

# The effectiveness of a health promotion intervention on the meaning of life, positive beliefs, and well-being among undergraduate nursing students

## One-group experimental study

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### Abstract

Nursing educators have a responsibility to value undergraduate nursing students' physical, psychological, spiritual, and social health promotion.

The purpose of the study was to examine the effectiveness of a health promotion intervention concerning meaning of life, positive beliefs, and well-being among undergraduate nursing students in a health promotion curriculum.

The study was adopted a pretest, posttest, and post post-test design in 1-group experimental study with a purposive sample of 112 undergraduate nursing students who attended in a health promotion curriculum and voluntarily completed a reliable 3-part questionnaire (content validity index = 0.95; Cronbach's  $\alpha$ s = meaning of life, 0.97; positive beliefs, 0.94; and well-being 0.96).

Undergraduate nursing students showed significant (all  $P < .001$ ) improvements on the meaning of life, positive beliefs, and well-being immediately after the intervention, which were sustained over time.

Nursing educators should incorporate these variables into the health promotion curriculum to enhance undergraduate nursing students' physical, psychological, spiritual, and social health promotion.

**Abbreviations:** SD = standard deviation, SPSS = Statistics Package for Social Science.

**Keywords:** health promotion, meaning of life, positive beliefs, undergraduate nursing students, well-being

## 1. Introduction

In 1948, World Health Organization (WHO) focused on physical, psychological, social health; 1998 WHO comprised overall health development regarding physical, psychological, spiritual, and social aspects of health promotion.<sup>[1]</sup> Health is a central concept in nursing education. Specifically, health

promotion is critical for undergraduate nursing students; therefore, nursing school curriculum development should include health literacy for health promotion and physical education.<sup>[2]</sup> Positive and negative health concepts are included in nursing education to develop undergraduate nursing students' health promotion skills.<sup>[3,4]</sup> Currently, web-based health information is used to develop undergraduate nursing students' skills in caring for patients' health and safety.<sup>[5]</sup> Nursing educators should promote undergraduate nursing students' physical, psychological, spiritual, social health to ensure they have meaning of life, positive beliefs, and well-being.<sup>[6]</sup>

First, meaning of life comprises traits such as love, kindness, honesty, hope, gratitude, and social intelligence.<sup>[7]</sup> It also includes physical activity, good eating habits, and social support, which are associated with physical, mental, and social health promotion.<sup>[8]</sup> Meaning of life also acts a protective factor against depression, hopelessness, and suicidal ideation,<sup>[9]</sup> including mediating the influence of mental health on suicidal ideation.<sup>[10]</sup> Further, spiritual health is associated with life orientation and psychometric properties,<sup>[11]</sup> and psychosocial health is associated with well-being including religious meaning, life meaning, life satisfaction, spirituality, social support, and quality of life.<sup>[12]</sup> Meaning of life also increases one's sense of life fulfillment for dying patients to have social support, life satisfaction, and quality of life.<sup>[13]</sup> In sum, a person's meaning of life is associated with their psychological well-being and mental health;<sup>[14]</sup> therefore, people need to understand health promotion and establish goals for lifestyle change.<sup>[15]</sup>

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Second, positive beliefs are an essential element to manage and face adaptation to individual errors in the learning process.<sup>[16]</sup> People have positive beliefs that are associated with disease-treatment outcomes.<sup>[17]</sup> Positive beliefs can increase personal values and mental health, which help offset negative emotions.<sup>[18]</sup> Positive beliefs can also aid self-perceived health and life satisfaction among rehabilitation students.<sup>[19]</sup> Optimism is also considered critical to successful aging.<sup>[20]</sup>

Third, well-being is associated with life satisfaction, empowerment, positivity, humor, loneliness, and emotional self-efficacy.<sup>[21]</sup> Both depression and psychological well-being are associated with physical health outcomes.<sup>[22]</sup> Further, promoting undergraduate nursing students' emotional well-being is positively related to their social health and self-concept in the classroom.<sup>[23]</sup>

Diverse health promotion interventions employing distinct teaching methods can promote undergraduate nursing students' physical, psychological, spiritual, and social health promotion. For example, simulation learning increases transfer of learning and take a role on the behavioral practice in daily life.<sup>[24]</sup> After several-week intervention, a smoking cessation intervention among undergraduate nursing students displayed significant results in the smoking cessation with health promotion.<sup>[25]</sup> In sum, nursing educators have a responsibility to utilize diverse teaching methods to help undergraduate nursing students develop their meaning of life,<sup>[26]</sup> positive beliefs,<sup>[27]</sup> and well-being,<sup>[28]</sup> and to enhance their physical, psychological, spiritual, and social health promotion.

