

# ASSESSING VISITOR EXPERIENCE AT HAZARA UNIVERSITY MUSEUM: A QUANTITATIVE STUDY USING THE VISITOR EXPERIENCE SCALE (VES)

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## ABSTRACT

Museums play a critical role in shaping visitors' cultural understanding, education, and identity. This study examines visitor psychology at the Hazara University Museum, Pakistan, using a quantitative approach. Data were collected through the 17-item Visitor Experience Scale (VES), covering dimensions of entertainment, cultural identity-seeking, education, relationship development, and escapism. Responses were gathered from visitors (N = 150) using a 5-point Likert scale. Data were analyzed using descriptive statistics, reliability analysis, and correlation tests on SPSS. Findings suggest that museum visits positively impact entertainment, cultural learning, and heritage connection, with escapism and identity-seeking emerging as strong motivators. The results highlight the importance of integrating interactive, educational, and culturally engaging exhibits to enhance visitor experiences.

**Keywords:** Visitor Psychology, Hazara University Museum, Quantitative Analysis, Visitor Experience Scale, Cultural Heritage

## 1. Introduction

Museums are not merely repositories of artifacts; they serve as interactive spaces where people engage with culture, history, and identity (Hooper-Greenhill, 2000). In Pakistan, museums play an important role in preserving cultural traditions while fostering public learning and identity construction. Understanding the psychology of visitors provides museum managers with insights into how exhibitions influence perceptions, emotions, and learning outcomes. In modern times, museums serve the functions of collection, research and exhibition, as well as education and recreation. They have gradually acquired visitor-based roles instead of museum-based roles. Thus, the need for visitor studies has emerged (Weil, 2000).

In studies on visitor attitude, Falk and Dierking (1992) proposed an interactive experience model, and suggested that visitor experience is not necessarily passive. In the physical environment of museums (the physical context), it is influenced both by personal context and social context, which results in visitor experience. Moreover, Falk and Dierking suggested that visitor experience is not a static state, but is a dynamic process including experiences before, during and after the visit. Therefore, in order to probe visitor experience, it is necessary to probe visitor expectations before the visit. During the visit, interaction among the three contexts could be studied, and after the visit, the experience could be examined according to the visitors' memories.

According to the Committee of Audience Research and Evaluation in the American Association of Museums, visitor studies use a systematic approach, including knowledge related to on-site and potential visitors, which is used to assist museums with planning and executing public related activities (CARE, 2009). Housen (1987) suggested three dimensions to acquire visitor knowledge: to learn visitors' demographic data, attitudinal information, and developmental situations and varied factors. Hood (1983) urged museum professionals to focus on the psychographic characteristics of both current and potential visitors and particularly their values, attitudes, perceptions, interests, expectations, satisfactions.

The Hazara University Museum, located in Mansehra, serves as a cultural hub, showcasing regional heritage, artifacts, and traditions. Despite its importance, limited research has been conducted on visitor psychology in Pakistani museums. This study addresses this gap by applying a validated quantitative tool the Visitor Experience Scale (VES) to measure visitor experiences at the Hazara University Museum.

### 1.1 Research Gap

Although international studies have applied VES in different museum contexts, no prior quantitative study has applied the scale to a Pakistani museum setting. This study seeks to fill that gap by examining visitor psychology at the Hazara University Museum. Based on the identified research gap, this study aims to measure visitor experiences at the Hazara University Museum using the Visitor Experience Scale (VES). Specifically, it analyzes how demographic variables such as age, gender, education level, and occupation shape these experiences, and examines which dimensions of visitor experience, enjoyment, learning, cultural connection, and social interaction are most strongly reflected in visitor responses. The ultimate purpose is to provide evidence-based recommendations for enhancing visitor engagement and satisfaction.

The study addresses the following research questions: What is the overall level of visitor experience at the Hazara University Museum as measured by the Visitor Experience Scale? Are there significant differences in visitor experiences across demographic groups such as age, gender, education level, and occupation? Which

dimensions of the Visitor Experience Scale contribute most to positive visitor experiences at the museum? Finally, how can these findings be applied to improve museum practices and engagement strategies?

Recent studies have emphasized the role of immersive technologies, cultural identity, and visitor satisfaction in shaping museum experiences (Vesci et al., 2021; Çolak & Karakan, 2024; Jangra et al., 2025). However, despite this growing body of work, no quantitative study has yet applied the Visitor Experience Scale (VES) in the Pakistani context.

