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RESEARCH ARTICLE

Self-Regulation of Eating Behaviors Among Young Women Nurses and Nursing Students: Its Relationship With Eating Habits

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ABSTRACT

The primary aim of this study is to adapt the Self-Regulation of Eating Behavior Questionnaire (SREBQ) to the Turkish culture among young women nurses and nursing students. The secondary aim is to investigate the factors associated with self-regulation of eating behavior in this population. The sample consisted of 773 young women nurses and nursing students who were included in the study between June and July 2024. In accordance with the first aim of the study, the construct validity of the SREBQ instrument was confirmed through EFA. The Cronbach's alpha coefficient for the SREBQ was found to be 0.78. There were very low positive correlations between the SREBQ score and the SRS ($r = 0.252$) and TREQ-CR ($r = 0.136$) scores, as well as low negative correlations with the TREQ-EE ($r = -0.355$) and TREQ-UE ($r = -0.406$) scores ($p < 0.001$). The 5-item SREBQ has been found to be a valid and reliable instrument for the population of young women nurses and nursing students in the Turkish language. The results indicate that as self-regulation of eating behavior increases in this population, overall self-regulation skills improve, while disordered eating behaviors decrease.

1 | Introduction

Self-regulation encompasses multiple processes involved in goal-directed behavior, including the management of behavior, thoughts, emotions, attention, and the environment in alignment with personal goals (De Vet et al. 2014). Additionally, self-regulation refers to individuals' ability to set goals, monitor themselves, and provide feedback (McAlister et al. 2008). High levels of self-regulation skills increase the likelihood of individuals translating their intentions into actions (Millar 2017; Enkavi et al. 2019). Self-regulation mechanisms play a significant role in regulating and monitoring eating behaviors, which are crucial for behavior change in health contexts (Hennessy et al. 2020; Dohle et al. 2018). Key self-regulation skills in eating include setting and monitoring eating goals and resisting tempting foods (Hankonen et al. 2014). Furthermore, the self-regulation of eating behavior is influenced by both internal and external factors (Bouwman et al. 2022). External factors include the time of eating, distractions, feelings of fatigue, the physical location where the food is consumed, and the social context of eating (Millar 2017). Internal factors affecting eating self-regulation include cognitive restraint, moderation, mindfulness, disinhibition, delayed gratification, emotions and mood, self-efficacy, social support, and physical activity (Reed et al. 2016). However, these factors can vary among individuals based on different age groups and contexts. In young adults, eating behaviors are influenced by the ongoing development of cognitive skills such as internal sensitivity and self-regulation

Summary

- Self-regulation of eating behaviors plays a crucial role in maintaining healthy eating habits, particularly in high-stress professions like nursing, where managing lifestyle behaviors is often challenging for young women nurses and nursing students.
- This study validates the Self-Regulation of Eating Behavior Questionnaire (SREBQ) as a reliable and culturally adapted self-regulation assessment tool for Turkish women nurses and nursing students, demonstrating its potential to contribute significantly to the improvement of eating habits and overall health.
- Enhancing eating self-regulation in young women nurses and nursing students can reduce disordered eating, improve health, and boost well-being and performance.

(Jeune et al. 2024). For young adults to make adequate and appropriate food choices, develop healthy eating habits, and maintain a healthy lifestyle, it is essential to preserve their eating behavior self-regulation skills (Chew et al. 2022). In this context, young adults represent a critical group where proper eating behaviors can be instilled, potentially preventing health problems in later life (Lee et al. 2023).

Given the various roles that need to be fulfilled daily to ensure that healthcare services, predominantly staffed by young adults, operate 24 h a day, the effects on their dietary choices, meal preparation times, and exercise/physical activities can impact their self-regulation (Cheong et al. 2022). Nurses are at risk of making poor and unhealthy food choices as they tend to eat comfort foods, such as fast food and snacks, which are energy-dense and nutrient-poor, to alleviate stress (Huang et al. 2022; Cheong et al. 2022). The stressful nature of nursing is thought to have a more pronounced impact on self-regulation skills among women nurses (Leong et al. 2012). Self-regulation of eating behavior is a critical factor for healthy living among women. There is a need to investigate the effects of stressful life, working conditions, psychosocial factors, and lifestyle practices on the self-regulation of eating behavior in women (D'Souza et al. 2023). Nursing, as a profession with demanding working conditions, is associated with high levels of stress. This stress can particularly lead to difficulties in eating behavior regulation and self-regulation processes among women nurses. Moreover, women's struggles to cope with negative life events may contribute to disruptions in eating regulation (O'Neill et al. 2020; Ling and Zahry 2021). Additionally, societal beauty standards and sociocultural pressures on women are significant sources of stress (Carraça et al. 2011). Disruptions in eating regulation are often linked to emotional eating in adolescents (Ling and Zahry 2021), which may have indirect effects on BMI (O'Neill et al. 2020). Therefore, examining eating behaviors among women nurses can help avoid confounding factors related to gender differences in eating patterns (Lopez et al. 2021).