### 1.1. Purpose

The purpose of study was to explore the effectiveness of health promotion intervention among undergraduate nursing students on the meaning of life, positive beliefs, and well-being regarding physical, psychological, spiritual, and social health promotion in a health promotion curriculum.

## 2. Methods

### 2.1. Framework

This framework of the study was as follows. Undergraduate nursing students' background included sex, age, religiosity, conscious health, family rearing, and family income. After undergraduate nursing students completed the health promotion intervention, they were examined the immediate effects (pretest to posttest immediately after intervention) and delayed effects (pretest to post posttest after intervention 5 weeks) (see Fig. 1).

### 2.2. Design

This study was adopted a pretest, posttest, and post posttest design in 1-group experimental study.

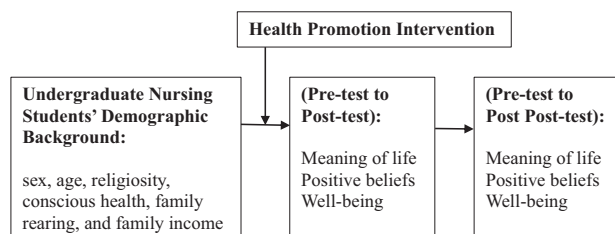


Figure 1. This framework of the study.

### 2.3. Participants and setting

A purposive sample was used in this study. All 120 participants were undergraduate nursing students who attended in a health promotion curriculum. Overall, 112 undergraduate nursing students voluntarily completed the pretest, posttest, and post post-test of the questionnaires concerning meaning of life, positive beliefs, and well-being in a health promotion curriculum.

### 2.4. Health promotion intervention

In the health promotion curriculum, which lasted 3 weeks, a nursing educator provided 6 hours of lecture addressing physical, psychological, spiritual, and social health promotion with the aim of increasing undergraduate nursing students' meaning of life, positive beliefs, and well-being (see Table 1). PowerPoint, YouTube, e-books, and Internet movies were all utilized in the health promotion intervention for providing undergraduate nursing students.

### 2.5. Ethical considerations

This 1-group experimental study was authorized by the Institutional Review Board of Yuan's General Hospital (IRB No. 20171130C) in Taiwan, ROC. Undergraduate nursing students decided to do the questionnaires on the pretest, posttest, and post posttest. A total of 120 (100.00%) undergraduate nursing students participated in 1-group experimental study in a health promotion curriculum. Finally, 112 (93.33%) undergraduate nursing students voluntarily finished the questionnaires on the 3 times for collecting pretest, posttest, and post posttest.

### 2.6. Measures

A 56-item questionnaire of the measures was followed by the authors, Ho,<sup>[29]</sup> Lin and Yu<sup>[30]</sup> on the scales of life attitude profile, positive coping, spirituality, and well-being. The questionnaire was used to explore undergraduate nursing students' learning effectiveness concerning their meaning of life (25 items; seek meaning, 1–9; life purpose, 10–13; life control, 14–20; and accept misery, 21–25), positive beliefs (11 items), and well-being (20 items; personal well-being, 1–5; community well-being, 6–10; environmental well-being, 11–15; and transcendental well-being, 16–20). The questionnaire also included all information about undergraduate nursing students' sex, age, religiosity, conscious health, family rearing, and family income. A 5-point Likert scale ranging from completely disagree (1 point) to completely agree (5 points) was used. The content validity index of the study questionnaire was 0.95, as established by 7 expert scholars. After a pilot test ( $n=31$ ), the reliabilities of the 3-part measurement were as follows: meaning of life, Cronbach's  $\alpha=0.97$ ; positive beliefs, Cronbach's  $\alpha=0.94$ ; and well-being, Cronbach's  $\alpha=0.96$ .

