



Supportive and controlling teacher authority, academic voice, and self-regulated learning among undergraduates at a Saudi public university

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Abstract

Using an explanatory sequential mixed-methods design, this study examined whether undergraduates' retrospective perceptions of psychologically controlling teaching during school were associated with their current academic voice and self-regulated learning. It also explored how students interpreted supportive and controlling enactments of teacher authority during the transition to higher education. Quantitative data were collected from 312 students through a 30-item Arabic questionnaire. The psychological-control domain was reverse-scored, so higher scores indicated lower perceived control. Next, 18 students were purposively selected from a separate, unlinked volunteer pool, with maximum variation sought across gender, college or discipline, and year of study. Their semi-structured Arabic interviews were analysed using reflexive thematic analysis. Higher reverse-scored psychological-control scores were associated with stronger academic voice ($r = .46$, $\beta = .46$, $p < .001$, $R^2 = .21$) and self-regulated learning ($r = .42$, $\beta = .42$, $p < .001$, $R^2 = .18$). In the interviews, supportive authority was characterised by clarity, fairness, responsiveness, and respectful correction, whereas controlling authority involved pressure, public criticism, and restricted dialogue. Integration showed how the qualitative accounts explained and qualified these group-level associations by connecting authority with the perceived safety or risk of participation and with internally or externally directed responsibility. Because these interpretive patterns were not measured quantitatively, they should not be read as tested mediators. Overall, the findings distinguish lower psychological control from supportive or legitimate authority and support a relational, context-sensitive, and non-causal account of pedagogical authority that recognises variation among Saudi undergraduates.

Keywords: Academic voice; Higher education transition; Pedagogical authority; Psychological control; Saudi Arabia; Self-regulated learning

1. Introduction

Students arrive at university with more than subject knowledge. They also carry expectations, formed through earlier schooling, about who may speak, how disagreement will be received, and where responsibility for learning resides. These expectations become especially consequential in higher education, where students are expected to enter academic dialogue, exercise judgement, and manage their learning with less direct supervision. Developmental scholarship likewise treats schools as settings in which patterns of motivation and participation take shape, while transition research indicates that earlier educational experiences can influence how subsequent choices and demands are approached (Eccles & Roeser, 2011; Germeijs & Verschueren, 2007).

Teacher authority is central to these experiences, but it should not be equated with control. It encompasses the teacher's institutional position and pedagogical responsibility, as well as the legitimacy negotiated through classroom relationships. Pace and Hemmings (2007) describe classroom authority as contextually and interactionally constituted rather than as a single, stable property. Authority can therefore organise learning and sustain productive relationships, as research on teacher-student relationships suggests (Wentzel, 2012), or it can be exercised through pressure and constrained dialogue. Arab scholarship similarly frames teacher authority in ethical as well as disciplinary terms, drawing attention to the manner in which power is used (Laidani & Ait Aissa, 2024).

Self-Determination Theory clarifies an important part of this distinction. Practices based on pressure, restricted choice, or suppression of students' perspectives may frustrate autonomy, whereas clear structure delivered responsively can support engagement (Assor et al., 2002; Deci & Ryan, 2000; Reeve, 2012; Soenens et al., 2012). Thus, autonomy-supportive teaching does not imply

an absence of authority. Teachers may set explicit expectations while still acknowledging students' perspectives and explaining the reasons behind those expectations (Reeve & Cheon, 2021). Self-Determination Theory does not, however, fully explain why students regard a teacher's authority as legitimate. A pedagogical-authority perspective complements it by foregrounding expertise, responsibility, fairness, and the power relationship between teachers and students (Pace & Hemmings, 2007).

How authority is enacted may shape both academic voice and self-regulated learning. Academic voice refers to students' sense that they are entitled and willing to contribute to academic discourse, not simply to whether they are given an opportunity to speak (Cook-Sather, 2006, 2020; Mitra, 2004). Reviews of student voice similarly show that participation depends on whether teachers and institutions regard students' contributions as consequential (Gillett-Swan & Baroutsis, 2024; Matthews & Dollinger, 2023). Self-regulated learning, in contrast, comprises forethought, strategic action, monitoring, and reflection. Social cognitive and self-regulation theories situate these processes within reciprocal relationships among learners, behaviour, and learning environments (Bandura, 2001; Pintrich, 2004; Zimmerman, 2000, 2002). Empirical reviews also link self-regulatory strategies to learning outcomes across educational settings (Broadbent, 2017; Broadbent & Poon, 2015; Panadero, 2017).

The intersection of these constructs is especially relevant in Saudi Arabia, although the context should not be reduced to a homogeneous "collectivist" student profile. Classic cultural frameworks identify broad patterns of hierarchy and interdependence (Hofstede, 1980, 2001; Markus & Kitayama, 1991; Triandis, 1995), yet considerable variation exists within countries and in the ways interdependence is expressed across contexts (Oyserman, 2017). Research in Arab settings further indicates that interdependence can coexist with self-assertion (San Martin et al., 2018). Accordingly, this study treats culture as a sensitising context rather than a fixed attribute of Saudi students. Within this context, teacher authority may carry connotations of respect, moral responsibility, and social order (Aljughaiman & Grigorenko, 2013). Saudi Vision 2030 also emphasises initiative, independent character development, a modern skills-focused curriculum, and stronger alignment between education and social and labour-market priorities (Council of Economic and Development Affairs, 2016). These priorities make participation and self-directed learning increasingly salient. At the same time, concerns about lecture dominance or restricted questioning require empirical examination rather than being assumed to characterise Saudi education as a whole. Reform is also unfolding amid challenges related to technology integration, culturally situated responses to change, policy transfer, and curriculum alignment across Saudi and Gulf systems (Alghamdi & Holland, 2020; Al Lily et al., 2020; Romanowski et al., 2018, 2024).

The transition from school to university brings these contextual tensions into sharper focus. Students interpret new expectations partly through memories of earlier classrooms, yet retrospective reports are reconstructions rather than direct records of past teaching (Schwarz & Sudman, 1996; Tourangeau et al., 2000). Educational pathways are also shaped by individual dispositions, career decision processes, programme conditions, and labour-market expectations (Germeijs & Verschueren, 2007; Yasin et al., 2024; Zidi & Al-Shallagi, 2024). Prior experiences of authority should therefore be considered one influence within a broader developmental and institutional ecology, not a deterministic cause of later behaviour.

