

The Role of Boundary Management in the Relationship between Self-Leadership and Work-Study Balance among Working Students at the Faculty of Economics and Business, Universitas Pamulang

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ABSTRACT

Working students must balance academic and work demands, yet evidence on how personal self-regulation translates into work-study balance is limited, particularly in Indonesia. This study aimed to examine the effect of self-leadership on work-study balance, with boundary management as a mediator, among working students at the Faculty of Economics and Business, Universitas Pamulang. A cross-sectional survey of 290 working students (cohorts 2022–2025, purposive sampling) was analyzed with PLS-SEM (SmartPLS 4). Self-leadership had a positive effect on boundary management ($\beta = 0.940$; $p < 0.001$), and boundary management had a positive effect on work-study balance ($\beta = 1.409$; $p < 0.001$). The direct effect of self-leadership on work-study balance was negative ($\beta = -0.770$; $p < 0.001$), whereas the indirect effect was positive ($\beta = 1.330$; $p < 0.001$), indicating competitive partial mediation. However, self-leadership and boundary management were not empirically distinct (HTMT = 0.986) and two coefficients exceeded 1.0, so the results should be regarded as preliminary. The findings point to boundary-management support as a practical focus for university student services. Limitations include the cross-sectional, self-reported data from a single faculty.



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INTRODUCTION

The phenomenon of students working while studying has increased significantly in recent years. Rising education costs, family economic needs, the desire to gain early work experience, and the rise in flexible work opportunities have led to an increasing number of students simultaneously fulfilling two primary roles: student and employee. This situation creates complex challenges because students must meet academic demands, such as

lectures, assignments, exams, and organizational activities, while simultaneously fulfilling work responsibilities, such as performance targets, discipline, and professionalism. If these two roles are not managed effectively, students can potentially experience role conflict, burnout, decreased academic performance, and reduced psychological well-being.

In Indonesia, working while studying is a visible feature of higher education. According to the records of the student-affairs unit of the Faculty of Economics and Business, Universitas Pamulang, for the 2025/2026 academic year, 1,240 of 5,870 active students (21.1%) reported having a job. Studies of Indonesian working students have examined the work ethic of part-time student workers ([Ganendra, 2024](#)), the work-life balance of students employed in the food and beverage sector ([Hamra & Widiasih, 2024](#)), the relationship between time management and work-life balance ([Lin & Rostiana, 2024](#)), and the roles of time management, burnout, and self-efficacy in the work-life balance of working students ([Rahma & Suhermin, 2026](#)).

Various studies have shown that working students are a group vulnerable to role conflict and role overload due to limited resources of time, energy, and attention ([Creed et al., 2023](#); [Eastgate et al., 2021](#)). Working students often face situations where work schedules clash with class schedules, academic assignments interfere with work, or work pressures reduce the quality of learning. Therefore, the ability to maintain work-study balance is a crucial factor in determining students' success in maintaining academic and work performance simultaneously. Work-life balance among working students has also been examined in relation to subjective well-being ([Alfayed & Bakar, 2024](#)).

The concept of work-study balance is a development of the work-life balance concept adapted to the student context. [Greenhaus et al. \(2003\)](#) describe balance as consisting of time balance, involvement balance, and satisfaction balance, and [Greenhaus and Allen \(2011\)](#) explain that role balance is achieved when an individual is able to maintain these forms of balance between various life domains. In the context of working students, work-study balance indicates an individual's ability to allocate time proportionally, maintain involvement in both academic and work activities, and obtain satisfaction from both roles.

One factor suspected of influencing work-study balance is self-leadership. Self-leadership is the process by which individuals influence, direct, and motivate themselves to achieve goals through behavioral regulation, intrinsic rewards, and constructive mindsets ([Neck et al., 2020](#)). Individuals with high self-leadership tend to be able to set priorities, manage time, control behavior, and maintain motivation in the face of various demands. Research by [Zakir et al. \(2023\)](#) shows that self-leadership is positively related to student academic performance, while [Bjerke \(2024\)](#) found that self-leadership increases the effectiveness of learning and self-development in higher education.

However, the relationship between self-leadership and work-study balance is not necessarily straightforward. Self-leadership strengthens a person's capacity to pursue goals in every domain of life, and students who pursue goals strongly in both work and study may over-commit and experience less balance, in line with resource-based views of role demands ([Hobfoll, 1989](#)). This possibility has not been examined empirically among working students, and it suggests that the effect of self-leadership on work-study balance may depend on a mechanism that helps students to translate self-regulation into concrete role boundaries. One relevant mechanism is boundary management.

Boundary management is an individual's ability to manage boundaries between various life domains, including work and study ([Kossek et al., 2023](#)). It draws on boundary theory, which describes how people create, maintain, and cross the boundaries between roles ([Ashforth et al., 2000](#); [Nippert-Eng, 1996](#)), and on border theory ([Clark, 2000](#)). In this study it refers to how students separate or integrate the two roles, keep the boundary between them flexible or permeable, and manage transitions between roles. Students who are able to separate work and study time, avoid work interruptions during study, and

manage communication between roles will more easily achieve work-study balance. [Eastgate et al. \(2021\)](#) and [Eastgate et al. \(2023\)](#) show that boundary management is closely related to reduced role conflict and improved work-study balance.

