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Original Article

Academic and Workplace Buoyancy and its Association with Demographic Variables among Health Sciences' Undergraduates

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ABSTRACT

Academic buoyancy is important for influencing students' ability to face academic challenges. It describes learners' ability to defeat academic difficulties. It is an important factor on the psycho-educational landscape assisting students experiencing setbacks. Clinical/workplace buoyancy can help health sciences' students to face the challenges in error-prone learning atmosphere. **Objective:** To assess the level of academic and workplace buoyancy and its association with demographic variables among health sciences' undergraduates. **Methods:** Analytical cross-sectional research with convenient sampling was carried out on 222 undergraduates of Sohail University, Karachi. Ethical approval was taken from the ERC, Sohail University. Data were collected through Academic Buoyancy Scale. By using SPSS Version 25.0, the data were analyzed. Descriptive statistics were calculated and Chi-square was applied to observe the association of buoyancy with demographic variables. **Results:** In this study, mostly participants (98.6%) belong to the age 22-24 years. Over 50% of the partakers (55.9%) were females. All items of workplace and academic buoyancy had a significant association with study program (p-value 0.000, 0.010,0.002,0.021 respectively) while only 2 items showed significant association with study year (p-value 0.012 and 0.028). There was no significant association of buoyancy with variables like age, gender, religion and marital status. **Conclusions:** This study's findings highlighted the buoyancy levels among health sector undergraduates. The association of buoyancy was found significant with study program and some items with CGPA and study year. These findings indicated the need to enhance positive traits like buoyancy among health sector undergraduates.

INTRODUCTION

The buoyancy has been a growing topic in academia and work place recent times. It has also been realized to be an important issue affecting learners' ability to face challenges relevant to their academics. It describes learners' ability to defeat academic difficulties, obstacles and adversity [1]. It is also described as the ability to cope with everyday setbacks in academic life [2]. Academic buoyancy may signify as a significant factor on the psychological and educational site assisting undergraduates who experience troubles in their academia [3]. Academic stress may arise from perceptions of one's curriculum or program grade competition and the amount of workload that students are required to do. Similarly, academic stress may be triggered by individual and personal experiences [4]. To provide health sciences' undergraduates, an opportunity of clinical placement is a vital part in medical education which help them to apply academic knowledge in practice [5]. Buoyancy which is clinical/workplace buoyancy, adjustment and adaptability can help learners to protect themselves from anxiety, depression, setback in challenging and fault and error-prone learning atmosphere [6]. Buoyancy in academic settings is considered as motivational factors that impact students' ability to face challenges. It can enhance the quality of education offered to the students [7]. Academic buoyancy is proposed as a helpful tool to better

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understanding and conceptualizing the wellbeing of learners in their educational context [8]. Test anxiety arises during a student's life when their person's performance is evaluated, while as academic buoyancy is linked to the attitudes, beliefs, and emotions which are thought to be beneficial for academic achievement [9]. Academic buoyancy is associated to primary school students' academic performance through self-concept and the arbitration process and academic buoyancy is essential for mediation try to aimed at increase students' buoyancy, self-concept, and academic performance [10]. Higher stress with lower buoyancy levels and lower stress with higher buoyancy levels were witnessed by a former study. It means that academic buoyancy affected the results of stress levels among the students [11]. A previous study retrieved high levels of buoyancy among its participants and this high buoyancy protect their performance against anxiety. The academic and workplace buoyancy protected performance at lower levels of anxiety. It also suggested that buoyancy can help students coping slightly with mild forms of negative emotion [12]. Undergraduates who exhibit greater academic buoyancy, are also increased experience in academic engagement. The levels of academic buoyancy partially interpret the relationship between emotional intelligence and element of student engagement [13]. Buoyancy is considered valuable in multiple studies but mostly the previous literature is related to developed countries and the consideration was paid to general university students and there's been minimum focused on undergraduates of health sector. We did not find any former research in the private or public sector in Pakistan viewing the buoyancy and its association with different variables among health sector undergraduates.

Therefore, this research was aimed to observe the level of academic and workplace buoyancy and its association with demographic variables among health sciences' undergraduates in Karachi.