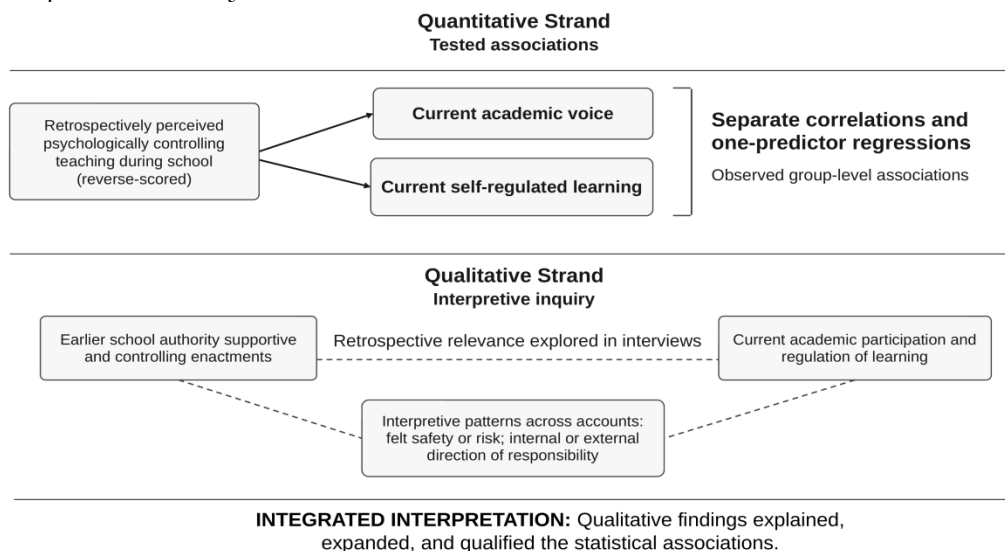
Although these bodies of scholarship intersect conceptually, their empirical agendas have remained largely separate. Research on classroom authority has emphasised order, legitimacy, and relational power (Pace & Hemmings, 2007); student voice scholarship has focused on participation, representation, and partnership (Gillett-Swan & Baroutsis, 2024); and studies of self-regulated learning have concentrated mainly on learners' strategies, motivation, and performance (Panadero, 2017). Consequently, evidence about connections across educational stages remains limited. In particular, little is known about how earlier psychologically controlling teaching relates to later academic voice and self-regulated learning, how students interpret authority across school and university, how these relationships are situated in Saudi and Gulf education, or how explanatory mixed methods can connect these questions.

The present study addresses this gap through a deliberately differentiated framework. In the quantitative strand, the study operationalises students' retrospective perceptions of psychologically controlling teaching and tests their associations with current academic voice and self-regulated learning. The qualitative strand examines the broader construct of pedagogical authority, including supportive and controlling enactments and the legitimacy students attribute to them. Felt safety when speaking and the internalisation of responsibility are used only to describe interpretive patterns that emerged in the interviews; neither was measured quantitatively or specified as a mediator.

Against this background, the study asks whether undergraduates' retrospective perceptions of psychologically controlling teaching during school are associated with their present academic voice and self-regulated learning, and how they interpret different enactments of authority during the transition to university. An explanatory sequential mixed-methods design enables the statistical associations to be examined first, then explained, expanded, and qualified through participants' accounts (Creswell & Plano Clark, 2018). Figure 1 separates the tested quantitative relationships from the qualitative interpretive strand.

Figure 1

Conceptual and Analytic Framework



Note. The upper panel shows the tested quantitative associations, whereas the lower panel presents qualitative interpretive patterns. The qualitative patterns were not statistically tested and do not imply mediation or causal pathways.

1.1. Research Questions

The quantitative and qualitative strands address complementary levels of the problem. The first two questions concern the measured construct of psychologically controlling teaching, whereas the final two address students' broader interpretations of pedagogical authority and educational transition:

RQ 1) What is the association between university students' retrospective perceptions of psychologically controlling teaching during school and their current academic voice?

RQ 2) What is the association between university students' retrospective perceptions of psychologically controlling teaching during school and their current self-regulated learning?

RQ 3) How do university students describe and interpret different enactments of teacher authority during their earlier schooling?

RQ 4) How do students understand the relevance of these experiences to their current academic participation and regulation of learning?

2. Method

2.1. Research Design

The study followed an explanatory sequential mixed-methods design: quantitative data were collected and analysed first, after which qualitative interviews were conducted and the two strands were integrated (Creswell & Plano Clark, 2018). This design suited a problem that required both estimates of association and an account of how students understood earlier experiences of authority in relation to their current participation and regulation of learning.

The quantitative strand examined two associations involving a retrospective measure of psychological control, academic voice, and self-regulated learning. The subsequent qualitative strand widened the focus from psychological control to students' accounts of supportive and controlling pedagogical authority. It was intended to explain the conditions participants attached to the statistical patterns, extend aspects not represented in the questionnaire, and identify qualifications or contrasting interpretations.

Connections between the phases were established through their sequence, the focus of the interviews, and the final interpretation. Preliminary quantitative patterns informed the emphasis of follow-up probes, while a joint display and narrative comparison supported integration of the two datasets. Section 2.6.1 explains more fully how the quantitative results shaped the interview emphasis and why participant selection could not be based on survey scores.

The design also maintained an essential conceptual distinction. The survey operationalised a specific form of psychologically controlling teaching; the interviews, by contrast, examined the wider meanings students attributed to authority, including structure, legitimacy, fairness, expertise, and relational responsibility. The qualitative accounts were therefore used to interpret and qualify group-level associations, not to verify individual questionnaire responses or establish a causal sequence across educational stages.

2.2. Context and Participants

The study was conducted at a large public university in Saudi Arabia and included undergraduates from several colleges and disciplines. Participants were 18–23 years old, the age range typical of undergraduate study. At the institution, male and female students are taught in separate sections. This gender-segregated structure formed part of the context considered when interpreting participation and classroom interaction.

Quantitative data were collected through an electronic questionnaire distributed via institutional email and the student portal. Participation was voluntary. Because the invitation circulated through open institutional channels, the number of students who received it could not be established and a response rate was not calculated. The resulting sample was therefore voluntary and self-selected rather than probability-based. Of the 352 responses initially received, 40 contained more than 10% missing questionnaire items and were excluded during screening. The final analytic sample comprised 312 undergraduates: 162 male and 150 female students. Participants came from a broad range of colleges and majors in the sciences and humanities. These characteristics were used as contextual descriptors rather than grouping variables because the analyses focused on overall associations, not subgroup comparisons.