Evidence on self-leadership, boundary management, and work-study balance among working students in Indonesia is still limited. Indonesian studies have mostly addressed work-life balance in relation to time management, burnout, and self-efficacy ([Lin & Rostiana, 2024](#); [Rahma & Suhermin, 2026](#)) or self-leadership in relation to proactive behavior among students ([Maharani et al., 2024](#)), whereas the role of boundary management as a mediator between a personal self-regulation competency and work-study balance has not been widely explored. The evidence on the direct link between self-leadership and role balance is also not entirely consistent. This study therefore examines both the direct effect of self-leadership on work-study balance and its indirect effect through boundary management using SEM-PLS. It addresses four research questions: (RQ1) Does self-leadership affect boundary management? (RQ2) Does boundary management affect work-study balance? (RQ3) Does self-leadership affect work-study balance directly? (RQ4) Does boundary management mediate the effect of self-leadership on work-study balance?

Based on this background, this study aims to analyze the effect of self-leadership on work-study balance, with boundary management as a mediating variable, among working students of the Faculty of Economics and Business, Universitas Pamulang, cohorts 2022–2025. This faculty was selected because a substantial share of its students combine study and work and because its student-affairs records made it possible to identify eligible respondents. Students from several cohorts were included to cover different stages of study; because academic load differs across cohorts, the cohort composition is reported (Table 2) and treated as a limitation. The results are expected to contribute to the literature on self-leadership, boundary management, and work-study balance and, for educational leadership and management, to inform university leaders and student-affairs units that design academic scheduling, mentoring, and support services for students who work.

LITERATURE REVIEW

Theoretical Framework

This study is anchored in boundary theory and border theory, complemented by a resource-based perspective. Boundary theory proposes that people build mental, temporal, and physical boundaries to separate or integrate roles and that boundaries differ in flexibility and permeability ([Ashforth et al., 2000](#); [Nippert-Eng, 1996](#)). Border theory adds that people are active “border-crossers” who shape the domains of work and non-work to achieve balance ([Clark, 2000](#)), and [Kossek et al. \(2012\)](#) identified distinct boundary management profiles with a person-centered approach. Applied to working students, boundary management describes how students structure the border between work and study. Conservation of Resources theory ([Hobfoll, 1989](#)) proposes that people strive to obtain and protect resources such as time, energy, and attention, and that strain arises when resources are threatened or depleted by demands. From this perspective, self-leadership is a personal resource that helps students mobilize and direct their behavior and thoughts, but using it in two demanding roles can also consume resources unless it is channeled into effective boundaries. The conceptual model derived from these theories is shown in Figure 1.

Self-Leadership

Self-leadership is the process by which individuals influence themselves to achieve goals through behavioral regulation strategies, intrinsic rewards, and constructive thought patterns ([Neck et al., 2020](#)). This concept is developed from self-influence theory ([Manz, 2015](#)), which emphasizes that individuals can become their own leaders without always

relying on external supervision. Self-leadership consists of three main strategies: behavior-focused strategies, natural reward strategies, and constructive thought pattern strategies.

Behavior-focused strategies include self-observation, self-goal setting, self-reward, self-correcting feedback, and self-cueing. These strategies help individuals identify behaviors that support goal achievement and correct ineffective ones. Natural reward strategies focus on creating intrinsic motivation by enhancing aspects of work or activities that are considered enjoyable. Constructive thought pattern strategies include positive self-talk, mental imagery, and evaluating beliefs that support success.

In the context of working students, self-leadership enables individuals to organize their study and work schedules, set priorities, avoid procrastination, and maintain academic and professional motivation. Research by [Bjerke \(2024\)](#) shows that self-leadership increases students' learning effectiveness, independence, and engagement in academic activities, and self-leadership has been studied in relation to proactive behavior among students in the MBKM program ([Maharani et al., 2024](#)). Self-regulated learning and academic time management planning have likewise been examined in relation to academic performance ([Lourengo & Paiva, 2024](#)).

Conceptually, self-leadership is a general capacity for self-influence that applies across life domains (goal setting, self-observation, natural rewards, and constructive thinking); it does not by itself specify how two roles are separated or integrated. Boundary management, in contrast, concerns the design and maintenance of the border between two specific roles. Both may involve time-related behavior, but self-leadership addresses how students influence themselves, whereas boundary management addresses how they structure the interface between work and study. Whether the two constructs are empirically distinct is examined through discriminant validity tests in the Findings.

Boundary Management

Boundary management is an individual's ability to manage boundaries between various life domains to minimize inter-role conflict ([Kossek et al., 2023](#)). Boundary management theory explains that individuals can choose a segmentation strategy (strictly separating roles) or integration (flexibly combining roles) based on the characteristics of their work and personal lives.

In this study boundary management is operationalized through four dimensions: boundary flexibility (the extent to which the boundary between work and study can bend to the demands of the other role), boundary control (the extent to which the student can decide when and how to shift between roles), boundary permeability (the extent to which elements of one role enter the time and space of the other), and role segmentation (the preference to keep the two roles separate) ([Clark, 2000](#); [Kossek et al., 2012](#)).

In the context of working students, boundary management includes the ability to separate study time from work time, manage work interruptions while studying, manage communication with superiors or lecturers, and transition effectively between roles. [Eastgate et al. \(2021\)](#) showed that students with good boundary management experienced lower role conflict and higher academic well-being. [Chu et al. \(2021\)](#) examined work-study boundary congruence and contextual supports among university students who work.

