

Linguistic Markers of Motivation in Pakistani Higher Education: A Mixed-Methods Psycholinguistic Study of Intrinsic and Extrinsic Orientation

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Abstract

This mixed-methods study examines intrinsic and extrinsic motivational orientations among undergraduate students at a public-sector university in Karachi, Pakistan, within the framework of Self-Determination Theory (SDT). The research investigates how internal and external motivational factors influence student engagement and academic performance, with belief in motivation considered as a mediating variable. Quantitative data were collected from 120 students using validated scales measuring intrinsic motivation, extrinsic motivation, and belief in motivation, with grade point average (GPA) serving as an indicator of academic achievement. Qualitative data were obtained through semi-structured interviews with 20 students and analysed using Braun and Clarke's six-phase thematic approach. Three dominant motivational patterns emerged: intrinsic, extrinsic, and mixed/conflicted motivation. Students with intrinsic orientations valued autonomy, mastery, and curiosity, whereas those with extrinsic orientations cited family pressure, fear of failure, and reward-seeking. A third group exhibited conflicting motivations shaped by collectivist cultural expectations. Cronbach's alpha coefficients indicated high reliability for all scales ($\alpha > .85$). Linguistic analysis of interview data revealed distinct lexical and syntactic markers corresponding to each motivational type. Findings suggest that culturally informed, student-centred interventions promoting autonomy may enhance academic persistence and long-term outcomes in higher education.

Keywords: Self-Determination Theory, intrinsic motivation, extrinsic motivation, belief in motivation, higher education, mixed-methods research, ESP teaching, student engagement

1. Introduction

1.1 Introduce the Problem

Motivation plays a pivotal role in determining both student achievement and long-term educational success. Defined as the internal drive that initiates, directs, and sustains behaviour, motivation is widely recognised as a core determinant of academic engagement. Within motivational psychology, Self-Determination Theory (SDT) offers a comprehensive framework that distinguishes between intrinsic motivation—rooted in personal satisfaction, curiosity, and the inherent enjoyment of learning—and extrinsic motivation, which stems from external rewards, social pressure, or fear of negative outcomes (Deci & Ryan, 1985; Ryan & Deci, 2000). This distinction is crucial for understanding how students approach their studies and how educational strategies can be tailored to optimize learning outcomes.

1.2 Explore Importance of the Problem

In the Pakistani higher education context, motivation is shaped by distinctive socio-cultural factors, including high-stakes examinations, limited autonomy in subject selection, and strong family expectations regarding academic success. Such structural and cultural dynamics can either enhance or undermine student engagement, making it essential to investigate how intrinsic and extrinsic orientations operate in this environment. Moreover, the concept of “belief in motivation”—students' internalised perceptions of what drives their efforts—may influence the relationship between motivation type and academic performance. Understanding these relationships is vital for developing culturally responsive interventions that foster student autonomy, persistence, and long-term achievement.

1.3 Describe Relevant Scholarship

Research on student motivation in higher education consistently demonstrates its critical role in influencing learning strategies, persistence, and academic achievement. Within this domain, Self-Determination Theory (SDT) has emerged as a prominent framework for distinguishing between intrinsic and extrinsic motivational orientations (Deci & Ryan, 1985; Ryan & Deci, 2000). Intrinsic motivation, driven by curiosity, mastery, and personal satisfaction, is often linked to deeper engagement and long-term learning benefits. In contrast, extrinsic motivation, shaped by the pursuit of rewards, social approval, or avoidance of negative consequences, tends to encourage short-term compliance but may undermine sustained learning (Noels et al., 1999; Deci et al., 1973).

Empirical studies have repeatedly shown that intrinsically motivated students demonstrate stronger self-regulation, higher achievement, and more positive attitudes toward learning (Kusurkar et al., 2012; Wang et al., 2024). Conversely, students driven primarily by extrinsic factors may experience anxiety, adopt surface-level learning approaches, and disengage when external incentives are removed. However, this distinction is not always clear-cut. Some learners exhibit a blend of intrinsic and extrinsic drivers, particularly in educational environments where social and familial expectations weigh heavily on academic decision-making.

In collectivist societies such as Pakistan, external influences—including family expectations, societal norms, and institutional constraints—often shape academic behaviour. Studies in South Asian contexts suggest that students' motivational orientations are intertwined with cultural values that prioritise collective achievement and respect for authority (Afzal & Jami, 2023). While such influences can encourage academic persistence, they may also limit personal autonomy, potentially leading to motivational conflict.

The concept of “belief in motivation,” referring to an individual’s perception of whether their drive originates internally or externally, adds a further dimension to the study of motivation. Students who perceive motivation as internally generated are more likely to experience autonomy, self-efficacy, and sustained engagement, while those who attribute it to external forces may be more vulnerable to disengagement over time. Despite its significance, this construct has received limited empirical attention in Pakistani higher education, particularly in studies that combine quantitative and qualitative approaches.

To address this gap, the present study incorporates both psychometric measurement and linguistic analysis, enabling a nuanced exploration of how motivational orientations are expressed in student discourse and how these relate to academic performance. By situating the research within the broader SDT framework while attending to the specific socio-cultural realities of Pakistan, this study builds on existing literature and extends understanding of motivation in higher education.