METHODS

An analytical cross-sectional study with convenient sampling conducted from 1st September to 30th November, 2023 on 222 undergraduates of four affiliated colleges of Sohail University, Karachi that were including on Jinnah College of Nursing, Jinnah College of Rehabilitation, Jinnah Medical & dental College and Jinnah College of Pharmacy. All inclined 2nd to 4th year male and female students of Generic BSN, DPT, MBBS, BDS and D pharmacy participated in this study, on the other hand, students of any other specialty, post-graduates, business administration, certificate programs were excluded from the study. Undergraduates who were unwilling to participate and belong to colleges other than Sohail University were also excluded. We also did not include the 1st year students because of unavailability of students when the data were being collected. The sample size was estimated through Slovins' Formula that is n= N/(1+ Ne^2), where n is sample size, N is population, and e is margin of error we decided it is 0.05 due to 95% level of confidence [14]. The Ethical Review Committee of Sohail University gave the Ethical approval (Protocol # 000329/23). Data collection permission was attained from all the principals of four included colleges. Data were collected through Academic Buoyancy Scale. This is a validated questionnaire and it has two sections which are workplace buoyancy and academic buoyancy. Pilot study was also done to check the validity of questionnaire as some changes has been made in it. This questionnaire has Cronbach's α = .80. Both (workplace and academic buoyancy) sections composed of four items, which was rated on Likert-Scale from 01 (strongly disagree) to 07 (strongly agree) [04]. The Statistical Packages Social Sciences (SPSS) software Version-25.0 was used to analyze the data. Frequencies and percentages were used for categorical data whereas, Chi-square test was used to examine the association of workplace and academic buoyancy with demographic variables specifically academic performance.

RESULTS

The demographic characteristics of the participants are illustrated in Table 1. In this study, most of the participants (98.6%) belonged to the age 22-24 years. Over half of the partakers (55.9%) were females, 94.1% were unmarried, 89.2% were Muslims and 31.5% of the participants' mother tongue was Urdu. Majority students (32.4%) were from BSN program, 54.1% were in their 4th year. 72.5% were high graders and 87.4% participants sleep 4 to 8 hours during 24 hours.

Table 1: Demographics Variables of the Participants (n=222)

Demographics		n (%)
Age	20-24	219 (98.6)
	26-30	3 (1.4)
Gender	Male	98 (44.1)
	Female	124 (55.9
Religion	Muslim	198 (89.2)
	Christian	7 (3.2)
	Hindu	17 (7.7)
Ethnicity	Pashtoon	48 (21.6)
	Punjabi	41 (18.5)
	Sindhi	42 (18.9)
	Balouch	4 (1.8)
	Urdu	70 (31.5)
	others	17 (7.7)

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Study Program	BSN	72 (32.4)
	PHARM-D	47 (21.2)
	DPT	61 (27.5)
	MBBS	42 (18.9)
Year of Study	2nd_year	43 (19.4)
	3rd_Year	59 (26.6)
	4th_Year	120 (54.1)
Marital Status	Single	209 (94.1)
	Married	13 (5.9)
Percentage/(CGPA) in Exam	2.0-3.0	61 (27.5)
	3.1-4.0	161 (72.5)
Sleep Hours	4-8	194 (87.4)
	9-12	28 (12.6)

Table 2 shows the level of academic and working buoyancy. According to the rule of thumb, the undergraduates who scored 70% or above buoyancy level were rated as good buoyancy level whereas, the undergraduates who scored below 70% in buoyancy level were rated as poor buoyant. We assessed good academic and workplace buoyancy among female candidates (54.5%), BSN (32.7%) program and 4th year of study (60.5%). Muslim students had poor working but good academic buoyancy. Urdu speaking partakers were poor in working but good in academic buoyancy.

Table 2: Level of Academic and Workplace Buoyancy (n = 222)