### 2.7. Data collection and analyses

A researcher administered the pretest, posttest, and post posttest questionnaires to undergraduate nursing students and explained that the questionnaires would be used to explore undergraduate nursing students' meaning of life, positive beliefs, and well-being after the health promotion intervention in a health promotion curriculum. Undergraduate nursing students in all 3-part questionnaires were voluntary in the 1-group experimental study

**Table 1****Health promotion intervention.**

Health promotion	Content
<p>The learning objectives of health promotion on meaning of life, positive beliefs, and well-being were as follows:</p> <ol style="list-style-type: none"> <li>1. To understand how to solve many problems in daily life, such as life's difficulties, frustrations, stress, and helplessness to have own meaning of life, positive beliefs, and well-being.</li> <li>2. To learn about life's beauty, gratitude, and happiness in every day.</li> <li>3. To know how to care, value, embrace, and respect for life in every day.</li> <li>4. To learn the meaning of life, life values, life attitudes, and fullness of joy in every day.</li> <li>5. To know how to love, be hopefulness, be surpass, and have positive beliefs in every day.</li> <li>6. To learn how to enjoyment, demand satisfaction, life contentment, and self-actualization in every day.</li> <li>7. To know how to life satisfaction, live well, and happiness in every day.</li> </ol>	<p>The learning contents of health promotion on meaning of life, positive beliefs, and well-being were as follows: The contents were included in regard to</p> <ol style="list-style-type: none"> <li>1. "Nick Vujicic"</li> <li>2. "Lena Maria Klingvall"</li> <li>3. "Abraham Lincoln"</li> <li>4. People's Life Stories in Taiwanese Society</li> <li>5. "Water Knows the Answers"</li> <li>6. "One Liter of Tears"</li> <li>7. "Grave of the Fireflies"</li> <li>8. "Tuesdays with Morrie"</li> <li>9. "Departures: The Gift of Last Memories"</li> <li>10. "Children of Heaven"</li> <li>11. "You are Not You"</li> <li>12. "The Theory of Everything"</li> <li>13. "Closer to Heaven"</li> <li>14. "Gabai Granny"</li> <li>15. "The Way Home"</li> <li>16. "Taare Zameen Par"</li> <li>17. "I Am David"</li> <li>18. "The Secret"</li> <li>19. "What Dreams May Come"</li> <li>20. "I Still Have One Leg"</li> <li>21. "The Dull-Ice Flower"</li> <li>22. "Whale Rider"</li> <li>23. "Homerun"</li> <li>24. "Cinema Paradiso"</li> <li>25. "Memories of Tomorrow"</li> <li>26. "Life without Limits: Inspiration for a Ridiculously Good Life"</li> <li>27. "Slumdog Millionaire"</li> <li>28. "Life is Beautiful"</li> <li>29. "The Hours"</li> <li>30. "Oliver Twist"</li> <li>31. "The Phantom of the Opera"</li> <li>32. "Postman in the Mountains"</li> <li>33. "The Diving Bell and the Butterfly"</li> </ol>

(response rate =93.33%). Questionnaires were collected from February 26, 2018, to May 31, 2018. One hundred twelve undergraduate nursing students completed all 3-part questionnaires for data collection in the study.

SPSS 23.0 was used to analyze all study data. Frequencies; percentages; pretest, posttest, and post posttest means and standard deviations; paired *t* tests; and *P* values were calculated in the 1-group experimental study.

### 3. Results

#### 3.1. Undergraduate nursing students' demographic background

Undergraduate nursing students' key demographic background is shown including sex (9 male 8.00%; 103 female 92.00%), age (35 18–20 years 31.20%; 77 > 20 years 68.80%), religiosity (51 no religion 45.50%; 61 religion 54.50%), conscious health (2 very bad 1.80%; 10 not good 8.90%; 60 normal 53.60%; 24 good 21.40%; 16 very good 14.30%), family rearing (19 single parent 17.00%; 90 both parents 80.40%; 3 grandparent(s) 2.70%), and family income (1 low 0.90%; 17 low-middle 15.20%; 80 middle 71.40%; 13 high-middle 11.60%; 1 high 0.90%) (see Table 2).