### Hypotheses

**H1:** Visitors at Hazara University Museum report a generally positive visitor experience on the Visitor Experience Scale (VES).

**H2:** There are significant differences in visitor experience scores across demographic groups (e.g., gender, age, education level, profession).

**H3:** Different dimensions of visitor experience (learning, enjoyment, social interaction, heritage connection) show varying levels of visitor satisfaction.

**H4:** Visitor learning-related experiences vary significantly across demographic groups such as occupation and visit frequency.

**H5:** Younger visitors (students and youth) are more likely to report higher enjoyment and entertainment scores compared to older visitors.

**H6:** The Visitor Experience Scale (VES) demonstrates good internal reliability (Cronbach's  $\alpha \geq 0.70$ ) in the Hazara University Museum context.

### 2. Literature Review

Explores how VR impacts visitor immersion, motivation, and consequent experiences very timely given rising XR implementation in museums. Analyzed TripAdvisor reviews and curator interviews; revealed divergences between visitor perceptions (object experience) and curator priorities (cognitive experience) (Çolak & Karakan, 2024).

Mixed-methods study at the Capitoline Museums shows that visitor satisfaction is influenced more by companionship than by the number of exhibited areas, offering a managerial framework for enhancing engagement. Visitor psychology refers to the cognitive, emotional, and behavioral responses of individuals in museum settings (Falk, 1998). Trauer (2006) suggested that tourism involves an experiential and

emotional nature. Studies indicate that motivations for museum visits often include education, entertainment, cultural connection, and social interaction (Packer & Ballantyne, 2002). Many tourist studies have probed the causes and results of tourist experiences (Cohen, 2008; Weaver, Weber, & McCleary, 2007). Many studies have indicated that museum visitors are diverse, and different visitors usually visit different museums at different times (Falk & Dierking, 1992; Hooper-Greenhill, 2006). Vesci, Conti, Rossato & Castellani, "The mediating role of visitor satisfaction in the relationship between museum experience and word of mouth," *The TQM Journal*, 2021. Identified dimensions such as aesthetics, escapism, and "edumotion" as key contributors to satisfaction, which in turn drives word-of-mouth intentions.

Sheng, Shen, and Chen (2008) treated museum visits as historic and artistic trips. Hertzman, Anderson, and Rowley (2008) indicated that with development of multimedia techniques, the boundaries between different museum trips, such as historic museums, historic parks and life museums have become insignificant. However, they revealed the effect of edutainment, which allow visitors to have active and passive experiences. From the perspective of relative interpretation, Larsen and Mossberg (2007) suggested that experience is a kind of subjective and personalized process, which is related to society, culture and even different systems. Since visitors or tourists are diverse in various types of trips, including museum visits (Wang, 2008). Regarding tourists' active and passive experiences, Joseph and Gilmore (1998) suggested that both experiences are possible. "Exploring the impact of virtual reality on museum experiences: visitor immersion and experience consequences," *Virtual Reality*, (Jangra et al., 2025). More recently, Çolak and Karakan (2024) applied

integrated evaluation methods in museum management, highlighting how cultural engagement drives visitor satisfaction. Likewise, Jangra, Park, and Lee (2025) discovered the impact of virtual reality on museum experiences, finding that immersion significantly affects motivation and visitor outcomes. These studies underscore the need to reassess traditional museums in light of evolving visitor expectations, especially in under-researched contexts such as Pakistan.

### Material and Methods

This study utilized a cross sectional and quantitative survey approach to study the visitor experiences at the Hazara University Museum. A sample of 150 visitors completed the 17-item Visitor Experience Scale (VES) (Hoffer & Smith, 2015) which measures entertainment, education, cultural identity-seeking, relationship development and escapism on a five-point Likert scale. Structured questionnaires were administered to the participants on the site immediately after the end of the museum tour. The data were possibly analyzed in SPSS where responses were summarized using descriptive statistics, the reliability was assessed using Cronbach's alpha and the relationships of visitor experience dimensions with overall satisfaction were analyzed using reliability, correlation and regression analyses.

### Results

#### Reliability of the Visitor Experience Scale

The internal consistency of the Visitor Experience Scale (VES) was examined using Cronbach's alpha. As shown in Table 1, the reliability coefficient was .773, which exceeds the commonly accepted threshold of .70, indicating that the scale demonstrated good internal reliability in the Hazara University Museum context.

