

“Exploring The Connection: How Learning Styles Influence Burnout In Medical Students - A Pilot Study”

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Abstract:

Background: Burnout is a common phenomenon among medical students, often attributed to the extensive syllabus and limited time to master it.

Objective: The Objective of the study was to assess the relationship between different types of Learning Styles and levels of Burnout among medical students.

Design: This study Exploratory Observational study using Visually, Auditorily, Read/ Write, Or Kinesthetic (VARK) Questionnaire and Maslach Burnout Inventory-Student Survey (MBI-SS).

Subject: 2nd Year MBBS students of East Point College of Medical Sciences and Research Center.

Results: As result we found that LS were Unimodal, Multimodal or Dual Modal learners, and 79% of them were Unimodal, 17% were Bimodal and only 4% of them were Multimodal. The Statistical analysis evidenced that there is relationship between LS and BO levels. On application of fishers extract test it was found that individuals with unimodal kinesthetic learning style were more prone to experiencing higher levels of cynicism, with p-value of 0.02 for cynicism indicating a statistically significant relationship. Hence during the study, the researchers found that there were not only relations between the Learning Style and Burnout but also that it does manifest in to cynicism and academic exhaustion.

Conclusion: This study highlights a significant relationship between learning styles and burnout levels among medical students. Adapting teaching methods to accommodate diverse learning preferences could mitigate burnout and improve academic outcomes. By understanding these factors, educators and institutions can implement strategies to promote student well-being and academic success for kinesthetic learners.

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I. Introduction

A Student learns in many ways, consciously or unconsciously a learner uses a learning style model. [1] A Learning Style (LS) model is usually based on what the learner is seeing and hearing; reflecting and acting;

reasoning logically and intuitively; memorizing and visualizing; drawing analogies and building mathematical models in a given learning environment. These Learning style models act as factors of learning efficacy and develop into an individual's learning preference.^[2] Learning Style refers to how the learner prefers to manipulate the information to attain retention of the knowledge gained either Visually, Auditorily, Read/ Write, Or Kinesthetic(VARK). Every learner has different learning styles based on their unique abilities; they may learn information primarily in one of the above ways. It is possible that once the learnt information is attempted for reinforcement of the information, it may use one or more ways of our sensory inputs. Since the introduction of VARK learning styles by the educational psychologist, it has benefited educationists of all walks to explore the students' learning styles and to introduce apt teaching styles, modalities, and methods.^[3] The VARK Model profiles the learners. During our literature review, it is found that medical students are usually multimodal in nature.

The VARK model helps us better understand how people refer to take-in and process information, recognizing that many learners can use more than one style at once. It's made up of 16 questions that look at how individuals like to receive information and communicate with others. In a cognitive sense, it is a tool that shapes perception, processes information, and builds concepts and principles.^[4] Researchers like Alfarsi et.al., and Chae et.al., have observed and reported that learners have different learning styles Visual learners tend to absorb material best when they can see it, so they often benefit from charts, diagrams, mind maps, and videos. Auditory learners, on the other hand, grasp information more easily through listening, so lectures, recordings, and discussions are ideal for them. Read/write learners prefer learning through written words-they excel when they can take notes, read, and revisit textbooks several times. Kinesthetic learners, meanwhile, thrive on hands-on experiences, learning best when they can actively practice or engage with real-life applications of the material.^{[5],[6]} Based on how they learn, the learning styles can be categorised into Unimodal if they use single modes; Bimodal if the learning happens in combinations modes like VK, VR, VA, AK, RK; lastly Multimodal, if the combinations of learning modes are more than two or three modes. In Multimodal learning styles, learners are inclined to more than one learning style, combining visual, auditory, reading/writing, and kinesthetic approaches to understand and retain information. One of the prime intents of the educator is to determine students' learning styles. It provides information about learner's specific preferences^[7]. The Knowledge of their learning styles makes it easier to create, modify, and develop more efficient curriculum and educational programs. It can also encourage students' participation in these programs and motivate them to gain professional knowledge. Hence, the educators must identify the difficulties of learning patterns in students, which could be failures in the education system. This promotes necessary learning interventions.^{[1], [6], [8]}