Work-Study Balance

Work-study balance is a condition where an individual is able to maintain a balance between academic and work demands so that both roles can be carried out effectively and satisfactorily ([Greenhaus & Allen, 2011](#)). This concept consists of three dimensions: time balance, involvement balance, and satisfaction balance ([Greenhaus et al., 2003](#)).

Time balance refers to the proportional division of time between study and work. Involvement balance indicates an equal level of psychological involvement in both roles,

while satisfaction balance relates to the level of satisfaction with academic and work activities. Students with a strong work-study balance tend to have better psychological well-being, motivation to learn, and academic performance.

Hypotheses

$$H4: \text{indirect (mediation) effect} = H1 \times H2$$

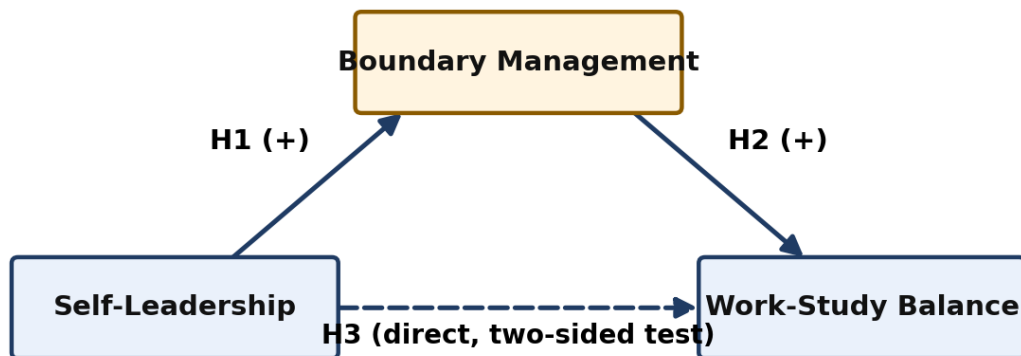


Figure 1. Conceptual Framework

The Influence of Self-Leadership on Boundary Management

According to border theory, boundaries are actively shaped by the person who lives within them (Clark, 2000). Students with high self-leadership set goals, observe their own behavior, and correct it (Neck et al., 2020), which should help them to define, protect, and switch between the work and study domains. Self-leadership is also associated with learning effectiveness and self-development in higher education (Bjerke, 2024). The following hypothesis is therefore formulated:

H1: Self-Leadership has a positive effect on Boundary Management.

The Influence of Boundary Management on Work-Study Balance

The ability to manage the boundaries between work and study allows students to reduce role conflict, manage distractions, and improve balance between the two domains. Based on the theory of Kossek et al. (2023), Clark (2000), and the findings of Eastgate et al. (2021) and Creed et al. (2023), the following hypothesis is formulated:

H2: Boundary Management has a positive effect on Work-Study Balance.

The Influence of Self-Leadership on Work-Study Balance

Self-leadership helps individuals regulate themselves, set goals, and maintain motivation (Neck et al., 2020), which suggests a positive effect on work-study balance. However, Conservation of Resources theory implies that the same self-regulatory drive, when applied to two demanding roles, can consume resources and lead to over-commitment (Hobfoll, 1989), so that the direct effect could be weak or even negative once boundary management is taken into account. Because the theoretical arguments support both directions, the direct effect is specified non-directionally and tested with a two-sided test:

H3: Self-Leadership influences Work-Study Balance.

The Mediation Role of Boundary Management

Self-leadership is expected to improve boundary management skills (H1), which in turn improve work-study balance (H2). Boundary management is therefore expected to

transmit part of the effect of self-leadership to work-study balance, with an indirect effect that is positive ($H1 \times H2$). Thus, the following hypothesis is formulated:

H4: Boundary Management mediates the influence of Self-Leadership on Work-Study Balance.

METHOD

Research Design

This study used a quantitative, explanatory, cross-sectional survey design. The quantitative approach was chosen because the study aimed to test previously formulated hypotheses about relationships between variables, and the explanatory design was used to explain the effect of self-leadership on work-study balance, with boundary management as a mediating variable, among working students at the Faculty of Economics and Business, Universitas Pamulang. Because all data were collected at a single point in time, the estimates describe statistical associations that are consistent with the hypothesized model; the words "effect" and "influence" are used in the statistical sense of path estimates and do not prove causality.

Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS version 4. SEM-PLS was chosen because the model contains latent constructs measured by many indicators, tests direct and indirect (mediation) relationships simultaneously, and allows both explanatory and predictive assessment (Hair et al., 2022).

Population and Sample

The study population consisted of 1,240 students of the Faculty of Economics and Business, Universitas Pamulang, intakes 2022–2025, who were working while studying, as identified in the faculty's student-affairs records. Working students in this study were defined as active students who had a permanent job, part-time job, freelance work, or self-employment and had worked for at least six months. Purposive sampling was used (Sugiyono, 2023), with the following criteria:

- a) Active students of the Faculty of Economics and Business, Universitas Pamulang, class of 2022–2025.
- b) Currently working while studying.
- c) Having a minimum work period of six months.
- d) Willing to complete the research questionnaire in full.

The questionnaire was distributed to 402 students who appeared to meet the criteria, and 312 responses were returned (77.6%). After screening, 22 responses were removed (14 did not meet the criteria, 6 were incomplete, and 2 were duplicates), leaving 290 valid responses (72.1% of the questionnaires distributed and 23.4% of the population). The online form required an answer to every item, so no missing item values remained after screening.

