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HEALTHY LIFESTYLE BEHAVIOR AND LOCUS OF CONTROL AMONG NURSING STUDENTS

Gulsher[*1], Raja[2], Ameer Ullah Khan[3], Sajid Ali[4], Sri Kant[5]

[*1]*Principal, Sindh Academy of Nursing, Hyderabad*
[2]*Associate Professor, Ziauddin University Faculty of Nursing and Midwifery, Karachi*
[3]*Nursing Instructor, Qatar College of Nursing (Female), Orangi Town, Karachi.*
[4]*Nursing Manager, Patel Hospital, Karachi.*
[5]*Nursing Instructor, College of Nursing, Dr. Ruth K.M Pfau Civil Hospital, Karachi.*

[*1]gulshersolangi12@gmail.com

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Corresponding Author: *
Gulsher

Abstract

Background: *Healthy lifestyle behaviors are essential for nursing students, as they influence both personal health and future professional practice. However, academic and clinical demands may limit the adoption of healthy habits. Locus of control may play an important role in determining engagement in health-promoting behaviors. This study aimed to assess healthy lifestyle behaviors and locus of control among nursing students.*

Methodology: *A cross-sectional study was conducted among 450 nursing students at a private institute in Karachi from November 2025 to February 2026. Participants were selected using non-probability convenience sampling. Data were collected through a structured self-administered questionnaire after obtaining informed consent. Analysis was performed using SPSS version 21. Descriptive statistics and inferential tests were applied, with $p \leq 0.05$ considered statistically significant.*

Results: *Among 450 students, the majority were aged 20–24 years (43.6%) and male (58.9%). Most participants demonstrated an internal locus of control (92.3%), with higher prevalence among females and first-year students. Health-promoting behaviors, including regular meals, a balanced diet, physical activity, and personal hygiene practices, were widely reported and more common among students with an internal locus of control. Significant associations ($p < 0.05$) were observed between locus of control and multiple health-related behaviors.*

Conclusion: *An internal locus of control is significantly associated with healthier lifestyle behaviors among nursing students. Strengthening internal control beliefs may enhance the adoption of health-promoting practices and improve overall well-being in this population.*

INTRODUCTION

Nurses play a vital role in the healthcare system, not only by providing patient care but also as future leaders, educators, and professionals contributing to the advancement of healthcare. Nursing faculty can enhance students' academic and clinical performance by promoting characteristics associated with success, including psychological factors such as locus of control. Evidence suggests that an internal locus of

control is associated with improved academic achievement (Kurt, 2015).

Lifestyle behaviors are major contributors to the development of non-communicable diseases (NCDs), which significantly affect individual and societal health. The global burden of morbidity and mortality has increased considerably due to cardiovascular diseases, chronic respiratory diseases, and cancer, which are leading causes of death worldwide (Gore et al., 2016).

According to the World Health Organization, health is defined as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (World Health Organization, 1981). Adoption of healthy lifestyle behaviors is therefore essential to improve quality of life and reduce morbidity and mortality (World Health Organization, 1981).

Individuals experience various life events such as promotion, job loss, marriage, divorce, and changes in health status; however, the outcomes of these events often depend on personal interpretation rather than the events themselves (Gore et al., 2016). This perception is explained by the concept of locus of control, which refers to an individual's belief regarding control over life events (Karkoulian et al., 2016).

Locus of control is classified into internal and external dimensions. Individuals with an internal locus of control believe that outcomes depend on their own actions, whereas those with an external locus of control attribute outcomes to external factors such as luck or fate (Asante & Affum-Osei, 2019). Internal locus of control is associated with healthier behaviors such as physical activity and smoking cessation (Holden et al., 2019).

Locus of control is also an important psychological construct influencing personality development and behavior (Kida, 2018). It plays a significant role in motivation, safety behavior, and psychological well-being (Nykänen et al., 2019). Studies suggest that locus of control may vary with age and life experience (Wolinsky et al., 2010). Overall, it remains an important determinant of psychological health and well-being (Sharif, 2017; Smith et al., 2018). Therefore, this study was conducted to determine the level of healthy lifestyle behaviors and locus of control among nursing students.

METHODOLOGY

A cross-sectional analytical study design was employed to assess healthy lifestyle behaviors and locus of control among nursing students. The study was conducted at a private nursing institute in Karachi. The study population comprised all nursing students enrolled at the institute. Students who were willing to participate were included in the study, whereas those who were on leave during the data collection period or declined to participate were excluded.