The term Burnout (BO) was introduced in 1962^[9] Burnout syndrome is characterized by depersonalisation, impaired personal accomplishments and is often induced by repeated stressors personal and professional.^{[10], [11]} Academic burnout in Learners are one of the common challenges that affects students' motivation and academic inquisitiveness. It impedes the learner from achieving academic goals, which might lead to academic fall out^[12]. Medical education is a rigorous journey, often marked by high stress and limited time for personal recovery. Medical students are the ideal target of academic burnout (Vincenzo)^[13]. Burnout in medical student community most often presents itself as, a state of physical, emotional, and mental exhaustion. It is prevalent among medical students and does negatively impact their academic performance and well-being.

The operational definition of Burnout (BO), and its corresponding measures to assess it, was developed by Susan Jackson and Maslach. It is made up of three components based on how Burnout, manifests. They are Emotional Exhaustion (EE), Cynicism (E), and decreased Academic Efficiency (AE). The knowledge of the interplay between LS and BO could help educators develop targeted strategies to support students and mitigate the BO risks. Based on the psychometric research measures available then, Maslach and his team developed an inventory of questionnaires called the Maslach Burnout Inventory-Student Survey (MBI-SS). This measure was designed to assess the three components of Burnout Syndrome: emotional exhaustion, depersonalization, and reduced personal accomplishment. It has twenty-two items, which are divided into three EE, C, and AE subscales. (Maslach).^[14]

Educators guide students in their learning journey to understanding the complex modern healthcare delivery system, as well as the undergraduate medical education curriculum. we should help them navigate into becoming innovative learners, and recognize acknowledge, and support students with different learning styles and their preferences. Understanding the interplay between LS and BO could help educators develop targeted strategies to support students and mitigate burnout risks.

Despite significant research on LS and BO independently. The relationship between LS and BO levels remains unexplored. This brings us to investigate the primary research question of whether there is a relationship between type of learning style and burnout. This study seeks to bridge this gap, offering insights into how educational practices can better align with students' learning preferences to enhance their learning experiences and overall mental health.

II. Objectives

1. To assess the relationship between different types of learning styles and levels of burnout among medical students.
2. To provide recommendations for tailored teaching approaches based on learning preferences.

III. Methodology

This study aimed to understand the connection between LS and BO levels among phase II medical students using an Exploratory Observational Study design. The Study period was immediately after their phase I university examination December 2024- January 2025. To be part of the study, students needed to be actively enrolled in their program and agree to participate by providing informed consent.

The study involved two main steps to collect the necessary data collection using Google forms, before administering the questionnaires Ethical clearance was taken from the Institutional ethical review board and consent was taken from the participants. The Steps are as follows, Step 1: Learning Styles with the VARK Questionnaire: Participants first completed the VARK Questionnaire, which explored how they preferred to learn. The questions focused on their preferences, such as using visual aids, listening to lectures, engaging with written material, or participating in hands-on activities. Step 2: Measuring Burnout with the MBI-SS was completed. The data was collected and subjected to analysis.

IV. Results

The Collected data checked for any missing values, 93 students consented and responded to the above study. Out the 93 response, three responses were removed due to incomplete submission.

The Collected data checked for any missing values, about 93 students consented and responded to the above study. Out of the 93 responses, three responses were removed due to incomplete submission. The data when analyzed for the type of learners, whether they were Unimodal, Multimodal, or Dual Modal learners, was found that 79% of the students in this study were Unimodal, 17% were Bimodal and only 4% of them were Multimodal. On further inquiry into data, we found that about 36% of the students opted for cognitive i.e. read/write learners with 6% of them being visual, 10% being kinaesthetic learners and 48% being auditory learners in the Unimodal category. The Graph in Figure 1 depicts the distribution of Bimodal and Multimodal learners within the modes of VARK learning styles the most common was that of (Auditory Kinesthetic) AK Bimodal learners, they were of 42%. Figure 1: The Percentage and distribution of the learners who have Bimodal and Multimodal Learning Styles and Figure 2 Shows the distribution and frequency of the responses received from the Burn-out Questionnaires.