For the qualitative phase, 18 students were purposively selected from a separate pool of volunteers created through the unlinked contact form. Maximum variation sampling sought breadth across gender, college or discipline, and year of study rather than statistical representativeness (Palinkas et al., 2015). The sample included nine male and nine female students from 13 colleges and covered all undergraduate years. Table 1 provides each participant's anonymised code, gender, college or discipline, and year of study. Only the descriptors needed to demonstrate maximum variation are reported, and no direct identifiers are included. Recruitment for the interviews remained unlinked to questionnaire scores.

Table 1
Characteristics of Interview Participants (N = 18)

<i>Participant</i>	<i>Gender</i>	<i>College or discipline</i>	<i>Study year</i>
S.1	Male	Medicine	4
S.2	Female	Medicine	3
S.3	Male	Applied Medical Sciences	5
S.4	Female	Pharmacy	2
S.5	Female	Nursing	3
S.6	Female	Nursing	4
S.7	Male	Engineering and Architecture	3
S.8	Male	Computing	2
S.9	Male	Sciences	1
S.10	Female	Sciences	3
S.11	Male	Business and Economics	4
S.12	Male	Shari'ah and Islamic Studies	1
S.13	Male	Da'wa and Islamic Theology	2
S.14	Female	Education	3
S.15	Female	Education	1
S.16	Male	Social Sciences	4
S.17	Female	Social Sciences	2
S.18	Female	Designs and Arts	3

Note. Participant codes are anonymised. The table reports the gender, college or discipline, and year of study of all 18 interview participants. Recruitment for the interviews remained unlinked to questionnaire scores.

2.3. Quantitative Instrument

Quantitative data were gathered with a structured, 30-item Arabic self-report questionnaire covering three domains: retrospective perceptions of psychologically controlling teaching during school, current academic voice, and current self-regulated learning. Items within each domain were designed or adapted with reference to the theoretical, empirical, and measurement literature cited below, then refined for relevance to Saudi higher education. Because the instrument did not reproduce any existing measure in full, it is best understood as an adapted, theory-informed measure rather than a newly established standalone scale.

The 10-item psychologically controlling teaching during school domain was informed by Self-Determination Theory and previous research on autonomy-suppressing and psychologically controlling teaching. Its items addressed pressure, restricted autonomy, and limited opportunities for students to express their perspectives (Assor et al., 2002; Deci & Ryan, 2000; Reeve, 2012; Soenens et al., 2012). This operational definition is narrower than the qualitative concept of teacher authority, which also encompassed structure, legitimacy, fairness, expertise, and relational responsibility. The domain was not intended to portray authority itself as inherently negative or authoritarian.

Academic voice was assessed with 10 items addressing students' perceived opportunities and sense of legitimacy to express ideas and participate meaningfully in academic dialogue. Item design and wording drew on student voice scholarship, in which voice entails recognised contribution rather than merely an opportunity to speak (Cook-Sather, 2006, 2020; Mitra, 2004).

Self-regulated learning was measured with 10 items addressing goal setting, monitoring, strategic action, and reflection. Some were adapted from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich et al., 1991). The domain was also informed by social cognitive theory, particularly its view of learners as agentic participants in reciprocal personal, behavioural, and environmental relationships, and by cyclical models in which learners plan, monitor, and regulate their activity (Bandura, 2001; Pintrich, 2004; Zimmerman, 2000, 2002).

All items used a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A domain score was calculated as the arithmetic mean of its 10 items, allowing comparison across constructs. Psychological-control items were reverse-scored before analysis; thus, higher composite

scores represent lower perceived psychological control, not greater classroom structure, autonomy support, supportive authority, or authoritarianism. Before the main study, a randomly selected pilot sample of 39 undergraduates completed the questionnaire to evaluate item clarity, coherence, linguistic comprehensibility, and contextual appropriateness. These students were not included in the main sample. Their feedback and the specialists' review prompted minor changes to item wording and order.

2.4. Validity and Reliability

Content validity was addressed by grounding item development and adaptation in established conceptual and measurement traditions for psychological control, academic voice, and self-regulated learning (Cook-Sather, 2006, 2020; Deci & Ryan, 2000; Mitra, 2004; Pintrich, 2004; Pintrich et al., 1991; Reeve, 2012; Zimmerman, 2002). Five specialists in educational psychology and higher education subsequently reviewed the domains for conceptual alignment, wording, linguistic clarity, and contextual suitability. Minor revisions were made before administration.

A confirmatory factor analysis (CFA) was conducted in IBM SPSS Amos 25 using maximum likelihood estimation with the full sample ($N = 312$) to evaluate the proposed three-factor structure. Overall model fit was acceptable: $\chi^2(402) = 748.26$, $p < .001$, $\chi^2/df = 1.86$, CFI = .928, TLI = .921, RMSEA = .054 (90% CI [.047, .061]), and SRMR = .049 (see Table 2). Consistent with Hu and Bentler (1999), these indices were considered jointly rather than treated as rigid, independent cutoffs.

Table 2

Confirmatory Factor Analysis Fit Indices for the Three-Factor Measurement Model (N = 312)

Fit Index	Value	Interpretation
$\chi^2(df)$	748.26 (402)	Not applicable
p	< .001	Significant (common in large samples)
χ^2/df	1.86	Excellent
CFI	.928	Good
TLI	.921	Good
RMSEA	.054	Acceptable to good
90% CI (RMSEA)	[.047, .061]	Acceptable
SRMR	.049	Excellent

Note. χ^2 = chi-square statistic; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardised root mean square residual. A significant χ^2 is common in moderate to large samples and should be interpreted alongside the other indices.

Standardised factor loadings ranged from .56 to .83 across the three domains, indicating acceptable relationships between the items and their proposed factors. Composite reliability ranged from .86 to .89, above conventional thresholds. Average variance extracted was .50 for reverse-scored psychological control, .51 for academic voice, and .52 for self-regulated learning (Fornell & Larcker, 1981; see Table 3). Together, these findings provide evidence of convergent validity in the present sample.

Table 3

Standardised Factor Loadings, Composite Reliability, and Average Variance Extracted

Construct	Standardised Loadings	CR	AVE	Interpretation
Psychological Control (reverse-scored)	.57–.81	.87	.50	Good
Academic Voice	.56–.79	.86	.51	Good
Self-Regulated Learning	.59–.83	.89	.52	Good

Note. CR = composite reliability; AVE = average variance extracted. Loadings for reverse-scored psychological control ranged from .57 to .81, whereas those across all domains ranged from .56 to .83. All CR values exceeded .70, and each AVE value was at least .50.

Internal consistency was also satisfactory. Cronbach's α was .87 for reverse-scored psychological control, .81 for academic voice, and .88 for self-regulated learning. The factor

structure and reliability estimates therefore support use of the three domain scores in this study. They do not, however, establish the questionnaire as a comprehensive or independently validated measure of pedagogical authority, because the quantitative authority-related domain was intentionally limited to psychologically controlling teaching.

