which determines change in behaviour as it enables the correct assessment of a situation and proves helpful in finding effective methods in tackling hardships and obstacles [8,10].

The increased conviction of being able to solve a given problem results in bigger motivation to take steps in order to solve it [7,11].

In addition, the perception of self-efficacy indirectly influences the choice of aims (the stronger the perception of self-efficacy, the more ambitious the aims), as well as influences profit and loss account (the stronger the perception of self-efficacy, the higher the focus on profits than losses resulting from behaviour). It has been indicated [6,7] that the stronger the perception of self-efficacy, the higher

the individual's aim and the bigger involvement in the intended behaviour even with failures ahead.

Intention to change risk behaviour as well as an effort and perseverance to reach this aim, despite various obstacles and failures which weaken motivation, are also influenced by the perception of self-efficacy [7,12].

The relevant literature [13-15] emphasizes that patients expect nurses to enhance, through their personality, their psychospiritual potential, represent imperishable and undeniable social and moral values, to be emotionally involved, to be supportive and have positive influence on patient's psyche. Taking that into consideration, it appears that the perception of self-efficacy in this particular professional group should be one of the indicators of behaviour which is considered appropriate.

Social cognitive theory assumes that our behaviour is driven by expectations concerning [16]:

- situation-outcome expectancies
- action-outcome expectancies
- self-efficacy expectancies

According to Bandura, as mentioned by Juczyński [1], the first two expectations refer to noticeable consequences of acting, whereas perception of self-efficacy enters a sphere of control of individual acting. The perception of efficacy denotes not only the competences of an individual but also individual's means thanks to which they are able to conduct intended actions [1].

Locke and Latham, according to Juczyński [1] are convinced that the perception of self-efficacy differentiates people in terms of thinking, feeling and acting. And the stronger the convictions about self-efficacy are, the higher the people aim, and the higher is their engagement in intended behaviour despite, even numerous, failures.

It is vital to remember that efficacy on a job market also means professional and personal competences represented by an individual.

Brzezińska *et al.* [17] observe that an individual who demonstrates high competences does not have to function better than an individual with less developed competences, especially when they are under a substantial stress or receive no support. The authors [17] emphasize that while considering development of competences and perception of competences, it is important to take into account not only their presence but also the environment in which an individual may utilize them, and the relations among microsystems in which the individual functions.

The research conducted by Brzezińska *et al.* [17] revealed that level of personal competences may be considered as a vital factor connected with professional activity of an individual, with efficacy in finding a job, ability to keep a job, and with general satisfaction with life.

In this research, the perception of power and perseverance were assessed at a similar level

(17.5 points out of 24, on average). No relation was found between components of the assessment of personal competence and satisfaction with aspects of respondents' professional work. The perception of competence was the lowest among participants who worked in district hospitals, however, the difference referred only to the perception of power. It appeared that there was a statistically significant difference of self-assessment of power between participants in district hospitals and public healthcare centres.

It is noteworthy that personal resources which, according to Mróz [18], are understood as personality capacities that enable an individual to function effectively, particularly in pressuring and difficult situations.

The research conducted by Mróz [18] found that personal resources like resilience and generalized perception of self-efficacy are significant for behaviour and experiences related to nursing profession. The study showed that a high level of resilience was favourable to development of adaptive and functional behaviour and experiences connected with nursing profession [18]. Respondents who represented higher level of generalized perception of self-efficacy showed mental toughness and more abilities to tackle problematic situations. Individuals who presented high level of resilience also presented high level of generalized perception of self-efficacy, whereas individuals who had high level of resources, presented more adaptive and functional behaviour and experiences connected with nursing profession than respondents with low intensity of resources in question [18].

The research conducted by Andruszkiewicz [19] among 428 nurses confirmed that their profession causes stress. Also, the study indicated relation between perception of self-efficacy and professional functioning variables. It was shown that a high perception of self-efficacy is an element which protects nurses against occupational stress [19].

According to Beisert [20], other studies carried out among nurses demonstrated that high level of perception of self-efficacy prevents occupational burnout, depersonalization and the decrease of perception of self-efficacy.

Cherniss [21] claims that the perception of self-efficacy is of special significance, and stresses the role of social competences in occupational safety.

This study demonstrated that an average assessment of perception of self-efficacy was relatively high and amounted to 29 points out of 40, and most of the participants (54%) indicated high level of perception of self-efficacy. The higher was the perception of self-efficacy in respondents, the more they were satisfied with their job. Distinctively the least participants (about 4%) with low self-efficacy assessment worked in district hospitals in

comparison to two other groups which amounted to over 10% respectively.

Finally, it should be emphasized that self-efficacy is a factor which determines team integrity while maintaining individuality and using employee's potential in healthy work environment [22]. Low perception of self-efficacy is accompanied by anxiety or helplessness, whereas high perception supports accepting challenges, forming aims and achieving them successfully [10,11]. Individuals who are convinced of their self-efficacy present higher level of positive emotions and treat stressful stimuli as a challenge rather than a threat [1]. Additionally, during realizing tasks they experience a state of arousal which is perceived as motivating and task-facilitating [23].

CONCLUSIONS

1. More than half of respondents was classified as "highly effective".
2. The least individuals with low self-efficacy proved to belong to a group employed in district hospitals.
3. Individuals who assessed professional development opportunity better presented higher self-efficacy.
4. The higher was the perception of self-efficacy, the higher was the job satisfaction.
5. Average level of satisfaction with various aspects of nursing profession depended on the perception of self-efficacy for the following elements of assessment: professional development opportunity, decision-making autonomy, sense of purpose at work, and, to a lesser extent, occupational safety, maintaining work-life balance, and the possibility of communicating with people.

Conflicts of interest

No conflict of interest has been declared by the authors.

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