Statistical Analysis: Fisher’s Exact Test was applied to evaluate the relationship between LS and BO. This test is non-parametric and is particularly suitable for small sample sizes and categorical data, as it assesses the significance of the association between two variables i.e., LS and BO. Fishers Extract test was first applied to see the association between the BO and VARK Unimodal Learners tested, the results are shown in Table 1. Secondly Fishers Extract test was applied to evaluate the association between the BO and combination modes of LS, the results are shown in Table 2.

V. Discussion

The purpose of the study was to investigate whether there is a relationship between the LS and the levels of BO. Our review of the literature shows, that researchers discovered that students with different modes experienced BO differently. Asikainen et.al., in their study showed that students with different learning style did report burnout differently, which affects their academic performances.^[15] It is evident that LS and BO, when individually assessed have high prevalences. In recent study done by Pharasi et.al., in an Indian demography where they studied the current students existing learning patterns, it was found that using Maslach inventory and emotional exhaustion as subscale, it showed p value of 0.05, with odds ratio of 95% confidence interval.^[16] A study done by Zhang et.al., also shows evidence that burnout in students’ community was high and about 45.9% in their study.^[18] Similarly, Bledsoe et.al., in their study noted that, BO accounted by students was about 27 38%, callousness as subscale of BO by 26.8%, and both Burnouts along with callousness together was about 12.7%. In their study however, they used Kolb learning styles where diverging style was about 27.7%, assimilating was 31.9%, converging style as 27.7%, and accommodating learning style was about 12.8%. however, more frequent markers of burnout were associated with the accommodating learning style 50% burnout only, 33% callous only, and 16.7% reporting both with P value of 0.03, proving that their study was statistically significant.^[19]

There is a complex interplay between the type of mode of learner to the level of BO. Here, we like to examine how each unimodal learning preference (Visual, Auditory, Reading/Writing, or Kinesthetic) influences’, the three primary subscales of academic burnout are emotional exhaustion (EE), cynicism (C), and academic efficacy (AE). Our study's finding was that, unimodal kinesthetic learners predominantly experienced cynicism

as a mode of burnout. This represents a significant contribution in understanding the relationship between learning styles and academic stress manifestation. In a study reported by Obregon et.al., showed high levels of burnout, for EE, C, AE as indicators with P value less than 0.005, similar to our study.^[20] Galan in their study found that 17.8% had high score in exhaustion, 10% in cynicism, and 17.8% in Academic efficacy. On observing to analyse several key perspectives, one can consider that, first and foremost theoretical Context is development of cynicism among kinesthetic learners. This aligns with established burnout theory.^[21] As Wei et.al., noted, academic cynicism can surface as a defensive response when students feel disconnected from their learning environment. For kinesthetic learners, this disconnection is particularly pronounced in traditional academic settings that prioritize passive learning methods.^[22] Secondly there is a clear environmental mismatch seen in these learners as they are predominantly kinesthetic and are in a traditional learning setting which mainly caters to cognitive or auditory learning. Perrem et.al., observes that kinesthetic learners experience burnout at alarming rates when their need for physical engagement in learning is not met. This environmental mismatch creates a persistent source of frustration which manifests as cynical attitudes toward the educational process.^[23] In the current study as shown the Table 1, it illustrates that there is relationship between LS and BO levels, the p-value of 0.02 for cynicism indicating a statistically significant value, which suggests that individuals unimodal kinesthetic learning style are more prone to experiencing higher levels of cynicism. When the fishers exact test was applied to check if other modes in learners had influence on burnout as manifestation in the learners. The values were found to be insignificant and it brings us to explore more on the manifestation of cynicism as burnout especially with kinesthetic unimodal learners.

