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ANALYSING POSITIVE MENTAL HEALTH AMONG STUDENTS IN PURULIA DISTRICT, WEST BENGAL, USING CLUSTERING TECHNIQUES

Bishal Das
Former Student, Department of Education, Sidho-Kanho-Birsha University, Purulia, W.B., India
ORCID ID: 0009-0007-4657-608X

***Surajit Mahato**
Research Scholar, Department of Education, Sidho-Kanho-Birsha University, Purulia, W.B., India
ORCID ID: 0009-0008-9922-2290

****Corresponding Author: Surajit Mahato***

Abstract

This study aimed to explore the inter-dimension relationships within Positive Mental Health (PMH) and identify clusters based on independent variables (Gender, Residence) and their impact on PMH. A descriptive survey method was employed, with 513 students from Purulia district, West Bengal, randomly sampled. The "Positive Mental Health Scale" by Lukat et al. (2016) was used to collect data. Correlation coefficients were calculated using the Product Moment Method, and a Two-Step Clustering technique categorized the sample into distinct clusters. Results indicated variations in cluster size and predictors, with Gender, Residence, and Total (PMH) identified as significant contributors to cluster formation. Notably, as the number of clusters increased, predictor significance shifted, emphasizing their role in cluster formation. Overall, this study successfully established correlations between PMH and its items, highlighting intricate inter-dimension relationships and the influence of specific factors on PMH clusters.

Keywords: *Simple Random Sampling, Cluster Analysis, Positive Mental Health, Predictors*

Introduction

Positive mental health is the embodiment of holistic well-being, enabling individuals to navigate life's challenges with resilience, productivity in work, and meaningful contributions to their communities. It encompasses emotional fortitude, adaptability in the face of adversity, and a profound sense of direction and significance. Cultivating positive mental health entails fostering nourishing connections, prioritizing self-care rituals, and honing effective coping mechanisms to confront obstacles. It transcends the mere absence of mental illness, advocating for a proactive stance in fortifying psychological fortitude and adaptability. Embracing positive mental health heralds, a path to augmented happiness, bolstered physical well-being, and an enriched tapestry. In the intricate web of fostering positive mental health, environmental dynamics emerge as pivotal actors, their influence spanning from the purity of air and water to the accessibility of verdant havens and sustainable energy reservoirs (Das et al., 2023).

Conversely, championing mental well-being becomes a cornerstone of environmental sustainability and societal vitality, advocating not only for fairness in society but also for economic resilience and the preservation of our natural heritage (Das et al., 2023). Within this nexus of interdependence, fundamental statistical methodologies such as clustering emerge as indispensable tools, dissecting vast troves of data to unearth underlying patterns and guiding the decisions of mental health professionals (Das, 2023). Through its adeptness at distilling complexity, clustering aids in illuminating the intricacies of mental health trends, thereby enabling more nuanced interventions to be crafted (Mahato et al., 2023). In the ongoing pursuit of knowledge, studies by Mahato et al. (2024) and Das et al. (2024) stand as beacons, employing clustering techniques to deepen our comprehension of positive mental health and propel our collective understanding forward.

Review of Related Literature

Thomas et al. (2017) embarked on a study titled "Exploring the Impact of Emotional Intelligence, Cognitive Test Anxiety, and Coping Strategies on Undergraduate Academic Performance." Their primary aim was to investigate how these factors could both positively and negatively influence the academic achievement of undergraduate students. Employing a descriptive research approach, they randomly selected 534 participants. The study underscored the importance of developing intervention models that foster emotion regulation and self-regulation skills to mitigate the adverse effects of cognitive test anxiety on academic performance. These findings shed light on the intricate relationship between these variables and long-term academic outcomes. Ansari (2015) conducted research on the "Role of Emotional Maturity in Modulating Stress among Undergraduate Students," focusing on how emotional maturity impacts stress levels among undergraduates. Utilizing purposive sampling, 150 participants were selected. The study revealed a significant association between emotional maturity and stress levels, indicating a decrease in stress with higher emotional maturity levels. Cassady & Johnson (2002) explored "Cognitive Test Anxiety and its Influence on Academic Performance," specifically examining the cognitive dimension of test anxiety and its psychometric qualities. They selected 168 participants from an undergraduate educational psychology course. The study aimed to assess the distinct impact of cognitive test anxiety on academic performance, along with validating the Cognitive Test Anxiety scale.