Following the inverse square root method (Kock & Hadaya, 2018), the minimum sample size for 80% statistical power at the 5% significance level is $n > (2.486 / |\beta_{\min}|)^2$, where $\beta_{\min}$ is the smallest path coefficient expected to be significant. For $\beta_{\min} = 0.15$ the required sample is about 275 respondents, so a sample of 290 is sufficient to detect path coefficients of about 0.15 or larger. Purposive, non-probability sampling and online distribution mean that the results cannot be generalized statistically to all working students (see Limitations).

Data Collection Techniques

Data were collected between 14 October and 30 November 2025 using an online questionnaire (Google Forms) distributed through the WhatsApp groups of each cohort and

through class representatives. Eligibility was verified with screening questions on the first page (active student status, cohort, current employment, and length of work). Each item was measured using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Respondents were asked to select the response that best represented their actual experiences and perceptions regarding the statements provided. Duplicate responses were identified through identical response patterns and submission times.

Ethical considerations

Participation was voluntary and anonymous. The first page of the questionnaire explained the purpose of the study, and respondents gave electronic informed consent before answering. No personal identifiers were collected, and the data are reported in aggregate.

Operationalization of Variables

This study consists of three main variables: Self-Leadership (X) as the independent variable, Boundary Management (M) as the mediating variable, and Work-Study Balance (Y) as the dependent variable. Each variable is measured with the dimensions and number of indicators shown in Table 1. The English source items were translated into Bahasa Indonesia using forward and backward translation. Content validity was checked by three lecturers (human resource management, educational psychology, and research methodology), and the questionnaire was piloted with 30 working students who were not part of the final sample; the pilot showed acceptable clarity and internal consistency (Cronbach's alpha ≥ 0.70 for all constructs), and five items were reworded. Each construct was modelled as a reflective first-order construct with all its indicators attached directly to it; the dimensions in Table 1 guided the writing of the items but were not modelled as separate latent variables. All 38 items are listed in Appendix A.

Table 1. Operationalization of Research Variables

Variable	Dimensions (number of indicators)	Indicators	Source of the scale
Self-Leadership	Behavior-focused strategies (6), natural reward strategies (4), constructive thought pattern strategies (4)	14	Adapted from Houghton and Neck (2002) and Neck et al. (2020)
Boundary Management	Boundary flexibility (3), boundary control (3), boundary permeability (3), role segmentation (3)	12	Adapted from Clark (2000) and Kossek et al. (2012); items written for the work-study context
Work-Study Balance	Time balance (4), involvement balance (4), satisfaction balance (4)	12	Adapted from Greenhaus et al. (2003) to the work-study context
Total		38	

Note. All items were rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Data Analysis Techniques

The analysis followed two stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model) (Hair et al., 2022). In the measurement model, convergent validity was assessed with outer loadings (≥ 0.70) and Average Variance Extracted (AVE ≥ 0.50 ; Fornell & Larcker, 1981); reliability with Composite Reliability (CR) and Cronbach's alpha (0.70–0.95, where values above 0.95 may

indicate redundant indicators); and discriminant validity with the heterotrait–monotrait ratio (HTMT < 0.90; [Henseler et al., 2015](#)).

In the structural model, collinearity was checked with inner VIF values (< 5, ideally < 3), and standardized path coefficients were expected to lie between –1 and +1. Significance was tested by bootstrapping with 5,000 subsamples (percentile 95% confidence intervals, two-tailed, 5% level, $t > 1.96$). The coefficient of determination (R^2 : 0.75 substantial, 0.50 moderate, 0.25 weak), effect size (f^2 : 0.02 small, 0.15 medium, 0.35 large; [Cohen, 1988](#)), predictive relevance ($Q^2 > 0$, computed by blindfolding with an omission distance of 7), and the SRMR (< 0.08) were also evaluated.

Mediation was tested through the significance of the specific indirect effect (bootstrapped) and classified by the signs and significance of the direct and indirect effects: complementary partial mediation (same signs), competitive partial mediation (opposite signs), indirect-only mediation, direct-only, or no effect ([Zhao et al., 2010](#); [Nitzl et al., 2016](#); [Hair et al., 2022](#)). The variance accounted for (VAF) was not used because it is not meaningful when the direct and indirect effects have opposite signs ([Nitzl et al., 2016](#)).

Common method bias

Because all constructs were measured with one self-reported questionnaire at one time point, common method bias may inflate the relationships among constructs. Procedural remedies were anonymous responses, instructions that there were no right or wrong answers, and separate sections for each construct. Statistically, the full-collinearity test ([Kock, 2015](#)) gave VIF values of 9.88 for self-leadership, 12.91 for boundary management, and 2.17 for work-study balance. Values above 3.3 for the first two constructs indicate that common method bias cannot be ruled out, although these values are also inflated by the very strong overlap between the two constructs.

FINDINGS AND DISCUSSION

Findings

Respondent Profile

The study involved 290 working students from the Faculty of Economics and Business, Universitas Pamulang, from the 2022–2025 intakes. Table 2 shows that female respondents were the majority (53.8%), most respondents were aged 21–23 years (60.7%), the four cohorts were relatively balanced (21.4%–28.3%), the largest group had worked for 1–2 years (38.6%), and more than half worked as private sector employees (51.0%). The sample is heterogeneous in the type of work (private employees, part-time workers, business owners, freelancers, and others), which is a limitation because the degree of control over work boundaries may differ among these groups.