**Table 1**  
**Reliability Statistics of the Visitor Experience Scale (VES)**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.773	.773	17

#### Overall Visitor Experience

Descriptive analysis revealed generally positive visitor experiences across all five subscales of the VES. As

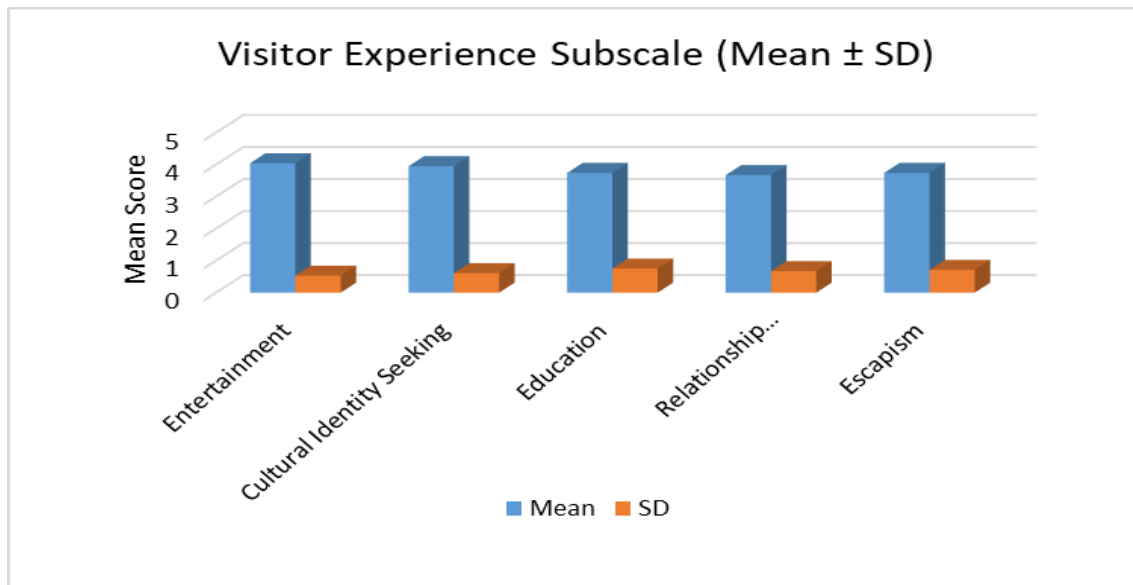
presented in Table 2, the highest mean score was observed for *Entertainment* (M = 4.04, SD = 0.53),

followed closely by *Cultural Identity Seeking* ( $M = 3.95$ ,  $SD = 0.61$ ). *Education* ( $M = 3.74$ ,  $SD = 0.75$ ) and *Escapism* ( $M = 3.74$ ,  $SD = 0.71$ ) also scored well, while *Relationship Development* ( $M = 3.67$ ,  $SD = 0.67$ ) had the lowest mean. These findings suggest that enjoyment and cultural connection were the most strongly

reflected aspects of visitor experiences, while social interaction was comparatively less emphasized. At the overall scale level (Table 3), the mean total score was 64.92 ( $SD = 8.21$ ) out of a possible maximum, further confirming that visitors reported generally positive experiences at the museum.

**Table 2**  
**Descriptive Statistics for Visitor Experience Subscales**

Subscale	N	Min	Max	Mean	SD
Entertainment	150	2.00	5.00	4.04	0.53
Cultural Identity Seeking	150	2.33	5.00	3.95	0.61
Education	150	1.25	5.00	3.74	0.75
Relationship Development	150	2.00	5.00	3.67	0.67
Escapism	150	1.75	5.00	3.74	0.71



**Figure 1. Visitor Experience Subscales (Mean ± SD)**

**Table 3**  
**Scale Statistics of the Visitor Experience Scale (VES)**

Mean	Variance	SD	N of Items
64.92	67.44	8.21	17

**Gender Differences in Visitor Experience**

An independent samples t-test was conducted to explore gender-based differences. As reported in Table 4, no statistically significant difference was found

between male ( $M = 65.47$ ) and female visitors ( $M = 64.24$ ),  $t(148) = 0.91$ ,  $p = .36$ . This suggests that gender did not influence visitor experiences in this context.