2.5. Qualitative Instrument

Qualitative data were generated through a semi-structured Arabic interview guide exploring students' retrospective experiences of teacher authority and the ways they understood those experiences in relation to current academic voice and self-regulated learning. This format complemented the association results while allowing participants to convey the meanings of their educational experiences within particular cultural and institutional settings. It also ensured sufficient consistency across interviews (Creswell & Poth, 2018).

The core guide was developed before quantitative data collection from the conceptual framework and relevant literature on teacher authority, student voice, and self-regulated learning. Questions covered three connected areas: experiences of authority during schooling, participation and academic voice in higher education, and strategies for managing learning responsibilities. This organisation aligned the interviews with the research questions while allowing participants to relate earlier classroom experiences to current practices without presuming a causal connection.

Participants described how teachers organised classroom interaction, whether they encouraged questions and differing perspectives, and how they responded to mistakes and initiative. They also considered how these experiences had been remembered over time. Further questions addressed participants' present willingness to contribute to academic dialogue, their approaches to planning and regulating university learning, and any continuity or discontinuity they perceived between school and university. The semi-structured format provided systematic coverage while leaving space for personally meaningful and contrasting accounts.

The guide permitted flexible probing for clarification and interpretive depth. Once the preliminary quantitative analysis was complete, greater emphasis was placed on circumstances that made speaking feel safe or risky, the distinction between clear structure and pressure, the development of independent study habits, and adjustment to less directive university learning. No substantive core question was added. In this way, the probes connected the phases without turning the interviews into an exercise in confirming the questionnaire results.

2.6. Data Collection and Phase Connection

Data were collected during the second semester of the 2025–2026 academic year. In the first phase, the anonymous online questionnaire was circulated through institutional email and the student portal. An electronic information sheet explained the study, the voluntary nature of participation, confidentiality, and consent. A separate contact form shown after the questionnaire invited volunteers for follow-up interviews. It collected contact information and the sampling descriptors of gender, college or discipline, and year of study, but remained unlinked to questionnaire responses.

Several weeks later, 18 selected volunteers completed confidential, semi-structured interviews in Arabic. Interviews with male students were conducted face-to-face; those with female students took place remotely via Zoom in accordance with the university's approved procedures for gender-segregated research. The same semi-structured Arabic guide was used in every interview. Sessions lasted approximately 30–40 minutes, were audio-recorded with consent, and were transcribed verbatim in Arabic. Identifying information was removed during transcription. Recurring patterns were evident after approximately 15 interviews, while the final three helped refine the range and boundaries of the themes rather than introducing substantially different categories.

2.6.1. Connecting the quantitative and qualitative phases

Preliminary correlations and one-predictor regression models indicated that lower psychological control, reflected in higher reverse-scored values, was associated with both academic voice and

self-regulated learning. These patterns directed greater attention in the follow-up probes to participation, responsibility, and transition. They did not change the guide's core questions, nor was any question introduced solely to reproduce a statistical result.

Because the anonymous questionnaire and contact form could not be linked, selection for the qualitative phase was not based on survey scores. High, medium, low, unusual, or quantitatively contrasting profiles could neither be identified nor sampled deliberately. Maximum variation was based solely on gender, college or discipline, and year of study. During integration, themes were compared with each quantitative association to assess whether the qualitative evidence explained, expanded, qualified, or challenged the statistical pattern.

2.7. Data Analysis

The quantitative and qualitative datasets were analysed separately before being integrated through a joint display and narrative weaving during interpretation (Fetters et al., 2013). This sequence protected the analytic integrity of each strand while making their points of connection and qualification explicit.

Descriptive statistics, correlations, and regression analyses were conducted in IBM SPSS Statistics 25. The dataset was first screened for missing values, outliers, and distributional anomalies. Excluding cases with more than 10% missing questionnaire items yielded an analytic sample of $N = 312$. Every retained participant had complete data for the items contributing to the three composite scores, so both regression models used the full sample. Standardised z-scores and boxplots showed no case beyond ± 3.5 standard deviations, and sensitivity analyses with and without borderline observations produced consistent results. Descriptive statistics, Pearson correlations, and two separate one-predictor linear regressions were used to examine overall patterns rather than subgroup differences. Because the psychological-control domain was reverse-scored, positive coefficients indicate lower perceived control. A retrospective sensitivity analysis in G*Power 3.1 (Faul et al., 2009) indicated that $N = 312$, one predictor, $\alpha = .05$, and power = .80 allowed detection of $f^2 = 0.025$.

The author conducted all interviews, led the reflexive thematic analysis, and kept a reflexive journal throughout data collection and analysis. To preserve linguistic nuance and contextual meaning, the Arabic transcripts were analysed in their original language using reflexive thematic analysis (Braun & Clarke, 2006, 2019). Repeated reading supported familiarisation. Coding then proceeded primarily inductively while remaining informed by the sensitising concepts of authority, participation, responsibility, and transition. Codes were refined iteratively and organised into candidate themes, which were then reviewed for internal coherence, conceptual distinctiveness, and sensitivity to variation. The analysis moved between individual accounts and broader patterns, prioritising interpretive depth over frequency. Divergent responses were retained when they qualified a shared pattern rather than being dismissed as analytic noise. For reporting, the author translated selected quotations into English; a second bilingual researcher independently checked them against the Arabic originals for semantic and conceptual accuracy.

During integration, each statistical association was compared with the corresponding themes and quotations. The joint display classified the contribution of the qualitative evidence as explanation, expansion, qualification, or challenge. No qualitative account directly contradicted the direction of either association. The interviews did, however, clarify what the reverse-scored control measure could represent, broaden the analysis to include legitimacy and relational context, and constrain causal or mediational interpretations.

2.8. Ethical Considerations

Ethical approval was obtained from the Biomedical Research Ethics Committee at Umm Al-Qura University before recruitment and data collection (Approval No. HAPO-02-K-012-2026-04-3343). The approved protocol covered electronic questionnaire administration, remote interviews where required by the institution's gender-segregated structure, and audio recording with explicit consent. All participants were at least 18 years old. Electronic informed consent was obtained

before the questionnaire, while written informed consent preceded both interviewing and audio recording. All procedures followed institutional and internationally recognised standards for research involving human participants.

Participation in both phases was voluntary. The questionnaire was anonymous and collected no identifying information. Interview participation was confidential rather than anonymous because contact and consent were necessary; nevertheless, contact details were stored separately, transcripts were de-identified, and participant codes were used in reporting. Students were told that they could withdraw and that participation would not affect their academic standing or relationship with the university. Password-protected files, accessible only to the research team, were used to store the data.