Young adult women may adopt different eating behaviors due to the fast-paced nature of their lives and the stress factors encountered in new environments (Kato et al. 2019). Deficiencies in eating self-regulation can lead to negative outcomes, particularly among young individuals, including issues with body image, self-perception, and increased stress levels (Altaş et al. 2022). It is crucial to conduct studies on the eating self-regulation of women nurses and nursing students to address related problems and prevent inadequate and unbalanced nutrition. It is crucial for women nurses and nursing students to effectively regulate their eating behaviors to maintain their own health and serve as role models for patients. Therefore, there is a need for valid and reliable measurement tools to assess the multiple factors influencing eating behaviors in young women nurses and nursing students. While there are scales to assess general self-regulation skills, existing scales do not directly focus on the self-regulation of eating behavior in young adults (De Vet et al. 2014). The SREBQ was developed to assess the capacity to control and manage eating behaviors to achieve and maintain eating intentions in adults (Kliemann et al. 2016). This tool is considered suitable for measuring eating behavior self-regulation skills in specific groups such as young adult women nurses and nursing students. However, there is a lack of measurement tools that assess the self-regulation of eating behavior in young women nurses and students, as well as studies examining the factors affecting eating self-regulation with these tools. Therefore, the primary aim of this study is to adapt the SREBQ to Turkish culture and evaluate its validity and reliability among young women nurses and nursing students. Additionally, the secondary aim of the study is to explore the relationship between self-regulation of eating behavior, general self-regulation, and eating behaviors in this population.

2 | Methods

2.1 | Design

This study includes two designs: a methodological study involving scale validity and reliability, and a descriptive cross-sectional study.

2.2 | Participants

The study was conducted in June and July 2024 by reaching young women nurses and nursing students who follow a social media page (Instagram platform) via a Google Forms survey. The sample size for this study was calculated using G-Power software based on a known population sample. According to Cohen's d effect sizes, taking the average of medium and low effects, the target sample size was determined to be 734 participants.

The inclusion criteria for the study were "being a woman between 18 and 32 years of age," "being a women nurse or women nursing student," "completing all questionnaire forms," and "volunteering to participate in the study." The exclusion criteria were "being a man nurse," "being a healthcare professional other than nursing," "being younger than 18 or older than 32 years old," and "incomplete responses to the questionnaire." The study included only women nurses and nursing students to avoid confounding gender-related effects on eating behaviors between man and woman (Lopez et al. 2021).

Of the 842 individuals who participated through the study link, 69 participants were excluded as their age did not meet the inclusion criteria. The study sample consisted of 773 young women nurses and nursing students aged 18–32 years. Among the participants, 526 were nurses, while 247 were nursing students.

2.3 | Instruments

2.3.1 | Personal Information Form

The form, developed by the researchers based on the literature review, comprises 9 questions (Kliemann et al. 2016; Lopez et al. 2021). It contains questions characterizing the age, height, weight, socioeconomic status, as well as nutritional and physical activity patterns of young women nurses and nursing students.

2.3.2 | Three Factor Eating Questionnaire

The Three Factor Eating Questionnaire (TFEQ) was adapted to Turkish culture by Karakuş et al. 2016, resulting in the 21-item TFEQ-R21. The TFEQ assesses eating behavior through three subfactors: cognitive restraint (CR), uncontrolled eating (UE), and emotional eating (EE). The questionnaire does not contain any reverse items and is rated on a 4-point Likert scale (1 = definitely false, 4 = definitely true). The reliability (Cronbach's α) coefficients were found to be 0.801 for CR, 0.870 for EE, and 0.787 for UE, indicating sufficient reliability (Karakuş et al. 2016). In this study, Cronbach's alpha coefficients were found to be 0.83 for CR, 0.93 for EE, and 0.88 for UE.

