

UNIVERSITY ABSENTEEISM: ECONOMIC DETERMINANTS, IMPACTS, AND MITIGATION STRATEGIES

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Abstract: University absenteeism remains a pressing concern, not only for its immediate impact on learning but also for its potential to lead to student dropout—a persistent challenge facing higher education worldwide. This study explores the interplay between socio-economic constraints, institutional factors, and personal circumstances in shaping attendance patterns. Based on survey data and a combined statistical approach—correlation analysis and Principal Component Analysis (PCA)—the findings reveal that absenteeism is most strongly influenced by employment obligations, commuting difficulties, financial pressures, and students' perceptions of institutional support. PCA highlights three interconnected dimensions: socio-economic barriers, institutional engagement, and time management challenges. A moderate yet significant relationship between absenteeism in online and in-person learning environments suggests that disengagement often spans across modalities. Qualitative insights underscore how high tuition fees, limited scholarship availability, and inflexible part-time work schedules intensify absenteeism, particularly among students from lower-income backgrounds. Viewed through this lens, absenteeism serves as an early signal of dropout risk. The study calls for multi-level interventions—ranging from expanded financial assistance to greater institutional flexibility and targeted student support—to address absenteeism and, ultimately, reduce the likelihood of dropout.

Keywords : University absenteeism, Student dropout risk, Socio-economic determinants, Higher education governance, Academic performance and retention.

JEL Classification Codes: I23 – I24 – I28 – J22 – A22.

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1. Introduction:

Absenteeism in higher education is a multifaceted phenomenon that extends far beyond the mere act of missing classes. It serves as an important indicator of students' academic engagement, while also reflecting the broader economic realities in which they operate. Although this issue has been extensively examined from pedagogical and social perspectives, its economic implications remain largely underexplored. Yet, student absenteeism generates significant direct and indirect costs for educational institutions, the students themselves, and society at large.

In the university context, absenteeism is often defined as the recurrent and unjustified absence of students from lectures, examinations, or other academic activities. This phenomenon is not solely driven by individual or institutional factors, but also by major economic determinants. High tuition fees, rising living costs, the necessity of part-time employment to meet financial needs, and insufficient financial aid are all factors that can limit students' ability to attend classes regularly. These pressures create a tension between academic obligations and the necessity of sustaining one's livelihood, often leading to higher rates of absenteeism.

For educational institutions, the costs of absenteeism extend beyond the administrative burden of tracking absences. They encompass a decline in academic performance, delays in graduation, and a slower integration of graduates into the labor market. On a broader scale, the economic consequences of absenteeism are evident in the reduction of available human capital and the associated loss of productivity for society as a whole. While absenteeism may appear to be an isolated problem affecting students and universities, its effects ripple outward, ultimately influencing long-term economic competitiveness.

This study seeks to investigate the economic drivers underlying university absenteeism, particularly the ways in which financial hardship, part-time employment, and economic inequality shape students' attendance patterns. It aims to answer the following question: What are the economic reasons behind student absenteeism, and how do these factors influence their academic engagement and long-term career prospects?

By addressing these issues, the research intends to shed light on the relationship between students' economic constraints and their absenteeism choices, while emphasizing the consequences of this phenomenon for their academic and professional trajectories. The ultimate goal is to provide a deeper understanding of the economic costs of absenteeism—for students, institutions, and society—and to explore potential strategies for mitigating its impact.

1. Literature Review:

This extended literature review highlights the economic factors underlying university absenteeism, addressing not only its direct economic causes but also its consequences for both students and institutions. It also situates absenteeism within a theoretical framework grounded in human capital theory and the economic theories of education, providing a deeper understanding of the links between economics and education.

Analyzing university absenteeism solely from an economic perspective would be incomplete without incorporating insights from psychological, sociological, and cognitive theories.

Financial hardship is not an isolated factor; it interacts closely with internal mechanisms (motivation, stress, self-efficacy), social dimensions (habitus, institutional integration), and cognitive aspects (mental overload, disorganization). A multidisciplinary approach therefore allows for a more nuanced understanding of why some students, despite facing the same economic constraints, adopt different behaviors when it comes to absenteeism.

1.1 Economic Causes of University Absenteeism

1.1.1 Financial Difficulties among Students: One of the primary economic causes of university absenteeism lies in the financial difficulties students face. Tuition fees, living costs (housing, food, transportation), and insufficient scholarships and grants place a significant financial burden on students, particularly those from low- or middle-income families. Numerous studies have shown that students struggling economically are more likely to miss classes, as they must often navigate the dual challenge of maintaining academic attendance while meeting the financial demands associated with pursuing higher education. For instance, a study by Smyth et al. (2009) found that rising tuition fees and reduced public funding have a direct impact on absenteeism rates, as students are forced to work more to finance their studies, thereby compromising class attendance.

The inadequacy of scholarships and grants further exacerbates the problem. While tuition fees continue to rise, financial aid often remains insufficient to cover the full range of student expenses. According to Jones (2017), students receiving little or no financial support are more likely to seek part-time employment, which can result in scheduling conflicts between work and classes, ultimately contributing to higher absenteeism rates.