Demographics		Poor Working Buoyancy n (%)	Good Working Buoyancy n (%)	Poor Academic Buoyancy n (%)	Good Academic Buoyancy n (%)
Gender	Male	24 (40.0)	74 (45.7)	22 (40.0)	76 (45.5)
	Female	36 (60.0)	88 (54.3)	33 (60.0)	91 (54.5)
Religion	Muslim	54 (90.0)	144 (88.9)	49 (89.1)	149 (89.2)
	Christian	03 (5.0)	04 (2.5)	02 (3.6)	05 (3.0)
	Hindu	03 (5.0)	14 (8.6)	04 (7.3)	13 (7.8)
Ethnicity	Pashtoon	14 (23.3)	34 (21.0)	15 (27.3)	33 (19.8)
	Punjabi	08 (13.3)	33 (20.4)	5 (9.1)	36 (21.6)
	Sindhi	10 (16.7)	32 (19.8)	9 (16.4)	33 (19.8)
	Balouch	02 (3.3)	02 (1.2)	10 (1.8)	03 (1.8)
	Urdu	21 (35.0)	49 (30.2)	21 (38.2)	49 (29.3)
	others	05 (8.3)	12 (7.4)	04 (7.3)	13 (7.8)
Study Program	BSN	19 (31.7)	53 (32.7)	18 (32.7)	54 (32.3)
	PHARM-D	19 (31.7)	28 (17.3)	19 (34.5)	28 (16.8)
	DPT	09 (15.0)	52 (32.1)	09 (16.4)	52 (31.1)
	MBBS	13 (21.6)	29 (17.9)	09 (16.3)	33 (19.8)
Study Year	2nd Year	17 (28.3)	26 (16.0)	16 (29.1)	27 (16.2)
	3rd Year	20 (33.3)	39 (24.1)	20 (36.4)	39 (23.4)
	4th Year	23 (38.3)	97 (59.9)	19 (34.5)	101 (60.5)
Total		60	162.0	55	167.0

Table 3 shows association of workplace and academic buoyancy with demographic variables of the participants. The all items of workplace buoyancy had a significant association with study program (p-value 0.000, 0.010,0.002,0.021 respectively) while item 1 and 2 had significant association with year of study (p-value 0.012 and 0.028). The item 2 (I think that I am good at dealing with work pressures) and item 4 (I'm good at dealing with setback at work) also showed a significant association with sleeping hours (p-value 0.011 and 0.026). Moreover, there was no significant association of working buoyancy with other variables such as age, gender, religion, ethnicity and marital status. All the items of academic buoyancy had a significant association with study program (p-value 0.002, 0.009, 0.000 and 0.016 respectively), The item 1 and 3 showed a significant association with year of study with p-value 0.016 and 0.020. On the other hand, item 3 (I think that I am good at dealing with work pressures) also showed a significant association with CGPA (p-value 0.032) and only item 1 (I don't let work stress get on top of me) showed a significant association with sleeping hours (p-value 0.017) and ethnicity (p-value 0.050). Moreover, there was no significant association of academic buoyancy with other variables such as age, gender, religion and marital status.

Table 3: Association of Buoyancy with Demographic Variables (n=222)

Association of Workplace Buoyancy with Demographic Variables										
Item No	Workplace Buoyancy Items	Age	Gender	Religion	Ethnicity	Study Program	Year of study	Marital status	CGPA	Sleep hours
1	I don't let work (clinicals) stress get on top of me	.167	.683	.319	.164	.000*	.012*	.077	.343	.091
2	I think I am good at dealing with work (clinicals) pressures	.454	.694	.886	.151	.010*	.028*	.874	.396	.011*
3	I don't let a bad performance or outcome at work (clinicals) affect my confidence	.499	.696	.659	.113	.002*	.328	.932	.103	.127
4	I am good at dealing with setback at work	.673	.643	.407	.315	.021*	.093	.655	.321	.026*
Association of Academic Buoyancy with Demographic Variables										
Item No	Academic Buoyancy Items	Age	Gender	Religion	Ethnicity	Study Program	Year of study	Marital status	CGPA	Sleep hours
1	I don't let study stress get on top of me	.704	.436	.934	.050*	.002*	.016*	.056	056	.017*
2	I think I am good at dealing with school (learning) pressures	.521	.171	.818	.392	.009*	.113	.712	.455	.191

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3	I don't let a bad performance or outcome at study affect my confidence	.275	.107	.520	.197	.000*	.020*	.294	.032*	.182
4	I am good at dealing with setback at school	.673	.995	.355	.151	.016*	.376	.381	.155	.067