Karatas et al. (2013) investigated the "Correlation between Test Anxiety, Academic Performance, and University Entrance Exam Scores among High School Seniors." Their study aimed to discern the relationship between test anxiety, academic achievement, and university entrance exam scores among senior high school students. With 194 participants selected via purposive sampling, the research revealed a significant inverse correlation between students' grade point averages and test anxiety, suggesting the need for further investigation into factors alleviating test anxiety. Iorga et al. (2019) explored "Depression, Anxiety, and Stress among Medical Students," aiming to compile information on the prevalence of these psychological issues among medical students. With 190 participants, the study highlighted the significant prevalence of stress, anxiety, and depression among medical students during their academic training. Shearin et al. (2019) investigated the "Effectiveness of an Educational Series in Reducing Anxiety among Health Professions Graduate Students." Their study aimed to assess the efficacy of an integrated intervention, including cognitive-behavioral therapy (CBT), mindfulness, and lifestyle stress management training, in reducing stress, anxiety, and depression among graduate students.

Vaughan et al. (2020) examined "Mental Health Measurement in the Post-COVID-19 Era," evaluating the psychometric properties of the DASS-21 among athletes and non-athletes. Their findings contribute to understanding athlete mental health and support comparative analyses with the general population. Mahato et al. (2023) explored the relationship between the DASS-21 and Self-Efficacy Scale among postgraduate students, discovering significant relationships between the two measures. Peters et al. (2021) compared the DASS-21, PHQ-8, and GAD-7 in a virtual behavioral health care setting, providing insights

into how these instruments classify symptom intensity in adult populations with mental health issues. Jain et al. (2020) explored the prevalence of mental distress and addictive behaviors among medical undergraduates, using the DASS-21 to assess stress-related problems among students. Arusha and Biswas (2020) investigated the prevalence of stress, anxiety, and depression due to examinations among Bangladeshi youths, highlighting the impact of sociodemographic and lifestyle factors on mental health. Shaw et al. (2016) assessed the properties of the DASS-21 in an Australian adolescent population, examining its structure and specificity for adolescents across different age groups.

Camilleri et al. (2022) studied the impact of COVID-19 and coping strategies on mental health among university students, emphasizing the relevance of mental health support services for college students. Wang and Du (2020) evaluated the effectiveness of a college student mental health education course in reducing psychological discomfort and academic burnout among medical students. Khan et al. (2020) examined the mediating effect of positive psychological strength and study skills on examination anxiety among Nigerian college students, highlighting the interplay between psychological qualities and academic performance. Duraku et al. (2023) investigated mental health, study skills, social support, and barriers to seeking psychological help among university students in Kosovo, emphasizing the importance of mental health support in higher education. Munoz et al. (2023) explored factors associated with anxiety, depression, and stress levels in high school students, focusing on the relationship between these factors and academic achievement. Investigating Yoga Attitudes among College Students, Saha et al. (2021) utilized Clustering Techniques. Notably, they discovered that college location played a pivotal role, particularly among rural male and female students, who exhibited cohesive opinions on yoga practices within distinct clusters.

Mahato and Das (2024) Conducted a study on Mental well-being among students with respect to gender, institution and residence: insights from Purulia district, West Bengal. Main objectives of the study are to explore the positive mental well-being among the students. Researchers collect the sample through PMH scale in numbers of 513 respondent. The ultimate result of the is emphasise the need for comprehensive mental health measures within educational contexts by highlighting a constant degree of positive mental health across genders, institutions, and residential origins. Delving into Attitudes towards Value-oriented Education among Undergraduate Students, Ansary et al. (2023) employed Clustering Techniques. Noteworthy was the revelation that location emerged as the primary predictor, with no discernible correlation between academic performance and attitudes towards value-oriented education. Exploring Institutional Commitment through Cluster Analysis, Mohanta et al. (2023) revealed distinct clusters across Female and Male, Rural and Urban Institutions. These clusters, influenced positively by Predictor influence, prominently highlighted Professional Commitment as a significant dimension. Sen et al. (2023a) ventured into Leadership Style within Institutions using Clustering Techniques. They observed a direct relationship between cluster count and predictors, with location consistently emerging as the most pivotal predictor. Additionally, they noted similarities in leadership styles based on institutional location. Mahalanobis Distance serves as a critical metric in evaluating the efficacy of Cluster Analysis within educational settings (Adhikari, 2023; Adhikari et al., 2023a; 2023b; Mahato & Sen, 2021; Sen & Pal, 2020; Sen et al., 2023a; 2023b; 2023c). Adhikari & Sen (2023a) concentrated on the Cluster Analysis of Institutional Commitment and Organizational Climate. Across gender and rural-urban demographics, teachers' perspectives on institutional commitment and organizational climate remained remarkably consistent. Adhikari & Sen (2023b), in a separate study, shed light on Recent Trends of Cluster Analysis in Education. They underscored the significance of predictor counts, their interrelation with socio-psychological variables, and the escalating predictor values with increasing cluster count. Adhikari, Mahato, and Sen (2023) unearthed distinct linkages among anxiety, depression, stress, and self-efficacy, showcasing varied patterns across arts and science students. Mahato, Sen, and Adhikari (2023) unravelled a significant nexus between self-efficacy and postgraduate students, shedding light on the