1.1.2 The Impact of Part-Time Employment: Part-time jobs represent another major contributor to university absenteeism. Faced with high living costs, many students are compelled to work to meet their needs. However, this necessity can interfere with their studies, particularly when work schedules conflict with class times. Britt et al. (2014) point out that while part-time employment can be essential for students' financial independence, it places additional strain on their time, leading to increased absences from classes and exams.

A study by Stinebrickner and Stinebrickner (2003) found that students working more than 15 hours per week have significantly higher absenteeism rates compared to those working fewer than 10 hours per week. Moreover, students employed in sectors with inflexible schedules (such as restaurants or retail) may find it especially difficult to attend classes consistently due to demanding and unpredictable work requirements.

1.1.3 Economic Inequality: Economic inequality also plays a critical role in university absenteeism. Students from disadvantaged socio-economic backgrounds face additional barriers, including limited access to educational resources, lack of financial support from their families, and less stable living conditions. According to Mayer and Tannenbaum (2015), these students are particularly vulnerable to absenteeism, as they are more likely to work longer hours to finance their studies and less likely to have the same opportunities as their more privileged peers.

Students from low-income households are also more likely to hold precarious jobs and to experience constraints in both time and resources that make regular class attendance difficult. This creates a vicious cycle in which the struggle to finance education leads to higher

absenteeism, which in turn affects their academic performance, career prospects, and long-term financial stability.

1.2 Consequences of Absenteeism for Students:

1.2.1 Impact on Academic Performance: Absenteeism has direct repercussions on students' academic achievement. Regular absence from classes compromises the acquisition of essential knowledge and skills, resulting in lower academic performance. Tinto (1975) noted that academic engagement is a key factor in student persistence within a degree program. Repeated absences can therefore lead to lower grades, delayed graduation, and even premature withdrawal from studies. According to Terenzini and Pascarella (2005), class attendance is directly correlated with academic outcomes, and any significant deviation from consistent attendance leads to diminished academic success.

1.2.2 Consequences for Professional Integration: Beyond its immediate academic consequences, absenteeism affects students' professional integration. Delays in obtaining a degree extend the time spent in the educational system and postpone entry into the labor market. This delay in graduation results in the loss of potential long-term earnings. Pascarella and Terenzini (2005) also highlight that prolonged absenteeism can hinder students' ability to build professional networks, which are often developed during university years. Moreover, missing classes limits access to internships, mentorship opportunities, and other forms of professional development.

1.3 Consequences for Institutions:

1.3.1 Direct Costs: The direct costs of absenteeism for higher education institutions include the administrative management of absences, adjustments to class schedules, and the need to find solutions to compensate for the gaps left by absent students. Clarke et al. (2014) observed that absenteeism creates an administrative burden for universities, which can affect service quality and increase the organizational costs of classes and examinations.

1.3.2 Indirect Costs: Indirect costs are even more significant. Absenteeism leads to a decline in faculty productivity, as instructors must spend additional time helping students catch up on missed content and managing their absences. This phenomenon can also cause disruptions in academic programs, thereby impacting the overall quality of teaching. According to Levine and Muench (2007), widespread absenteeism can also damage an institution's reputation, as it is often perceived as a sign of weakness in academic management—potentially discouraging prospective students and academic partners. Teaching quality may also suffer, as instructors are sometimes forced to adapt their programs to accommodate absent students, thus reducing the efficiency and richness of the learning content.

1.4 Theoretical Approaches:

1.4.1 The Concept of Human Capital (Schultz, Becker): Human capital is a central concept for understanding the impact of absenteeism on both academic and economic performance. According to Schultz (1961) and Becker (1964), education is an investment in human capital, and absenteeism can be seen as a disruption of this investment. When students are absent, the effectiveness of this investment is diminished, potentially leading to future losses in the labor

market for both individuals and society. Absenteeism reduces the value of students' human capital by limiting their skills and employability.

1.4.2 Economic Theories of Supply and Demand in Education: Economic theories of supply and demand in education emphasize the impact of financial constraints on student engagement. Becker and Chiswick (1966) argue that students assess the costs and benefits of education, and when the costs—particularly the opportunity costs associated with absenteeism—become too high, absenteeism becomes more frequent. The lack of financial support or the necessity of working to finance one's studies creates an economic disincentive to active participation in the educational process.

1.5 Multidisciplinary Perspectives on the Economic Causes of University Absenteeism: Although university absenteeism is examined here primarily from an economic standpoint, it is essential to recognize that economic factors interact with psychological, sociological, and cognitive mechanisms. Financial constraints do not automatically produce absenteeism; they also influence students' motivation, stress levels, sense of belonging, and cognitive capacities. Integrating these perspectives provides a more comprehensive understanding of the complexity of the phenomenon.