2.9. Trustworthiness and Rigour

Trustworthiness in the qualitative strand was considered in terms of credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1985). Credibility and dependability were supported by sustained engagement with the Arabic transcripts, documentation of coding and theme development, and continued use of the reflexive journal. Emerging interpretations, coding decisions, and theme boundaries were discussed regularly with an independent qualitative researcher as a form of critical dialogue, although final analytic responsibility remained with the author. Verbatim quotations anchored the interpretations in participants' accounts. Contextual detail and anonymised participant profiles supported transferability while limiting disclosure risk.

Mixed-methods rigour was strengthened by analysing the strands separately, documenting how the preliminary quantitative results focused the qualitative probes, and comparing the findings through a joint display. Attention to both convergence and qualification also reduced the risk of treating the interviews as anecdotal confirmation of the questionnaire.

3. Results

The results follow the sequence of the explanatory design. Quantitative findings first address the two questions about association. Qualitative themes then present students' accounts of authority and educational transition, after which a joint display demonstrates where the strands converge, expand, and qualify one another.

3.1. Quantitative Results

The quantitative phase examined reverse-scored psychological control, academic voice, and self-regulated learning. Higher values on the reverse-scored measure indicate lower retrospectively perceived control; they do not directly represent classroom structure or supportive authority. Positive coefficients should therefore not be read as evidence that stronger psychological control improves either outcome.

3.1.1. Descriptive statistics

Table 4 summarises the descriptive statistics. Academic voice had the highest mean ($M = 3.78$, $SD = 0.62$), followed by self-regulated learning ($M = 3.65$, $SD = 0.58$). The mean for reverse-scored psychological control was 3.21 ($SD = 0.71$). Scores ranged from 1.40 to 4.80 for reverse-scored psychological control, 1.70 to 5.00 for academic voice, and 1.90 to 4.90 for self-regulated learning. The dispersion of each variable was adequate for the planned association analyses.

Table 4
Descriptive Statistics for Study Variables (N = 312)

Variable	Min	Max	M	SD
Psychological Control (reverse-scored)	1.40	4.80	3.21	0.71
Academic Voice	1.70	5.00	3.78	0.62
Self-Regulated Learning	1.90	4.90	3.65	0.58

Note. Each domain score is the arithmetic mean of 10 items rated from 1 to 5. Psychological control was reverse-scored, so higher scores indicate lower perceived psychological control.

3.1.2. Correlational analysis

As shown in Table 5, reverse-scored psychological control was positively correlated with academic voice ($r = .46, p < .001$) and self-regulated learning ($r = .42, p < .001$). Academic voice and self-regulated learning were also positively related ($r = .58, p < .001$). Thus, the first two coefficients indicate that lower perceived control was associated with higher scores on both outcomes.

Table 5

Pearson Correlations among Study Variables

Variable	1	2	3
1. Psychological Control (reverse-scored)	—		
2. Academic Voice	.46***	—	
3. Self-Regulated Learning	.42***	.58***	—

Note. *** $p < .001$. Psychological control was reverse-scored; higher values therefore indicate lower perceived control.

3.1.3. Regression analysis

Two separate one-predictor linear regression models were estimated (see Table 6). Linearity, residual normality, and homoscedasticity were judged acceptable. Reverse-scored psychological control was associated with academic voice, $B = 0.40, SE = 0.04, \beta = .46, t = 9.08, p < .001, 95\% \text{ CI } [0.31, 0.49]$. The model explained 21% of the variance, $R^2 = .21, F(1, 310) = 82.47, p < .001$. Reverse-scored psychological control was also associated with self-regulated learning, $B = 0.34, SE = 0.04, \beta = .42, t = 8.26, p < .001, 95\% \text{ CI } [0.26, 0.42]$, explaining 18% of the variance, $R^2 = .18, F(1, 310) = 68.23, p < .001$. Because each model contained only the focal predictor, these estimates represent unadjusted associations rather than causal effects.

Table 6

Regression Models Examining Associations with Academic Voice and Self-Regulated Learning

Outcome Variable	Predictor	B	SE	β	t	p	95% CI for B	R ²
Academic Voice	Psychological Control (reverse-scored)	0.40	0.04	.46	9.08	< .001	[0.31, 0.49]	.21
Self-Regulated Learning	Psychological Control (reverse-scored)	0.34	0.04	.42	8.26	< .001	[0.26, 0.42]	.18

Note. B = unstandardised coefficient; SE = standard error; β = standardised coefficient; CI = confidence interval. Psychological control was reverse-scored, so positive values represent lower perceived control and do not directly measure classroom structure or supportive authority. Each outcome was analysed in a separate one-predictor model.

3.2. Qualitative Results

The interviews examined how students retrospectively understood supportive and controlling enactments of authority at school and their relevance to current participation and regulation of learning. Three themes were developed around academic expression, responsibility for learning, and the transition to university. Across these themes, accounts combined common patterns with meaningful variation, suggesting that similar practices could acquire different meanings according to their relational context and students' later experiences.

3.2.1. Theme 1: Perceived Teacher Authority as a Foundation for Academic Expression

The first theme captured how authority shaped students' early expectations about speaking, asking questions, and being taken seriously. Participants assessed authority not only through rules or teacher firmness but also through the quality of classroom interaction: whether their perspectives were acknowledged, mistakes were handled constructively, and participation was treated as legitimate. In their accounts, structure and the teacher's interpersonal response jointly determined how authority was understood.

Subtheme 1.1: Supportive Authority and Encouraged Academic Voice. Authority was described as supportive when clear expectations were combined with respectful interaction. In such

classrooms, teachers maintained order while also legitimising students' participation. This combination seemed to reduce the perceived risk of speaking and, over time, helped students develop confidence in contributing academically.

For example, one student noted, "When the teacher was firm but listened to us, I felt comfortable speaking. I knew there were rules, but I also knew my opinion mattered" (S.1). Another participant similarly explained, "The teacher controlled the class, but he encouraged questions. That made me used to talking and not being afraid of giving answers" (S.4).

These accounts suggest that classroom structure supported academic voice when it was accompanied by respect, responsiveness, and a genuine willingness to listen. Firmness without relational sensitivity, by contrast, was experienced as restrictive. The crucial distinction was not simply how strongly a teacher directed the class, but whether students could participate without humiliation and whether their contributions were treated as educationally meaningful.