interconnectedness of these variables. Mahato, Gayen, and Mahato (2023a) delved into the impact of internet on human civilization, revealing a surge in internet addiction among youth in Purulia District, West Bengal. Mahato, Gayen, and Mahato (2023b) explored the relationship between academic resilience and internet addiction among undergraduates in Purulia District, West Bengal, highlighting the resilience of students despite internet addiction.

Mahato, Gayen, and Mahato (2023c) probed the connection between self-efficacy and m-learning among undergraduates in Purulia District, West Bengal, concluding the absence of significant correlation between the two variables. Ahmed et al. (2019) investigated the mathematics achievement gaps among heterogeneous students at upper secondary levels in Assam, India. They focused on identifying the characteristics of mathematical success for two distinct groups of higher secondary students. Sen and Pal (2020) extended this analysis in a separate investigation. In a different study, Ahmed et al. (2021) utilized the Mahalanobis distance to compare academic achievements between two distinct groups of students from the Bodoland Territorial Region (BTR) in Assam, India. Similarly, Mahato and Sen (2021) employed the Mahalanobis Distance to explore academic stress, self-efficacy in mathematics, and anxiety in mathematics among two groups of higher secondary level students. Furthermore, Ahmed et al. (2022a) used the Mahalanobis Distance to compare the academic performance of higher secondary students across five subject areas, including mathematics and English, in the Bodoland Territorial Region (BTR) of Assam, India. In a related study, Ahmed et al. (2022b) examined the academic performance of two student groups across four subject areas, including mathematics and English, in the same region. In a study on organizational climate, Mohanta, Gayen, Pal, Mahato, and Sen (2023) found no significant differences across six major organizational climate variables using the Mahalanobis distance. Similarly, in another study on institutional commitment, Mohanta, Gayen, Pal, Sutradhar, and Sen (2023) revealed no significant differences across five major institutional commitment variables utilizing the Mahalanobis distance.

Objectives of the Study:

- To investigate relationships across items within Positive Mental Health.
- To determine groupings according to independent variables (Gender, Residence) and how they influence Positive Mental Health.
- To evaluate the importance of predictors in forming clusters.

Methodology

Method: This research employs a descriptive survey approach.

Population: The target population comprises all students residing in Purulia district, West Bengal.

Sample: A total of 513 participants were selected through random sampling methods for this study.

Sampling procedure: Simple random sampling was employed to gather the sample.

Tool used: The study utilizes the "Positive Mental Health Scale" developed by Lukat et al. (2016) to collect data from the participants.

Statistical technique used: Correlation coefficients are computed using the Product Moment Method, while a Two-Step Clustering technique is utilized to categorize the entire sample into distinct clusters.

Results & Discussions

Correlations

		Gender	Residence	I1	I2	I3	I4	I5	I6	I7	I8	I9	Total
Gender	Pearson Correlation	1	.036	-.023	-.014	.064	-.070	.014	-.033	-.120**	.070	-.175**	-.044
	Sig. (2 tailed)		.422	.598	.750	.149	.115	.744	.455	.006	.112	.000	.322
Residence	Pearson Correlation	.036	1	.012	.009	.052	.062	.091*	.007	.023	.058	.023	.056
	Sig. (2-tailed)	.422		.780	.833	.243	.162	.039	.866	.600	.189	.611	.203
I1	Pearson Correlation	-.023	.012	1	.471**	.421**	.399**	.324**	.383**	.362**	.305**	.365**	.663**
	Sig. (2-tailed)	.598	.780		.000	.000	.000	.000	.000	.000	.000	.000	.000
I2	Pearson Correlation	-.014	.009	.471**	1	.313**	.367**	.313**	.380**	.428**	.344**	.364**	.646**
	Sig. (2-tailed)	.750	.833	.000		.000	.000	.000	.000	.000	.000	.000	.000
I3	Pearson Correlation	.064	.052	.421**	.313**	1	.277**	.384**	.493**	.369**	.358**	.327**	.663**
	Sig. (2-tailed)	.149	.243	.000	.000		.000	.000	.000	.000	.000	.000	.000
I4	Pearson Correlation	-.070	.062	.399**	.367**	.277**	1	.342**	.444**	.413**	.370**	.411**	.656**
	Sig. (2-tailed)	.115	.162	.000	.000	.000		.000	.000	.000	.000	.000	.000