There are several ways cynicism can be manifested like Institutional detachment, Academic Value Questioning, Peer Relationship Impact. Most of the Kinesthetic learners developed skepticism toward institutional teaching methods, particularly when faced with predominantly lecture-based instruction medium. This finding aligns with study done by Magill's et.al., research showing that kinesthetic learners experience increased stress and disconnection when confined to passive learning environments.^[24] The learners stated that the attitude of cynicism emerged strongly when theoretical instruction lacked hands-on application components, this is supported by Darmawani's findings which is true for kinesthetic learners', who are vulnerable and are prone to learning procrastination and easy burnout.^[25] The development of cynicism does affects the peer relationships, as kinesthetic learners often feel alienated from classmates who adapt more readily to change in learning methods whether traditional or innovative. This may affect the social dimension for the learners and cynicism adds complexity to the burnout experience, as noted by Lee et.al., in their analysis of academic burnout progression, here a correlation study was done between academic hatred and cynicism and the values was highest with α value of 0.82, and p value less than 0.01. The correlational relationship among variables like time, alpha value showed a range in α values between 0.21 to 0.82 and its p value less than 0.01 and it was significant.^[26] The research suggests that unimodal learners are particularly vulnerable to academic burnout across all the three subscales. Researchers like Laxman et.al., emphasize that rigid adherence to a single learning style may not be effective for at-risk learners.^[27] The impact on academic efficacy varies significantly among unimodal learners, which was also noted by Kurdekar and Sushma. Here in their study, students with unimodal preferences often experience decreased self-efficacy when forced to learn through non-preferred channels. ^[28] Bekker in his study provides insights to the percentage of students who disengage from the academics was about 30.7% due to burnout and it affects the well-being of the students.^[29] The current study provides insights into analysis and demonstrates that while unimodal learning preferences can significantly impact academic burnout, targeted interventions and support systems can help mitigate these effects and promote more adaptive learning approaches. To mitigate burnout risk in unimodal learners, educational institutions should implement flexible learning environments that accommodate different learning preferences and encourage students to develop secondary learning styles to increase adaptability. The Educators or Teachers should provide targeted support for unimodal learners to help them cope with diverse teaching methods. At the Institutions levels, Curriculum planners should train educators to recognize signs of burnout related to learning style mismatches, they develop intervention strategies specific to each unimodal learning preference. An Educational institution should develop specific support systems for kinesthetic/ Visual/ Auditory learners that addresses both the academic and psychological aspects of their learning experiences. At the same time, interventional strategies should put in place of education with ample integration of more hands-on learning opportunities, and provide active learning spaces. ^{[5], [6], [8]} Utmost importance should be given in the institutions of higher studies for implementation of movement-based learning activities and creation of practical application components for theoretical concepts. During the study the researchers found that there were not only relations between the LS and BO but also that it does manifest into cynicism and academic exhaustion. The limitations of the study were that there was low response and sample size was inadequate.

VI. Suggestions And Recommendations

Our findings suggest several important areas for future investigation by the researchers for a Longitudinal Studies which can track the development of cynicism among kinesthetic learners over time it could

provide valuable insights with timely and effective interventions. It can be suggested in to an Intervention Efficacy study which evaluates the effectiveness of various intervention strategies specifically designed for kinesthetic learners experiencing cynicism-related burnout.

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

Financial relationship

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Abbreviations

- LS: Learning Styles
- VARK: Visual, Auditory, Reader/writer, Kinesthetic
- VA: Visual Auditory
- AR: Auditory Reader
- VK: Visual Kinesthetic
- RK: Reader Kinesthetic
- MBI-SS: Maslach Burnout Inventory-Student Survey
- BO: Burnout
- EE: Emotional Exhaustion
- C: Cynicism
- AE: Academic Efficacy