2.3.3 | Self-Regulation Scale

The Self-Regulation Scale (SRS) was validated and adapted to Turkish by Çevik et al. 2017. The scale is unidimensional and consists of 7 items, rated on a 4-point Likert scale (1 = completely false, 4 = completely true). Higher scores indicate a greater ability to control and maintain attention. The scale does not contain any reverse items. The Cronbach's alpha internal consistency coefficient was found to be 0.84, and the test–retest reliability coefficient was 0.67 (Çevik et al. 2017). In this study, Cronbach's alpha internal consistency coefficient was found to be 0.85.

2.3.4 | SREBQ

The SREBQ was developed by Kliemann et al. 2016 to measure the self-regulation skills of individuals intending to follow a healthy diet or avoid overeating tempting foods. The SREBQ consists of 5 items, rated on a 5-point Likert scale (1 = Never, 5 = Always). Items 3 and 5 are reverse-coded. The questionnaire provides a cut-off score for evaluation: scores below 2.8 indicate "Low" self-regulation, scores between 2.8 and 3.6 indicate "Medium" self-regulation, and scores above 3.6 indicate "High" self-regulation (Kliemann et al. 2016).

2.3.4.1 | Translation and Cultural Adaptation of SREBQ. Initially, permission to investigate the validity and reliability of the SREBQ in the Turkish population was obtained from the scale developer. The SREBQ was translated into Turkish by two experts who are native Turkish speakers and proficient in English. A synthesized version was created by combining the three translations. Two independent individuals, who are native English speakers and proficient in Turkish, performed a back-translation (from Turkish to English). The original and back-translated versions of the SREBQ were reviewed and compared by an expert committee consisting of eight nurse specialists. Based on the feedback and evaluations from the experts, the content validity index was found to be 0.88. After incorporating the expert feedback, a preliminary final version of the scale was developed. The comprehensibility of the scale was evaluated through a pilot study involving five women nurses who met the inclusion criteria. This pilot study was conducted face to face, and verbal feedback on the scale was collected. After completing the pilot study evaluations, the final version of the SREBQ was established.

2.3.5 | Data Collection

The research data were collected online. The sociodemographic data form, SRS, TFEQ, and SREBQ scales were transferred to the Google Forms application by the researchers. An announcement flyer containing the study's description and inclusion criteria was added to the survey form created with Google Forms, and an online link was generated. To prevent participation from male individuals and other healthcare professionals, a mandatory confirmation of being a woman, a nurse, and a nursing student was included in the form. Additionally, information about the confidentiality of the data and the voluntary nature of participation was provided. To prevent duplicate participation, the "Limit to one response" option was selected in the survey settings when creating the Google Forms survey link.

The link to this Google Forms survey was shared for a fee of $30 from an Instagram account actively run by a nursing content creator in Türkiye. Approximately 80% of this account's 180 000 followers are nurses and nursing students. The survey link was shared in the "Story" section by the social media manager. The story was viewed by 16 300 people, and 970 individuals clicked on the survey link. Of the 842 people who completed the survey according to the inclusion criteria, 69 people who did not meet the inclusion criteria were excluded from the study.

2.4 | Statistical Analysis

Statistical analyses were performed using the SPSS (Statistical Package for the Social Sciences) 26.0 software and SPSS AMOS 26 Graphics. Initially, validity and reliability analyses were conducted on the collected data in accordance with the two hypotheses of the study. The validated SREBQ instrument was analyzed in relation to independent variables and other dependent measures (SRS and TFEQ).

In the methodological section of the study, the language validity of the SREBQ was assessed using the translation-back translation method, and content validity was evaluated using expert opinions and the content validity index. To test the validity of

the scale's structure within the Turkish culture, the dataset was split into two halves. Exploratory factor analysis (EFA) was conducted on the first half of the dataset, and confirmatory factor analysis (CFA) was performed on the second half to evaluate model fit. Internal consistency was measured using item-total correlation coefficients and Cronbach's alpha.