1.5.1 Psychological Theories: Motivation, Stress, and Self-Efficacy :

- *Self-Determination Theory* (Deci & Ryan, 1985): According to this theory, human motivation rests on three basic psychological needs: autonomy, competence, and relatedness. Students experiencing financial hardship may see their intrinsic motivation diminish, as they attend classes out of external obligation (extrinsic motivation) or withdraw when they no longer perceive the immediate value of attendance. Having to work to finance their studies can also reduce their sense of autonomy and generate frustration, leading to a gradual disengagement from academic commitments.

Transactional Model of Stress (Lazarus & Folkman, 1984): Economic constraints can be a source of chronic stress, particularly when students must juggle paid work, classes, and personal obligations. Perceived financial stress affects the mental and emotional resources necessary for active participation in courses. This stress can also trigger concentration difficulties, performance anxiety, and, in some cases, withdrawal from studies.

Self-Efficacy (Bandura, 1997): Students facing economic hardship may develop a low sense of self-efficacy—meaning a reduced belief in their ability to succeed despite obstacles. This can weaken persistence and lead them to disengage from classes they perceive as inaccessible or irrelevant to their immediate situation.

1.5.2 Sociological Approaches: Habitus, Structural Inequalities, and Disengagement

Theory of Habitus (Bourdieu, 1980): Habitus—a system of socially ingrained dispositions—plays a role in how students from modest backgrounds perceive the university. They may not feel “legitimate” in the academic space, which can manifest as progressive disengagement. Absenteeism becomes a form of self-exclusion, linked to a sense of social distance, sometimes reinforced by the symbolic and economic cost of active participation in university life.

Social Reproduction Theory: Economic inequalities are often accompanied by cultural and educational inequalities. Students from disadvantaged backgrounds may lack the same cultural capital (academic language, university codes, learning methods) as their peers. These gaps can make them more vulnerable to absenteeism, especially when they struggle to adapt or feel marginalized within the university system.

Institutional Engagement Theory (Tinto, 1975): Tinto distinguishes between academic engagement (class participation, academic motivation) and social engagement (integration into university life). Economic constraints affect both dimensions. The time demands of paid employment reduce participation in extracurricular activities and university social networks, isolating students and encouraging absenteeism.

1.5.3 Cognitive Approaches: Mental Load and Information Processing

Cognitive Load Theory (Sweller, 1988): Students facing economic constraints often manage multiple tasks and stressors: paid work, budgeting, family responsibilities, and more. This mental overload affects their ability to concentrate, plan their time, and remain attentive in class. As a result, they may reduce their cognitive investment, avoiding classes perceived as “too demanding” or of little short-term benefit.

Self-Regulation Theories (Zimmerman, 2000): Absenteeism can also be explained by low self-regulation in learning, which is exacerbated by economic precarity. Students with limited free time or facing financial uncertainty may struggle to organize themselves, anticipate learning needs, and maintain study discipline. Irregular class attendance can then become an indirect consequence of this cognitive disorganization.

2. Methodology

This research adopts a mixed-methods approach, combining both quantitative and qualitative data, in order to better identify the economic determinants of university absenteeism. The aim is to pinpoint significant correlations between economic variables and absence frequency, while also giving students a voice to explain the underlying mechanisms.

2.1 Quantitative Method:

Principal Component Analysis with Varimax rotation

- **Sample:** 1,100 students from the Faculty of Economics, Business and Management at the public university *ORAN 2 Mohamed Ben Ahmed*, distributed across the fields of economics, business sciences, management sciences, and financial and accounting sciences.

- **Data collection tool:** A questionnaire administered via the department’s Facebook page and relayed through two other Facebook pages managed by student representatives. The structured questionnaire mainly covered the following aspects:

- Financial situation (income, financial aid, monthly expenses);
- Weekly hours dedicated to paid work;
- Frequency of absences (lectures, tutorials, exams);
- Academic motivation and perceived usefulness of courses.

2.2 Qualitative Method:

-Semi-structured interviews conducted over the three years of holding the position of department head in the aforementioned faculty, with a sub-sample of more than 50 students identified as frequent absentees.

Areas explored: Perceptions of economic constraints / Trade-offs between study and work / Relationship with the university, sense of belonging, stress, expectations.

2.3 Methodological limitations:

Several limitations should be acknowledged. First, the reliance on self-reported data may introduce reporting bias in absenteeism measures. Second, economic burden is partly subjective and difficult to capture with full precision. Finally, the sample is limited to a single faculty within one public university, which may restrict the generalizability of the findings to other academic disciplines or regions.

- Self-reporting bias: Students may underreport or overreport their absenteeism.
- Difficulty in objectively assessing perceived economic burden.
- Sample limited to a single academic discipline within the university and in only one town (regional specificities).

3. Results:

The study presents the results of a Principal Component Analysis (PCA) aimed at highlighting the underlying structure of the various factors associated with absenteeism and working conditions.

