Knowledge Management Applied to a University Training System in Angola Through a Diagnostic Tool

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Abstract
This study proposes the application of a diagnostic tool aimed at strengthening knowledge management within universities. Its primary objective involves diagnosing the initial state of the training received by Psychology students at the Technical University of Angola (UTANGA) concerning the prevention of sexually transmitted infections (STIs). The urgency of STI prevention—underscored by global health strategies and the high prevalence among young people in Angola—highlights the necessity of adequately preparing psychology professionals in this field.

The research addresses the gap between social demands regarding prevention and the theoretical-methodological limitations observed in the educational process, emphasizing the need for a systematic and interdisciplinary approach within the undergraduate curriculum.

An integrated diagnostic approach guided the study, combining document analysis, surveys, interviews, classroom observations, and a case study. Data collection involved 68 students, 30 faculty members, and 6 academic and administrative leaders. The main variable—training for

STI prevention—was operationalized into cognitive, procedural, and affective-behavioral dimensions, each with specific indicators that enabled measurement of achievement within the academic context. The triangulation of qualitative and quantitative methods ensured data reliability.

Findings indicate that, although institutional and curricular frameworks acknowledge the importance of STI prevention, implementation remains inconsistent and fragmented. Most faculty members lack sufficient theoretical and methodological preparation, and the curriculum fails to integrate STI prevention systematically across subjects. Student knowledge and participation in STI-related educational activities tend to increase with academic progression; however, overall levels remain insufficient. The prevailing training status across the three dimensions assessed was categorized as "not achieved," confirming the presence of significant gaps in the professional preparation of psychology students in this area.

This research offers a critical perspective on the existing shortcomings in STI prevention training within the Psychology program at UTANGA. It underscores the need for a coherent, evidence-based, and practice-oriented theoretical-methodological framework. The results provide a valuable foundation for future curricular reforms and teaching strategies, with relevant implications for academic decision-making and public health policy in the context of higher education.

Keywords: Knowledge Management, Professional Training, Psychology, Sexually Transmitted Infections (STIs), Educational Diagnosis, Higher Education.

Introduction

The Technical University of Angola (UTANGA), a private higher education institution within Angola's higher education subsystem and headquartered in Luanda, delivers comprehensive training to its students regardless of gender, race, religion, or political affiliation. Consequently, student admission depends solely on intellectual capabilities.

From its inception, UTANGA has upheld a commitment to training professionals with high-level technical, scientific, cultural, and humanistic preparation across a broad spectrum of knowledge areas. Graduates are expected to engage in lifelong learning and contribute meaningfully to the country's socioeconomic development. Fulfilling this commitment requires a strategic emphasis on organizational knowledge management.

The training of psychology graduates constitutes a continuous educational system initiated at the undergraduate level, designed to ensure that future professionals can begin practicing at the foundational level of the profession. Undergraduate education becomes enriched through professional development opportunities, including institutional employment preparation and postgraduate training. Consequently, both initial and ongoing training position psychologists as key contributors to societal development.

Identifying the most common and widespread issues that psychology professionals must address within institutions necessitates defining the foundational level of the profession and the challenges it entails. Health promotion emerges as a core component of psychology training,

guiding the formulation of general undergraduate training objectives and the selection of essential content to achieve them—among which the prevention of sexually transmitted infections (STIs) in underserved populations holds critical importance.

The diverse behaviors and manifestations of STIs on a global scale emphasize the urgency of expanding research efforts to produce scientific findings capable of reducing their impact on human health. Estimates from the World Health Organization (WHO) indicate that approximately 38 million sexually active individuals aged 15 to 49 suffer from a curable STI, with more than one million new infections occurring daily—most of them asymptomatic (World Health Organization, 2022).

Epidemiological data point to the pressing need for comprehensive efforts to curb the STI epidemic, as outlined in the Global Health Sector Strategies on HIV, Viral Hepatitis and Sexually Transmitted Infections, 2022–2030, which defines specific objectives, goals, and priority actions (World Health Organization, 2022). Another relevant document, HIV Prevention 2025: Road Map, calls for an accelerated, targeted, innovative, and sustainable response from countries, paving the way to ending the STI epidemic as a public health threat by 2025 (Joint United Nations Programme on HIV/AIDS, 2020).

The Republic of Angola does not remain exempt from this situation and currently faces a significant challenge regarding its youth population. Alarmingly high infection rates among individuals aged 15 to 24 were reported in 2022, and if current trends persist, projections estimate that 1.2 million people will contract HIV by 2025 (Joint United Nations Programme on HIV/AIDS, 2022a). Public health policies have begun to prioritize expanded access to serological testing, the elimination of barriers that hinder open communication with specialists, and the preparation of qualified personnel to promote sexual and reproductive health at the community level (Joint United Nations Programme on HIV/AIDS, 2022b).