DISCUSSION

The aim of current research study was to observe the level of academic and workplace buoyancy and its association with demographic variables among health sciences' undergraduates in Karachi. We measured the level of academic and workplace buoyancy among our participants and also observed the association of academic and workplace buoyancy with demographic variables. Our female participants, BSN undergraduates and undergraduates who were in their 4th year of study had good academic and workplace buoyancy. Muslim students had poor workplace but good academic buoyancy. Urdu speaking partakers were poor in workplace but good in academic buoyancy. This finding is consistent with past studies which also observed good academic buoyancy among their participants [15-17]. It is suggested that students centered university environment, sense of self-worth, teachers' approaches, low anxiety level and students' commitment address their difficulties, identify their needs and make them feel more secure and confident and this influence their academic buoyancy positively. On the other hand, one item of academic buoyancy also shows a significant association with CGPA and only item (I do not let work stress get on top of me) show a significant association with sleeping hours and ethnicity. CGPA was retrieved significantly associated with students' buoyancy level by former research [4, 13, 15-18]. In contrast, Collie *et al*. did not CGPA significantly associated with students' academic buoyancy [19]. It is remarked that the students with high CGPA have increased level of buoyancy as they have encounters different experiences that require them to cultivate their minds and academics through self-efficacy, good planning, investing time, determination and overcoming difficulties. The all items of workplace buoyancy have a significant association with study program while only its two items show significant association with year of study. Year of study / level of study was found significantly associated with buoyancy [22]. All the items of academic buoyancy have a significant association with study program while only two items show a significant association with year of study. A previous study also found significant association between buoyancy and study or training program [20]. The scholars concluded and suggested that the study program and academic year are effective in enhancing academic performance via academic buoyancy. The workplace buoyancy's item (I think that I am good at dealing with work pressures) and (I am good at dealing with setback at work) also show a significant association with sleeping hours. Moreover, there is no significant association of workplace buoyancy with other variables such as age, gender, religion, CGPA, ethnicity, marital status. Gender was not significantly associated retrieved by two former studies [15, 16]. In contrast, gender was found associated significantly with buoyance level by two research [21, 22]. As far as the relationship between buoyancy, religion and ethnicity is concerned, we have found an association and influence between them in a previous study [21]. These outcomes can be justified by teachers' and learners differently as per their roles, strategies, methods and teaching material.

CONCLUSIONS

Findings of this study highlighted the academic and workplace buoyancy level among the health sector undergraduates. The association of academic and workplace buoyancy was found significant with study program and some items with CGPA, Year of study. These findings indicate the need to enhance positive traits like buoyancy among health sector undergraduates to enable in handling and overcoming their academic setbacks and to make them successful in their profession.

Authors Contribution

Conceptualization: KH, FW
Methodology: KH, TA, FW, RU, FN
Formal analysis: TA
Writing-review and editing: KH, TA, FW

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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REFERENCES

[1] Martin AJ and Marsh HW. Investigating the reciprocal relations between academic buoyancy and academic adversity: Evidence for the protective role of academic buoyancy in reducing academic adversity over time. International Journal of Behavioral Development. 2020 Jul; 44(4): 301-12. doi: 10.1177/0165025419885027.

[2] Middleton T, Ahmed Shafi A, Millican R, Templeton S. Developing effective assessment feedback: Academic buoyancy and the relational dimensions of feedback. Teaching in Higher Education. 2023 Jan;