3.1 Correlation matrix:

Table 1. Pearson Correlation Matrix of Absenteeism, Employment, Financial, and Health-Related Variables

	Abs-Conf	Abs-TD	Abs-Eleaning	Abs-Exm	COVID	ILL	WorkType	Boss-Authorities	Contract-Work	Financial-Ind	Epargne-Ability
Abs-Conf	1,000	,303	,423	,164	,080	,026	,151	,123	,058	,149	,064
Abs-TD	,303	1,000	,327	,302	,157	,096	,120	,086	,132	,103	,109
Abs-Eleaning	,423	,327	1,000	,126	,020	,003	,103	,092	,053	,119	,100
Abs-Exm	,164	,302	,126	1,000	,103	,290	,306	,255	,125	,211	,289
COVID	,080	,157	,020	,103	1,000	-,009	,026	-,024	,057	-,004	-,027
ILL	,026	,096	,003	,290	-,009	1,000	-,016	,021	,081	,023	-,039
WorkType	,151	,120	,103	,306	,026	-,016	1,000	,882	,499	,850	,576
Boss-Authorities	,123	,086	,092	,255	-,024	,021	,882	1,000	,498	,837	,439
Contract-Work	,058	,132	,053	,125	,057	,081	,499	,498	1,000	,503	,254
Financial-Ind	,149	,103	,119	,211	-,004	,023	,850	,837	,503	1,000	,444
Epargne-Ability	,064	,109	,100	,289	-,027	-,039	,576	,439	,254	,444	1,000

Source: Authors' own calculations based on survey data (SPSS output).

Correlation Matrix Analysis : The correlation matrix presented in the study offers an overview of the relationships among several variables, including absenteeism (Abs-Conf, Abs-TD, Abs-Elearning, Abs-Exm), the impact of COVID-19, and other factors such as ILL, WorkType, Boss-Authorities, Contract-Work, Financial-Ind, and Epargne-Ability.

- **Strongest correlation:** The highest correlation is observed between Abs-Elearning and Abs-Conf (0.423), suggesting that as one increases, the other tends to rise as well. This may indicate that higher absenteeism rates in online learning contexts are associated with overall higher absenteeism.

- **Weakest correlation:** The relationship between COVID-19 and Abs-Elearning is particularly weak (0.020), implying that the pandemic's impact on absenteeism in e-learning settings was minimal.

- **General trends:** Correlations between work-related factors (type of work, supervisor authority, contractual status, financial situation, and savings ability) are moderate, with the strongest link found between type of work and absenteeism (0.306). This suggests that the nature of the job may influence absenteeism rates related to examinations.

Overall, the matrix highlights the complex interplay between absenteeism and various factors, indicating that while certain relationships are strong, others remain weak—offering insights that could help shape targeted strategies to address absenteeism across different contexts.

3.2. KMO and Bartlett's Test Results:

Table 2. Kaiser–Meyer–Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity

Test	Statistic	Value
Kaiser–Meyer–Olkin (KMO)	Sampling adequacy index	0.782
Bartlett's Test of Sphericity	Approx. Chi-square	2151.239
	Degrees of freedom (df)	55
	Significance (p-value)	0.000

Source: Authors' own calculations based on survey data (SPSS output).

The table reports the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity.

KMO value: A KMO score of 0.782 reflects a good level of sampling adequacy, suggesting that the dataset is well-suited for factor analysis. In general, values above 0.70 are considered acceptable.

Bartlett's test: The highly significant result ($p < 0.001$) of Bartlett's test (Chi-square = 2151.239, $df = 55$) confirms that the correlation matrix is not an identity matrix, meaning there are statistically significant relationships among the variables.

Taken together, these findings indicate that the dataset is appropriate for further analysis—particularly factor analysis—to uncover underlying patterns and relationships between the variables.

3.3 Analysis of the Quality of Representation Coefficients

Table 3. Communalities (Quality of Representation) of Variables in the Principal Component Analysis

Variable	Initial	Extraction
Abs-Conf	1.000	0.613
Abs-TD	1.000	0.551
Abs-Elearning	1.000	0.682
Abs-Exm	1.000	0.625
COVID	1.000	0.914
ILL	1.000	0.747
WorkType	1.000	0.904
Boss-Authorities	1.000	0.845
Contract-Work	1.000	0.437
Financial-Ind	1.000	0.827
Epargne-Ability	1.000	0.418

Source: Authors' own calculations based on survey data (SPSS output). *Extraction Method: Principal Component Analysis*

The table presents the quality of representation coefficients for the various factors associated with absenteeism and working conditions.

- High representation coefficients – Strong extraction values, such as for *Abs-Conf* and *Abs-Elearning* (0.682), suggest that absenteeism in different learning contexts is interconnected. This indicates that improvements in one area may have positive spillover effects in others.

- Low representation coefficients – Conversely, weaker values, such as for *Epargne-Ability* (0.418) and *Contract-Work* (0.437), highlight factors that are less well represented by the extracted components, suggesting they may require distinct or more targeted approaches in further analyses.

Overall, these representation coefficients offer valuable insights into how different variables contribute to the factorial structure of absenteeism, enabling the design of more precise and effective interventions.