Table 2. Respondent Profile (N = 290)

Characteristic	Category	n	%
Gender	Male	134	46.2
	Female	156	53.8
Age (years)	18–20	48	16.6
	21–23	176	60.7
	24–26	54	18.6
	> 26	12	4.1
Cohort	2022	82	28.3
	2023	76	26.2
	2024	70	24.1
	2025	62	21.4

Characteristic	Category	n	%
Length of work	6 months–1 year	74	25.5
	1–2 years	112	38.6
	2–3 years	68	23.4
	> 3 years	36	12.4
Type of work	Private sector employee	148	51.0
	Part-time worker	54	18.6
	Business owner	46	15.9
	Freelancer	24	8.3
	Other	18	6.2

Note. Percentages may not add up to 100 because of rounding.

Descriptive Statistics

Table 3 presents the descriptive statistics of the research variables. Categories were determined with equal intervals for a five-point scale $((5 - 1) / 5 = 0.80)$: 1.00–1.80 very low, 1.81–2.60 low, 2.61–3.40 moderate, 3.41–4.20 high, and 4.21–5.00 very high. Self-leadership ($M = 3.33$) and boundary management ($M = 3.39$) were in the moderate category, and work-study balance ($M = 3.67$) was in the high category. On average, respondents therefore reported relatively high work-study balance, which seems at odds with the emphasis on vulnerability in the Introduction. Two considerations help to interpret this: a mean describes the typical respondent and does not exclude a subgroup that experiences role conflict, and students who were able to answer an online questionnaire while working and studying may be those who cope relatively well (self-selection). Perceived balance may also be reported more favorably than actual conditions (see Limitations).

Table 3. Descriptive Statistics of Research Variables

Variable	Mean	SD	Min	Max	Category
Self-Leadership	3.33	0.62	1.57	4.93	Moderate
Boundary Management	3.39	0.66	1.42	4.92	Moderate
Work-Study Balance	3.67	0.59	1.75	5.00	High

Measurement Model (Outer Model)

Convergent validity and reliability. Outer loadings (Appendix A) ranged from 0.78 to 0.90 for self-leadership, 0.69 to 0.89 for boundary management, and 0.46 to 0.90 for work-study balance. No indicator had a loading below 0.40, so no indicator was removed; 1 boundary management indicator and 7 work-study balance indicators had loadings between 0.40 and 0.70. They were retained to preserve the content coverage of the time, involvement, and satisfaction dimensions, although removing the two weakest work-study balance indicators (loadings 0.456 and 0.496) would raise its AVE to about 0.53; this trade-off between content coverage and convergent validity is acknowledged as a limitation. Table 4 shows that the AVE of self-leadership (0.712) and boundary management (0.623) exceeds 0.50, whereas the AVE of work-study balance is 0.476. According to Fornell and Larcker (1981), convergent validity of a construct can still be judged adequate when composite reliability is high even though AVE is slightly below 0.50; nevertheless, this remains a limitation of the work-study balance measure. All CR and Cronbach's alpha values exceed 0.70. The CR values of self-leadership (0.971) and boundary management (0.951) are above 0.95, which Hair et al. (2022) caution may indicate redundant indicators; the high values are therefore not interpreted as evidence of an especially good instrument.

Table 4. Convergent Validity and Reliability

Construct	AVE	Composite Reliability	Cronbach's Alpha	Remark
Self-Leadership	0.712	0.971	0.966	CR > 0.95
Boundary Management	0.623	0.951	0.940	CR > 0.95
Work-Study Balance	0.476	0.906	0.881	AVE < 0.50

Discriminant validity. Discriminant validity was assessed with the HTMT ratio (Henseler et al., 2015) (Table 5). The HTMT values of self-leadership with work-study balance (0.601) and of boundary management with work-study balance (0.753) are below 0.85. The HTMT value of self-leadership with boundary management (0.986; 95% CI 0.951 to 1.012), however, exceeds 0.90 and its confidence interval includes 1. Discriminant validity between these two constructs is therefore not supported: respondents did not clearly distinguish them. The structural results below are interpreted in this light and are treated as preliminary. The overall fit of the model was acceptable (SRMR = 0.061).

Table 5. Discriminant Validity (HTMT)

Construct	Self-Leadership	Boundary Management	Work-Study Balance
Self-Leadership	–		
Boundary Management	0.986	–	
Work-Study Balance	0.601	0.753	–

Note. HTMT values above 0.90 indicate a lack of discriminant validity (Henseler et al., 2015).

Structural Model (Inner Model)

Collinearity. The inner VIF is 1.000 for the path from self-leadership to boundary management (a single predictor) and 8.59 for self-leadership and boundary management as predictors of work-study balance (Table 6), far above the threshold of 5 (Hair et al., 2022). This agrees with the HTMT result and with the fact that $R^2 = 0.885$ for boundary management, which implies a correlation of about 0.94 between the two constructs ($1 / (1 - 0.94^2) = 8.59$).