DOI: https://doi.org/10.54393/pbmj.v7i03.1047

28(1): 118-35. doi: 10.1080/13562517.2020.1777397.
[3] Putwain DW, Jansen in de Wal J, van Alphen T. Academic Buoyancy: Overcoming Test Anxiety and Setbacks. Journal of Intelligence. 2023 Feb; 11(3): 42. doi: 10.3390/jintelligence11030042.
[4] Datu JA and Yang W. Academic buoyancy, academic motivation, and academic achievement among fili pino high school students. Current Psychology. 2021 Aug; 40: 3958-65. doi: 10.1007/s12144-019-00358-y.
[5] Alshahrani Y, Cusack L, Rasmussen P. Undergraduate nursing students' strategies for coping with their first clinical placement: Descriptive survey study. Nurse Education Today. 2018 Oct; 69: 104-8. doi: 10.1016/j.nedt.2018.07.005.
[6] Chen M and Mok IA. Perceived parental involvement influences students' academic buoyancy and adaptability: the mediating roles of goal orientations. Frontiers in Psychology. 2023 Aug; 14: 1248602. doi: 10.3389/fpsyg.2023.1248602.
[7] Khojasteh F, Tarverdi H, Younesi J. Cognitive and metacognitive strategies, and academic buoyancy: Effects and analysis. International Journal of Health Sciences (III). 2022 Apr; 4046-60. doi: 10.53730/ijhs.v6nS3.6660.
[8] Van Petegem K, Creemers B, Aelterman A, Rosseel Y. The importance of pre-measurements of wellbeing and achievement for students' current wellbeing. South African Journal of Education. 2008 Nov; 28(4): 451-68. doi: 10.15700/saje.v28n4a131.
[9] Putwain DW, Connors L, Symes W, Douglas-Osborn E. Is academic buoyancy anything more than adaptive coping? Anxiety, Stress & Coping. 2012 May; 25(3): 349-58. doi: 10.1080/10615806.2011.582459.
[10] Colmar S, Liem GA, Connor J, Martin AJ. Exploring the relationships between academic buoyancy, academic self-concept, and academic performance: a study of mathematics and reading among primary school students. Educational Psychology. 2019 Sep; 39(8): 1068-89. doi: 10.1080/01443410.2019.1617409.
[11] Puolakanaho A, Lappalainen R, Lappalainen P, Muotka JS, Hirvonen R, Eklund KM *et al.* Reducing stress and enhancing academic buoyancy among adolescents using a brief web-based program based on acceptance and commitment therapy: a randomized controlled trial. Journal of Youth and Adolescence. 2019 Feb; 48: 287-305. doi: 10.1007/s10964-018-0973-8.
[12] Putwain DW, Wood P, Pekrun R. Achievement emotions and academic achievement: Reciprocal relations and the moderating influence of academic buoyancy. Journal of Educational Psychology. 2022 Jan; 114(1): 108. doi: 10.1037/edu0000637.
[13] Thomas CL and Allen K. Driving engagement: investigating the influence of emotional intelligence and academic buoyancy on student engagement. Journal of Further and Higher Education. 2021 Jan; 45(1): 107-19. doi: 10.1080/0309877X.2020.1741520.
[14] Slovin E. Slovin's formula for sampling technique. [Last cited: 29th Feb 2024]. Available at: https:// prudencexd.weebly.com/.
[15] Abdellatif MS. Academic buoyancy of university students and its relationship to academic average in light of some demographic variables. Kıbrıslı Eğitim Bilimleri Dergisi. 2022; 17(7): 2361-9. doi: 10.18844/cjes.v17i7.7599.
[16] Jahedizadeh S, Ghonsooly B, Ghanizadeh A. Academic buoyancy in higher education: Developing sustainability in language learning through encouraging buoyant EFL students. Journal of Applied Research in Higher Education. 2019 Apr; 11(2): 162-77. doi: 10.1108/JARHE-04-2018-0067.
[17] Miller S, Connolly P, Maguire LK. Wellbeing, academic buoyancy and educational achievement in primary school students. International Journal of Educational Research. 2013 Jan; 62: 239-48. doi: 10.1016/j.ijer.2013.05.004.
[18] Weißenfels M, Hoffmann D, Dörrenbächer-Ulrich L, Perels F. Linking academic buoyancy and math achievement in secondary school students: Does academic self-efficacy play a role?. Current Psychology. 2023 Sep; 42(27): 23422-36. doi: 10.1007/s12144-022-03488-y.
[19] Collie RJ, Martin AJ, Malmberg LE, Hall J, Ginns P. Academic buoyancy, student's achievement, and the linking role of control: A cross-lagged analysis of high school students. British Journal of Educational Psychology. 2015 Mar; 85(1): 113-30. doi: 10.1111/bjep.12066.
[20] Yarahmadi Y, Ebrahimibakht H, Asadzadeh H, Ahmadian H. The Effectiveness of academic buoyancy training program on students' academic performance, academic engagement, and academic buoyancy. Journal of Research in teaching. 2018; 6(2): 163-82.
[21] Al-Azamat O and Al-Mualla NH. Academic buoyancy and its relationship to internal and external motivation among tenth grade students. Journal of Studies and Research, the Arab Journal in the Humanities and Social Sciences. 2020; 12(1): 674-91.
[22] Dahal J, Prasad PW, Maag A, Alsadoon A, Hoe LS. The effect of culture and belief systems on students' academic buoyancy. Education and Information Technologies. 2018 Jul; 23(4): 1465-82. doi: 10.1007/s10639-017-9672-4.