Subtheme 1.2: Restrictive Authority and Inhibited Academic Expression. Authority was experienced as restrictive when it took the form of rigid control, public criticism, or limited dialogue. Participants recalled that these environments discouraged participation and sometimes fostered patterns of silence that extended beyond the immediate classroom. One participant reflected: "If you spoke without permission, you were embarrassed in front of everyone. After that, I preferred to stay silent even if I understood the lesson" (S.7). Another described a similar experience: "Sometimes the teacher would correct you in a harsh way, so even if you knew the answer, you preferred not to speak" (S.9).

Students did not respond to restrictive authority in the same way. Some withdrew from discussion altogether; others became cautious and selective about when and how they spoke. Confidence, previous participation, coping strategies, and later opportunities may all have influenced how they managed controlling experiences. The theme therefore points to a recurring association with inhibited expression without presenting silence as either inevitable or uniform.

3.2.2. Theme 2: Teacher Authority and Students' Interpretations of Self-Regulated Learning

The second theme concerned the ways authority informed students' sense of responsibility for learning over time. They connected repeated classroom expectations with organisation, task completion, persistence, and independence, yet differed in whether teacher direction developed into internal discipline or continued dependence on external instruction. Authority was therefore understood as more than immediate classroom management; it contributed to expectations about responsibility that were formed during school and reconsidered at university.

Participants portrayed these influences as cumulative rather than traceable to a single teacher or incident. Repeated experiences of follow-up, correction, choice, and responsibility shaped what they came to regard as normal learning behaviour. Their accounts connected self-regulation with patterns built across years of schooling, while also recognising that university experiences could alter those patterns.

Subtheme 2.1: Structured Authority and the Development of Learning Discipline. When expectations were clear and consistently reinforced, students described structured authority as helping them develop discipline, organisation, and independent study habits. In these circumstances, authority provided a framework through which responsibility could gradually be internalised rather than simply imposed from outside.

One participant noted, "The teacher followed up on our work and expected us to finish tasks on time. Over time, I learned to organise my studying and not depend on reminders" (S.2). Another similarly explained, "Because the teacher was strict about deadlines, I became used to managing my time by myself" (S.5).

Clear expectations were most conducive to self-regulation when teachers also allowed independent effort, decision-making, and a gradual assumption of responsibility. Follow-up and deadlines could then become routines that students later managed themselves. If direction remained entirely external and errors were addressed mainly through correction, however, similar

practices were less likely to foster lasting autonomy and could instead sustain reliance on the teacher.

Subtheme 2.2: Controlling Authority and Reduced Learning Autonomy. Some participants experienced authority as an obstacle to independent learning when it remained highly directive or excessively corrective. Learning in these settings meant following instructions rather than developing personal strategies for managing tasks and resolving difficulties. One participant reflected: "Everything was decided by the teacher. We just followed instructions. When I reached university, I struggled to study alone" (S.8). Another noted, "If you made a mistake, the teacher corrected everything for you. I did not learn how to fix my own problems" (S.11).

The developmental consequences of controlling authority were not uniform. Some students linked intensive direction to later difficulty in organising university learning, whereas others compensated through new experiences, deliberate practice, or self-initiated strategies. Earlier authority thus formed part of their interpretive background, but subsequent environments could reinforce, revise, or counter the habits developed at school.

3.2.3. Theme 3: Teacher Authority and Students' Transition to University Learning Contexts

The third theme located the transition to university as the point at which earlier expectations about participation and responsibility became particularly visible. Increased autonomy required students to act without the degree of direction they had experienced at school, while larger and less familiar academic settings changed the conditions under which they spoke. Adjustment was described through both continuity with earlier habits and discontinuity created by new institutional demands.

Participants identified both continuity and discontinuity across the transition. Some university expectations extended familiar practices; others required substantial changes in how students spoke, planned, and sought support. Earlier experience therefore shaped the starting point for adjustment without determining its eventual direction.

Subtheme 3.1: Continuity of Supportive Authority and Smoother Academic Adjustment. Students who remembered supportive authority at school generally described a smoother transition to university. Their earlier experiences appeared more closely aligned with the expectations of higher education, particularly those involving independent learning, self-management, and active participation.

One student explained, "Because my teachers used to give us responsibility and listen to our ideas, the transition to university was not difficult" (S.6). Another participant noted, "At school, the teacher trusted us to work on our own. When I came to university, I was already used to this style" (S.3).

By familiarising students with responsibility, dialogue, and independent effort, supportive authority seemed to provide a useful foundation for transition. Even these participants had to adjust to unfamiliar workloads, assessment practices, and expectations. Earlier preparation therefore reduced some of the discontinuity but did not remove the need to adapt.

Subtheme 3.2: Discontinuity, Emotional Strain, and Challenges in Adjustment. Students who recalled more controlling forms of authority tended to describe greater difficulty adapting to university learning. For some, the move from highly structured, directive instruction to greater independence brought uncertainty, hesitation, and emotional strain.

One participant stated, "At university, no one tells you exactly what to do... I felt lost and stressed" (S.10). Another reflected, "I was afraid of speaking in lectures because I was not used to expressing myself before" (S.12).

Initial discontinuity did not dictate subsequent adjustment. Continued experience at university enabled some students to develop independent-study strategies, confidence in academic interaction, and a stronger sense of personal responsibility. The transition was therefore not only a setting in which earlier patterns resurfaced; it also created opportunities to modify them.

3.3. Integration of Quantitative and Qualitative Findings

Integration took place after the strands had been analysed independently. Each quantitative association was compared with themes and quotations addressing the same outcome (see Table 7). The interviews clarified the experiential conditions students attached to the statistical patterns, extended the analysis beyond the questionnaire, revealed variation, and qualified the claims that could be made from the quantitative results alone. This approach retained the logic of an explanatory sequential design while respecting the different evidentiary roles of the two strands.

Table 7

Joint Display of Quantitative Results, Qualitative Explanations, and Integrated Inferences

<i>Quantitative result</i>	<i>Qualitative explanation</i>	<i>Integrated inference</i>
Academic voice: $r = .46$; $\beta = .46$; $R^2 = .21$. Higher reverse-scored values indicate lower control.	Respectful listening and constructive responses reduced the perceived risk of speaking; public correction and closed dialogue encouraged silence or caution.	Explains and qualifies. Lower control converged with stronger voice, while the interviews showed that the legitimacy of firm authority depended on its relational enactment.
Self-regulated learning: $r = .42$; $\beta = .42$; $R^2 = .18$. Higher reverse-scored values indicate lower control.	Clear expectations supported organisation when responsibility was gradually transferred. Persistent direction fostered dependence, although some students later adapted.	Explains, expands, and qualifies. Structure could scaffold regulation, but internalisation was not measured and prior experience did not determine later adjustment.