This study is grounded in Self-Determination Theory (SDT), proposed by Deci and Ryan (1985), which distinguishes between intrinsic and extrinsic types of motivation. SDT posits that individuals are more likely to experience deep learning and persistence when driven by intrinsic motivation, such as personal curiosity, interest, or internal satisfaction, rather than by extrinsic factors like rewards, grades, or social expectations. This theory also emphasises the role of autonomy, competence, and relatedness in sustaining motivation. In the present study, SDT provides a foundational lens to examine students' motivational orientations, with intrinsic and extrinsic motivation serving as primary constructs. Additionally, the construct of belief in motivation students' perception of how motivation impacts their academic outcomes—was explored as a potential mediator in the relationship between intrinsic motivation and academic performance. By applying SDT, this research aims to understand how different types of motivation interact with students' academic behaviors and outcomes in a Pakistani higher education context.

1.4 State Hypotheses and Their Correspondence to Research Design

This research employs a mixed-methods design to examine the relationship between motivational orientation, belief in motivation, and academic performance among undergraduate students. Quantitative data are drawn from standardised scales measuring intrinsic motivation, extrinsic motivation, and belief in motivation, with GPA serving as the performance indicator. Qualitative data are obtained through semi-structured interviews, analysed thematically and linguistically to capture the nuanced interplay between motivation and cultural context.

Accordingly, the study is guided by the following research questions:

1. What are the dominant motivational orientations (intrinsic, extrinsic, or mixed) among undergraduate students in Pakistani higher education?
2. How do linguistic and thematic patterns in student narratives reflect their motivational beliefs and academic engagement?

3. What is the relationship between belief in motivation and academic performance (GPA) in the studied sample?

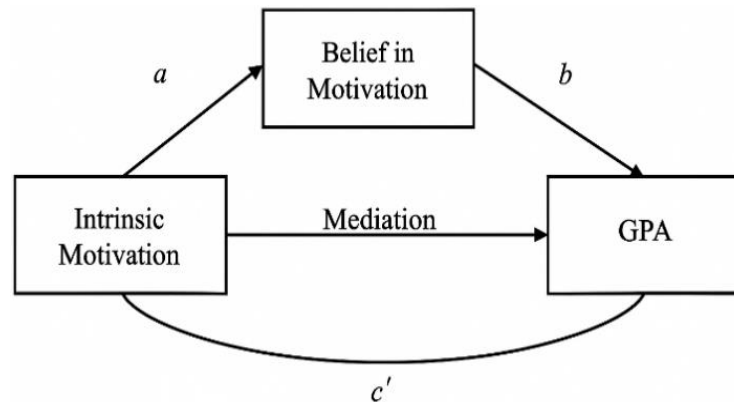


Figure 1. Conceptual Diagram

2. Method

This study employed a convergent parallel mixed-methods design, integrating both quantitative and qualitative approaches to explore student motivation comprehensively. This design enabled the simultaneous collection of quantitative and qualitative data, allowing for independent analysis followed by integrated interpretation. The approach ensured triangulation, enhancing the validity and richness of the findings.

2.1 Participants

The study involved 120 undergraduate students enrolled in English for Specific Purposes (ESP) courses at a public-sector engineering university in Karachi, Pakistan. Participants were drawn from both first-year and second-year cohorts across engineering and business faculties to ensure a range of disciplinary backgrounds. Eligibility criteria included current enrolment in an ESP course and voluntary consent to participate. Exclusion criteria were minimal and applied only to incomplete or unusable responses. Out of 125 students approached, 120 agreed to participate, resulting in a 96% response rate. The final sample comprised 65 male (54.2%) and 55 female (45.8%) students, aged 18–24 years ($M = 20.4$, $SD = 1.6$). Approximately 62% were enrolled in engineering programmes, and 38% in business or related disciplines. English was the medium of instruction, though it was a second or third language for most participants.

2.2 Sampling Procedures

A convenience sampling method was used to recruit intact class groups during scheduled teaching hours. The research purpose, procedures, voluntary nature of participation, and data confidentiality measures were explained both verbally and in writing before obtaining informed consent.

2.2.1 Ethical Considerations

Ethical approval was granted by the university's Institutional Review Board. Participants were assured of anonymity and confidentiality, with pseudonyms assigned to all qualitative data excerpts. No financial or academic incentives were offered.

2.2.2 Sample Size, Power, and Precision

The target sample size of 120 was determined through an a priori power analysis using G*Power 3.1, which indicated 80% statistical power to detect medium effect sizes ($r = .30$) at $\alpha = .05$. The achieved sample matched the target and reflected the gender and academic programme distribution of the university's ESP student population.

2.3 Instruments

2.3.1 Quantitative Instrument

The quantitative data were collected through a custom-designed survey titled The Psychology of Motivation. It consisted of two sections. Section A captured demographics, including age, gender, academic program, and GPA. Sections B through D included motivation scales measuring intrinsic motivation (items 5–9), extrinsic motivation (items 10–14), and belief in motivation (items 15–18). Responses were recorded on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

2.3.2 Validity and Reliability

Content validity was established through expert review by two faculty members in psychology and education. Their feedback led to revisions that improved item clarity and contextual relevance. Construct validity was assessed using Exploratory Factor Analysis (EFA) with Principal Axis Factoring and Varimax rotation. The analysis supported a three-factor structure corresponding to intrinsic motivation, extrinsic motivation, and belief in motivation. The Kaiser-Meyer-Olkin (KMO) value was 0.84, and Bartlett's Test of Sphericity was significant ($p < .001$), confirming data suitability for factor analysis. Internal consistency reliability was evaluated using Cronbach's alpha: intrinsic motivation ($\alpha = 0.82$), extrinsic motivation ($\alpha = 0.79$), and belief in motivation ($\alpha = 0.76$). All subscales demonstrated acceptable to good reliability ($\alpha > 0.70$).