Path coefficients. Table 6 and Figure 2 show that all direct paths were significant ($p < 0.001$). Self-leadership had a positive effect on boundary management ($\beta = 0.940$), boundary management had a positive effect on work-study balance ($\beta = 1.409$), and self-leadership had a negative direct effect on work-study balance ($\beta = -0.770$). Two coefficients lie outside the -1 to $+1$ range within which standardized path coefficients normally fall. Such values are possible when predictors are highly collinear and should not be read as effects larger than a perfect relationship.

Table 6. Direct Effects (Path Coefficients)

Path	β	t	p	95% CI	VIF
Self-Leadership → Boundary Management	0.940	18.473	< 0.001	[0.833, 0.982]	1.000
Boundary Management → Work-Study Balance	1.409	9.227	< 0.001	[1.110, 1.708]	8.59
Self-Leadership → Work-Study Balance	-0.770	5.471	< 0.001	[-1.046, -0.494]	8.59

Mediation Analysis

Table 7 shows that the specific indirect effect of self-leadership on work-study balance through boundary management was significant and positive ($\beta = 1.330$; $p < 0.001$),

whereas the direct effect was significant and negative ($\beta = -0.770$). The total effect, the sum of the two, was positive ($\beta = 0.560$). Because the direct and indirect effects have opposite signs, the mediation is classified as competitive partial mediation (Zhao et al., 2010; Nitzl et al., 2016; Hair et al., 2022). This classification describes a statistical pattern; given the collinearity and the lack of discriminant validity noted above, it should not be read as proof of a causal mechanism.

Table 7. Direct, Indirect, and Total Effects of Self-Leadership on Work-Study Balance

Effect	β	t	P	95% CI
Direct: Self-Leadership $\rightarrow$ Work-Study Balance	-0.770	5.471	< 0.001	[-1.046, -0.494]
Indirect: Self-Leadership $\rightarrow$ Boundary Management $\rightarrow$ Work-Study Balance	1.330	6.583	< 0.001	[0.934, 1.726]
Total (direct + indirect)	0.560	11.472	< 0.001	[0.464, 0.656]

Competitive partial mediation (opposite signs)

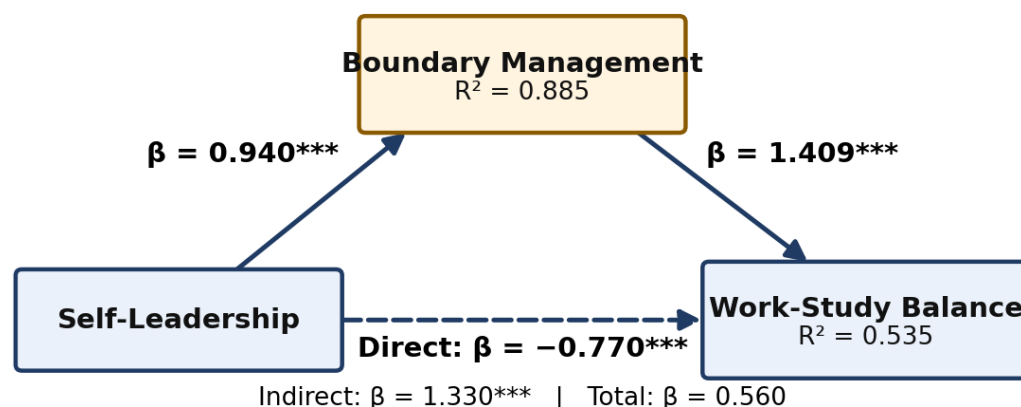


Figure 2. Structural Model with Standardized Path Coefficients (all direct and indirect paths $p < 0.001$; total effect = direct + indirect)

Explanatory Power, Predictive Relevance, and Effect Size

Table 8 shows that self-leadership explains 88.5% of the variance in boundary management (substantial), and self-leadership and boundary management together explain 53.5% of the variance in work-study balance (moderate). The remaining 46.5% is due to other factors not in the model, such as academic load, family support, work flexibility, burnout, and self-efficacy (cf. Rahma & Suhermin, 2026). The Q^2 values are above zero, indicating predictive relevance. That the Q^2 values are almost identical to R^2 is a consequence of the very strong self-leadership–boundary management relationship and highly correlated indicators; it should not be taken as evidence of good out-of-sample prediction, which would require PLSpredict (not performed in this study).

Table 8. Coefficient of Determination (R^2) and Predictive Relevance (Q^2)

Endogenous variable	R^2	R^2 category	Q^2	Q^2 category
Boundary Management	0.885	Substantial	0.882	Large
Work-Study Balance	0.535	Moderate	0.521	Large

Table 9 shows that boundary management has a large effect on work-study balance ($f^2 = 0.483$), whereas the effect of self-leadership on work-study balance is small, close to

the medium threshold ($f^2 = 0.143$). The f^2 of the path from self-leadership to boundary management is very large because it is the only predictor ($f^2 = R^2 / (1 - R^2) = 7.70$).

Table 9. Effect Size (f^2)

Path	f^2	Category
Self-Leadership → Boundary Management	7.696	Large
Boundary Management → Work-Study Balance	0.483	Large
Self-Leadership → Work-Study Balance	0.143	Small (near medium)

Hypothesis Testing

Table 10 summarizes the tests. H1 and H2 were supported. H3 was statistically supported, but the direction is negative, contrary to the positive relationship that most self-leadership studies cited in this paper would suggest. H4 was supported: the indirect effect is significant, with a sign opposite to that of the direct effect (competitive partial mediation). The decision for each hypothesis uses $t > 1.96$ and $p < 0.05$, and all decisions must be read together with the discriminant validity problem between self-leadership and boundary management.