Reference

- [1] Felder RM. Learning And Teaching Styles In Engineering Education.. *Engr. Education* 78(7) (1988).
- [2] Mutlu M.. The Relation Between The Learning Styles Of The Students In Anatolian High Schools, Anatolian Teachers' High Schools Science High Schools And Their Attitudes Towards Biology Course.. *International Journal Of Environmental And Science Education*. Sep 10;1(2) (2006).
- [3] Fleming ND, Mills C. Not Another Inventory, Rather A Catalyst For Reflection. *Improve Acad*. 1992;11:137–155. <https://doi.org/10.1002/J.2334-4822.1992.Tb00213.X>
- [4] Liew, SC., Sidhu, J. & Barua, A. The Relationship Between Learning Preferences (Styles And Approaches) And Learning Outcomes Among Pre-Clinical Undergraduate Medical Students. *BMC Med Educ* 15, 44 (2015). <https://doi.org/10.1186/S12909-015-0327-0>
- [5] Alfarsi W, Elaghoury AH, Kore SE. Preferred Learning Styles And Teaching Methods Among Medical Students: A Cross-Sectional Study. *Cureus*. 2023 Oct 11;15(10): E46875. <https://doi.org/10.7759/Cureus.46875> . PMID: 37954741; PMCID: PMC10638455.
- [6] Chae SJ. Medical Students' Satisfaction On Online Flipped Learning By Learning Styles. *Korean J Med Educ*. 2021 Dec;33(4):405-409. Doi: 10.3946/Kjme.2021.208. Epub 2021 Nov 30. PMID: 34875156; PMCID: PMC8655357.
- [7] Padmalatha K, Kumar JP, Shamanewadi AN. Do Learning Styles Influence Learning Outcomes In Anatomy In First-Year Medical Students? *J Family Med Prim Care*. 2022 Jun;11(6):2971-2976. Doi: 10.4103/Jfmpc.Jfmpc_2412_21. Epub 2022 Jun 30. PMID: 36119314; PMCID: PMC9480717.
- [8] Cardozo, M.F.L., De Jesus, G.C., De Sousa, M.H. Et Al. Mapping The Learning Styles Of Medical Students In Brazil. *BMC Med Educ* 24, 47 (2024). <https://doi.org/10.1186/S12909-024-05028-7>
- [9] Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, Sen S, Et Al. Prevalence Of Burnout Among Physicians: A Systematic Review. *JAMA*. 2018;320:1131–50. Doi: 10.1001/Jama.2018.12777.
- [10] Almalki SA, Almojali AI, Allothman AS, Masuadi EM, Alaqeel MK. Burnout And Its Association With Extracurricular Activities Among Medical Students In Saudi Arabia. *Int J Med Educ*. 2017;8:144–50. Doi: 10.5116/Ijme.58e3.Ca8a.
- [11] Mazurkiewicz R, Korenstein D, Fallar R, Ripp J. The Prevalence And Correlations Of Medical Student Burnout In The Pre-Clinical Years: A Cross-Sectional Study. *Psychol Health Med*. 2012;17:188–95. Doi: 10.1080/13548506.2011.597770.
- [12] Aghajani Liasi G, Mahdi Nejad S, Sami N, Khakpour S, Ghorbani Yekta B. The Prevalence Of Educational Burnout, Depression, Anxiety, And Stress Among Medical Students Of The Islamic Azad University In Tehran, Iran. *BMC Med Educ*. 2021 Sep 5;21(1):471. Doi: 10.1186/S12909-021-02874-7. PMID: 34482821; PMCID: PMC8418739.
- [13] Di Vincenzo M, Arsenio E, Della Rocca B, Rosa A, Tretola L, Toricco R, Boiano A, Catapano P, Cavaliere S, Volpicelli A, Sampogna G, Fiorillo A. Is There A Burnout Epidemic Among Medical Students? Results From A Systematic Review. *Medicina (Kaunas)*. 2024 Mar 30;60(4):575. <https://doi.org/10.3390/Medicina60040575>.
- [14] Maslach C: Burnout: A Multidimensional Perspective. *Professional Burnout: Recent Developments In Theory And Research*. Schaufeli WB, Maslach C, Marek T (Ed): Taylor & Francis, Washington, D.C.; 1993. 19-32. 10.4324/9781315227979-3 (PDF) Burnout: A Multidimensional Perspective. Available From: https://www.researchgate.net/publication/263847970_Burnout_A_Multidimensional_Perspective [Accessed Jan 18 2025].
- [15] Henna Asikainen, Katariina Salmela-Aro, Anna Parpala, Nina Katajavuori. Learning Profiles And Their Relation To Study-Related Burnout And Academic Achievement Among University Students. *Learning And Individual Differences* 78 Elsevier BV, 2020.