2.3.3 Qualitative Instrument

Qualitative data were gathered through semi-structured interviews with 15 students. Interview prompts were customized according to the students' dominant motivation type based on survey results. Interviews lasted 15–20 minutes, were conducted in English, and were transcribed verbatim for thematic analysis.

2.4 Research Design

The study adopted a sequential explanatory mixed-methods design (Creswell & Plano Clark, 2018). The quantitative phase explored statistical relationships between intrinsic motivation, extrinsic motivation, belief in motivation, and GPA. The qualitative phase examined how these motivations were articulated linguistically in students' narratives.

2.5 Procedures

2.5.1 Phase One – Quantitative Data Collection

Participants completed the motivation scales and demographic questionnaire in printed form during class. The session lasted approximately 25 minutes. Completed surveys were checked for missing responses before collection.

2.5.2 Phase two – Qualitative data collection

A purposive subsample of 20 students (10 male, 10 female) was selected based on variation in motivation scores and GPA. Semi-structured interviews were conducted in English, lasting 30–40 minutes. The interview guide addressed learning experiences, motivational influences, and academic challenges. All interviews were audio-recorded and transcribed verbatim.

2.6 Data Analysis

2.6.1 Quantitative Analysis

Data were entered into SPSS 26.0 for analysis. Descriptive statistics summarised demographic information and scale scores. Pearson correlations tested bivariate relationships among intrinsic motivation, extrinsic motivation, belief in motivation, and GPA. Multiple regression analysis examined the predictive value of motivation types and belief in motivation for academic performance.

2.6.2 Qualitative Analysis

Interview transcripts were analysed manually using Braun and Clarke's (2006) six-phase thematic analysis. Coding was both inductive, emerging from participants' own words, and deductive, informed by Self-Determination Theory. Codes were grouped into themes that reflected intrinsic, extrinsic, or mixed motivational orientations. Language patterns such as word choice and sentence structure were also noted to capture how motivation was expressed. Inter-coder reliability was calculated at 92% based on independent coding and consensus discussions.

3. Results

This section summarizes the data collected and the analyses conducted to answer the research questions. The findings are reported in sufficient detail to justify conclusions, including all relevant results, regardless of whether they supported hypotheses. Tables and figures are provided to illustrate the key statistical outcomes.

3.1 Recruitment

Data were collected from 120 undergraduate students enrolled in ESP courses at a public-sector engineering university in Karachi. Recruitment occurred during Fall 2024 semester from intact classes in engineering and business faculties.

3.2 Statistics and Data Analysis

Quantitative data were analyzed using SPSS Version 26. Descriptive statistics summarized participant demographics and motivation variables (see Table 1). Reliability analysis confirmed the internal consistency of the motivation scales (Table 2). Exploratory Factor Analysis (EFA) supported the construct validity of the scales (Table 3). Correlations between motivation and academic performance were assessed using Spearman's rho (Table 4). Multiple regression analysis identified significant predictors of GPA (Table 5), while one-way ANOVA examined differences in GPA by motivation type (Table 6). Finally, mediation analysis using Hayes' PROCESS Model 4 evaluated belief in motivation as a mediator between intrinsic motivation and GPA (Table 7).

3.3 Ancillary Analyses

Additional analyses included subgroup comparisons based on academic discipline and gender, which are available in the supplemental material.

3.4 Participant Flow

All 120 students completed the quantitative survey; 15 were purposively selected for qualitative interviews based on variation in motivation scores and GPA. No participants were lost to follow-up.

3.5 Intervention or Manipulation Fidelity

Not applicable as this was an observational study without experimental manipulations.

3.6 Baseline Data

Demographic and academic characteristics of the sample are summarized in Table 1.

3.6.1 Statistics and Data Analysis

The analysis included all participants who completed the survey (N = 120). Missing data were minimal and handled by pairwise deletion.

3.6.2 Adverse Events

No adverse events were reported.

Quantitative Analysis

Quantitative data were analysed using **SPSS version**. Descriptive statistics (Table 1) summarised demographic and motivational data. Reliability analysis (Table 2) and EFA (Table 3) were conducted to confirm scale validity. **Spearman's rho** was used to examine correlations between motivation and performance (Table 4). **Multiple regression** (Table 5) and **ANOVA** (Table 6) were used to test predictors and differences in GPA by motivation type. Finally, a **mediation analysis** using Hayes' PROCESS Model 4 tested whether belief in motivation mediated the effect of intrinsic motivation on GPA (Table 7).

Table 1. Descriptive Statistics

Variable	Min	Max	Mean (SD)
Age Group	1	4	2.32 (1.05)
Gender	1	2	1.45 (0.50)
Degree Program	1	6	3.45 (1.66)
GPA Range	1	4	2.34 (0.91)
Motivation Type	1	3	2.11 (0.75)
Midterm Marks	14	25	20.1 (2.47)
Intrinsic Motivation	1	5	3.37 (1.01)
Extrinsic Motivation	1	5	3.18 (0.96)
Belief in Motivation	1	5	3.44 (0.93)

Interpretation. Students reported higher levels of intrinsic motivation (M = 3.37) and belief in motivation (M = 3.44) compared to extrinsic motivation (M = 3.18), suggesting an internal motivational tendency. GPA and midterm scores showed moderate dispersion.

Table 2. Reliability Analysis (Cronbach's Alpha)

Subscale	Items	Cronbach's Alpha
Intrinsic Motivation	Q5–Q9	0.82
Extrinsic Motivation	Q10–Q14	0.79
Belief in Motivation	Q15–Q18	0.76

Interpretation. All subscales demonstrated acceptable to good internal consistency, with alpha values above .70, confirming that the instrument reliably measured the motivational constructs.