I5	Pearson Correlation	.014	.091*	.324**	.313**	.384**	.342**	1	.394**	.496**	.384**	.340**	.657**
	Sig. (2-tailed)	.744	.039	.000	.000	.000	.000		.000	.000	.000	.000	.000
I6	Pearson Correlation	-.033	.007	.383**	.380**	.493**	.444**	.394**	1	.484**	.443**	.456**	.740**
	Sig. (2-tailed)	.455	.866	.000	.000	.000	.000	.000		.000	.000	.000	.000
I7	Pearson Correlation	-.120**	.023	.362**	.428**	.369**	.413**	.496**	.484**	1	.361**	.484**	.721**
	Sig. (2-tailed)	.006	.600	.000	.000	.000	.000	.000	.000		.000	.000	.000
I8	Pearson Correlation	.070	.058	.305**	.344**	.358**	.370**	.384**	.443**	.361**	1	.372**	.651**
	Sig. (2-tailed)	.112	.189	.000	.000	.000	.000	.000	.000	.000		.000	.000
I9	Pearson Correlation	-.175**	.023	.365**	.364**	.327**	.411**	.340**	.456**	.484**	.372**	1	.673**
	Sig. (2-tailed)	.000	.611	.000	.000	.000	.000	.000	.000	.000	.000		.000
PMH	Pearson Correlation	-.044	.056	.663**	.646**	.663**	.656**	.657**	.740**	.721**	.651**	.673**	1
	Sig. (2-tailed)	.322	.203	.000	.000	.000	.000	.000	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 1 Coefficient of correlation for Positive Mental Health and its Items

Table 1 reveals compelling correlations, indicating that gender, residence, and various items exhibit significant associations. Notably, gender aligns with Items 7 and 9 at a significance level of .01, while residence corresponds significantly with Item 5 at a .05 level. Furthermore, Item 1 exhibits significant correlations with Items 2 through 9 and PMH at a .01 level. Similarly, Items 2 through 9 demonstrate

significant correlations with each other and PMH at the same level. These findings underscore the significance of inter-dimension relationships within The Positive Mental Health, as delineated in objective 1.

Clusters

Input (Predictor) Importance

1.0 0.8 0.6 0.4 0.2 0.0

Cluster	2	1
Label		
Description		
Size	64.5% (331)	35.5% (182)
Inputs	Gender 2 (91.8%)	Gender 1 (100.0%)
	Residence 1 (77.6%)	Residence 1 (100.0%)
	Total 16.88	Total 17.28

Table 2: formulation of 2 clusters

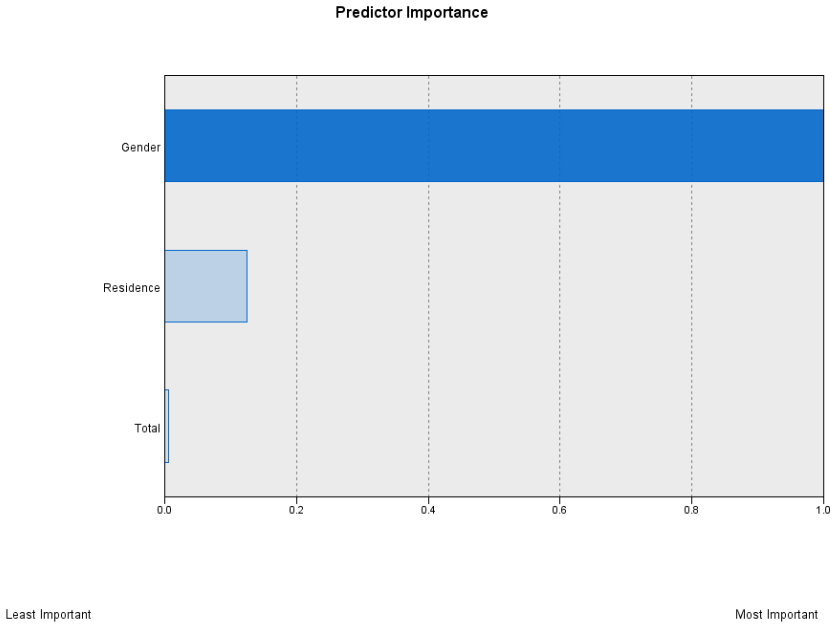

Figure 1: Predictor importance for the clusters described in table 2

Table 2 delineates the student clusters, with Cluster 1 comprising exclusively rural students (100.0%), predominantly male (100.0%), and accounting for 35.5% of the entire sample. Meanwhile, Cluster 2 comprises primarily rural students (77.61%), predominantly female (91.8%), constituting 64.5% of the total sample. The pivotal role of gender as a determinant of clusters is evident from Figure 1, with residency playing a moderate role, while Positive Mental Health emerges as a minimal predictor, as elucidated in Table 2.