Note. The qualitative themes were generated independently from the interview data and were compared with the quantitative results only after analysis. They were not tested as mediators, and the joint display implies no causal pathway.

For academic voice, the positive association with lower retrospectively perceived psychological control converged with accounts of respectful listening, constructive responses to errors, and opportunities to ask questions. The interviews showed how participation came to feel either legitimate or risky. They also qualified the association: firmness was not necessarily restrictive, and students distinguished clear, respectful authority from pressure, public correction, and closed dialogue. In other words, the relational enactment of authority, not structure alone, shaped its meaning.

The association with self-regulated learning likewise converged with accounts of clear expectations, follow-up, and the gradual transfer of responsibility. Qualitative evidence extended this result by distinguishing internal discipline from continued dependence on external direction. Deadlines and monitoring were viewed as supportive when students learned to manage them independently, but as constraining when responsibility remained with the teacher. Accounts of later adaptation further cautioned against a deterministic interpretation of earlier experience.

Across the two outcomes, the interviews exposed a construct-level difference between the methods. Even after reverse scoring, the survey primarily represented psychological control. Participants, however, described a wider domain of pedagogical authority that included legitimacy, fairness, respect, expertise, and pedagogical intent. The difference was both methodological and contextual: standardised items captured comparable perceptions of behaviour, whereas interviews illuminated how similar practices were interpreted within particular relationships and culturally situated expectations.

The retrospective nature of both strands introduces another qualification. Participants reconstructed school experiences from their current position as university students, so present confidence or difficulty may have coloured those memories. Moreover, the models did not adjust for achievement, personality, socioeconomic circumstances, academic major, or later educational opportunities. The integrated findings support meaningful group-level associations and plausible interpretations, but not direct carryover, individual causal pathways, or mediation.

No qualitative account directly contradicted the direction of either quantitative association.

Even so, the interviews narrowed the scope of those associations by demonstrating that neither authority nor students' responses were uniform and that later settings could modify earlier habits. The resulting meta-inference is that lower psychological control was associated with stronger current voice and self-regulation, whereas the educational meaning of authority depended on the relational conditions in which structure and responsibility were enacted.

4. Discussion

4.1. Overall Interpretation of Findings

Taken together, the findings support a differentiated view of teacher authority. The quantitative strand examined associations with the relative absence of psychologically controlling teaching, whereas the qualitative strand considered how authority became legitimate or restrictive in interaction. Across the two forms of evidence, the educational meaning of direction depended on how it was enacted relationally and pedagogically, not on firmness alone.

Three boundaries are central to this interpretation. First, the questionnaire did not measure supportive or legitimate authority. Second, felt safety and the internalisation of responsibility were qualitative interpretations, not tested mediators. Third, a retrospective, cross-sectional design cannot establish causal continuity from school to university. Within these limits, the study demonstrates how a narrow measure of psychological control and a broader account of pedagogical authority illuminate different dimensions of the same educational problem.

4.2. Reconceptualising Teacher Authority

Self-Determination Theory helps explain why pressure and restricted choice may weaken engagement, whereas responsively delivered structure can support it (Deci & Ryan, 2000; Reeve, 2012; Reeve & Cheon, 2021). The findings nevertheless raise a question that motivational quality alone cannot resolve: why do students accept a teacher's right to direct classroom activity? From a pedagogical-authority perspective, legitimacy is relational and context dependent. It emerges through the responsible exercise of expertise and power rather than from position alone (Pace & Hemmings, 2007). Participants' contrast between firm but respectful teachers and teachers who corrected publicly or ignored student perspectives illustrates this distinction between authority and control.

This interpretation needs to remain culturally situated without casting Saudi students as a single cultural type. Some participants associated authority with responsibility, respect, and orderly learning, consistent with ethical discussions of teacher authority in Arab scholarship (Laidani & Ait Aissa, 2024). Yet they evaluated comparable practices differently, reflecting evidence that cultural orientations are heterogeneous and context sensitive (Oyserman, 2017; San Martin et al., 2018). The central finding is not that students uniformly preferred hierarchy, but that they judged authority according to its relational and pedagogical enactment.

A reverse-scored control measure consequently indicates the relative absence of pressure; it does not show that authority was experienced as fair, expert, or educationally legitimate. These qualities became visible only in the interviews. Psychological control and pedagogical authority should therefore be treated as related but non-equivalent constructs, rather than opposite ends of one quantitative continuum.

4.3. Teacher Authority and Academic Voice

The association with academic voice became clearer through students' descriptions of participation as an interpersonal risk. When teachers listened, explained expectations, and responded constructively to errors, speaking was regarded as legitimate. Harsh public correction or closed dialogue, by contrast, made silence a protective response. This interpretation extends Cook-Sather's (2006, 2020) argument that voice concerns presence and influence, not speech alone, and supports Mitra's (2004) emphasis on the developmental value of meaningful participation. Gillett-Swan and Baroutsis's (2024) wider review likewise shows that opportunities to speak are insufficient when students' contributions have little recognised value.

The findings also link earlier encounters with authority to agentic engagement at university. Reeve (2013) conceptualises students as contributors who can help shape motivationally supportive environments, but such contribution presupposes an expectation that initiative will be received constructively. In this study, felt safety refers to that qualitative expectation. It was neither measured as a separate construct nor tested as a mediator. A more limited inference is warranted: participants drew on earlier interactions with authority to explain why academic participation currently felt more or less available to them.

The interviews further suggest that academic voice developed cumulatively rather than from any single classroom event. Repeated responses to questions, mistakes, and disagreement shaped expectations about whether speaking would lead to recognition, correction, or embarrassment. Some participants later revised these expectations after encountering more receptive university settings. Academic voice is therefore better understood as situated participation that may be inhibited, supported, and relearned across educational contexts.

4.4. Teacher Authority and Self-Regulated Learning

The findings for self-regulated learning point to a parallel distinction between structure that scaffolds responsibility and direction that extends dependence. Students who remembered clear expectations coupled with opportunities to act described habits of organisation, persistence, and time management. This pattern accords with Bandura's (2001) view of agency as developing through reciprocal person-environment relationships and with Zimmerman's (2000, 2002) cyclical model of planning, performance, and reflection. It also explains why structure need not undermine autonomy: its significance depends on whether responsibility is progressively transferred to the learner.