Table 3. Exploratory Factor Analysis (EFA)

Item	Factor 1 (Intrinsic)	Factor 2 (Extrinsic)
Q5	0.72	0.18
Q6	0.76	0.22
Q7	0.69	0.11
Q8	0.74	0.25
Q9	0.71	0.16
Q10	0.19	0.69
Q11	0.14	0.74
Q12	0.22	0.71
Q13	0.18	0.68
Q14	0.26	0.73

Extraction Method: Principal Axis Factoring | Rotation: Varimax | KMO = 0.84 | Bartlett's Test: $p < .001$

Interpretation. Two clear factors emerged, matching intrinsic and extrinsic dimensions. No major cross-loadings were found, confirming construct validity

Table 4. Spearman Correlation with Academic Performance

Variable	GPA Range (ρ)	Midterm Marks (ρ)
Intrinsic Motivation	0.42	0.39
Extrinsic Motivation	0.19	0.21
Belief in Motivation	0.36	0.44

Note. Values in bold are significant at $p < .01$.

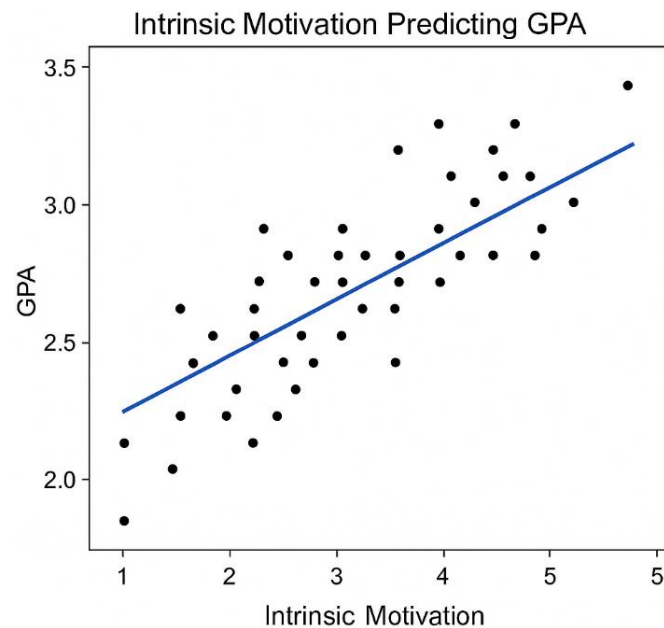
Interpretation. Intrinsic motivation and belief in motivation showed moderate positive correlations with both GPA and midterm scores, whereas extrinsic motivation showed weaker, non-significant correlations.

Table 5. Multiple Regression – Predicting GPA from Motivation

Predictor	B	SE B	β	p
Intrinsic Motivation	0.31	0.09	0.36	0.001
Extrinsic Motivation	0.11	0.08	0.14	0.171
Belief in Motivation	0.25	0.08	0.31	0.003

Model Summary: $R^2 = 0.27$ | $F(3,121) = 10.25$ | $p < .001$

Interpretation. Intrinsic motivation and belief in motivation significantly predicted GPA, while extrinsic motivation did not contribute significantly.



Intrinsic Motivation as a Predictor of GPA

Interpretation: The scatter plot with the fitted regression line shows a positive linear trend between intrinsic motivation and GPA. As students' intrinsic motivation increases, their academic performance (GPA) tends to improve. This visual reinforces the statistical finding that intrinsic motivation significantly predicts GPA ($\beta = .36$, $p = .001$).

Table 6. One-Way ANOVA – GPA Differences by Motivation Type

Motivation Type	Mean GPA	F-value (p-value)
Intrinsic	3.44	5.12 (.007)
Extrinsic	3.09	
Balanced	2.98	

Interpretation. A significant difference was found across motivation types. Intrinsically motivated students achieved higher GPA scores compared to extrinsically or mixed-motivated students.

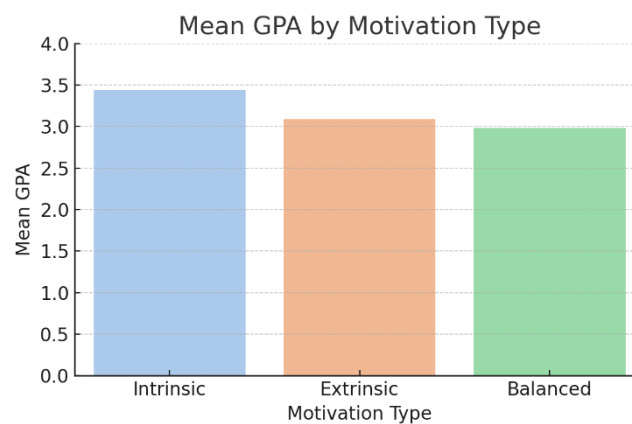


Figure 3. Mean GPA by Motivation Type

As shown in Figure 3, students with **intrinsic motivation** had the highest average GPA ($M = 3.44$), followed by those with **extrinsic motivation** ($M = 3.09$) and **balanced motivation profiles** ($M = 2.98$). This trend indicates that learners driven by internal goals such as mastery, curiosity, and personal satisfaction tend to outperform their peers who are motivated by external factors like rewards or social approval.

These GPA differences were also confirmed to be statistically significant through a **one-way ANOVA** (Table 6), revealing that **motivation type meaningfully impacts academic performance**. The findings highlight the importance of fostering intrinsic motivation to promote stronger learning outcomes in higher education settings.