#### 3.2. Differences between pretest and posttest: meaning of life, positive beliefs, and well-being

All undergraduate nursing students showed significant ( $P < .05$ ;  $P < .01$ ;  $P < .001$ ) improvements on the meaning of life, positive beliefs, and well-being after the health promotion intervention between pretest and posttest in the study (see Table 3).

#### 3.3. Differences between pretest and post posttest: meaning of life, positive beliefs, and well-being

All undergraduate nursing students showed sustained significant (all  $P < .001$ ) improvements on the meaning of life, positive beliefs, and well-being for 5 weeks after the health promotion intervention between pretest and post posttest in the study (see Table 4).

### 4. Discussion

The goal of health promotion intervention is to increase people's physical, psychological, spiritual, and social health regarding meaning of life, positive beliefs, and well-being.<sup>[31–33]</sup> In this study, our research team examined 3 topics on the meaning of life, positive beliefs, and well-being and their role in a health

**Table 2**  
Undergraduate nursing students' demographic background.

Variable (n = 112)	n	%
Sex		
Male	9	8.00%
Female	103	92.00%
Age		
18–20 y	35	31.20%
> 20 y	77	68.80%
Religiosity		
No religion	51	45.50%
Religion	61	54.50%
Conscious health		
Very bad	2	1.80%
Not good	10	8.90%
Normal	60	53.60%
Good	24	21.40%
Very good	16	14.30%
Family rearing		
Single parent	19	17.00%
Both parents	90	80.40%
Grandparent(s)	3	2.70%
Family income		
Low	1	0.90%
Low-middle	17	15.20%
Middle	80	71.40%
High-middle	13	11.60%
High	1	0.90%

promotion intervention with undergraduate nursing students. From this study, there were significant differences on the health promotion intervention as the same other articles.<sup>[31–33]</sup> Immediately after the intervention, undergraduate nursing students displayed increased on their meaning of life, positive beliefs, and well-being, which were sustained at follow-up.

Previous literature has revealed many things: many people are deprived of food, clothing, medical care, emotional support,<sup>[34]</sup> and substance use,<sup>[35]</sup> which are all associated with negative health impacts. Some feel that “death is better than misery.”<sup>[34]</sup> The lowest economy is associated with the highest misery index. Believing in a meaningful life, life purpose, and achieving goals is

associated with decreased life misery.<sup>[36]</sup> Therefore, social emotion acting is an affect control condition, and control situations to understand the emotional impairments and no longer pleasure.<sup>[37]</sup> People require social support and meaning making to manage many daily life situations.<sup>[38]</sup>

Moreover, life control is associated with well-being, physical, psychological, spiritual, and social health promotion.<sup>[39]</sup> Meaning, hope, and positive change can assist undergraduate nursing students in managing mental health problems and displaying positive attitudes in their daily lives.<sup>[27]</sup> People have a strong drive to build life quality and that increases their personal and public quality of life.<sup>[40]</sup> Disaster education in nursing education will increase undergraduate nursing students' self-efficacy for managing in the psychometric properties.<sup>[41]</sup> Therefore, training mental health is good for undergraduate nursing students' self-perception, responses to situations, and perceptions of mental health.<sup>[42]</sup>

In addition, positive and negative beliefs are associated with the transcendental-future time perspective inventory, but are not associated with mindfulness, self-esteem, well-being, and depression.<sup>[43]</sup> Individuals believe a sense of personal control and free will is associated with positive life outcomes and subjective well-being.<sup>[44]</sup> Undergraduate nursing students share many ideas that are associated with mental health and well-being; therefore, they are encouraged to change their lifestyle to have well-being.<sup>[45]</sup> Therefore, the environment can influence social well-being and increase one's satisfaction with personal relationships and quality of life.<sup>[46]</sup>

Our results have key implications for nursing educators. For example, educators should continue to use PowerPoint and e-learning platforms to promote undergraduate nursing students' meaning of life, positive beliefs, and well-being and encourage physical, psychological, spiritual, and social health promotion. In future studies, we will continue to examine these variables and their relationship with providing health services for many patients in clinical settings or communities.