Clusters

Input (Predictor) Importance

1.0 0.8 0.6 0.4 0.2 0.0

Cluster	3	1	2
Label			
Description			
Size	50.1% (257)	35.5% (182)	14.4% (74)
Inputs	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 2 (100.0%)
	Gender 2 (100.0%)	Gender 1 (100.0%)	Gender 2 (63.5%)
	Total 16.67	Total 17.28	Total 17.61

Table 3: formation of 3 clusters

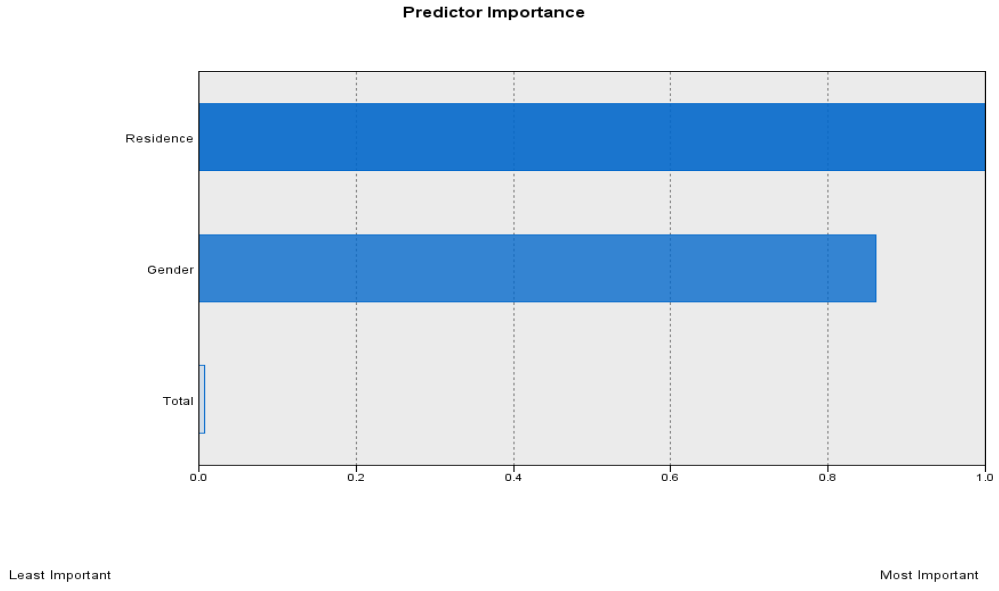

Figure 2: Predictor importance for the clusters described in table 3

In Table 3, we observe distinct groupings among students. Cluster 1 comprises entirely rural students (100.0%), predominantly males (100.0%), constituting 35.5% of the total sample. Cluster 2, composed solely of urban students (100.0%), is predominantly female (63.5%) and represents 14.4% of the sample. Cluster 3, entirely rural (100.0%) and predominantly female (100.0%), makes up 50.1% of the total sample. Figure 2 illustrates that gender and residence are the primary determinants of clustering, while Total (PMH) shows minimal predictive power, as evidenced in Table 3.

Clusters

Input (Predictor) Importance
1.0 0.8 0.6 0.4 0.2 0.0

Cluster	1	3	4	5	2
Label					
Description					
Size	35.5% (182)	34.5% (177)	15.6% (80)	9.2% (47)	5.3% (27)
Inputs	Gender 1 (100.0%)	Gender 2 (100.0%)	Gender 2 (100.0%)	Gender 2 (100.0%)	Gender 1 (100.0%)
	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 2 (100.0%)	Residence 2 (100.0%)
	Total 17.28	Total 18.86	Total 11.84	Total 17.94	Total 17.04