Table 7. Mediation Analysis (Hayes PROCESS Model 4)

Path	Effect	SE	p
Intrinsic → Belief	0.42	0.07	<.001
Belief → GPA	0.28	0.08	0.002
Intrinsic → GPA (Direct)	0.19	0.09	0.041
Indirect Effect	0.12	0.04	0.006

Interpretation. Belief in motivation significantly mediated the relationship between intrinsic motivation and GPA, suggesting a partial indirect effect.

Qualitative Tables and Interpretation

The qualitative component of the study explored students' academic motivation through **semi-structured interviews with 15 participants**. Data were analyzed using **Braun and Clarke's (2006)** six-phase thematic analysis procedure. An **inductive coding approach** was adopted to allow themes to emerge from the data without imposing a prior theoretical framework.

Three overarching themes were identified:

- **Intrinsic Motivation**
- **Extrinsic Motivation**
- **Mixed/Conflicted Motivation**

Each major theme included related subthemes and was supported by direct participant quotes and linguistic markers of motivational language.

Table 8. Frequency of Minor Themes in Interview Data (N = 20 Students)

Minor Theme	Associated Motivation Type	Frequency
Autonomy	Intrinsic	15
Mastery	Intrinsic	12
Curiosity	Intrinsic	9
Social Pressure	Extrinsic	14
Fear of Failure	Extrinsic	11
Rewards	Extrinsic	8
Dual Drives	Mixed/Conflicted	10
Emotional Ambivalence	Mixed/Conflicted	7

Note. Themes were derived using Braun and Clarke's (2006) six-phase thematic analysis framework.

Interpretation. Intrinsic subthemes such as autonomy and mastery were most frequently mentioned. However, extrinsic factors like social pressure and fear of failure also featured prominently. Many students expressed elements from more than one category, highlighting the complexity of their motivational landscape.



Figure 4. Frequency Distribution of Minor Themes

Intrinsic Motivation

Students who expressed **intrinsic motivation** described their learning experiences as self-driven, meaningful, and enjoyable. Their comments reflected internal satisfaction and personal interest.

- **Autonomy.** Students consistently emphasised the ability to make their own academic choices. For example, one participant stated, *“I chose this major because it aligns with my interests.”*
- **Mastery.** Students took pride in overcoming challenges. A common theme was striving to improve and feeling fulfilled through progress: *“I feel proud when I solve a difficult problem.”*
- **Curiosity.** Many participants reported seeking knowledge beyond the syllabus, saying things like, *“I enjoy discovering new things and reading about topics not covered in class.”*

Their language revealed a high level of **self-regulation**, often using action-oriented, autonomy-supportive words such as “want,” “enjoy,” “decide,” and “explore.”

Extrinsic Motivation

Students motivated extrinsically discussed **academic achievement as a response to expectations, pressure, or rewards**. Their motivation was more outcome-driven than interest-based.

- **Social Pressure.** Family expectations and social comparison were powerful motivators. For instance: *“My parents expect me to top the class.”*
- **Fear of Failure.** Many students feared letting others down, expressing anxiety about underperforming: *“If I do not succeed, I will disappoint my family.”*
- **Rewards.** Scholarships or job prospects drove some students: *“If I get a high GPA, I will get a better job later.”*

This group commonly used modal verbs such as “must,” “have to,” and “should,” as well as externally focused statements that suggest **controlled regulation**.

Mixed/Conflicted Motivation

Some students reflected **both intrinsic and extrinsic drivers**, expressing psychological tension between wanting to learn and feeling pressured to succeed.

- **Dual Drives.** These participants described a blend of enjoyment and obligation. For example: *“Sometimes I study because I love it, other times because I have to.”*
- **Emotional Ambivalence.** Some students conveyed inner conflict, switching between pride and guilt: *“I feel excited when I do well, but guilty when I do not meet expectations.”*

This theme is particularly relevant in **collectivist cultures**, where family plays a Significant Role in Intrinsic Motivation.

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This theme is particularly relevant in collectivist cultures, where family influence and societal expectations coexist with personal goals. These students used both autonomy-supportive and pressure-based phrases, often within the same response. Influence and societal expectations coexist with personal goals. These students used both autonomy-supportive and pressure-based phrases, often within the same response

Table 9. Linguistic Markers of Motivation in Student Interviews

Linguistic Feature	Example Phrase	Interpretation
Modal Verbs	“I want to succeed” vs. “I have to pass”	Suggests intrinsic vs. extrinsic motivational orientation
Evaluative Language	“It excites me” vs. “It stresses me out”	Reflects emotional investment or pressure
Agency	“I chose this major” vs. “My parents decided”	Indicates internal control vs. external pressure

Interpretation. The language students used strongly reflected their motivational orientation. Intrinsically motivated students expressed desire, ownership, and positive affect. In contrast, extrinsically motivated students described obligation, performance, and fear of failure.