**Table 4**  
**Independent Samples t-test for Gender Differences in Visitor Experience**

Variable	Gender	N	Mean	SD	t	df	p
Visitor Experience Scale Total	Male	75	65.47	8.02	0.91	148	.36
	Female	75	64.24	8.45			

**Visitor Experience by Demographic Groups**

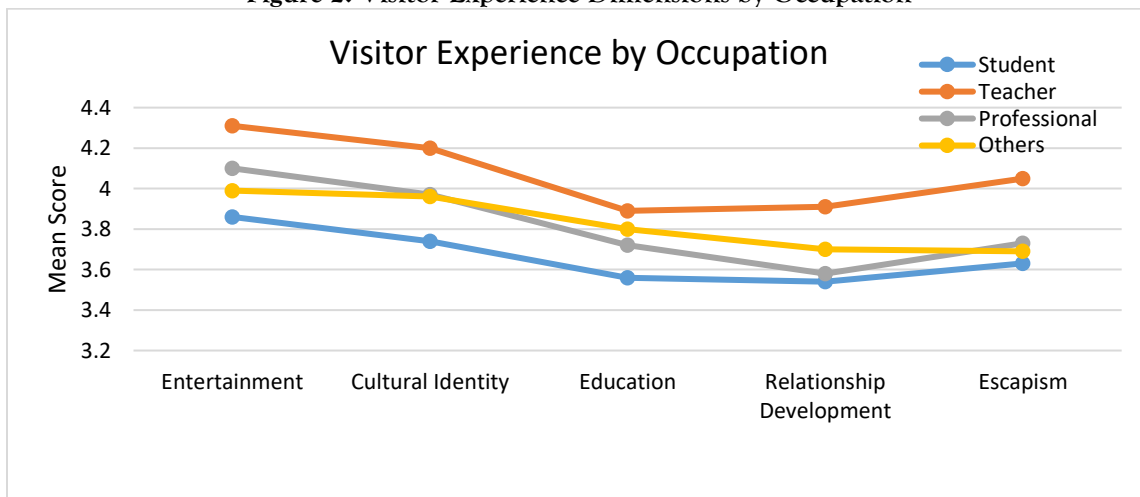
Descriptive statistics by demographic groups are presented in Table 5. The data indicate variations across occupations, visit frequency, and age groups. Teachers reported the highest scores across most

dimensions, particularly in Entertainment (M = 4.31) and Cultural Identity Seeking (M = 4.20), whereas students scored comparatively lower. Regular visitors also reported stronger educational experiences (M = 3.96) than first-time visitors (M = 3.56).

**Table 5**  
**Descriptive Statistics of Visitor Experience Dimensions by Demographic Groups**

Group	N	ENT_Mean (SD)	CIS_Mean (SD)	EDU_Mean (SD)	RD_Mean (SD)	Esc_Mean (SD)
Student	35	3.86 (0.47)	3.74 (0.58)	3.56 (0.85)	3.54 (0.71)	3.63 (0.73)
Teacher	25	4.31 (0.46)	4.20 (0.46)	3.89 (0.69)	3.91 (0.68)	4.05 (0.60)
Professional	35	4.10 (0.52)	3.97 (0.60)	3.72 (0.73)	3.58 (0.69)	3.73 (0.72)
Others	55	3.99 (0.57)	3.96 (0.66)	3.80 (0.72)	3.70 (0.61)	3.69 (0.70)
First-time	49	4.01 (0.60)	3.88 (0.65)	3.56 (0.83)	3.57 (0.66)	3.60 (0.62)
Occasional	54	3.99 (0.48)	3.96 (0.56)	3.71 (0.70)	3.70 (0.65)	3.75 (0.69)
Regular	47	4.12 (0.51)	4.01 (0.63)	3.96 (0.68)	3.74 (0.71)	3.88 (0.79)
Group 1 (Younger)	45	4.08 (0.52)	3.98 (0.65)	3.70 (0.84)	3.68 (0.71)	3.75 (0.79)
Group 2 (Middle)	54	4.08 (0.48)	3.94 (0.58)	3.87 (0.61)	3.73 (0.63)	3.84 (0.69)
Group 3 (Older)	51	3.95 (0.58)	3.94 (0.61)	3.64 (0.79)	3.59 (0.69)	3.64 (0.64)

**Figure 2. Visitor Experience Dimensions by Occupation**



Post-hoc comparisons (Table 6) confirmed these differences: teachers rated Entertainment and Cultural Identity significantly higher than students,

while regular visitors reported stronger learning-related experiences compared to first-time visitors.