#### 4.1. Limitations

This study had some limitations. First, undergraduate nursing students were limited to 112 undergraduate students who were

**Table 3**  
Differences between pretest and posttest: meaning of life, positive beliefs, and well-being.

n = 112	Pretest		Posttest		Paired <i>t</i> test	<i>P</i> value (2-tailed)
	Mean	SD	Mean	SD		
Meaning of life (25 items)	96.15	16.99	99.13	15.59	3.05	.003 <sup>†</sup>
Seek meaning (1–9 items)	34.46	6.39	35.68	5.82	2.96	.004 <sup>†</sup>
Life purpose (10–13 items)	14.79	3.12	15.76	2.70	4.78	.001 <sup>†</sup>
Life control (14–20 items)	26.91	4.99	27.54	4.66	2.06	.041 <sup>*</sup>
Accept misery (21–25 items)	19.99	4.00	20.14	3.53	0.62	.535
Positive beliefs (11 items)	41.21	7.47	43.38	7.51	4.28	.001 <sup>‡</sup>
Positive beliefs (1–11 items)	41.21	7.47	43.38	7.51	4.28	.001 <sup>‡</sup>
Well-being (20 items)	74.88	14.06	78.88	12.56	5.71	.001 <sup>‡</sup>
Personal well-being (1–5 items)	18.82	3.52	19.95	3.22	5.42	.001 <sup>‡</sup>
Community well-being (6–10 items)	19.09	3.67	20.01	3.23	4.41	.001 <sup>‡</sup>
Environmental well-being (11–15 items)	18.63	3.79	19.79	3.59	5.08	.001 <sup>‡</sup>
Transcendental well-being (16–20 items)	18.34	4.27	19.14	4.00	3.41	.001 <sup>‡</sup>

\* *P* < .05.

† *P* < .01.

‡ *P* < .001.

**Table 4****Differences between pretest and post posttest: meaning of life, positive beliefs, and well-being.**

n=112	Pretest		Post posttest		Paired t test	P value (2-tailed)
	Mean	SD	Mean	SD		
Meaning of life (25 items)	96.15	16.99	109.34	16.24	7.12	.001 <sup>†</sup>
Seek meaning (1–9 items)	34.46	6.39	39.22	5.94	6.70	.001 <sup>†</sup>
Life purpose (10–13 items)	14.79	3.12	17.42	2.69	7.52	.001 <sup>†</sup>
Life control (14–20 items)	26.91	4.99	30.85	4.47	7.58	.001 <sup>†</sup>
Accept misery (21–25 items)	19.99	4.00	21.84	3.74	4.54	.001 <sup>†</sup>
Positive beliefs (11 items)	41.21	7.47	48.26	7.36	8.22	.001 <sup>†</sup>
Positive beliefs (1–11 items)	41.21	7.47	48.26	7.36	8.22	.001 <sup>†</sup>
Well-being (20 items)	74.88	14.06	88.11	12.90	8.89	.001 <sup>†</sup>
Personal well-being (1–5 items)	18.82	3.52	22.11	3.30	8.76	.001 <sup>†</sup>
Community well-being (6–10 items)	19.09	3.67	22.22	3.30	8.30	.001 <sup>†</sup>
Environmental well-being (11–15 items)	18.63	3.79	22.02	3.47	8.24	.001 <sup>†</sup>
Transcendental well-being (16–20 items)	18.34	4.27	21.76	3.55	7.68	.001 <sup>†</sup>

<sup>†</sup> P < .001.

completing the first year of a 2-year nursing program in Kaohsiung City, Taiwan, ROC; therefore, the results may not be generalizable to others.

## 5. Conclusion

Undergraduate nursing students showed both significant (pretest to posttest and pretest to post posttest) improvements on the meaning of life, positive beliefs, and well-being after the health promotion intervention; therefore, nursing educators should include these variables in the health promotion curriculum to enhance undergraduate nursing students' physical, psychological, spiritual, and social health promotion.