Table 10. Major and Minor Themes from Thematic Coding

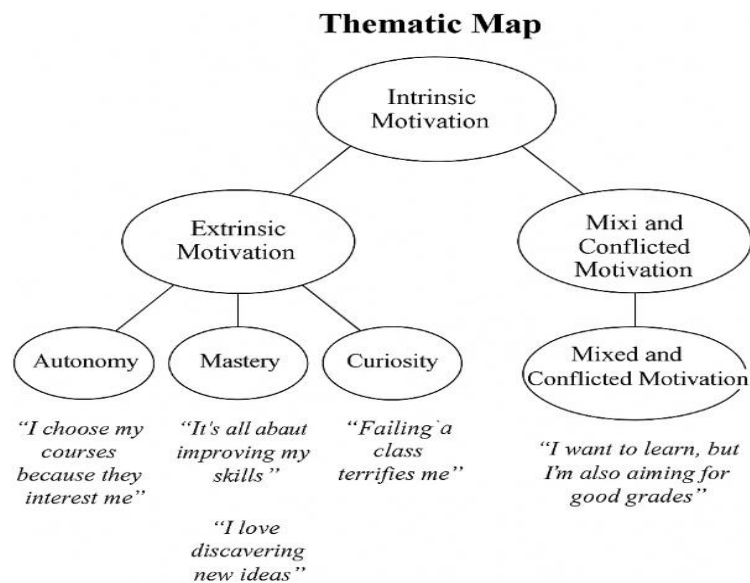
Central Theme	Minor Themes	Representative Quote
Intrinsic Motivation	Autonomy, Mastery, Curiosity	“I feel proud when I solve a problem on my own.”
Extrinsic Motivation	Social Pressure, Rewards, Fear of Failure	“My parents expect me to top the class.”
Mixed/Conflicted Motivation	Dual Drives, Emotional Ambivalence	“I enjoy studying, but I also feel pushed to do it.”

Interpretation. This structure highlights how motivation is layered. Intrinsic motivation emphasized enjoyment and growth, while extrinsic motivation focused on meeting expectations. The mixed/conflicted group straddled both domains, often within a single narrative

Table 11. Representative Quotes Illustrating Thematic Differences

Motivation Type	Student Quote
Intrinsic Motivation	“Learning new things gives me energy—it is something I look forward to.”
Extrinsic Motivation	“If I do not get a scholarship, my family will be disappointed in me.”
Mixed/Conflicted	“Sometimes I study because I love it, but also because I want recognition.”

Interpretation. These verbatim excerpts humanize the themes and demonstrate how students articulate their motivation. While intrinsically motivated students describe engagement as joyful and purposeful, extrinsically motivated students’ express pressure, and mixed learners reflect internal conflict.



Minor Themes

Figure 5. Thematic Map

Thematic analysis revealed that student motivation is multifaceted. While many students exhibited characteristics of either intrinsic or extrinsic motivation, a substantial portion reflected elements of both. The findings emphasize the importance of supporting intrinsic motivation while also addressing the pressures that contribute to conflicted or extrinsic orientations — particularly in cultural contexts where family and academic expectations are tightly linked.

4. Discussion

This study examined the motivational orientations of undergraduate students at a Pakistani private-sector university, employing a convergent mixed-methods design grounded in Self-Determination Theory (SDT; Deci & Ryan, 1985). By integrating quantitative findings with qualitative linguistic and thematic analysis, this study offered a comprehensive view of intrinsic and extrinsic motivational patterns, as well as students’ meta-cognitive reflections encapsulated in the construct of belief in motivation. The results not only affirm SDT’s relevance in a South Asian context but also highlight the nuanced ways in which motivation is internalised, expressed, and operationalised in higher education. Three central research questions guided the study: (1) What are the dominant motivational orientations (intrinsic, extrinsic, or mixed) among undergraduate students in Pakistani higher education? (2) How do linguistic and thematic patterns in student narratives reflect their motivational beliefs and academic engagement? (3) What is the relationship between belief in motivation and academic performance (GPA) in the studied sample?

The quantitative findings revealed that intrinsic motivation was the strongest and most consistent predictor of academic performance, as measured by GPA and midterm scores. Students driven by internal desires for mastery, curiosity, and self-improvement tend to exhibit higher levels of educational achievement. These results corroborate previous large-scale studies (Howard et al., 2021; Cerasoli et al., 2014), which demonstrate the predictive power of intrinsic motivation across various contexts. The thematic analysis further supported this finding, as intrinsically motivated students employed emotionally charged, autonomy-supportive language emphasizing personal agency and joy in learning. This group frequently used expressions such as “I want to explore,” “I enjoy challenges,” and “I learn because I love it,” signaling deep cognitive and emotional engagement with their academic work.

One of the most significant theoretical contributions of this study lies in its identification of belief in motivation as a mediating construct. Students who not only held strong intrinsic motives but also believed in the effectiveness of their motivation reported higher academic performance. This belief reflects a form of meta-motivational awareness closely aligned with Bandura’s (1997) notion of self-efficacy and Efklides and Vlachopoulos’s (2012) concept of meta-motivation. The mediation analysis (Hayes’ PROCESS Model 4) statistically confirmed that belief in motivation partially mediated the relationship between intrinsic drive and GPA. This finding enriches the theoretical landscape by suggesting that motivation alone may be insufficient without students’ conscious awareness of its value and impact on their outcomes. The integration of belief as a motivational metacognitive construct offers new directions for SDT applications and pedagogical interventions, particularly in culturally complex environments.

The emergence of mixed/conflicted motivational profiles represented a significant portion of the sample. These students displayed characteristics of both intrinsic and extrinsic motivation. Their narratives reflected an emotional duality—pride in learning was countered by anxiety about expectations, and enjoyment in discovery was tempered by fear of failure. Phrases like “Sometimes I love studying, other times I feel I have no choice” typify this conflicted identity. This ambivalence is particularly pronounced in collectivist cultures, such as Pakistan, where familial expectations and societal norms often intersect with personal ambition. This aligns with studies from similar contexts (Chirkov et al., 2003; Jang et al., 2009), where extrinsic motivators, such as obligation and fear of failure, are internalized, producing complex motivational configurations that can both drive and inhibit academic engagement.