Table 4: formation of 5 clusters

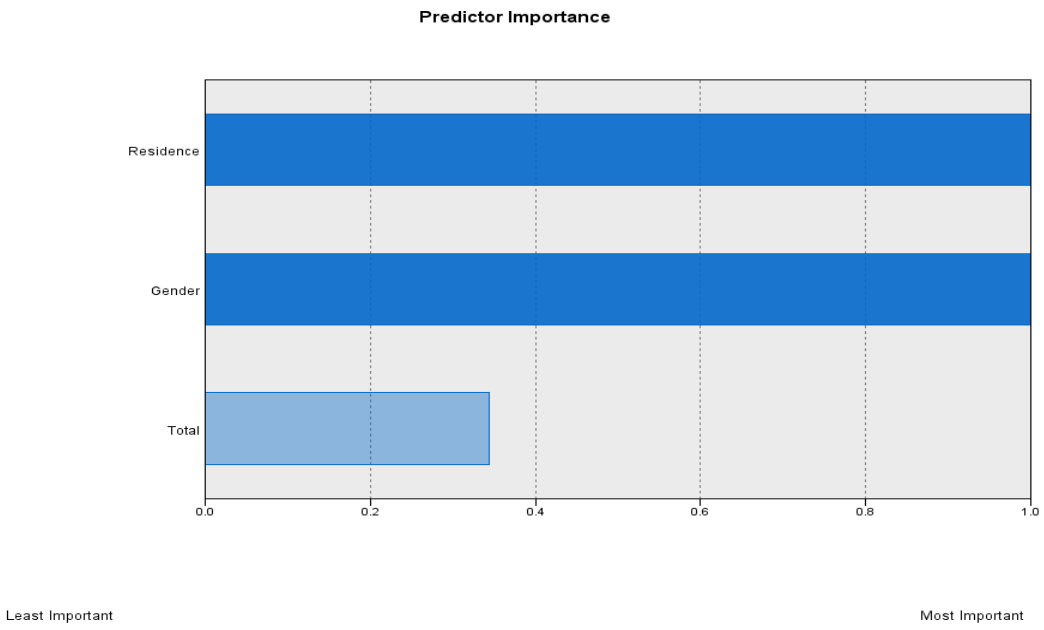

Figure 3: Predictor importance for the clusters described in table 4

In Table 4, the clustering of students reveals distinctive patterns. Cluster 1 emerges as predominantly rural (100.0%), with an overwhelming male presence (100.0%), encompassing 35.5% of the entire sample. Meanwhile, Cluster 2 embodies urban students (100.0%), similarly dominated by males (100.0%), yet constituting a mere 5.3% of the total sample. Moving on to Cluster 3, it mirrors Cluster 1 in its rural composition (100.0%) but with a shift towards female dominance (100.0%), representing 34.5% of the sample. Likewise, Cluster 4 echoes the rural profile (100.0%) and female dominance (100.0%) seen in Cluster 3, comprising 15.6% of the sample. In contrast, Cluster 5 stands out as urban (100.0%) and female-dominated (100.0%), comprising 9.2% of the sample. Figure 3 corroborates that gender and residential background emerge as pivotal factors shaping these clusters, with Total (PMH) serving as a benchmark, as depicted in Table 4.

Clusters

Input (Predictor) Importance
1.0 0.8 0.6 0.4 0.2 0.0

Cluster	4	1	6	2	7	5	3
Label							
Description							
Size	30.6% (157)	24.4% (125)	12.3% (63)	11.1% (57)	9.2% (47)	7.2% (37)	5.3% (27)
Inputs	Gender 2 (100.0%)	Gender 1 (100.0%)	Gender 2 (100.0%)	Gender 1 (100.0%)	Gender 2 (100.0%)	Gender 2 (100.0%)	Gender 1 (100.0%)
	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 2 (100.0%)	Residence 1 (100.0%)	Residence 2 (100.0%)
	Total 17.44	Total 19.39	Total 10.98	Total 12.65	Total 17.94	Total 23.11	Total 17.04