## Author contributions

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## References

- Nagase M. Does a multi-dimensional concept of health include spirituality? Analysis of Japan health science council's discussions on WHO's definition of health' (1998). *Int J Appl Sociol* 2012;2:71–7.
- Peralta LR, Rowling L. Implementation of school health literacy in Australia: a systematic review. *Health Educ J* 2017;77:363–76.
- Skar L, Soderberg S. Swedish nursing students' perceptions of the concept of health: a phenomenographic study. *Health Educ J* 2016;75:385–95.
- Weaver RG, Webster CA, Beets MW, et al. Initial outcomes of a participatory-based, competency-building approach to increasing physical education teachers' physical activity promotion and students' physical activity: a pilot study. *Health Educ Behav* 2018;45:359–70.
- Wang W, Sun R, Mulvehill AM, et al. Handing Internet-based health information: Improving health information web site literacy among undergraduate nursing students. *J Nurs Educ* 2017;56:110–4.
- Stockmann C, Diaz DA. Students' perceptions of the psychological well-being of a transgender client through simulation. *J Nurs Educ* 2017;56:741–4.
- Allan BA. Balance among character strengths and meaning in life. *J Happiness Stud* 2015;16:1247–61.
- Willman A, Petzall K, Ostberg AL, et al. The psycho-social dimension of pain and health-related quality of life in the oldest old. *Scand J Caring Sci* 2013;27:534–40.
- Braden A, Overholser J, Fisher L, et al. Life meaning is predictive of improved hopelessness and depression recovery in depressed veterans. *J Soc Clin Psychol* 2017;36:629–50.
- Tan L, Chen J, Xia T, et al. Predictors of suicidal ideation among children and adolescents: roles of mental health status and meaning in life. *Child Youth Care Forum* 2018;47:219–31.
- Nunes S, Fernandes H, Fisher J, et al. Psychometric properties of the Brazilian version of the lived experience component of the spiritual health and life-orientation measure (SHALOM). *Psicol Reflex Crit* 2018;31:1–3.
- Sacco SJ, Park CL, Suresh DP, et al. Care of patients with heart failure: living with heart failure: psychosocial resources, meaning, gratitude and well-being. *J Acute Crit Care* 2014;43:213–8.
- Dobrikova P, West DJ. The effect of social support and meaning of life on the quality of life care for terminally ill patients. *Am J Hosp Palliat Care* 2015;32:767–71.
- Vess M, Hoeldtke R, Leal SA, et al. The subjective quality of episodic future thought and the experience of meaning in life. *J Posit Psychol* 2018;13:419–28.
- Su FPC, Chang LH, Mao HF, et al. Development of the Taiwanese version of the health enhancement lifestyle profile (HELP-T). *PLoS One* 2018;13:e0199255.
- Tulis M, Steuer G, Dresel M. Positive beliefs about errors as an important element of adaptive individual dealing with errors during academic learning. *Educ Psychol* 2018;38:139–58.
- Wertli MM, Held U, Lis A, et al. Both positive and negative beliefs are important in patients with spine pain: finding from the occupational and industrial orthopaedic center registry. *Spine J* 2017;17:30487–94.
- Lannin DG, Vogel DL, Heath PJ. Can reflecting on personal values online increase positive beliefs about counseling? *J Counsel Psychol* 2017;64:261–8.
- Silverman AM, Pitonyak JS, Nelson LK, et al. Instilling positive beliefs about disabilities: pilot testing a novel experiential learning activity for rehabilitation students. *Disabil Rehabil* 2018;40:1108–13.
- Ambrosi-Randic N, Junakovic IT. Felt age, desired, and expected lifetime in the context of health, well-being, and successful aging. *Int J Aging Hum Dev* 2018;87:33–51.