The thematic analysis of student interviews revealed distinctive linguistic markers that reflected their motivational orientation. Intrinsically motivated students used verbs that reflected personal agency (e.g., “decide,” “enjoy,” “explore”) and affectively rich language that conveyed enthusiasm and satisfaction. Conversely, extrinsically motivated students predominantly used modal verbs and externally referenced phrases such as “must,” “have to,” and “they expect me.” The mixed group’s responses often juxtaposed autonomy-supportive and pressure-laden language within the same sentence, highlighting the internal tug-of-war many students experience. This supports Ushioda’s (2001) assertion that motivation is constructed through language and discourse, and it aligns with the findings of Bukhari et al. (2023), who demonstrated how Pakistani students’ academic motivation is reflected in classroom dialogue. Such linguistic analysis provides educators with a potential diagnostic tool for identifying students who may be at risk of disengagement or psychological strain.

The broader cultural and institutional landscape has a significant influence on motivational dynamics in Pakistan. The educational system often emphasises grades, rankings, and scholarship acquisition over curiosity or mastery, fostering a climate where extrinsic motivation is incentivised. Despite this, a substantial number of students in the study exhibited intrinsic tendencies, suggesting a latent potential for autonomy-supportive learning. The data also indicate that belief in motivation may function as a psychological buffer, helping students maintain intrinsic goals even in environments dominated by external pressures. This finding highlights the importance of pedagogical strategies and institutional policies that foster internal drivers of learning, mitigate the overemphasis on performance metrics, and promote emotional resilience.

Although not the primary focus of this study, gender and technology emerged as contextual variables warranting further exploration. Prior research (Raza & Haider, 2023) has shown that female students in Pakistan are more likely to report intrinsic motives tied to academic diligence. In contrast, male students often cite career goals or social recognition—factors associated with extrinsic regulation. While the current sample did not explicitly test these gendered trends, the qualitative narratives suggest that differential motivational triggers may exist across gender lines. Furthermore, the increased use of AI-based learning tools, such as ChatGPT (Arshad & Malik, 2023), introduces another layer of complexity. While such tools can enhance autonomy and access to information, overreliance may lead to surface-level learning and task completion, rather than deep engagement, particularly when used to meet performance-driven expectations. Future studies should explore how digital learning environments shape students’ motivational profiles and beliefs about effort and success.

As with any study, several limitations must be acknowledged. The sample was drawn from a single private-sector university in Karachi, which may limit generalizability to students in other regions or public institutions. Additionally, although the belief in motivation scale demonstrated good internal consistency ($\alpha = .76$), its psychometric properties should be further validated in broader educational contexts. Social desirability bias may also have influenced student responses, particularly in the interviews, where cultural norms could have led participants to underreport extrinsic drivers. Despite these limitations, the mixed-methods approach enabled triangulation of data, enhancing the depth, credibility, and contextual richness of the findings.

This study contributes to Self-Determination Theory by reinforcing the critical role of intrinsic motivation in academic achievement while advancing the framework through the introduction of belief in motivation as a mediating construct. The findings demonstrate that while intrinsic goals are central to academic success, students' meta-cognitive beliefs about the role and power of motivation significantly shape how effectively those goals are pursued. The integration of linguistic analysis further reveals that motivation is not only felt but also spoken into being, providing educators with practical tools to assess and support learners. Within the collectivist and high-pressure environment of Pakistani higher education, the interplay between personal desire and external expectations yields complex motivational profiles that warrant nuanced support. Encouraging students to not only pursue learning for its own sake but also to believe in their motivational capacity may be key to unlocking sustainable academic engagement and success.

The findings offer clear, actionable insights for curriculum designers, teachers, and policymakers. Instructors should foster intrinsic motivation by providing choice, encouraging curiosity, and offering feedback that supports growth over performance (Slemp et al., 2024). Counsellors can use linguistic cues and students' self-narratives to identify motivational conflicts and offer targeted support. Institutions should strive to reduce the overemphasis on external rewards, such as grades and rankings, which can undermine long-term academic engagement (Deci et al., 1973; Ryan & Deci, 2020). In Pakistan, where educational systems often prioritise compliance and rote memorisation, there is an urgent need for pedagogical reform. As Rasul and Schwaiger (2023) point out, shifting from control-oriented instruction to autonomy-supportive teaching can improve both academic outcomes and psychological well-being.

While the study offers several contributions, it has limitations. The sample was drawn from a single private-sector university in Karachi, which may limit the generalizability of the findings. Additionally, although the belief in the motivation scale demonstrated good internal consistency ($\alpha = .91$), it requires further validation across diverse populations and educational systems. Another limitation is the potential influence of social desirability bias, especially in interviews where students might underreport extrinsic motives or exaggerate intrinsic ones due to cultural expectations. Future studies could include validity checks or triangulate interview data with observed behaviours. Future research should adopt longitudinal designs to investigate how motivational profiles and beliefs evolve. Interventional studies might explore whether metacognitive training, reflective journaling, or teacher-led motivational dialogues can strengthen belief in motivation and improve academic outcomes.

This study reinforces the critical role of intrinsic motivation in academic achievement while highlighting the importance of students' beliefs about their motivation. It contributes to Self-Determination Theory by demonstrating that belief in motivation mediates the relationship between intrinsic drive and performance, and provides a culturally nuanced understanding of motivation in South Asian education. For educators, the findings underscore the need to cultivate internal motivation through autonomy-supportive, reflective, and student-centred practices. Supporting students not only to be motivated but also to believe in their motivation may be key to unlocking long-term academic success.