Data collection was carried out over a period of four months, from November 2025 to February 2026. The sample size was calculated using OpenEpi software, based on a paired mean comparison with a 95% confidence interval and 80% power of the test. Mean and standard deviation values for healthy lifestyle behaviors and locus of control were obtained from previous studies. A non-probability convenience sampling technique was used to recruit participants.

Data were collected in the participants' respective classrooms. Participants were first briefed about the study, and written informed consent was obtained to ensure voluntary participation. A structured, self-administered questionnaire was then distributed, and completed forms were collected after approximately 30 minutes. The principal investigator remained available to assist participants when required. Confidentiality and anonymity of the participants were strictly maintained throughout the study.

The collected data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) version 21. Qualitative variables were presented as frequencies and percentages, while quantitative variables were expressed as mean ± standard deviation. Inferential statistics were applied to assess the relationship between healthy lifestyle behaviors and locus of control, with a p-value of ≤0.05 considered statistically significant.

RESULTS

From a total of 450 students, the majority were aged 20–24 years (196; 43.6%), and more than

half were male (265; 58.9%). Most participants were in their first year of study (195; 43.3%), and 255 (56.7%) reported giving moderate importance to their health. The majority were non-smokers (267; 59.3%), non-alcohol users (432; 96%), and reported no chronic disease (416; 92.4%).

A high proportion of students demonstrated an internal locus of control (120; 92.3%), while only 10 (7.7%) exhibited an external locus. Internal locus of control was more prevalent among females (176; 95.1%) than males (218; 82.3%), and among first-year students (181; 92.8%). Students who placed high importance on health were predominantly in the internal locus group (185; 96.9%). Similarly, most students who reported smoking (160; 87.4%), alcohol use (18; 100%), and chronic disease (24; 70.6%) also demonstrated an internal locus of control. Significant associations were found between locus of control and socio-demographic factors, including gender, year of study, perceived importance of health, and smoking status, indicating that these variables may influence health-related beliefs (Table-1).

Table-1. Association of LOCs with socio-demographic factors

Variables	*Demographic Factor*	*Internal Control*		*External Control*		*Chi-Sq*	*P-Value*
		Count (n)	Percent (%)	Count (n)	Percent (%)		
Age	18-20	120	92.3%	10	7.7%	4.191	0.123
	20-24	166	84.7%	30	15.3%		
	22-24	108	87.1%	16	12.9%		
Gender	Male	218	82.3%	47	17.7%	16.564	<0.01
	Female	176	95.1%	9	4.9%		
Year of Study	First Year	181	92.8%	14	7.2%	16.868	<0.001
	Second Year	134	84.8%	24	15.2%		
	Third Year	70	85.4%	12	14.6%		
	Fourth Year	9	60.0%	6	40.0%		
The Level of Importance Given To Health	Good	185	96.9%	6	3.1%	27.749	<0.001
	Medium	205	80.4%	50	19.6%		
	Bad	4	100.0%	0	0.0%		
Smoking	Yes	160	87.4%	23	12.6%	0.004	0.947
	No	234	87.6%	33	12.4%		
Drinking Alcohol	Yes	18	100.0%	0	0.0%	2.665	0.103
	No	376	87.0%	56	13.0%		
Chronic Disease	Yes	24	70.6%	10	29.4%	9.718	0.002
	No	370	88.9%	46	11.1%		

Among the 450 students, a large proportion of those engaging in healthy lifestyle behaviors demonstrated an internal locus of control. Most students who reported eating breakfast daily (352; 88.4%) and consuming fruits regularly (292; 86.1%) were categorized within the internal locus group. Similarly, students maintaining regular meal patterns and a healthy, varied diet accounted for 308 (90.3%) and 339 (88.7%), respectively, within the internal locus category. Health-promoting practices were also common among students with an internal locus of control, including attendance at educational programs (360; 90.9%), reading health-related information (366; 88.8%), and seeking guidance when necessary (376; 91.3%). Personal hygiene and self-

care behaviors, such as brushing teeth regularly (370; 88.9%) and monthly body assessment (233; 91.4%), were also predominantly observed in this group. In terms of sleep and physical activity, most students sleeping 6–8 hours (356; 88.6%), engaging in stretching (244; 85.0%), daily exercise (259; 83.5%), sports participation (325; 88.1%), and light to moderate exercise (228; 92.3%) were found to have an internal locus of control. Significant associations ($p<0.05$) were observed between locus of control and multiple health behaviors, including regular meals, healthy diet, participation in educational activities, health information-seeking, self-care practices, and physical activity (Table-2).