The cross-sectional section of the study was conducted using the same dataset. The dependent variables of the study are self-regulation skills, self-regulation of eating behaviors, UE, CR, and EE behaviors. The independent variables of the study are age, BMI, economic and employment situation, regular nutrition, and physical activity. Independent group *t*-tests and ANOVA tests were used to measure differences between sociodemographic factors and scale scores. Pearson correlation analysis was performed to measure the relationships between the scales.

2.5 | Ethical Considerations

Ethics committee approval to conduct the study was obtained from the non-interventional ethics committee of the university (decision number: 2024/16–29, decision date: May 08, 2024, protocol number: 8928-GOA). Permission to administer the scales was obtained from the authors who conducted the validity and reliability studies of the scales. Informed consent was obtained electronically from each participant before completing the survey.

3 | Results

3.1 | Sociodemographic Characteristics of Young Women Nurses and Nursing Students

The study sample comprised 773 young women nurses and nursing students. The sociodemographic characteristics of the nurses and nursing students are shown in Table 1. The study found that the mean age of the young women nurses and nursing students was 23.10 ± 3.34 years, and their mean BMI was 22.81 ± 4.36. It was observed that 76.1% of the participants had a BMI of less than 24.99, 71.3% had an income equal to or greater than their expenses, 68% were graduate nurses, 49.5% did not engage in regular physical activity, 63.4% did not have a balanced diet, 67.7% found sweet and salty snacks to be tempting foods, 76.7% intended not to overeat these foods, and 77.1% had an intention to follow a healthy diet (Table 1).

3.2 | Results of Methodological Section

The construct validity of the SREBQ instrument was assessed using EFA, which resulted in a Kaiser-Meyer-Olkin (KMO) coefficient of 0.703 and Bartlett's Test value of $\chi^2 = 148.776$ ($p < 0.001$), indicating significance and suitability of the assumptions. After meeting these assumptions, a single-factor structure was identified, explaining 73.96% of the total variance with eigenvalues greater than one using Varimax rotation. The factor loadings of the scale, identified as a single factor in the EFA, ranged from 0.68 to 0.80 (Table 2).

TABLE 1 | Sociodemographic, nutritional, and health-related characteristics of young women nurses and nursing students ($n = 773$).

	$X \pm SD$	Min-max	
Age	23.10 ± 3.34	18–32	
BMI	22.81 ± 4.36	15.21–45.67	
		n	**%**
BMI status	< 24.99	584	76.1
	≥ 25.00	183	23.9
Economic situation	Low	219	28.7
	Equal and high	545	71.3
Employment situation	Nurse	526	68.0
	Nursing student	247	32.0
Regular physical activity	Yes	101	13.2
	No	379	49.5
	Sometimes	286	37.3
Adequate and balanced nutrition	Yes	137	17.8
	No	487	63.4
	Often	144	18.8
Tempting foods (Do you want to eat more than you think?)	No consumption	26	3.4
	Sweet and salty snack consumption	523	67.7
	Sugar drink and sweet and salty snack consumption	224	29.0
Do you intend not to eat too much of tempting foods	Yes	592	76.7
	No	180	23.3
Healthy diet intention	Yes	595	77.1
	No	177	22.9

TABLE 2 | Factor structure of the 5-item Turkish version of SREBQ ($n = 386$).

Item	Factor loading
I give up too easily on my eating intentions	0.688
I'm good at resisting tempting food	0.689
I easily get distracted from the way I intend to eat^{R}	0.713
If I am not eating in the way I intend to I make changes	0.780
I find it hard to remember what I have eaten throughout the day^{R}	0.800

Note: R: Reverse item. Variance explained: 52.3%. KMO = 0.69. Item-item correlation (range): 0.21–0.64. Item-total correlation (range): 0.37–0.63. Cronbach alpha: 0.786.

The sub-dimensions obtained from the EFA of the SREBQ instrument were tested using CFA. The goodness-of-fit indices for the resulting model were $\chi^2/df = 0.223$, CFI = 0.958, NFI = 0.983, and RMSEA = 0.030, indicating a good model fit and a well-fitting unidimensional structure (Figure 1).

The internal consistency reliability of the SREBQ instrument was found to have a Cronbach's alpha coefficient of 0.78. The item-total correlations ranged from 0.21 to 0.64 when each item was excluded from the total Cronbach's alpha value, indicating no need for item removal.