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References

- Afzal, S., & Jami, H. (2023). Beliefs about motivation and academic outcomes: A Pakistani university sample. *Journal of Educational Psychology in Pakistan*, 6(1), 32–45.
- Ahmad, R., Rahman, S., & Zafar, M. (2022). Parental expectations and extrinsic motivation in South Asian higher education. *Pakistan Journal of Educational Research*, 5(2), 44–59.
- Al-Harthy, I. S., Was, C. A., & Isaacson, R. M. (2022). Gender differences in academic motivation among Gulf students. *Educational Psychology*, 42(3), 214–230. <https://doi.org/10.1080/01443410.2021.1973049>
- Arshad, N., & Malik, R. (2023). AI-assisted learning and student motivation in Pakistani universities. *Technology in Education Journal*, 4(2), 76–88.

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Bashir, S., & Batoool, I. (2021). Parental pressure and academic stress: A motivational analysis. *Pakistan Journal of Psychological Research*, 36(3), 521–540.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bukhari, N. H., Akhtar, Z., & Ahmed, A. (2023). Motivation through discourse: A study of Pakistani classrooms. *International Journal of Language and Linguistics*, 11(1), 35–46.
- Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis. *Psychological Bulletin*, 140(4), 980–1008. <https://doi.org/10.1037/a0035661>
- Chen, K. C., & Jang, S. J. (2010). Motivation in online learning: Testing a model of self-determination theory. *Computers in Human Behavior*, 26(4), 741–752. <https://doi.org/10.1016/j.chb.2010.01.011>
- Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence. *Journal of Personality and Social Psychology*, 84(1), 97–110. <https://doi.org/10.1037/0022-3514.84.1.97>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer. <https://doi.org/10.1007/978-1-4899-2271-7>
- Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research*, 71(1), 1–27. <https://doi.org/10.3102/00346543071001001>
- Deci, E. L., Ryan, R. M., Connell, J. P., & Grolnick, W. S. (1992). A motivational analysis of self-determination and self-regulation in education. In A. Boggiano & T. Pittman (Eds.), *Achievement and motivation* (pp. 167–192). Cambridge University Press.
- Dewaele, J. M., & Li, C. (2020). Emotions in second language acquisition: A critical review and research agenda. *Foreign Language Annals*, 53(2), 343–362. <https://doi.org/10.1111/flan.12455>
- Efklides, A., & Vlachopoulos, S. (2012). Meta-motivation: Bridging the gap between motivation and self-regulated learning. In V. Caprara & M. Vecchione (Eds.), *Personalizing learning* (pp. 121–140). Routledge.
- Froiland, J. M., & Worrell, F. C. (2016). Intrinsic motivation, learning goals, engagement, and achievement in high school: An expectancy-value approach. *High School Journal*, 99(3), 171–193. <https://doi.org/10.1353/hsj.2016.0004>
- Howard, J. L., Bureau, J. S., Guay, F., Chong, J. X. Y., & Ryan, R. M. (2021). Student motivation and associated outcomes: A meta-analysis from self-determination theory. *Perspectives on Psychological Science*, 16(6), 1300–1323. <https://doi.org/10.1177/1745691620966789>
- Jang, H., Reeve, J., Ryan, R. M., & Kim, A. (2009). Can self-determination theory explain what underlies the productive, satisfying learning experiences of collectivistically oriented Korean students?. *Journal of Educational Psychology*, 101(3), 644–661. <https://doi.org/10.1037/a0014241>
- Kusurkar, R. A., Croiset, G., Galindo-Garré, F., & Ten Cate, O. (2013). Motivational profiles of medical students: Association with study effort, academic performance and exhaustion. *BMC Medical Education*, 13, 87. <https://doi.org/10.1186/1472-6920-13-87>
- Liu, Y., Wang, Z., & Li, Y. (2021). Cultural differences in academic motivation: A meta-analysis. *International Journal of Educational Research*, 109, 101866. <https://doi.org/10.1016/j.ijer.2021.101866>
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education*, 7(2), 133–144. <https://doi.org/10.1177/1477878509104318>
- Noels, K. A., Pelletier, L. G., Clément, R., & Vallerand, R. J. (2000). Why are you learning a second language? Motivational orientations and self-determination theory. *Language Learning*, 50(1), 57–85. <https://doi.org/10.1111/0023-8333.00111>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Raza, S., & Haider, S. (2023). Gender differences in academic motivation in Pakistan: A comparative study. *South Asian Journal of Educational Research*, 9(1), 45–59.

- Rasul, A., & Schwaiger, M. (2023). Autonomy-supportive education in South Asia: Evidence from Pakistan. *International Journal of Educational Reform*, 32(1), 14–29.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Ryan, R. M., & Deci, E. L. (2020). *Intrinsic motivation and self-determination in learning* (2nd ed.). Academic Press. <https://doi.org/10.1016/C2017-0-00709-5>
- Slemp, G. R., Kern, M. L., Patrick, K. J., & Ryan, R. M. (2024). Supporting motivation and well-being in higher education: Autonomy-supportive teaching practices. *Educational Psychologist*.
- Ushioda, E. (2001). *Language learning at university: Exploring the role of motivational thinking* [Doctoral dissertation, University of Warwick]. <https://wrap.warwick.ac.uk/50519/>
- Wang, T., Liu, Y., & Zhang, C. (2024).
- Zhou, M., & Wang, T. (2019). Academic motivation of Chinese students: Cultural influences and implications. *Asia Pacific Education Review*, 20(4), 543–553. <https://doi.org/10.1007/s12564-019-09592-2>

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