Table 5: formation of 7 clusters

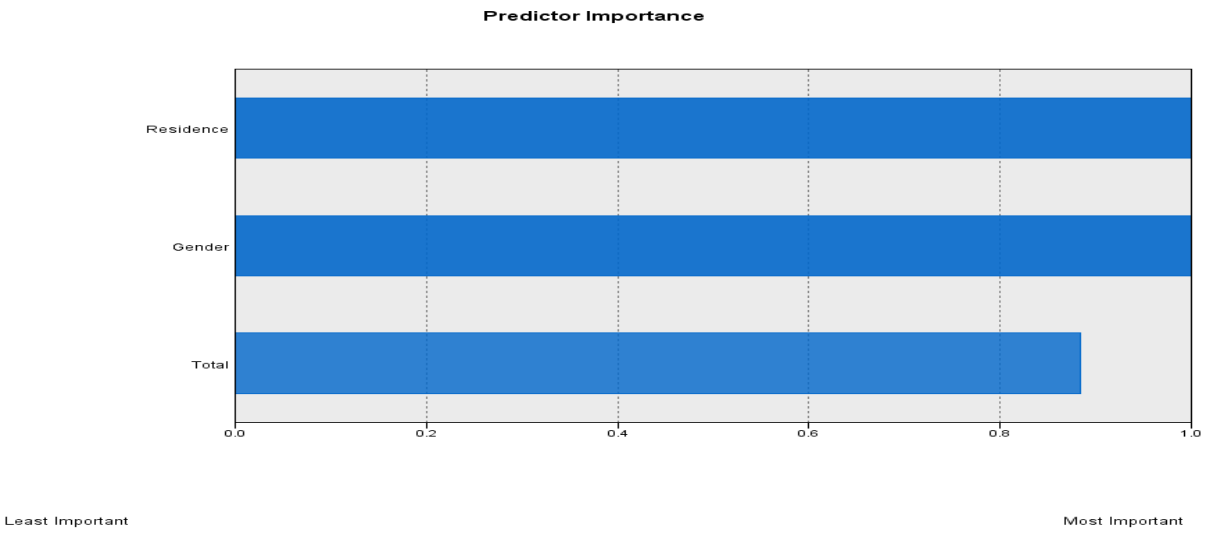

Figure 4: Predictor importance for the clusters described in table 5

In Table 5, the clusters emerge with distinct compositions. Cluster 1 comprises solely rural students (100.0%), predominantly male (100.0%), constituting 24.4% of the overall sample. Following suit, Cluster 2 also encompasses rural students (100.0%), predominantly male (100.0%), comprising 11.1% of the total sample. In contrast, Cluster 3 comprises urban students (100.0%), predominantly male (100.0%), constituting 5.3% of the total sample. Moving on, Cluster 4 is characterized by rural students (100.0%), predominantly female (100.0%), comprising 30.6% of the total sample. Likewise, Clusters 5 and 6 predominantly consist of rural students (100.0%), primarily female (100.0%), constituting 7.2% and 12.3% of the total sample, respectively. Cluster 7, on the other hand, is composed of urban students (100.0%), predominantly female (100.0%), comprising 9.2% of the total sample. Notably, from Figure 4, it is discernible that gender, residence, and Total (PMH) significantly influence the clusters as delineated in Table 5.

Clusters

Input (Predictor) Importance
1.0 0.8 0.6 0.4 0.2 0.0

Cluster	6	1	4	8	10	2	7	9	5	3
Label										
Description										
Size	27.3% (140)	17.3% (89)	10.1% (52)	9.6% (49)	9.2% (47)	7.2% (37)	7.2% (37)	6.0% (31)	5.1% (26)	1.0% (5)
Inputs	Total 17.74	Total 17.08	Total 22.00	Total 13.88	Total 17.94	Total 12.62	Total 23.11	Total 8.61	Total 17.69	Total 2.80
	Gender 2 (100.0%)	Gender 1 (100.0%)	Gender 1 (100.0%)	Gender 2 (100.0%)	Gender 2 (100.0%)	Gender 1 (100.0%)	Gender 2 (100.0%)	Gender 2 (100.0%)	Gender 1 (100.0%)	Gender 1 (100.0%)
	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 2 (100.0%)	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 1 (100.0%)	Residence 2 (100.0%)	Residence 1 (80.0%)