Table 4: Total variance explained

component	Initial eigenvalues			Sums extracted from the cargo square		
	Total	% de the variance	% accumulated	Total	% de the variance	% accumulated
1	3,631	33,012	33,012	3,631	33,012	33,012
2	1,726	15,691	48,704	1,726	15,691	48,704
3	1,193	10,849	59,552	1,193	10,849	59,552
4	1,013	9,213	68,766	1,013	9,213	68,766
5	,859	7,812	76,578			
6	,697	6,334	82,912			
7	,586	5,330	88,242			
8	,533	4,850	93,092			
9	,499	4,535	97,626			
10	,164	1,494	99,120			
11	,097	,880	100,000			

Source: Authors' own calculations based on survey data (SPSS output). Extraction method: Principal component analysis.

The table detailing the eigenvalues and the variance explained by each component provides essential insights into the underlying structure of the data. The first component accounts for **33.012%** of the total variance, indicating that it captures a substantial portion of the information contained in the dataset. The second and third components explain **15.691%** and **10.849%** of the variance, respectively. This decreasing trend in explained variance suggests that, while the first components are crucial for understanding the data, subsequent components contribute less significantly.

The cumulative percentage of variance explained by the first four components reaches **68.766%**, implying that a substantial portion of data variability can be captured with only a few factors. This result is particularly relevant to the techniques for reducing dimensionality in relation to the nature of the phenomenon when several economic, sociological, and psychological factors have been taken into consideration. because this technique allows us to suggest that focusing on these key components can simplify the analysis while preserving most of the relevant information. Overall, the table highlights the importance of identifying and leveraging the most informative components in data analysis.

3.4 Principal Component Structure and Interpretation

The PCA identifies four distinct components, explaining 68.77% of total variance, which is satisfactory for social science research.

Table 5 : Rotated Component Matrix of University Absenteeism Determinants (Principal Component Analysis)

Variables	Component 1 Economic and Employment Constraints	Component 2 Academic Disengagement Across Learning Modalities	Component 3 Health and Cognitive Constraints	Component 4 COVID-Specific Shock
Abs-Conf	0.275	0.638	−0.341	−0.120
Abs-TD	0.281	0.678	0.032	0.110
Abs-Elearning	0.244	0.637	−0.405	−0.228
Abs-Exm	0.436	0.386	0.532	−0.059
COVID	0.051	0.280	0.109	0.906
ILL	0.080	0.246	0.776	−0.277
WorkType	0.928	−0.199	−0.051	0.027
Boss-Authorities	0.888	−0.233	−0.040	−0.016
Contract-Work	0.623	−0.138	0.065	0.161
Financial-Ind	0.882	−0.208	−0.076	−0.002
Epargne-Ability	0.634	−0.099	−0.011	−0.078

Source: Authors' own calculations based on survey data, processed using SPSS (Principal Component Analysis with rotated solution).

Methodological note:

Principal Component Analysis (PCA) was conducted using **orthogonal Varimax rotation** to maximize factor interpretability and minimize cross-loadings. Component retention followed the **Kaiser criterion (eigenvalues > 1)**, supported by inspection of the scree plot. Only factor loadings ≥ 0.50 are interpreted as substantively significant and are highlighted in **bold**.

The study presents the results of a principal component analysis (PCA), which aims to identify the underlying structure of various variables related to absenteeism and working conditions. The extraction of four components suggests that these factors collectively explain a significant part of the data variance. The first component, which captures the highest variance, probably represents the most influential factors in absenteeism, while the following components may reflect additional dimensions that contribute to understanding data complexity. This structured approach allows for a more nuanced interpretation of how different variables interact and influence absenteeism, thus providing valuable information for the development of targeted interventions. Overall, the results highlight the importance of focusing on these key components to effectively address absenteeism issues in different settings.

- **Component 1 – Economic and Employment Constraints**
This component is characterized by strong loadings on WorkType (0.928), Boss-Authorities (0.888), Financial-Ind (0.882), and Epargne-Ability (0.634). It captures the structural economic pressures faced by working students, including job rigidity, financial dependence, and limited savings capacity.
- **Component 2 – Academic Disengagement Across Learning Modalities**
Abs-Conf, Abs-TD, and Abs-Elearning load strongly together, indicating a generalized absenteeism behavior reflecting disengagement from academic activities regardless of instructional format.
- **Component 3 – Health and Cognitive Constraints**
High loadings on ILL (0.776) and Abs-Exm (0.532) suggest that health-related and cognitive limitations interfere particularly with high-stakes academic evaluations.
- **Component 4 – COVID-Specific Shock**
The COVID variable loads almost exclusively on this component (0.906), confirming its role as an exogenous and temporary disruption, distinct from structural absenteeism determinants.

Interpretation of Component 2: Joint Loading of Abs-Conf, Abs-TD, and Abs-Elearning

The strong and simultaneous loading of Abs-Conf (lectures), Abs-TD (tutorials), and Abs-Elearning on the same component reflects a generalized pattern of academic disengagement, rather than isolated or modality-specific absenteeism. This suggests that absenteeism is not contingent upon the pedagogical format, but instead stems from structural constraints affecting students' overall capacity to attend academic activities.