[16] Pharasi S, Patra S. Burnout In Medical Students Of A Tertiary Care Indian Medical Center: How Much Protection Does Resilience Confer? *Indian J Psychiatry*. 2020 Jul-Aug;62(4):407-412. Doi:10.4103/Psychiatry. Indianjpsychiatry_681_19. Epub 2020 Jul 27. PMID: 33165365; PMCID: PMC7597710.

[17] Zhang J-Y, Shu T, Xiang M And Feng Z-C (2021) Learning Burnout: Evaluating The Role Of Social Support In Medical Students. *Front. Psychol*. 12:625506. Doi: 10.3389/Fpsyg.2021.625506.

[18] Avinash Shekhar, Sharad Philip, Santosh Kumar Chaturvedi, Dinesh Bhugra. India: Stress And Burnout Amongst Medical Students In India. In *The Mental Health Of Medical Students*. Oxford University Pressoxford, 2021; Ch 13: 148–159.

[19] Bledsoe, Adam C. MD Et.Al., 1161 Learning Styles And Burnout In Gastroenterology: Should Continuing Medical Education Be Changed To Accommodate All Learning Styles?. *The American Journal Of Gastroenterology* 114 :P S649, October 2019. | DOI: 10.14309/01.Ajg.0000594172.34091.5d

[20] Michael Obregon, Jessica Luo, Jarod Shelton, Terri Blevins, Martin Macdowell. Assessment Of Burnout In Medical Students Using The Maslach Burnout Inventory-Student Survey: A Cross-Sectional Data Analysis. *BMC Medical Education* 20 Springer Science And Business Media LLC, 2020.

[21] Fernando Galán, Arturo Sanmartín, Juan Polo, Lucas Giner. Burnout Risk In Medical Students In Spain Using The Maslach Burnout Inventory-Student Survey. *International Archives Of Occupational And Environmental Health*. Springer Science And Business Media LLC, 2011. 84, 453–459.

[22] Wei, X., Wang, R., & Macdonald, E. (2015). Exploring The Relations Between Student Cynicism And Student Burnout. *Psychological Reports*, 117(1), 103-115. <https://doi.org/10.2466/14.11.PR0.117c14z6>.

[23] John-Guy Perrem. Fostering Student Well-Being And Learning Through Kinesthetic Activities In The Japanese University Classroom. In *Nurturing Student Well-Being In The Modern World*. IGI Global, 2024; 28.

[24] Elisa Magill. Optimal Energetic Rhythms For Kinesthetic Business Builders. *The Transdisciplinary Journal Of Management* 2023; 3:1-14. <https://tjm.scholasticahq.com/article/87553.pdf> (As Accessed On Jan30'2025).

[25] Evia Darmawani, Learning Styles Profile And Their Impact On Learning Behavior Of Islamic Guidance And Counseling Students During Pandemic. *Psikis : Jurnal Psikologi Islami State Islamic University Of Raden Fatah Palembang*. 2022; Vol 8 (2) Dec: 203-208. <https://doi.org/10.19109/psikis.V8i2.14082>.

