

A CONCEPTUAL MODEL FOR EARLY IDENTIFICATION OF ACADEMIC VULNERABILITY: INTEGRATING PSYCHOLOGICAL PREDICTORS INTO THE ACADEMIC PROFILE SCREENING MODEL (PSA)

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Abstract: *Early identification of students at risk of academic disengagement has become an increasingly important priority in higher education, reflecting a shift from reactive explanations of university dropout toward preventive approaches that promote academic persistence. Although contemporary research has identified several psychological factors associated with successful academic adjustment, existing studies typically examine these variables independently, with limited attention to their integration into a comprehensive conceptual framework for preventive screening. This theoretical paper addresses this gap by analysing four psychological dimensions consistently associated with academic persistence—academic resilience, academic self-efficacy, university adjustment, and academic belonging—and integrating them into the Academic Profile Screening Model (PSA), a conceptual framework designed to support the early identification of academically vulnerable students. Building upon these dimensions, the paper also proposes the Academic Vulnerability Index (AVI) as a conceptual indicator intended to synthesise information derived from the assessment of psychological resources and university integration. Possible approaches to operationalising the model through validated psychological instruments are discussed, together with implications for university counselling services and institutional retention policies. Rather than proposing a diagnostic or psychometric tool, the PSA is presented as a conceptual framework that may guide future empirical research and the development of preventive screening strategies in higher education. The proposed model contributes to the growing emphasis on prevention in educational psychology by offering an integrated conceptual perspective on academic vulnerability and providing a foundation for future validation*

studies and evidence-informed interventions aimed at supporting student persistence and success.

Keywords: *academic vulnerability; academic persistence; academic resilience; academic self-efficacy; university adjustment; academic belonging; preventive screening; higher education.*

Introduction

Higher education institutions worldwide are increasingly concerned with promoting student persistence and reducing university dropout. Although university dropout has long been investigated from social, institutional, and economic perspectives, recent research in educational psychology has shifted attention toward preventive approaches that support academic adjustment and persistence before major difficulties emerge. Within this perspective, academic vulnerability has become an increasingly relevant concept for understanding why some students experience greater challenges in adapting to university life and maintaining academic engagement.

Classical models of student persistence developed by Tinto (1975, 1993), Bean (1980), and Astin (1984) established the theoretical foundations for understanding student retention. Recent systematic reviews and contemporary research have highlighted the importance of psychological resources—particularly academic resilience, academic self-efficacy, university adjustment, and academic belonging—as key factors associated with academic persistence, student well-being, and successful adaptation to higher education (Allen et al., 2024; Cassidy, 2016; Honicke & Broadbent, 2016).

Although these psychological dimensions have been widely investigated, they are most often examined separately. Relatively little attention has been given to their conceptual integration within a preventive framework specifically designed for the early identification of academic vulnerability in higher education.

The present conceptual paper addresses this gap by integrating these four psychological dimensions into the proposed Academic Profile Screening (PSA) Model, conceived as a framework for the early identification of academically vulnerable students. In addition, the paper introduces the proposed Academic Vulnerability Index (AVI) as a conceptual indicator intended to support the future operationalisation and empirical validation of preventive screening strategies in higher education.

Theoretical Background: Academic Vulnerability as a Framework for Understanding Academic Persistence

Recent research in higher education has increasingly emphasized the importance of identifying factors that promote academic persistence rather than focusing exclusively on the causes of university dropout. While student attrition remains an important indicator of institutional effectiveness, preventive approaches highlight the value of recognising psychological and contextual factors that support successful adaptation to university life.

Within this perspective, academic vulnerability may be conceptualised as a dynamic and multidimensional condition reflecting a student's susceptibility to difficulties in academic adjustment, social integration, and sustained engagement with university studies. Rather than representing a stable personal characteristic or a direct predictor of dropout, academic vulnerability emerges from the interaction between students' psychological resources and the demands of the higher education environment.

Classical theories of student persistence, particularly those proposed by Tinto (1975, 1993), Bean (1980), and Astin (1984), continue to provide an important theoretical foundation for understanding academic success and retention. Recent evidence further supports the contribution of academic resilience, academic self-efficacy, university adjustment, and academic belonging to student persistence, academic engagement, and successful adaptation within higher education (Allen et al., 2024; Cassidy, 2016; Honicke & Broadbent, 2016).