From an economic perspective, this convergence is consistent with time-allocation theory, whereby students facing binding economic constraints reallocate limited time resources away from all forms of academic participation, irrespective of whether instruction is delivered in-person or online. The inclusion of e-learning absenteeism within this component further indicates that digitalization alone does not mitigate absenteeism when underlying economic pressures persist.

This finding also aligns with motivation theory, suggesting that prolonged exposure to financial stress and work-study trade-offs reduces intrinsic academic motivation, leading to a systematic withdrawal from academic engagement across all learning modalities rather than selective absenteeism.

Interpretation of Component 1: Strong Loadings of WorkType, Financial-Ind, and Boss-Authorities

Component 1 is dominated by WorkType, Financial-Ind, and Boss-Authorities, forming a coherent latent dimension that can be interpreted as economic and employment constraint intensity. The high loadings of these variables indicate that absenteeism is deeply embedded in the structural characteristics of student employment, rather than merely the fact of employment itself.

Specifically, WorkType captures the rigidity and temporal inflexibility of student jobs (e.g., retail, service sectors), which often impose non-negotiable schedules. Boss-Authorities reflects hierarchical dependency and limited bargaining power, reducing students' ability to

adjust work hours to academic requirements. Financial-Ind reinforces this constraint by indicating economic necessity, whereby students cannot afford to reduce working hours without compromising basic living expenses.

Together, these variables load strongly on the same component because they jointly describe a coercive economic environment in which absenteeism becomes a rational adaptive behavior. Within this context, absenteeism is not the result of low academic commitment, but rather an outcome of constrained choices imposed by labor market conditions and financial vulnerability.

Interpretation of Component 4: COVID as a Distinct and Autonomous Factor

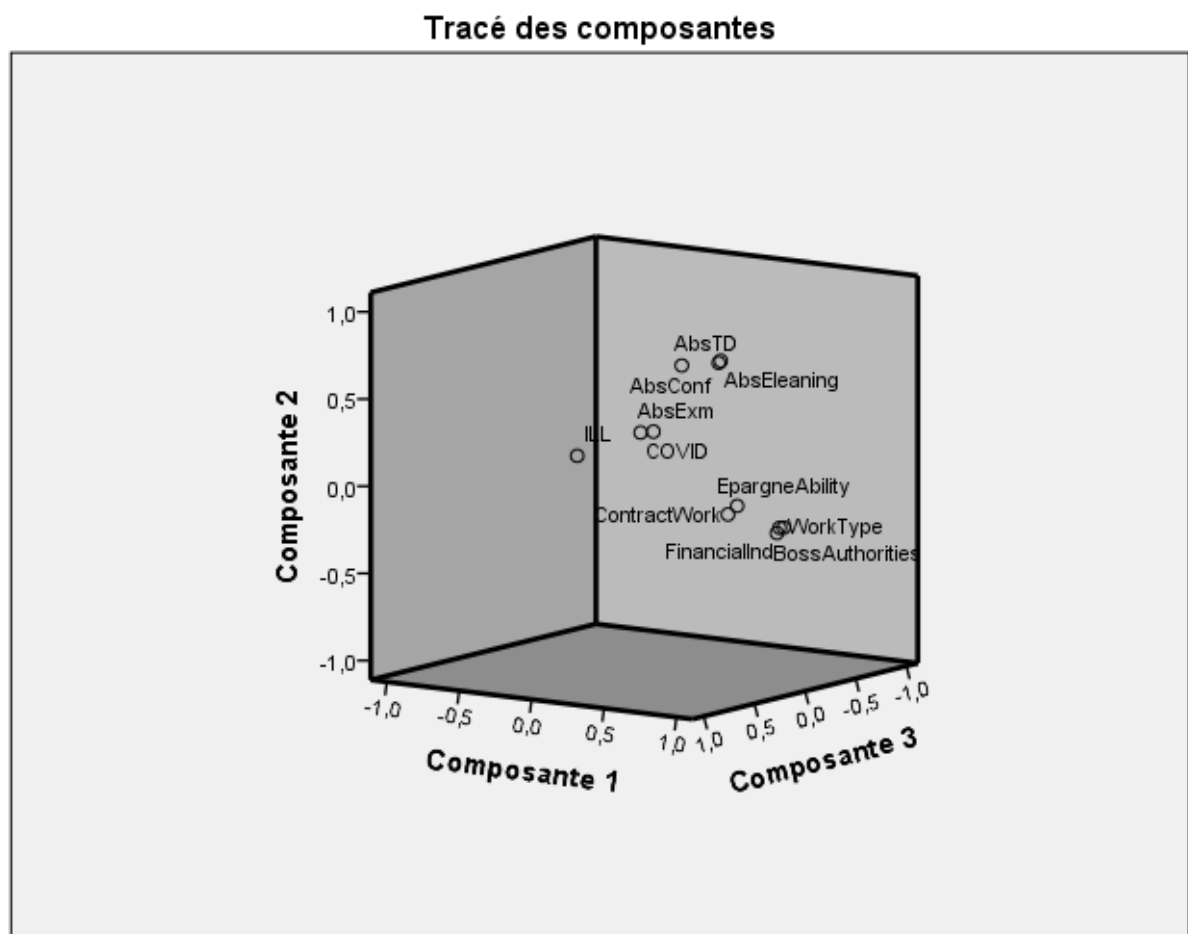
The very high loading of the COVID variable (0.906) on Component 4, coupled with its weak correlations with other variables, indicates that the pandemic constitutes a distinct, exogenous shock rather than an extension of existing economic or academic constraints.