- [21] Francescato D, Moro A. Dispositional characteristics, relational well-being and perceived life satisfaction and empowerment of elders. *Aging Ment Health* 2017;21:1052–7.
- [22] Rao SK, Rockwood K. Is it better to be happy or not depressed? Depression mediates the effect of psychological well-being on adverse health outcomes in older adults. *Int J Geriatr Psychiatry* 2017;32:1000–8.
- [23] Oberle E. Early adolescent's emotional well-being in the classroom: the role of personal and contextual assets. *J Sch Health* 2018;88:101–11.
- [24] Miles DA. Simulation learning and transfer in undergraduate nursing education: a grounded theory study. *J Nurs Educ* 2018;57:347–53.
- [25] Yang Y, Jin G, Yao LY, et al. A retrospective study of smoking cessation intervention among university students. *Medicine* 2018;97:e11259.
- [26] Mason HD, Nel JA. Promoting professional quality and meaning in life among nursing students: a mixed methods study. *J New Generation Sci* 2015;13:54–69.
- [27] Tee S, Uzar O, Yeter S. Promoting positive perceptions and person centred care toward people with mental health problems using co-design with nursing students. *Nurse Educ Today* 2016;44:116–20.
- [28] McSharry P, Timmins F. An evaluation of the effectiveness of a dedicated health and well-being course on nursing students' health. *Nurse Educ Today* 2016;44:26–32.
- [29] Ho YC. The life attitude profile: a study of reliability and validity. *J Natl Taiwan Normal Univ* 1990;35:71–94.
- [30] Lin WT, Yu MN. The study of positive psychology intervention effects for promoting college students' well-being. National Chen-Gchi University, Department of Education, Master's Thesis 2016.
- [31] Tsai FJ, Hu YJ, Chen CY, et al. Simulated directed-learning in life-education intervention on the meaning of life, positive beliefs, and well-being among nursing students: a quasi-experimental study. *Medicine* 2019;98:e16330.
- [32] Frank M, Michael FS. The three meanings of meaning in life: distinguishing coherence, purpose, and significance. *J Positive Psychol* 2016;11:531–45.
- [33] Krok D. When is meaning in life most beneficial to young people? Styles of meaning in life and well-being among late adolescents. *J Adult Dev* 2018;25:96–106.
- [34] Chane S, Adamek ME. "Death is better than misery": Elders' accounts of abuse and neglect in Ethiopia. *Int J Aging Hum Dev* 2015;82:54–78.
- [35] Batalla A, Homberg J, Lipina TV, et al. The role of the habenula in the transition from reward to misery in substance use and mood disorders. *Neurosci Biobehav Rev* 2017;80:276–85.
- [36] Dadgar Y, Nazari R. The impact of economic growth and good governance on misery index in Iranian economy. *Eur J Law Econ* 2018;45:175–93.
- [37] Baez S, Santamaria-Garcia H, Orozco J, et al. Your misery is no longer my pleasure: Reduced schadenfreude in Huntington's disease families. *Cortex* 2016;83:78–85.
- [38] Zeliqman M, Varney M, Grad R, et al. Posttraumatic growth in individuals with chronic illness: the role of social support and meaning making. *J Counsel Devel* 2018;96:53–63.
- [39] Lee C, Ford J, Gramotnev H. The life control scale: validation with a population cohort of middle-aged Australian women. *Int Soc Behav Med* 2009;16:148–57.
- [40] Frunza S. Seeking meaning, living authenticity and leadership in public space: a philosophical perspective. *Transylvanian Rev Administrative Sci* 2018;13:23–37.
- [41] Li HY, Bi RX, Zhong QL. The development and psychometric testing of a disaster response self-efficacy scale among undergraduate nursing students. *Nurse Educ Today* 2017;59:16–20.
- [42] Scantlebury A, Parker A, Booth A, et al. Implementing mental health training programmes for non-mental health trained professionals: a qualitative synthesis. *PLoS One* 2018;13:e0199746.
- [43] Seema R, Sircova A, Baltin A. Transcendental future: Is it a healthy belief or a time perspective? The transcendental-future time perspective inventory (TTPI) in Estonian. *Trames* 2014;18:57–75.
- [44] Gooding PLT, Callan MJ, Hughes G. The association between believing in free will and subjective well-being is confounded by a sense of personal control. *Front Psychol* 2018;7:623.
- [45] Mantovani N, Pizzolati M, Gillard S. Engaging communities to improve mental health in African and African Caribbean groups: a qualitative study evaluating the role of community well-being champions. *Health Soc Care Commun* 2017;25:167–76.
- [46] Mouratidis K. Built environment and social well-being: how does urban from affect social life and personal relationships? *Cities* 2018;74:7–20.