Building upon these perspectives, the present paper conceptualises academic vulnerability as the result of interactions among multiple psychological dimensions rather than the consequence of a single risk factor. This multidimensional perspective provides the theoretical foundation for the proposed Academic Profile Screening (PSA) Model, presented in the following sections.

Psychological Predictors of Academic Vulnerability

Academic Resilience

Academic resilience refers to students' capacity to successfully cope with academic challenges, setbacks, and stressful learning experiences while maintaining engagement with their educational goals. Rather than representing a fixed personality trait, academic resilience is generally understood as a dynamic process through which students mobilise personal and contextual resources to overcome adversity and continue functioning effectively in demanding educational environments.

Research consistently demonstrates that academic resilience is positively associated with academic achievement, successful adjustment to university life, and academic persistence. Students with

higher levels of resilience tend to employ more adaptive coping strategies, manage academic stress more effectively, and remain engaged despite academic challenges (Cassidy, 2016; Allen et al., 2024).

From the perspective of academic vulnerability, resilience functions as an important protective factor. Lower levels of academic resilience may therefore increase students' susceptibility to educational difficulties and represent one component of a broader vulnerability profile.

Academic Self-Efficacy

Academic self-efficacy refers to students' beliefs in their capability to organise and successfully perform the academic tasks required to achieve educational goals (Bandura, 1997). These beliefs influence learning behaviour, persistence, effort, and responses to academic challenges.

Extensive research has demonstrated a robust relationship between academic self-efficacy and academic performance, motivation, university adjustment, and persistence. Students with stronger self-efficacy beliefs are more likely to engage actively in learning, invest greater effort in academic activities, and persevere when encountering difficulties (Honicke & Broadbent, 2016).

Within the proposed framework, academic self-efficacy represents a key motivational resource supporting adaptive functioning and reducing academic vulnerability.

University Adjustment and Academic Belonging

Although academic resilience and self-efficacy primarily describe individual psychological resources, successful academic persistence also depends on students' interaction with the university environment.

University adjustment refers to students' ability to respond effectively to the academic, social, and emotional demands of higher education, whereas academic belonging reflects the extent to which students perceive themselves as accepted, valued, and integrated members of the university community.

Contemporary research indicates that students who experience successful adjustment and a strong sense of belonging demonstrate higher academic engagement, greater educational satisfaction, and stronger persistence. Conversely, poor adjustment and diminished belonging are associated with social isolation, reduced engagement, and increased vulnerability to academic withdrawal (Allen et al., 2024).

From the perspective of the proposed PSA model, these dimensions complement students' internal psychological resources by reflecting the quality of their integration into the higher education environment.

Integrating the Psychological Predictors

Although resilience, academic self-efficacy, university adjustment, and academic belonging have each been widely investigated, they are most frequently examined as independent psychological constructs. The present conceptual paper argues that academic vulnerability is more appropriately understood as the result of their dynamic interaction.

Academic resilience and academic self-efficacy primarily represent students' internal psychological resources, whereas university adjustment and academic belonging reflect the quality of their interaction with the educational environment. Together, these dimensions provide a broader understanding of academic vulnerability than any single construct considered in isolation.

This integrative perspective constitutes the conceptual foundation of the proposed Academic Profile Screening (PSA) Model, presented in the following section. Rather than identifying vulnerability through isolated indicators, the proposed model conceptualises academic vulnerability as a multidimensional configuration of psychological resources and contextual integration, providing a basis for future preventive screening strategies in higher education.

The Proposed Academic Profile Screening (PSA) Model

Conceptual Foundations

The literature reviewed in the previous sections suggests that academic vulnerability cannot be adequately understood through any single psychological dimension. Rather, it reflects the dynamic interaction between students' internal psychological resources and their level of integration into the higher education environment. This multidimensional perspective provides a more comprehensive understanding of students' academic functioning and creates opportunities for preventive interventions before serious educational difficulties emerge.

Building upon this perspective, the present paper proposes the Academic Profile Screening (PSA) Model, an integrative conceptual framework designed to organise and synthesise the principal psychological dimensions associated with academic vulnerability. Unlike diagnostic approaches or predictive models of university dropout, the proposed PSA model is intended to support the early identification of students who may require additional educational or psychological support during their academic journey.