3.3 | Results of Cross-Sectional Section

In the study, no relationship was found between age and total scale scores among young women nurses and nursing students ($p > 0.05$). A very low negative correlation was found between BMI scores and SREBQ total scores, and a low positive correlation was found between BMI scores and TREQ-CR, TREQ-EE, and TREQ-UE subdimension scores ($p < 0.001$). Participants with a BMI of less than 24.99 had higher SREBQ total scores and lower TREQ-CR, TREQ-EE, and TREQ-UE subdimension scores ($p < 0.05$). Participants with an income lower than their expenses had lower SREBQ and SRS total scores ($p < 0.05$). Nurses had lower SREBQ total scores compared to nursing students ($p < 0.05$). Participants who did not engage in regular physical activity and those who did not have a balanced diet had lower SREBQ scores and higher TREQ-UE scores compared to others. Participants who engaged in regular physical activity and had a healthy diet had higher SRS and TREQ-CR scores. Participants who did not consume tempting foods had higher SREBQ scores and lower TREQ-EE and TREQ-UE scores compared to those who did. Additionally, participants who consumed only sweet and salty snacks had higher TREQ-CR scores. Participants who intended not to overeat these foods had higher TREQ-CR, TREQ-EE, and TREQ-UE scores. Participants with a healthy diet intention had higher TREQ-CR, TREQ-EE, and TREQ-UE scores (Table 3).

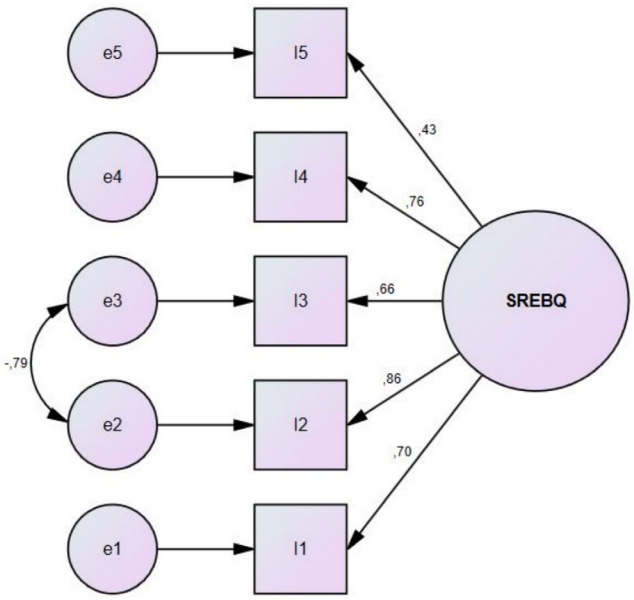

FIGURE 1 | Confirmatory factor analysis of the SREBQ.

In the study, it was found that the mean total score for the SREBQ among young women nurses and nursing students was 3.11 ± 0.56, the mean total score for the SRS was 19.28 ± 3.29, the mean TREQ-CR subdimension score was 13.45 ± 3.94, the mean TREQ-EE subdimension score was 13.86 ± 5.26, and the mean TREQ-UE subdimension score was 21.19 ± 5.98. There was a very low positive significant correlation between the total SREBQ score and the SRS and TREQ-CR scores. Additionally, there was a low negative significant correlation between the total SREBQ score and the TREQ-EE and TREQ-UE subdimension scores among the nurses and nursing students. The study also found a very low positive significant correlation between the total SRS score and the TREQ-CR score, and a very low negative significant correlation between the total SRS score and the TREQ-EE and TREQ-UE subdimension scores (Table 4).

4 | Discussion

4.1 | Discussion of Methodological Section

In this study, the validation of the scale was conducted to assess the self-regulation of eating behavior among young Turkish women nurses and nursing students, and their eating behavior self-regulation was then examined. In accordance with the first hypothesis of the study, the scale was adapted from English to Turkish and its suitability in this language was tested. The Turkish version of the self-regulation of eating behavior scale was found to be valid and reliable in this cultural context. Given the large sample size of this study, EFA was conducted with the first half of the sample to ensure construct validity. The EFA results identified a single-factor structure, similar to the original scale (Kliemann et al. 2016). A high KMO value indicates that each variable in the scale can be predicted by the other variables (Çokluk et al. 2012). The KMO test value obtained from the EFA for the scale was 0.70, indicating a moderate level of fit (Yurdugül 2005). The original scale had a good level of fit with a KMO value of 0.80. The German version of the scale showed poor to moderate fit with 5 items but excellent fit when reduced to 4 items (Schmalbach et al. 2021). It was noted that there was a fit issue with Item 5 in the initial version translated into German. Similarly, in our study, although the CFA results were significant, Item 5 had the lowest fit index among the validity factors. However, it is within acceptable limits both linguistically and in terms of CFA fit indices (Erkorkmaz et al. 2013). Additionally, the second half of the study sample provided similar fit values to the original scale (Kliemann et al. 2016). From this perspective, the 5-item version of the scale is deemed usable in Turkish culture.