[26] Minyoung Lee, Kyeong-Joo Lee, Sang M. Lee, Soohyun Cho. From Emotional Exhaustion To Cynicism In Academic Burnout Among Korean High School Students: Focusing On The Mediation Effects Of Hatred Of Academic Work. *Stress And Health*. Wiley, 2020; 36. 376–383. <https://doi.org/10.1002/Smi.2936>

[27] Laxman Khanal, Sandip Shah, Sarun Koirala. Exploration Of Preferred Learning Styles In Medical Education Using VARK Modal. *Russian Open Medical Journal*. LLC Science And Innovations. 2014; 3,0305:1-8. <https://doi.org/10.15275/Rusomj.2014.0305>

[28] Swati Kurdekar Sushma S Visual Or Auditory: The Effective Learning Modality In Multimodal Learners. *International Journal Of Physiology*. 2020; Vol. 8(02):167-170.

[29] Bekker CI, Rothmann S, Kloppers MM, Chen S. Promoting Sustainable Well-Being: Burnout And Engagement In South African Learners. *Sustainability*. 2024; 16(19):8518. <https://doi.org/10.3390/Su16198518>

Table And Figures

Figure 1: The Percentage and distribution of the learner who are Bimodal and Multimodal Learning Style

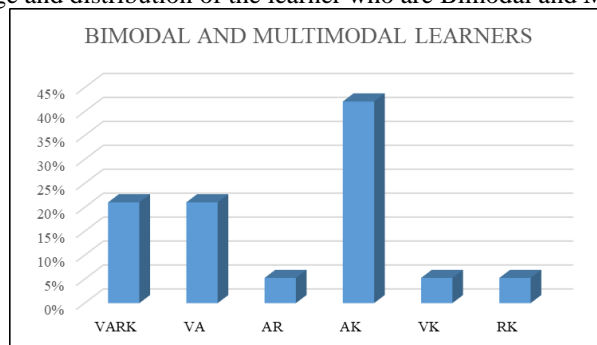


Figure 2 Shows the distribution and frequency of the responses received from the Burnout Questionnaires

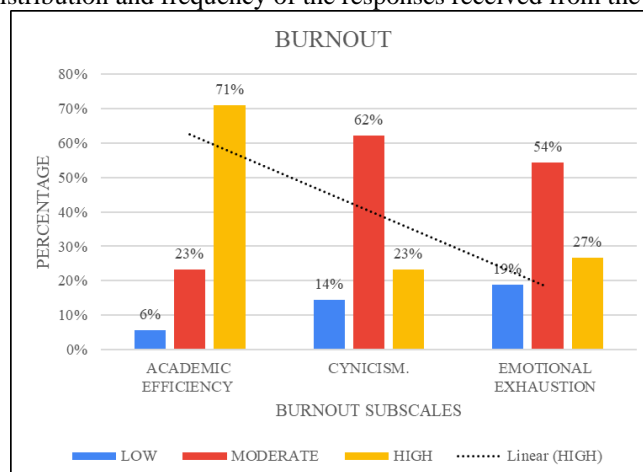


Table: 1 Fishers Extract Test to evaluate the Relationship Between Burnout and Unimodal Learning Style

Burnout		Vark Unimodal (N=71)				p value
		V(n=4)	A(n=34)	R(n=7)	K(n=26)	
Academic Efficiency	Low	1	2	0	1	0.298
	Moderate	1	10	2	3	
	High	2	22	5	22	
Cynicism	Low	1	5	2	2	0.02*
	Moderate	1	25	5	13	
	High	2	4	0	11	
Emotional Exhaustion	Low	2	4	2	5	0.311
	Moderate	2	21	4	11	
	High	0	9	1	10	

**Statistically significant here the p value is <0.01, two tailed test.*

Table: 2 Fishers Extract Test to evaluate the Relationship between Burnout levels and Combination modes of Learning Style

Burnout		VARK			p Value
		Unimodal (N=71)	Bimodal (N=15)	Multimodal (N=4)	
Academic Efficiency	Low	4	1	0	0.963
	Moderate	16	4	1	
	High	51	10	3	
Cynicism.	Low	10	3	0	0.964
	Moderate	44	9	3	
	High	17	3	1	
Emotional Exhaustion	Low	13	3	1	0.962
	Moderate	38	9	2	
	High	20	3	1	