The model is grounded in four core psychological dimensions consistently associated with academic persistence:

- academic resilience;
- academic self-efficacy;
- university adjustment;

- academic belonging.

Together, these dimensions provide complementary information regarding students' personal resources and their interaction with the university environment, allowing academic vulnerability to be conceptualised as a multidimensional construct rather than the consequence of a single psychological deficit.

Profile of the Academically Vulnerable Student

Within the proposed PSA model, academic vulnerability is conceptualised as a multidimensional psychological profile reflecting different configurations of students' internal resources and contextual integration. Rather than representing a diagnostic category, this profile provides a conceptual framework for recognising students who may benefit from preventive educational and psychological support.

Students presenting lower levels of academic resilience may experience greater difficulties in coping with academic stress and recovering from educational setbacks. Reduced academic self-efficacy may limit confidence in their ability to successfully manage learning tasks and persist when facing challenges. Difficulties in university adjustment may compromise students' capacity to respond effectively to academic, social, and emotional demands, whereas a diminished sense of academic belonging may weaken their engagement with the university community.

These characteristics should not be interpreted as deterministic predictors of university dropout. Instead, they describe a pattern of psychological and contextual factors that may increase students' susceptibility to academic difficulties and therefore justify early preventive interventions. Table 1 summarises the principal characteristics associated with the proposed profile of the academically vulnerable student.

Psychological Dimension	Characteristics Associated with Academic Vulnerability	Potential Implications for Academic Persistence
Academic resilience	Difficulty coping with academic setbacks; reduced tolerance for academic stress; limited recovery following failure	Increased vulnerability when facing academic challenges
Academic self-efficacy	Low confidence in academic abilities; avoidance of demanding learning tasks; reduced persistence	Lower engagement and reduced motivation to continue studies
University adjustment	Difficulties adapting to academic requirements, learning routines, and university life	Impaired adaptation and increased risk of disengagement
Academic belonging	Weak sense of integration within the university community; limited perception of acceptance and support	Reduced institutional attachment and weaker academic commitment

Note: The profile represents a conceptual framework derived from the literature reviewed in this paper. It is intended to support the early identification of academically vulnerable students within the proposed Academic Profile Screening (PSA) Model and should not be interpreted as a diagnostic classification or a validated assessment tool.

The proposed profile represents the conceptual basis upon which the PSA model has been developed and provides a framework for understanding how different psychological dimensions jointly contribute to academic vulnerability.

Table 1 Conceptual Profile of the Academically Vulnerable Student within the Proposed Academic Profile Screening (PSA) Model

Structure of the Proposed PSA Model

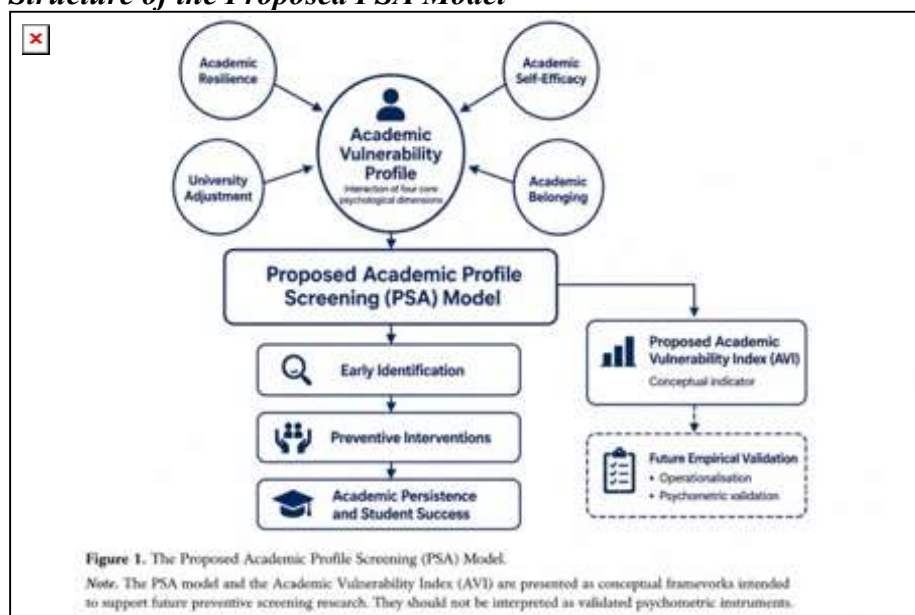


Figure 1 illustrates the conceptual architecture of the proposed Academic Profile Screening (PSA) Model. The model integrates the four core psychological dimensions associated with academic vulnerability and conceptualises their relationship with early identification, preventive interventions, and academic persistence.