Panadero (2017) presents self-regulation as a set of teachable, context-sensitive processes, while Broadbent and Poon's (2015) review links regulatory strategies with achievement in higher education. From these perspectives, the present accounts suggest that deadlines and follow-up supported regulation when they enabled students to plan, monitor, and act independently, but not when they maintained dependence on external direction. Evidence from Arab university students similarly associates self-regulation with academic achievement and metacognitive awareness (Al-Jarrah, 2010; Talafha & Al-Tell, 2019). This study adds a developmental interpretation by showing how participants related current regulatory practices to earlier guidance and the gradual transfer of responsibility. Internalisation, however, remains a qualitative explanation rather than a measured mediator.

4.5. Transition to Higher Education

The move to university exposed mismatches between prior classroom expectations and the greater independence demanded in higher education. Participants who remembered opportunities to question, decide, and work independently found university demands more familiar; those accustomed to closely directed learning often described initial hesitation or strain. This pattern is consistent with developmental accounts of schools as contexts that organise later expectations (Eccles & Roeser, 2011) and complements Germeijs and Verschueren's (2007) finding that earlier decision processes matter when higher-education choices are implemented.

Earlier authority did not, however, fix later trajectories. Some students developed new strategies and greater confidence after entering university. This variability matters because educational pathways in Saudi and Gulf contexts are also influenced by programme conditions, career expectations, and labour-market change (Yasin et al., 2024; Zidi & Al-Shallagi, 2024). Prior experiences of authority are therefore best viewed as part of the interpretive background students bring to university, alongside later opportunities that may reinforce or reshape established habits.

Adjustment should therefore be located in present institutional conditions as well as past experience. University classrooms can extend or reshape histories of participation when expectations for dialogue and independent learning differ from those at school. Such an interpretation avoids treating initial hesitation as a fixed student deficit and instead frames

transition as an interaction between earlier expectations and current educational opportunities.

4.6. Theoretical and Pedagogical Implications

The main theoretical implication is that motivational quality and the legitimacy of authority should be analysed as related but distinct dimensions. Self-Determination Theory identifies how pressure and responsiveness affect autonomy, while pedagogical-authority theory addresses the grounds on which teacher direction is accepted as educationally warranted. Future models should measure psychological control, structure, perceived legitimacy, and relational conditions separately rather than infer them from a single, undifferentiated authority score.

For school practice, teachers can combine clear expectations with explanations, respectful correction, and genuine opportunities for questions and independent action. Structure becomes developmentally useful when it helps students understand standards, practise making decisions, and assume increasing responsibility rather than merely comply with immediate direction. Teacher education should consequently address both classroom management and the ethical, relational exercise of authority.

University instructors, for their part, should not assume that students arrive equally prepared for academic participation or self-management. Low-risk opportunities to contribute, transparent expectations, staged responsibility, and constructive responses to errors can help students practise voice and regulation during transition without casting initial hesitation as a fixed deficit. Institutionally, induction and first-year teaching can make expectations for dialogue and independent learning explicit, then gradually reduce scaffolding as confidence develops.

4.7. Limitations and Directions for Future Research

Several limitations define the boundaries of these findings. First, the retrospective, cross-sectional design relied on students' reconstructions of earlier teaching rather than direct observation. Current academic identities and experiences may influence how prior authority is remembered (Schwarz & Sudman, 1996; Tourangeau et al., 2000). Because the same respondents reported retrospective psychological control, academic voice, and self-regulated learning, common method variance and reverse interpretation are also possible. The associations cannot therefore establish either temporal sequence or causality.

Second, the questionnaire was a theory-informed adaptation rather than an established standalone measure of pedagogical authority. Although the three-factor structure and reliability estimates were acceptable, the control domain chiefly captured psychologically controlling teaching and cannot be interpreted as a comprehensive measure of supportive or legitimate authority. Further research should examine cross-sample validation, measurement invariance, and external validity. The regression models also omitted potentially relevant variables, including prior achievement, personality, socioeconomic context, and academic major.

Third, felt safety in participation and the internalisation of responsibility were interpretive patterns generated in the qualitative analysis. Neither was measured quantitatively, and no mediation analysis was conducted. Future studies could operationalise these constructs prospectively and compare direct, indirect, and context-dependent models without assuming that the present themes constitute causal mechanisms.

Prospective sample-size planning presents a related limitation. No formal a priori power analysis was conducted before data collection to establish the minimum sample for the regression models. A retrospective sensitivity analysis in G*Power 3.1 (Faul et al., 2009) indicated that, with $N = 312$, one predictor, $\alpha = .05$, and power = .80, the models could detect an effect as small as $f^2 = 0.025$. Although this result indicates sensitivity to small effects, it cannot substitute for prospective planning. Future studies should specify the anticipated effect size, number of predictors, alpha level, and desired power at the design stage.

Sampling and the connection between phases create further constraints. An open survey conducted at a single public university may have introduced self-selection and may limit transferability. In addition, the separate contact process protected questionnaire anonymity but

prevented interview identities from being linked with survey scores. Interviewees could not be selected as high, medium, low, unusual, or contrasting quantitative cases; consequently, integration occurred at group and interpretive levels rather than through individual profiles. Future explanatory sequential studies could seek explicit consent for secure linkage, enabling score-informed sampling while preserving confidentiality.

Longitudinal, multi-source, and multi-institutional designs would offer stronger evidence about change across educational stages. Observations, teacher reports, repeated student measures, and culturally sensitive validation across Saudi, Gulf, and other settings could examine how controlling and supportive authority relate to academic voice and self-regulated learning over time. Such designs could also identify university experiences that modify earlier patterns.

5. Conclusions

Among undergraduates at a Saudi public university, lower retrospectively perceived psychological control during school, reflected in higher reverse-scored values, was associated with stronger current academic voice and self-regulated learning. The qualitative findings added important context to these group-level associations by showing that students interpreted teacher authority in relation to its relational and pedagogical enactment, and that university experiences could both reinforce and reshape expectations formed during earlier schooling. Because the data were retrospective and cross-sectional, and because the quantitative and qualitative phases were intentionally unlinked at the individual level, these findings should not be interpreted as evidence of causal relationships.

This study offers a more differentiated understanding of teacher authority by demonstrating that psychological control, instructional structure, and the legitimacy of pedagogical authority are related but conceptually distinct. It also illustrates the value of explanatory sequential mixed methods in clarifying how quantitative associations can be interpreted and qualified through students' lived experiences. From a practical perspective, the findings suggest that schools and universities should combine clear expectations with meaningful opportunities for participation, constructive responses to errors, and the gradual transfer of responsibility for learning. Future research would benefit from longitudinal, multi-institutional, and securely linked mixed-methods designs to examine how these relationships evolve across educational stages and to identify the conditions under which supportive forms of authority foster students' academic participation and self-regulated learning.

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