**Table 6**

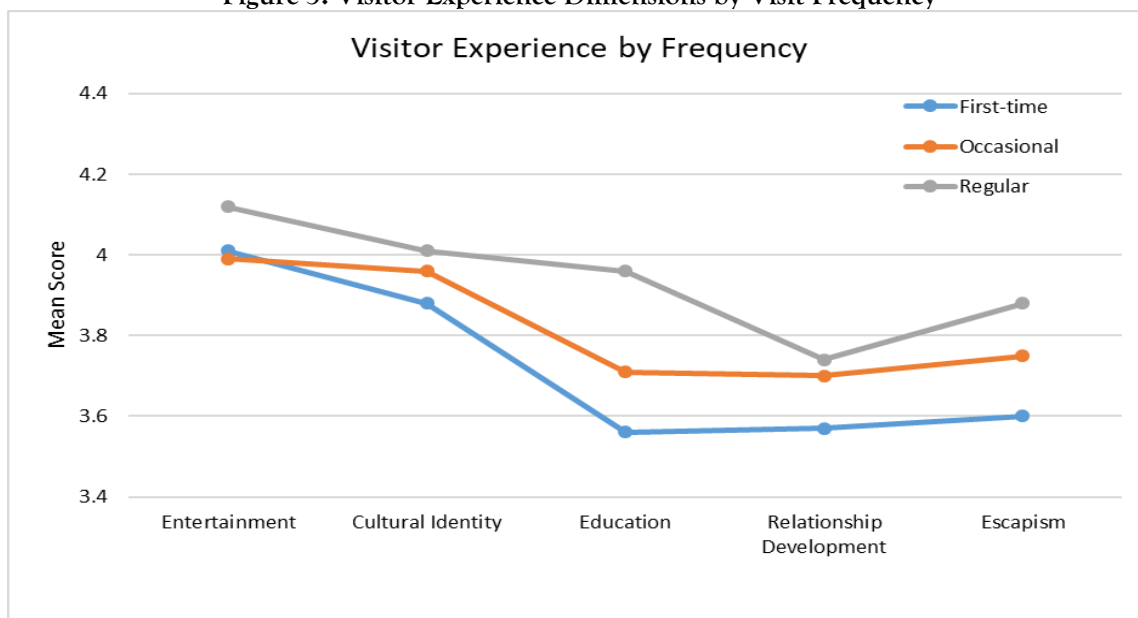
**Tukey Post-hoc Test Summary of Significant Differences**

Dimension	Group Comparison	Mean Difference	p-value
ENT	Teacher > Student	.45	.006
CIS	Teacher > Student	.46	.021
EDU	Regular > First-time Visitors	.41	.021

The ANOVA results presented in Table 7 further highlight these findings. Occupation had a significant effect on Entertainment ( $F = 3.99, p = .009$ ) and Cultural Identity Seeking ( $F = 2.88, p = .038$ ). Visit frequency significantly influenced Education ( $F =$

$3.70, p = .027$ ). However, age group did not yield significant differences across any of the dimensions, suggesting that age was not a determining factor in shaping visitor experiences.

**Figure 3. Visitor Experience Dimensions by Visit Frequency**



**Table 7**

**ANOVA Results for Visitor Experience Dimensions by Demographics**

Dimension	Factor	F-value	p-value
ENT	Occupation	3.99	.009
CIS	Occupation	2.88	.038
EDU	Occupation	1.15	.330
RD	Occupation	1.72	.165
Esc	Occupation	2.05	.109
ENT	Visit Frequency	.84	.434

CIS	Visit Frequency	.55	.577
EDU	Visit Frequency	3.70	.027
RD	Visit Frequency	.86	.425
Esc	Visit Frequency	1.86	.159
ENT	Age Group	.96	.386
CIS	Age Group	.05	.950
EDU	Age Group	1.36	.259
RD	Age Group	.57	.566
Esc	Age Group	1.07	.347

**Correlation Analysis**

Pearson’s correlation coefficients were calculated to examine the relationships among the five visitor experience dimensions. As shown in Table 8, all dimensions were significantly and positively correlated ( $p < .01$ ). The strongest associations were between *Relationship Development* and *Escapism* ( $r =$