Table 6: formation of 10 clusters

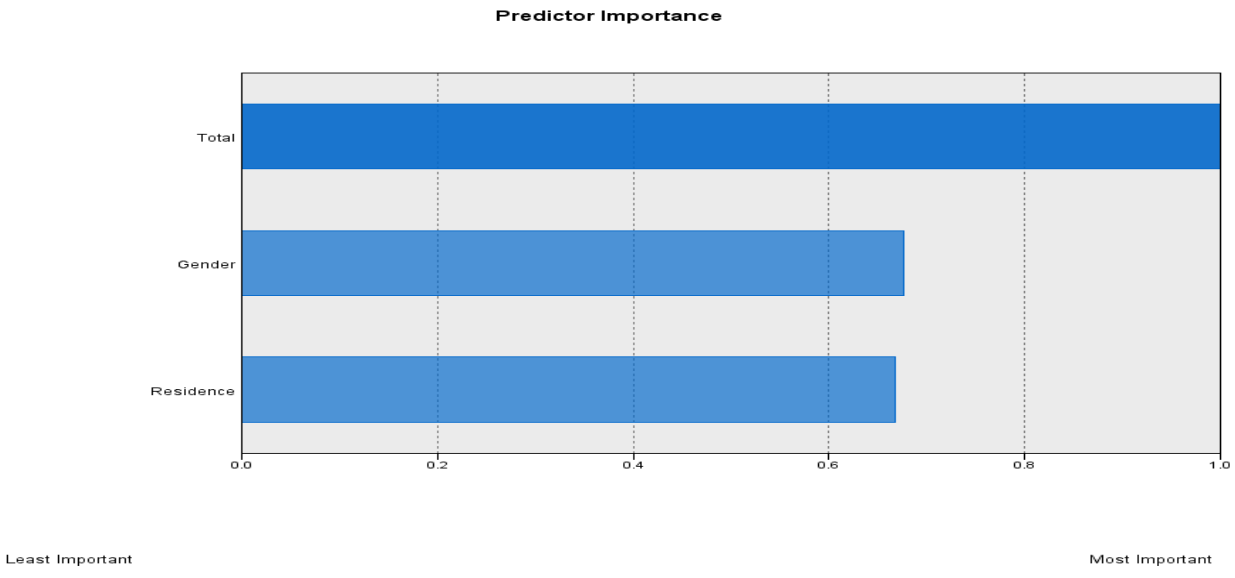

Figure 5: Predictor importance for the clusters described in table 6

Table 6 delineates the distinctive clusters formed by students, wherein Cluster 1 comprises exclusively rural students (100.0%), predominantly male (100.0%), constituting 17.3% of the overall sample size. Cluster 2 also consists of rural students (100.0%), predominantly male (100.0%), representing 7.2% of the total sample. Rural students dominate Cluster 3 (80.0%), with a male majority (100.0%), comprising 1.0% of the total sample. Similarly, Cluster 4 comprises rural students (100.0%), with male dominance (100.0%), making up 10.1% of the total sample. Conversely, Cluster 5 comprises solely urban students (100.0%), with males in the majority (100.0%), constituting 5.1% of the total sample. Cluster 6 consists entirely of rural students (100.0%), predominantly female (100.0%), accounting for 27.3% of the total sample. Likewise, Clusters 7, 8, and 9 are comprised entirely of rural students (100.0%), predominantly female (100.0%), constituting 7.2%, 9.6%, and 6.0% of the total sample, respectively. Cluster 10, on the other hand, is comprised solely of urban students (100.0%), predominantly female (100.0%), and represents 9.2% of the total sample. It's evident from Figure 5 that Total (PMH) emerges as the primary predictor, with gender and residence exhibiting moderate influence across the clusters detailed in Table 6.

To achieve objectives 2 and 3, refer to the table below:

Number of clusters	High predictor	Mediocre predictor	Low predictor
2	Gender	Residence	Positive Mental Health (PMH)
3	Gender and Residence		Positive Mental Health (PMH)
5	Gender and Residence	Positive Mental Health (PMH)	
7	Gender, Residence and Positive Mental Health (PMH)		
10	Positive Mental Health (PMH)	Gender and Residence	

Table 7: Cluster and Predictor summary

Table 7 unveils an intricate tapestry of clusters and their driving forces, showcasing a kaleidoscope of variations in cluster magnitude and determinants, particularly striking when scrutinizing clusters comprising 3, 5, 7, and 10 elements. Notably, amidst this diversity, the smallest cluster (2.0%) persists consistently across these numerical iterations. Delving into the second objective, which revolves around discerning clusters predicated on independent variables such as gender and location and their sway over facets of Positive Mental Health, it becomes evident that specific interplays between dependent and independent variables orchestrate the clustering phenomenon. Transitioning to the third objective, which entails scrutinizing the significance of predictors in cluster genesis, it emerges that in duet with two clusters, Gender emerges as a pivotal predictor. However, as the cluster count escalates to 3, Gender and Residence ascend to prominence as significant predictors. With 7 clusters, the triumvirate of Gender,

Residence, and Positive Mental Health assumes paramount importance in shaping cluster dynamics. Finally, with 10 clusters, a reversal of predictor significance occurs, with Positive Mental Health taking the spotlight, underscoring its pivotal role in cluster orchestration.

Conclusion

In summary, this study successfully achieved its objectives by establishing significant correlations between Positive Mental health with its Items. The intricate inter-dimension relationships within the positive mental health context were highlighted, and the exploration of clusters revealed variations in size and predictors. Factors such as Gender, residence and Positive Mental Health were identified as contributors to distinct clusters, shedding light on their influence on Positive Mental Health.

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