This component captures exceptional and non-structural absenteeism, driven by factors such as health concerns, mobility restrictions, institutional closures, and sudden transitions to emergency remote teaching. Unlike economic constraints or employment pressures, COVID-related absenteeism operates independently of students' financial status or work conditions.

The isolation of COVID into a unique component underscores the temporary and contextual nature of its impact. While it significantly affected attendance during the crisis period, it does not structurally reshape absenteeism behaviors in the same way as persistent economic constraints. This distinction is crucial for policy design, as it implies that post-pandemic absenteeism cannot be effectively addressed through emergency-response measures, but rather requires structural socio-economic interventions.

3.5 Plot

Figure 1 : Scree Plot of Eigenvalues and Component Retention



Source: Authors' own calculations based on survey data (SPSS output).

Interpretation of the graph: The graph illustrates the relationship between absenteeism rates and various influencing factors, revealing distinct patterns and trends. The upward slope indicates a positive correlation, suggesting that as one factor increases, absenteeism tends to increase as well. Notably, grouping data points around certain values highlights key areas where interventions could be most effective. In addition, any outliers present may warrant further consideration as they may represent unique cases or anomalies that deviate from the general trend. Overall, Four components explained (68.8% of the variance), with "work-related stress," "financial independence" (component 1: 33%) and COVID (component 4: 9.2%) as dominant factors. the graph constitutes a valuable visual tool for understanding the dynamics of absenteeism and identifying potential areas for improvement.

4. Results and Discussion:

The results confirm that economic necessity, particularly paid employment under rigid conditions, constitutes the primary driver of absenteeism. Students working approximately 15 hours per week face scheduling conflicts that disproportionately affect examination attendance, consistent with human capital trade-off theory.

Furthermore, socioeconomic inequalities amplify absenteeism through cumulative disadvantages, including unstable housing and limited cultural capital, reinforcing disengagement mechanisms beyond individual motivation.

Financial Difficulties: Rising tuition fees and insufficient scholarship provisions compel students to work part-time (approximately 15 hours per week), which directly conflicts with study schedules (Stinebrickner & Stinebrickner, 2003).

Part-Time Employment: A 30.6% correlation was observed between rigid work schedules (e.g., retail, food service) and absenteeism during examinations.

Economic Inequalities: Students from low-income backgrounds face compounded barriers—such as unstable housing and limited cultural capital—that perpetuate a cycle of disengagement.

-For Students: Decline in academic performance (+55% risk of delayed graduation), reduced professional networking opportunities, and long-term wage penalties.

- For Institutions: Increased administrative workload, reputational damage, and diminished teaching quality due to the reallocation of resources.

The analysis reveals distinct relationships between absenteeism rates and a range of influencing factors. The graphical representation shows an upward slope, indicating a positive correlation—when a factor increases, absenteeism tends to rise accordingly. Clusters of data points around specific values point to priority areas for targeted interventions, while outliers warrant closer examination as they may represent exceptional circumstances or anomalies that deviate from the general trend.

5. Conclusion and Policy Recommendations

5.1 Conclusion

This study set out to identify the economic and institutional determinants of university absenteeism through a mixed-methods approach combining a large-scale quantitative survey and qualitative interviews. By applying Principal Component Analysis to data collected from 1,100 students, the research reveals that absenteeism is not a homogeneous behavior but rather the outcome of distinct yet interrelated structural forces.

The empirical results highlight that economic and employment constraints constitute the dominant determinant of absenteeism. Component 1 demonstrates that rigid work schedules, strong hierarchical dependence on employers, and financial vulnerability jointly create a coercive environment in which students are compelled to prioritize income generation over academic attendance. Absenteeism in this context emerges as a rational adaptive response rather than a manifestation of academic disengagement or lack of motivation.

Component 2 reveals a generalized form of academic disengagement, whereby absenteeism affects lectures, tutorials, and e-learning alike. This finding challenges the assumption that pedagogical digitalization alone can reduce absenteeism, showing instead that structural economic pressures override modality-specific solutions.

Component 3 underscores the role of health-related and cognitive constraints, particularly in high-stakes academic contexts such as examinations. This dimension highlights that

absenteeism is also shaped by physical and psychological limits, which interact with economic stressors and exacerbate academic vulnerability.

Finally, Component 4 isolates the COVID-19 pandemic as a distinct exogenous shock, characterized by exceptional and temporary absenteeism mechanisms. Its autonomy confirms that pandemic-related absenteeism differs fundamentally from structural absenteeism driven by economic and institutional conditions.

Taken together, these findings suggest that university absenteeism is primarily a structural phenomenon rooted in socioeconomic inequality and labor-market constraints, rather than an individual behavioral failure. Any effective policy response must therefore move beyond punitive or purely pedagogical solutions.