The model assumes that academic vulnerability emerges from the interaction among four complementary psychological dimensions rather than from the isolated influence of a single factor. Academic resilience and academic self-efficacy represent students' internal psychological resources, whereas university adjustment and academic belonging reflect the quality of their integration into the higher education environment.

The interaction of these dimensions contributes to the development of an integrated psychological profile that may support the early identification of academically vulnerable students. From this

perspective, the proposed PSA model provides a conceptual framework for organising psychological information relevant to preventive screening and for guiding educational and counselling interventions aimed at strengthening academic persistence.

Rather than functioning as a diagnostic instrument, the model offers a theoretical structure capable of supporting future empirical research and the development of evidence-informed preventive practices in higher education.

The Proposed Academic Vulnerability Index (AVI)

To facilitate the conceptual integration of the psychological dimensions included in the PSA model, the present paper introduces the proposed Academic Vulnerability Index (AVI).

The AVI is conceptualised as an integrative indicator intended to synthesise information derived from the assessment of the psychological dimensions associated with academic vulnerability. In its current form, it should not be interpreted as a psychometric instrument or as a validated quantitative index. Instead, it represents a conceptual construct designed to illustrate how multiple psychological dimensions may be integrated within a single preventive framework.

The proposed AVI is intended to support future operationalisation of the PSA model by providing a conceptual basis for integrating assessment results obtained through validated psychological instruments. Future empirical studies may contribute to the development of scoring procedures, the establishment of interpretative criteria, and the psychometric validation of the index.

Consequently, both the proposed PSA model and the proposed AVI should be regarded as complementary conceptual contributions intended to stimulate future research on preventive psychological screening and academic persistence in higher education.

Operationalising the Proposed PSA Model

The proposed Academic Profile Screening (PSA) Model provides a conceptual framework that may support the future development of preventive screening strategies in higher education. Although the model is not intended to function as a psychometric instrument, its four core psychological dimensions may be operationalised through validated assessment instruments that evaluate complementary aspects of students' psychological functioning and academic adjustment.

From this perspective, academic resilience may be assessed using the Academic Resilience Scale (ARS-30), which evaluates students' ability to cope effectively with academic challenges and recover from setbacks. Academic self-efficacy may be operationalised through the

College Academic Self-Efficacy Scale (CASES), designed to assess students' confidence in successfully performing academic tasks.

University adjustment may be evaluated using the Student Adaptation to College Questionnaire (SACQ), which measures academic, social, personal-emotional, and institutional adjustment. The dimension of academic belonging may be assessed through validated instruments specifically developed to measure students' perceived integration, acceptance, and connectedness within the university community.

Complementary information regarding students' emotional functioning may be obtained using the Depression Anxiety Stress Scales – 21 Items (DASS-21), while broader difficulties in adaptation may be explored through the Vulnerability to Maladjustment (VI) instrument. Together, these measures may provide a comprehensive assessment of the psychological dimensions incorporated into the proposed PSA model.

Table 2 presents examples of validated psychological instruments that may support the future operationalisation of the proposed model.

Psychological Dimension	Suggested Instrument	Primary Construct Assessed
Academic resilience	Academic Resilience Scale (ARS-30)	Ability to cope with academic adversity and recover from setbacks
Academic efficacy	self- College Academic Self-Efficacy Scale (CASES)	Confidence in performing academic tasks successfully
University adjustment	Student Adaptation to College Questionnaire (SACQ)	to Academic, social, personal-emotional, and institutional adjustment
Academic belonging	University Belonging Scale*	Sense of acceptance, integration, and connectedness within the university community
Emotional vulnerability	Depression Anxiety Stress Scales – 21 Items (DASS-21)	Symptoms of depression, anxiety, and stress
Vulnerability to maladjustment	to Vulnerability to Maladjustment (VI)	to Predisposition toward difficulties in psychological and educational adaptation

Note: The University Belonging Scale refers to validated instruments assessing students' perceived belonging within higher education settings. Selection of a specific instrument should depend on the objectives and design of future empirical studies.