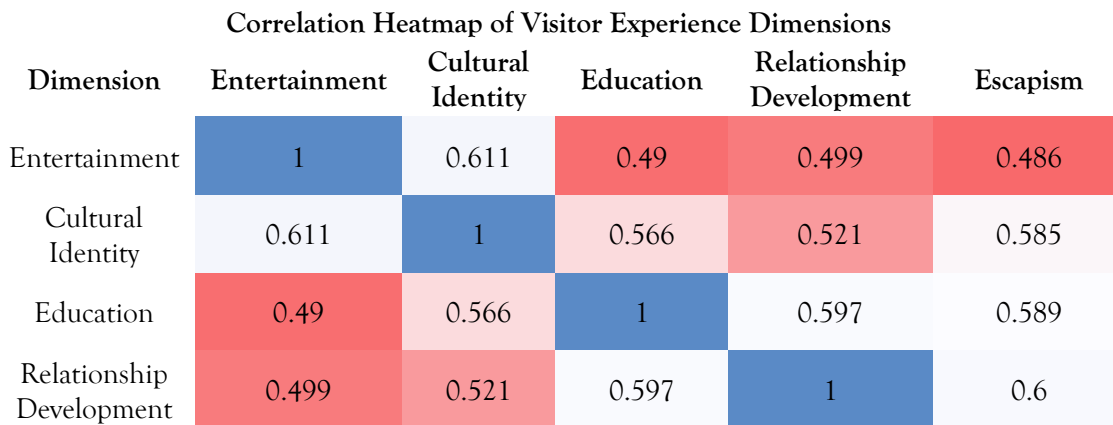
.600), and between *Cultural Identity* and *Escapism* ( $r = .585$ ). These findings suggest that visitors who engaged socially or sought cultural identity also tended to report higher escapism, reinforcing the multidimensional and interconnected nature of visitor experiences.

**Table 8**  
**Correlation Results (Pearson’s r) between Visitor Experience Dimensions**

Dimension	Entertainment	Cultural Identity	Education	Relationship Development	Escapism
Entertainment	1	.611**	.490**	.499**	.486**
Cultural Identity	.611**	1	.566**	.521**	.585**
Education	.490**	.566**	1	.597**	.589**
Relationship Development	.499**	.521**	.597**	1	.600**
Escapism	.486**	.585**	.589**	.600**	1

Note: \*\* $p < 0.01$  (2-tailed).

**Figure 4. Correlation Heatmap of Visitor Experience Dimensions**



Escapism

0.486

0.585

0.589

0.6

1

### Regression Analysis

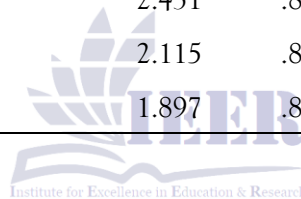
A multiple regression analysis was conducted to assess the predictive power of the five visitor experience dimensions on overall visitor experience. The model was statistically significant,  $F(5,144) = 61.6, p < .001$ , and explained 68.1% of the variance in overall experience ( $R^2 = .681$ ). As shown in Table 9, all five dimensions significantly contributed to the model.

*Education* ( $\beta = .236, p < .01$ ) emerged as the strongest predictor, followed by *Cultural Identity* ( $\beta = .216$ ) and *Relationship Development* ( $\beta = .212$ ). These results indicate that learning opportunities, cultural connection, and social interaction play critical roles in shaping positive visitor experiences, complementing the enjoyment and escapism dimensions.

**Table 9**  
**Regression Results Predicting Overall Visitor Experience**

Predictor	B	SE	Beta	t	p
Entertainment	2.214	.921	.201	2.404	.017*
Cultural Identity	2.197	.901	.216	2.437	.016*
Education	2.431	.871	.236	2.791	.006**
Relationship Development	2.115	.885	.212	2.389	.018*
Escapism	1.897	.899	.189	2.110	.036*

$R^2 = .681, F(5,144) = 61.6, p < .001$



### 5. Discussion

Findings indicate that the Hazara University Museum fulfills multiple psychological needs of its visitors. Entertainment and escapism scored high, suggesting that visitors view the museum as a refreshing escape from routine life. Education and cultural identity-seeking dimensions confirmed the museum's role in cultural learning and identity reinforcement. Our findings, where escapism and cultural identity emerged as strong motivators, are consistent with Çolak and Karakan (2024), who found cultural engagement as central to satisfaction, and with Jangra et al. (2025), who emphasized the role of immersive environments. This suggests that even without advanced technologies, traditional museums in Pakistan fulfill similar psychological needs.

However, relatively lower ratings for relationship development suggest that visitors engage more with exhibits than with social interactions. This implies that the museum could enhance interactive group activities

and guided tours to strengthen the social aspect of visitor experiences.

### 6. Conclusion

This study highlights the psychological impact of museum visits at Hazara University Museum. By applying the Visitor Experience Scale (VES), the research demonstrates that museums foster not only educational outcomes but also entertainment, escapism, and cultural identity. The findings emphasize the importance of enhancing visitor-centered strategies, including interactive displays, cultural workshops, and educational programs, to further improve visitor experiences in Pakistani museums.

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