Table-2. Association of LOCs with Nutrition, health responsibility and sleep quality

VARIABLES	*RESPONSE*	*INTERNAL CONTROL*		*EXTERNAL CONTROL*		*CHI-SQ*	*P-VALUE*
		Count (n)	*Percent (%)*	*Count (n)*	*Percent (%)*		
Do you eat breakfast daily	Yes	352	88.4%	46	11.6%	2.485	0.115
	No	42	80.8%	10	19.2%		
Do you eat fruit daily	Yes	292	86.1%	47	13.9%	2.543	0.111
	No	102	91.9%	9	8.1%		
Do you eat three regular meals each day	Yes	308	90.3%	33	9.7%	9.893	0.002
	No	86	78.9%	23	21.1%		
Do you follow a healthy and varied diet	Yes	339	88.7%	43	11.3%	3.274	0.07
	No	55	80.9%	13	19.1%		
Do you attend educational programs	Yes	360	90.9%	36	9.1%	34.061	<0.001
	No	34	63.0%	20	37.0%		
Make an effort to read health information	Yes	366	88.8%	46	11.2%	7.33	0.007
	No	28	73.7%	10	26.3%		
Seek guidance when necessary	Yes	376	91.3%	36	8.7%	61.52	<0.001
	No	18	47.4%	20	52.6%		
Do you brush your teeth and use dental floss after a meal	Yes	370	88.9%	46	11.1%	9.718	0.002
	No	24	70.6%	10	29.4%		
Do you assess your body at least monthly	Yes	233	91.4%	22	8.6%	7.869	0.005
	No	161	82.6%	34	17.4%		
Do you sleep well? maximum 6-8 hours	Yes	356	88.6%	46	11.4%	3.47	0.062
	No	38	79.2%	10	20.8%		
Do you wake up at night	Yes	132	84.1%	25	15.9%	2.679	0.102
	No	262	89.4%	31	10.6%		
Do you wake up feeling tired	Yes	94	89.5%	11	10.5%	0.487	0.485
	No	300	87.0%	45	13.0%		
Do you take sleeping pills	Yes	32	76.2%	10	23.8%	5.491	0.19
	No	362	88.7%	46	11.3%		
Do you do stretch exercises daily	Yes	244	85.0%	43	15.0%	4.685	0.03
	No	150	92.0%	13	8.0%		
Do you exercise daily	Yes	259	83.5%	51	16.5%	14.658	<0.001
	No	135	96.4%	5	3.6%		
Participate in sports at school	Yes	325	88.1%	44	11.9%	0.509	0.475
	No	69	85.2%	12	14.8%		

Do light/moderate exercise for 30 minutes	Yes	228	92.3%	19	7.7%	11.348	<0.001
	No	166	81.8%	37	18.2%		

DISCUSSION

The present study assessed healthy lifestyle behaviors and locus of control among nursing students. The findings indicate variations in locus of control across demographic and behavioral variables.

The results are supported by Musich et al. (2020), who reported that individuals with an internal locus of control demonstrate better health outcomes, reduced healthcare utilization, and improved overall well-being. This aligns with the present findings, where a higher internal locus of control was associated with healthier patterns. Similarly, Khumalo and Plattner (2019) found that an internal locus of control is associated with lower levels of depression among university students, highlighting its importance in psychological well-being.

In occupational and academic settings, an internal locus of control has been linked with improved performance and motivation. Khushk (2019) reported better employee performance among individuals with an internal locus of control, while Bitsadze and Japaridze (2016) found reduced burnout among teachers with internal control beliefs. Furthermore, locus of control has been associated with behavioral and cognitive outcomes. Hsiao et al. (2016) and Göksel and Aydıntan (2017) reported that internal locus of control enhances decision-making, human capital, and social capital development. Rodriguez-Ricardo et al. (2019) also highlighted its influence on trust and behavioral intentions.

Educational studies further support these findings. Anderson et al. (2005) found that locus of control influences motivation and self-efficacy in academic environments. Mesgar and Tafazoli (2018) reported that internal locus of control is associated with more effective learning strategies, while Schwartzman and Boger (2019) emphasized its role in academic adaptation and learning behavior.

Overall, the findings of this study are consistent with existing literature (Musich et al., 2020; Khumalo & Plattner, 2019; Khushk, 2019; Bitsadze & Japaridze, 2016), indicating that an internal locus of control is positively associated with psychological well-being, motivation, and healthy behaviors. Therefore, strengthening the internal locus of control among nursing students may improve both lifestyle behaviors and academic performance.

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