Table 10. Hypothesis Testing Results

Hypothesis	Path	β	t	p	Decision
H1	Self-Leadership → Boundary Management	0.940	18.473	< 0.001	Supported
H2	Boundary Management → Work-Study Balance	1.409	9.227	< 0.001	Supported
H3	Self-Leadership → Work-Study Balance	-0.770	5.471	< 0.001	Supported (negative direction)
H4	Self-Leadership → Boundary Management → Work-Study Balance	1.330	6.583	< 0.001	Supported (competitive partial mediation)

Discussion

This study tested whether boundary management mediates the relationship between self-leadership and work-study balance among working students. The results support a strong positive path from self-leadership to boundary management and from boundary management to work-study balance, but they also show a negative direct path from self-leadership to work-study balance. Because the estimates show collinearity and the two constructs lack discriminant validity, the discussion distinguishes what the data show from what they can explain.

Self-Leadership and Boundary Management (H1)

Self-leadership had a strong positive effect on boundary management ($\beta = 0.940$; $p < 0.001$). This is in line with border theory, which describes boundaries as actively shaped by the person (Clark, 2000), and with studies reporting benefits of self-leadership for learning and academic outcomes among students (Bjerke, 2024; Zakir et al., 2023). A coefficient of this size is unusual for two distinct psychological constructs, however: the two share about 88% of their variance, and the HTMT value (0.986) shows that respondents did not separate them. Part of this may reflect a genuine link, because students who set goals and monitor themselves may also structure their roles more deliberately. It may also reflect overlapping item content (both constructs include time- and priority-related behavior) and common-method variance from single-source self-reports. The result is therefore better read as evidence that the two scales overlap than as evidence of a very strong causal effect.

Boundary Management and Work-Study Balance (H2)

Boundary management had a positive effect on work-study balance ($\beta = 1.409$; $p < 0.001$; $f^2 = 0.483$). The direction agrees with boundary theory (Kossek et al., 2023) and with Eastgate et al. (2021) and Creed et al. (2023), who link boundary management to less role conflict and better balance among working students. Indonesian studies have also examined the relationship between time management, a behavior that underlies boundary management, and work-life balance among working students (Lin & Rostiana, 2024; Rahma & Suhermin, 2026). A standardized coefficient above 1.0 should not be interpreted literally, however. With self-leadership and boundary management correlated at about 0.94, the coefficient of one predictor can be inflated. Back-calculating from the reported estimates, the implied bivariate correlation between boundary management and work-study balance is about 0.69, which is a more realistic indication of the strength of the association.

Self-Leadership and Work-Study Balance (H3)

The direct effect of self-leadership on work-study balance was significant but negative ($\beta = -0.770$; $p < 0.001$), whereas the total effect was positive (0.560). The implied bivariate correlation between self-leadership and work-study balance is also positive (about 0.55), consistent with the total effect. Three explanations should be considered. First, a statistical explanation: with the two predictors correlated at about 0.94, the coefficient of self-leadership after controlling for boundary management reflects only the small part of self-leadership that is not shared with boundary management and can reverse sign (a suppression effect). Second, a measurement explanation: the overlapping content of the two scales, supported by the HTMT result. Third, a substantive explanation based on Conservation of Resources theory (Hobfoll, 1989): students with strong self-regulation who invest heavily in both roles may over-commit and consume their resources. This third explanation was not tested here, because achievement orientation, work hours, and similar moderators were not measured, and it remains a hypothesis. We therefore do not claim that self-leadership harms work-study balance. We report that, holding boundary management constant, higher self-leadership was associated with lower reported balance, and that this unexpected result needs replication with scales that show clear discriminant validity. Most studies cited in this paper report positive associations of self-leadership with student outcomes (Bjerke, 2024; Zakir et al., 2023), so this result cannot be explained by prior findings.

The Mediating Role of Boundary Management (H4)

The indirect effect of self-leadership on work-study balance through boundary management was significant ($\beta = 1.330$; $p < 0.001$) and opposite in sign to the direct effect, a pattern of competitive partial mediation. The pattern suggests that self-leadership is associated with better balance mainly to the extent that it is accompanied by effective boundary management, in line with Eastgate et al. (2023), who studied how university students manage role boundaries. Given the cross-sectional, self-reported data, the collinearity, and the lack of discriminant validity, this should be regarded as a statistical pattern that is consistent with the proposed mechanism, not as proof that boundary management “transforms” self-leadership into balance.

Theoretical Contributions

The study contributes to the literature in three ways. First, it applies boundary and border theory to working students in an Indonesian university and links a personal self-influence competency to boundary management. Second, it shows that the association

between self-leadership and work-study balance can differ when direct and indirect paths are modeled together, which illustrates the value of testing them simultaneously. Third, it draws attention to a measurement issue: future research needs scales for self-leadership and boundary management that are demonstrably distinct.

Practical Implications

If the findings are replicated with distinct scales, they suggest several actions for university leaders and student-affairs units: (1) offer short workshops on boundary management for working students, for example on scheduling study and work time, communicating limits to employers and lecturers, and managing transitions between roles; (2) provide flexible class options and clear assignment calendars for working students; (3) ask academic advisors to check the workload of students who work; and (4) not assume that general self-regulation or self-leadership training is sufficient, but pair it with concrete boundary-management strategies.