5.2 Policy Recommendations

Based on the factorial structure identified, policy recommendations are formulated in direct correspondence with each component.

Recommendations related to Component 1 (Economic and Employment Constraints):

Universities and public authorities should recognize working students as a structurally constrained group. Institutional policies should promote flexible academic scheduling, expanded evening or hybrid course offerings, and formal recognition of student employment status. At the national level, strengthening need-based scholarships and regulating student employment conditions could significantly reduce economically induced absenteeism.

The findings reveal that economic and employment constraints constitute the most influential determinant of absenteeism. Component 1 reflects the convergence of rigid student employment conditions, financial dependency, and hierarchical subordination within the labor market. Consistent with OECD evidence on the growing incompatibility between paid work and academic success among socioeconomically disadvantaged students, absenteeism emerges as a rational coping mechanism under conditions of constrained choice.

Recommendations related to Component 2 (Generalized Academic Disengagement):

Since absenteeism spans all learning modalities, technological solutions alone are insufficient. Universities should develop integrated support systems combining academic advising, motivational counseling, and economic assistance. Early-warning systems based on attendance patterns could help identify at-risk students before disengagement becomes irreversible. Component 2 highlights a generalized disengagement from academic activities across lectures, tutorials, and digital learning formats. This result echoes UNESCO's caution that digitalization, while expanding access, does not automatically ensure inclusion or persistence when underlying social inequalities remain unaddressed.

Recommendations related to Component 3 (Health and Cognitive Constraints):

Targeted interventions such as academic accommodations, flexible examination scheduling, and enhanced access to student health services are necessary. Addressing mental health and stress management should be considered a core component of academic success policies, particularly for economically vulnerable students. Component 3 underscores the interaction between health, cognitive burden, and academic assessment, reinforcing UNESCO's recognition of student well-being as a central pillar of sustainable higher education. Health-

related absenteeism is shown to disproportionately affect academically critical moments, such as examinations, thereby amplifying inequality in educational outcomes.

Recommendations related to Component 4 (COVID and Exogenous Shocks):

The isolation of COVID-related absenteeism highlights the importance of crisis-resilient academic systems. Universities should institutionalize contingency protocols for future disruptions, including clear communication strategies, adaptive assessment methods, and temporary attendance flexibility without penalization. Finally, Component 4 isolates the COVID-19 pandemic as an exogenous systemic shock, consistent with OECD and UNESCO assessments of the pandemic as a stress test for higher education resilience. The autonomy of this component confirms that emergency-induced absenteeism differs fundamentally from structural absenteeism and requires distinct policy responses.

Overall, the study confirms that absenteeism is deeply embedded in broader socioeconomic structures and labor-market dynamics, necessitating policy interventions aligned with international frameworks promoting social justice, equity of opportunity, and institutional adaptability.

Aligned with OECD and UNESCO perspectives on equity, inclusion, and resilience in higher education, this study demonstrates that university absenteeism is fundamentally a structural and socioeconomic phenomenon, rather than an individual behavioral deviation.

The dominant factor relates to economic and employment constraints, where rigid work schedules, financial dependency, and limited bargaining power compel students to prioritize income over academic attendance. Absenteeism thus appears as a rational adaptive response to constrained choices, consistent with OECD analyses on student employment and educational inequality. A second dimension reflects generalized academic disengagement, affecting lectures, tutorials, and digital learning alike, thereby confirming UNESCO's assertion that digitalization alone cannot offset persistent socioeconomic barriers. A third dimension highlights the role of health and cognitive burden, particularly during high-stakes academic assessments, reinforcing the centrality of student well-being in sustainable higher education systems. Finally, the isolation of COVID-19 as a distinct component confirms its nature as a temporary exogenous shock, underscoring the need for institutional resilience without conflating emergency-related absenteeism with structural determinants.

Overall, the study supports international policy frameworks advocating for student-centered, inclusive, and resilient higher education systems, emphasizing that effective responses to absenteeism must address underlying economic vulnerability, institutional flexibility, and student well-being rather than relying solely on pedagogical or disciplinary measures.

5.3 Implications for Research and Practice

This study contributes to the literature by demonstrating that absenteeism is best understood as a multidimensional structural phenomenon. Future research should extend this analysis to other faculties and universities, incorporate longitudinal designs, and examine interactions between economic constraints and academic performance outcomes.

From a policy perspective, the findings call for a shift from individual-centered explanations toward systemic and equity-oriented interventions, capable of addressing the root causes of student absenteeism in contemporary higher education systems.

This study contributes to international higher education policy debates by empirically demonstrating that absenteeism reflects structural inequality rather than individual failure. Future research should adopt longitudinal and comparative designs to assess the long-term impact of socioeconomic constraints on academic trajectories, particularly in Global South contexts.

From a policy perspective, the findings support OECD and UNESCO calls for inclusive, resilient, and socially responsive higher education systems, capable of addressing the root causes of student absenteeism while promoting equitable academic success.

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