The reliability values of this validated 5-item scale were also found to be acceptable in terms of internal consistency. A high Cronbach's alpha value implies that each item aligns perfectly with the scale and measures a similar construct. In our study, the overall reliability was at a satisfactory level (Kartal and Dirlik 2016). In the original scale, the score is calculated by dividing the total score by the number of items (Kliemann et al. 2016). Similarly, in the Turkish version, the scale score will be obtained by dividing the total score by the number of items.

TABLE 3 | Comparison of self-regulation of eating behavior questionnaire scores of young women nurses and nursing students with socio-demographic, nutritional, and health-related characteristics ($n = 773$).

		SREBQ			SRS			TREQ-CR			TREQ-EE			TREQ-UE		
Sociodemographic factor		***r*[a]**		***p***	***r***		***p***	***r***		***p***	***r***		***p***	***r***		***p***
Age		−0.030		0.399	0.006		0.874	−0.028		0.431	0.066		0.068	0.013		0.725
BMI		−0.158*		0.000	0.029		0.426	0.236*		0.000	0.417*		0.000	0.304*		0.000
		***X*±SD**	**F[b]/t[c]**	***p***	***X*±SD**	**F/t**	***p***	***X*±SD**	**F/t**	***p***	***X*±SD**	**F/t**	***p***	***X*±SD**	**F/t**	***p***
BMI status	< 24.99	3.16 ± 0.53	3.814*	0.000	19.31 ± 3.14	0.442	0.658	13.16 ± 4.02	−3.696*	0.000	12.92 ± 4.91	−9.384*	0.000	20.44 ± 5.75	−6.489*	0.000
	≥ 25.00	2.97 ± 0.59			19.19 ± 3.72			14.38 ± 3.45			16.89 ± 5.13			23.66 ± 6.05		
Economic situation	Low	3.03 ± 0.55	−2.477*	0.013	18.88 ± 3.29	−2.216*	0.027	13.61 ± 3.50	0.750	0.453	14.15 ± 5.11	0.936	0.350	21.49 ± 5.72	0.881	0.379
	Equal and high	3.14 ± 0.55			19.46 ± 3.27			13.38 ± 4.12			13.75 ± 5.32			21.07 ± 6.08		
Employment situation	Nurse	3.08 ± 0.53	−2.590*	0.010	19.27 ± 3.35	−0.109	0.913	13.40 ± 3.96	−0.506	0.613	13.88 ± 5.47	0.102	0.919	21.16 ± 6.36	−0.205	0.838
	Nursing student	3.19 ± 0.61			19.30 ± 3.17			13.56 ± 3.89			13.84 ± 4.46			21.25 ± 5.06		
Regular physical activity	Yes	3.30 ± 0.64	11.475*	0.000	20.64 ± 3.62	14.187*	0.000	14.87 ± 4.23	20.071*	0.000	12.94 ± 5.17	2.880	0.057	19.61 ± 6.25	4.860*	0.008
	No	3.03 ± 0.53			18.77 ± 3.13			12.59 ± 3.65			13.73 ± 5.17			21.69 ± 6.00		
	Sometimes	3.17 ± 0.52			19.51 ± 3.22			14.09 ± 3.97			14.35 ± 5.39			21.07 ± 5.79		
Adequate and balanced nutrition	Yes	3.31 ± 0.61	21.640*	0.000	20.52 ± 3.37	12.293*	0.000	14.39 ± 4.18	6.056*	0.002	13.37 ± 4.93	3.830*	0.022	19.97 ± 5.78	5.202*	0.006
	No	3.02 ± 0.52			18.96 ± 3.26			13.11 ± 3.77			14.25 ± 5.25			21.69 ± 5.88		
	Often	3.26 ± 0.52			19.25 ± 2.99			13.72 ± 4.16			13.00 ± 5.52			20.61 ± 6.35		
Tempting foods (Do you want to eat more than you think?)	No consumption	3.33 ± 0.51	10.538*	0.000	20.07 ± 3.29	1.225	0.294	12.88 ± 4.39	6.896*	0.001	9.50 ± 3.69	9.993*	0.000	15.80 ± 5.49	14.532*	0.000
	Sweet and salty snack consumption	3.16 ± 0.54			19.33 ± 3.25			13.81 ± 3.95			13.89 ± 5.23			21.02 ± 5.84		
	Sugar drink and sweet and salty snack consumption	2.98 ± 0.57			19.08 ± 3.38			12.67 ± 3.75			14.31 ± 5.26			22.22 ± 6.01		