Limitations and Future Research

This study has several limitations. The design is cross-sectional, so causal conclusions cannot be drawn. All data were self-reported from a single source, which exposes the results to common method bias (the full-collinearity VIFs exceeded 3.3 for two constructs) and social desirability. The sample was drawn purposively and online from one faculty at one private university, and it pools cohorts and very different working situations, so generalization is limited. No control variables (for example age, gender, cohort, weekly work hours, or type of work) were included. Self-leadership and boundary management lacked discriminant validity (HTMT = 0.986), two coefficients exceeded 1.0, the AVE of work-study balance was below 0.50, and the composite reliability of two constructs was above 0.95, so the measurement and structural estimates need to be treated with caution. PLSpredict was not performed. Future research should (1) replicate the model with longitudinal or multi-source data; (2) revise the scales and show that self-leadership and boundary management are discriminant; (3) add control variables and moderators such as achievement orientation, work hours, and type of work, and compare groups (for example by cohort or type of work); (4) use qualitative follow-up interviews to explain the negative direct effect; and (5) sample other universities and regions.

CONCLUSIONS

This study examined whether boundary management mediates the effect of self-leadership on work-study balance among working students at the Faculty of Economics and Business, Universitas Pamulang. Self-leadership had a positive effect on boundary management ($\beta = 0.940$), boundary management had a positive effect on work-study balance ($\beta = 1.409$), self-leadership had a negative direct effect on work-study balance ($\beta = -0.770$), and the indirect effect through boundary management was positive ($\beta = 1.330$), a pattern of competitive partial mediation. However, self-leadership and boundary management were not empirically distinct (HTMT = 0.986), two coefficients exceeded 1.0, and the design was cross-sectional and self-reported, so the results should be regarded as preliminary. Universities may nevertheless pair general self-regulation support with concrete boundary-management support for working students, and future studies should replicate the model with distinct scales, control variables, and longitudinal data.

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AUTHOR CONTRIBUTIONS

Nazwa Ambara Putri Agung: conceptualization, literature review, research design, instrument development, data collection, data analysis (SmartPLS 4), interpretation of findings, manuscript writing, and revision. Khoirur Rozaq: supervision, methodological guidance, validation, and review and editing. Both authors approved the final manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

The anonymized dataset and the SmartPLS output are available from the corresponding author on reasonable request. This manuscript is a simulated example for teaching; the details listed in the note on the first page are illustrative.

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APPENDIX A. QUESTIONNAIRE ITEMS AND OUTER LOADINGS

All items were rated from 1 (strongly disagree) to 5 (strongly agree). Loadings are from the final measurement model.

Table A1. Questionnaire Items and Outer Loadings

Code	Item	Loading
SL1	I set specific goals for my study and work tasks.	0.875
SL2	I keep track of how well I am doing in my study and work.	0.829
SL3	I reward myself when I complete an important task.	0.783
SL4	I correct myself when I notice that my approach is not working.	0.792
SL5	I use reminders or notes to keep myself on schedule.	0.866
SL6	I plan my weekly activities before they start.	0.820
SL7	I try to find enjoyable parts in my study tasks.	0.838
SL8	I try to find enjoyable parts in my job tasks.	0.801
SL9	I focus on the meaningful side of my activities.	0.811
SL10	I choose ways of doing tasks that I like.	0.894
SL11	I talk to myself positively when facing difficult tasks.	0.885
SL12	I imagine myself completing a task successfully before I start.	0.903
SL13	I question negative beliefs that hold me back.	0.857
SL14	I see challenges as opportunities.	0.848
BM1	I can adjust my work schedule when my study requires it.	0.814
BM2	I can adjust my study time when my work requires it.	0.887
BM3	I can move activities between my two roles without conflict.	0.741
BM4	I decide when I switch between work and study.	0.869
BM5	I can set limits on how much time each role takes.	0.832
BM6	I can say no to requests that clash with my other role.	0.760
BM7	I can prevent work matters from interrupting my study time.	0.850
BM8	I can prevent study matters from interrupting my work time.	0.705
BM9	I can keep work messages away when I am in class or studying.	0.687
BM10	I keep my work and study activities in separate times and places.	0.796
BM11	I prefer to finish the tasks of one role before starting the other.	0.723
BM12	I clearly tell my employer and lecturers when I am available.	0.778
WSB1	I can give enough time to my studies as well as to my job.	0.856
WSB2	My work schedule allows me to attend lectures and do assignments.	0.536
WSB3	I have enough time for study without neglecting my work duties.	0.896
WSB4	I rarely have to give up one role completely for the other.	0.736
WSB5	I am equally engaged in my study and my work.	0.496
WSB6	I concentrate fully on my studies when I am studying.	0.576
WSB7	I concentrate fully on my job when I am working.	0.696
WSB8	I put similar effort into my academic and job responsibilities.	0.456
WSB9	I am satisfied with how I handle my studies.	0.776
WSB10	I am satisfied with how I handle my job.	0.656
WSB11	I am satisfied with the way I divide my time between study and work.	0.616
WSB12	I am satisfied with my overall balance between study and work.	0.816

Note. SL = Self-Leadership; BM = Boundary Management; WSB = Work-Study Balance.