It is important to emphasise that these instruments are **not components of the PSA model itself**. Rather, they represent examples of validated assessment tools that may contribute to the future empirical operationalisation and validation of the proposed conceptual framework.

Accordingly, the proposed **Academic Vulnerability Index (AVI)** should be regarded as a conceptual indicator whose future development depends upon empirical research aimed at establishing appropriate scoring procedures, interpretative criteria, and psychometric properties.

Table 2 Examples of Validated Instruments Supporting the Future Operationalisation of the Proposed Academic Profile Screening (PSA) Model

Discussion

The present conceptual paper proposes the **Academic Profile Screening (PSA) Model** as an integrative framework for the early identification of academic vulnerability in higher education. Unlike approaches that examine psychological variables independently, the proposed model brings together four complementary dimensions—academic resilience, academic self-efficacy, university adjustment, and academic belonging—within a unified conceptual framework intended to support preventive educational and psychological interventions.

The proposed model does not seek to replace existing theories of student persistence or university adjustment. Rather, it builds upon established theoretical perspectives by organising current evidence into a multidimensional framework that may facilitate a more comprehensive understanding of academic vulnerability. In this respect, the PSA model complements previous research by emphasising the interaction between students' psychological resources and their integration within the university environment.

A central contribution of the present paper is the introduction of the proposed **Academic Vulnerability Index (AVI)** as a conceptual indicator designed to synthesise information derived from multiple psychological dimensions. At its current stage of development, the AVI should not be interpreted as a validated psychometric measure. Instead, it represents a conceptual construct intended to guide future empirical research focused on the operationalisation and validation of preventive screening strategies in higher education.

The proposed framework may also have practical implications for university counselling services and institutional retention policies. By supporting the early identification of students presenting increased academic vulnerability, the PSA model may contribute to the planning of targeted counselling programmes, psychoeducational interventions, and institutional support measures before significant academic difficulties develop.

Several limitations should nevertheless be acknowledged. The present paper is conceptual in nature and does not provide empirical evidence regarding the predictive validity of the proposed model or the psychometric properties of the Academic Vulnerability Index.

Consequently, future studies should examine the empirical relationships among the proposed psychological dimensions, evaluate the operationalisation of the model through validated assessment instruments, and investigate its applicability across diverse higher education contexts.

Overall, the proposed PSA model should be regarded as a conceptual framework intended to stimulate further research on preventive psychological screening and academic persistence rather than as a diagnostic or predictive instrument.

Conclusions

The growing emphasis on student persistence and early intervention in higher education has highlighted the need for conceptual frameworks capable of integrating the multiple psychological dimensions associated with academic vulnerability. Although previous research has consistently demonstrated the importance of factors such as academic resilience, academic self-efficacy, university adjustment, and academic belonging, these dimensions have generally been investigated independently.

The present conceptual paper contributes to the existing literature by proposing the **Academic Profile Screening (PSA) Model**, an integrative framework designed to support the early identification of academically vulnerable students. By conceptualising academic vulnerability as the result of interactions between students' psychological resources and their level of integration into the university environment, the proposed model offers a multidimensional perspective that may facilitate preventive educational and psychological interventions.

A second contribution of the paper is the introduction of the proposed **Academic Vulnerability Index (AVI)** as a conceptual indicator intended to support the future operationalisation of the PSA model. Although the AVI is not presented as a validated psychometric instrument, it provides a conceptual basis for integrating information derived from multiple psychological dimensions and may guide future empirical research focused on the development and validation of preventive screening strategies.

The proposed framework also has potential practical relevance for university counselling services, academic support programmes, and institutional retention policies. By encouraging earlier recognition of students experiencing increased academic vulnerability, the PSA model may contribute to the development of more targeted and evidence-informed interventions aimed at supporting academic persistence and student success.

Future empirical studies are needed to examine the operationalisation of the proposed model, evaluate the psychometric characteristics of the Academic Vulnerability Index, and investigate its applicability across different higher education contexts. Such research will be essential for determining the practical utility of the proposed framework and for establishing its contribution to preventive psychological assessment in higher education.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Disclosure statement

The author declares no conflict of interest.

Data availability statement

No empirical data were generated or analysed in this study.

Word count: 3717

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