(Continues)

TABLE 3 | (Continued)

		$X \pm SD$	F[b]/t[c]	*p*	$X \pm SD$	F/t	*p*	$X \pm SD$	F/t	*p*	$X \pm SD$	F/t	*p*	$X \pm SD$	F/t	*p*
Do you intend not to eat too much of tempting foods	Yes	3.13 ± 0.55	1.011	0.312	19.33 ± 3.28	0.723	0.470	14.05 ± 3.18	7.934*	0.000	14.40 ± 5.24	5.287*	0.000	21.62 ± 5.83	3.662*	0.000
	No	3.08 ± 0.58			19.13 ± 3.33			11.48 ± 3.74			12.06 ± 4.94			19.77 ± 6.28		
Healthy diet intention	Yes	3.12 ± 0.55	0.358	0.720	19.40 ± 3.37	1.812	0.070	14.07 ± 3.85	8.374*	0.000	14.37 ± 5.38	5.421*	0.000	21.45 ± 6.02	2.174*	0.030
	No	3.10 ± 0.59			18.89 ± 2.97			11.36 ± 3.53			12.19 ± 4.44			20.33 ± 5.80		

*$p < 0.05$.
[a]Pearson correlation coefficient.
[b]ANOVA test.
[c]Independent group *t* test.

4.2 | Discussion of Cross-Sectional Section

In the study, it was found that the eating behavior self-regulation of young women nurses and nursing students was at a moderate level and that self-regulation was positively associated with the behavioral model. According to the self-regulation process model, young women who use proactive strategies such as distraction and situation selection have weaker eating desires, less frequent fulfillment of these desires, and lower food consumption (Lopez et al. 2021). However, in our study, the relationship between general self-regulation and eating self-regulation was not at a satisfactory level. This may be attributed to the fact that these young women are still in the early adulthood stage (De Vet et al. 2014). It is known that young women's self-regulation skills are generally lower in the domain of eating (Cloete et al. 2012). Additionally, the stressful work environment and life conditions of young women nurses and nursing students may cause delays in the development of self-regulation.

In the study, it was observed that as self-regulation of eating behavior increased among young women nurses and nursing students, restrictive eating showed a slight increase, while UE and EE behaviors decreased. The increase in restrictive eating may be due to young women who can use polyregulation being more resistant and controlled in their food consumption (Lopez et al. 2021). UE behavior is influenced by cognitive self-regulation skills. In terms of disordered eating behaviors, strategies such as distraction are less frequently used (Crino et al. 2019). It is also known that self-regulation of eating behavior plays a significant protective role in reducing EE and perceived stress among young individuals (Ling and Zahry 2021). Therefore, enhancing self-regulation skills in women may improve disordered eating behaviors (Annesi and Eberly 2024).

In the study, it was observed that women with high BMI, unhealthy diets, lack of physical activity, and those who consumed sugary drinks and sweet and salty snacks had lower self-regulation of eating behavior. It is known that developing healthy strategies related to eating quality in women is associated with healthy eating and lower BMI (Leong et al. 2012; Guertin and Pelletier 2021). Additionally, being less likely to give up on eating intentions reduces the likelihood of being overweight (Balani et al. 2019). Young women with obesity are known to have low self-regulation skills related to eating and physical activity (Campos-Uscanga et al. 2017). This may be due to the increased stress related to eating, stemming from the development of negative body perceptions among obese women (Baur et al. 2022). Improving body image may play a significant role in enhancing the self-regulation of eating behavior (Carraça et al. 2011). Additionally, cognitively accurate interoception of weight and eating behavior may be another way to enhance eating self-regulation among young people (Annesi and Powell 2024; Jeune et al. 2024). Therefore, it can be predicted that improving eating self-regulation in young women may improve disordered eating behaviors (Eichler et al. 2023).

Additionally, it has been observed that those with better economic status and student nurses exhibit higher self-regulation of eating behavior. Food prices are known to be a significant factor influencing food choice motivation (Stewart-Knox et al. 2024). Therefore, economic accessibility can offer individuals the freedom to make healthier food choices. The lower self-regulation

TABLE 4 | The relationship between SREBQ, SRS total scores and TREQ subdimension scores among young women nurses and nursing students ($n = 773$).

	$X \pm SD$	Min-max		SREBQ	SRS	TREQ-CR	TREQ-EE	TREQ-UE
SREBQ	3.11 ± 0.56	1–5	r*	1				
			p					
SRS	19.28 ± 3.29	7–28	r	0.252**	1			
			p	0.000				
TREQ-CR	13.45 ± 3.94	6–24	r	0.136**	0.107**	1		
			p	0.000	0.003			
TREQ-EE	13.86 ± 5.26	6–24	r	−0.355**	−0.109**	0.250**	1	
			p	0.000	0.003	0.000		
TREQ-UE	21.19 ± 5.98	9–36	r	−0.406**	−0.129**	0.137**	0.672**	1
			p	0.000	0.000	0.000	0.000	

*Pearson correlation coefficient.
**$p < 0.05$.

of eating among nurses may be due to barriers to healthy eating, such as long and irregular working hours (Cheong et al. 2022). Furthermore, institutional challenges such as night shifts and the inability to maintain a work-life balance may affect eating behaviors (Huang et al. 2022). This situation may jeopardize nurses' own health and job performance. Therefore, we recommend implementing mindfulness-based practices to support the self-regulation skills of women nurses.

4.3 | Limitation

The first limitation of this study is the inability to perform test–retest reliability for the self-regulation of eating behavior scale, as conducted in the original scale. This issue arose because the study aimed to reach a large sample size, making it difficult to re-contact participants for data security reasons, and thus other reliability methods were used. Another limitation is that the Turkish translation of the scale was validated and deemed reliable only among young women nurses and nursing students. This choice was made to maintain homogeneity. However, it is believed that the scale could also be applicable to women in other health professions or those working or studying under stressful conditions.

Another limitation of the study is that the data were collected only from nurses following a specific online media platform, which may limit the generalizability of the findings to all young women nurses and nursing students. Additionally, the limited literature on eating self-regulation among women nurses and nursing students posed a challenge for this study.

5 | Conclusion and Implications for Nursing and Health Policy

The 5-item SREBQ has been found to be valid and reliable for the population of young women nurses and nursing students in the Turkish language. This scale, which provides a quick and efficient measurement of eating self-regulation, has been introduced to Turkish for use among women nurses or health professionals. It may be considered a useful tool in interventions aimed at addressing disordered eating behaviors. In this population, it was found that as self-regulation of eating behavior increased, general self-regulation skills improved, and EE and UE behaviors decreased. Accordingly, enhancing eating self-regulation skills in women may help reduce disordered eating behaviors. It can be anticipated that improving women's eating self-regulation may enhance overall health and reduce the burden of stress. Developing eating self-regulation in women nurses within their stressful work environment may play a crucial role in maintaining both physical and mental health. Strengthening eating self-regulation can positively impact the quality of healthcare services by improving nurses' work performance and quality of life. Accordingly, to protect the health of women nursing staff, it is necessary to facilitate access to healthy foods and regulate meal breaks in a way that will help increase eating self-regulation.

Author Contributions

Gülsüm Zekiye Tuncer: conceptualization, writing – original draft, writing – review and editing, investigation. **Metin Tuncer:** writing – original draft, writing – review and editing, validation, formal analysis.

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Ethics Statement

Ethics committee approval to conduct the study was obtained from the non-interventional ethics committee of Dokuz Eylül University (decision number: 2024/16-29, decision date: May 08, 2024, protocol number: 8928-GOA). Permission to administer the scales was obtained from the authors who conducted the validity and reliability studies of the scales.

Consent

Informed consent was obtained electronically from each participant before completing the survey.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Research data are not shared.

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