Academic literature has explored knowledge management (KM) in the context of higher education from various perspectives, yielding significant findings that inform the development of effective KM strategies for universities. The central concern lies in KM's contribution to continuous improvement and enhanced organizational performance. As Laal (2011) highlights, knowledge management constitutes a systematic process for creating, capturing, sharing, and leveraging knowledge to optimize institutional functioning. Growing scholarly interest in this field promises to strengthen the conceptual development of theoretical constructs while reducing knowledge fragmentation in the future (Quarchioni et al., 2020).

Iqbal (2021), in turn, argues that stronger and more effective organizational innovation often emerges from senior management's recognition of knowledge as a strategic asset. Likewise, Núñez Marín and María Alfonso (2023) reviewed knowledge management models in Higher Education Institutions (HEIs) and found that such systems vary according to institutional and contextual specificities, aiming to improve universities' core functions. Furthermore, for KM initiatives to succeed, they must follow strategic design principles, receive cultural support, and rely on technological enablers—while aligning seamlessly with existing institutional workflows (Santos et al., 2024).

Methodology

The research took place at the Technical University of Angola (UTANGA). The study units consisted of populations categorized according to their roles and the differing levels of involvement of participants in the Psychology degree program, specifically from the second to the fourth year of the daytime course. The study engaged six administrators, 30 faculty members—representing 100% of the course's teaching staff involved in relevant subjects—and 68 Psychology students, selected through stratified probabilistic sampling, accounting for 68% of the total student population.

Diagnosing the initial state of Psychology students' training in the prevention of sexually transmitted infections at UTANGA required the operationalization of the core variable, informed by the theoretical constructs previously analyzed. This process involved breaking down the variable into dimensions and indicators to move from the abstract to the concrete level, thereby enabling direct measurement and observation (Annex 1).

Based on the defined variable, three dimensions were identified: cognitive, procedural, and affective-behavioral. Each dimension includes specific indicators. Notably, these dimensions constitute a dialectical unity, interrelating the graduate's knowledge, professional conduct, and personal engagement—including emotions, feelings, and the behavioral expression of preventive actions against sexually transmitted infections.

Dimension 1. Cognitive:
Knowledge acquisition shapes future professional performance. Psychology graduates must therefore internalize key concepts concerning STI risk factors, preventive measures, theoretical frameworks, and appropriate response strategies—each contextualized within the Angolan educational setting.

Dimension 2. Procedural:
Professional conduct must reflect the integration of cognitive elements, given the necessity for personal involvement. This includes emotional states, expressed feelings, and the ability to make informed decisions and engage in behaviors that support STI prevention efforts relevant to the local educational context.

Dimension 3. Affective-Behavioral:
Behavioral responses reflect the unity of cognitive, emotional, and procedural elements. Psychology graduates must demonstrate emotional awareness and personal commitment by expressing relevant attitudes, decisions, and behaviors that facilitate STI prevention actions, tailored to the Angolan educational environment.

Following the operationalization process, instruments were designed to align with the defined dimensions and indicators. These tools enabled the collection and processing of quantitative data, from which qualitative insights regarding the core variable could be inferred (Annex 1).

The initial diagnostic process unfolded at UTANGA during the 2023 academic year. Study units included populations categorized by roles and involvement levels in the Psychology degree training process. Participants included 68 students (from second to fourth year of the daytime course), 30 faculty members, and six administrative leaders: the Rector, Vice-Rector for Academic Affairs, Vice-Rector for Scientific Research, Postgraduate and University Extension, the Secretary General, and the Head of the Department of Humanities and Social Sciences.

To assess the initial state of the identified scientific problem, the following empirical methods guided the process: document review, analysis of pedagogical outputs, classroom observation, interviews with administrators, and surveys administered to both faculty and students.

The empirical research methods used include:
-Document analysis, which allowed for the review of normative documents and methodological guidelines within the degree curriculum relevant to STI prevention.
-Analysis of pedagogical outputs, which confirmed the existence of actions related to STI prevention within student training.
-Interviews, which provided insights from university administrators regarding both student training and faculty preparedness for STI prevention.
-Faculty survey, which assessed instructors' preparation and engagement with STI-related content.
-Student survey, which captured students' perspectives on the STI prevention education they received during their undergraduate studies.
-Classroom observation, which enabled direct assessment of how STI prevention was addressed in teaching practices.
-Expert review, which contributed to the theoretical validation of the proposed theoretical-methodological framework.
-Methodological triangulation, which facilitated the identification of converging or diverging information on the research object through cross-checking data from different methods.
-Case study, which allowed for the observation and analysis of participant behavior in relation to the proposed framework, providing insight for improving both knowledge management and pedagogical practice.
-Statistical methods, used to quantify and process collected data to support analysis and conclusion drawing.

Results

Document Review Results

The document review (Annex 1) aimed to verify how the training of Psychology graduates in the prevention of sexually transmitted infections (STIs) appears in the professional model, as well as in the Academic Regulations of Higher Education in Angola.

In this regard, the review encompassed key course documents, including the Basic Law of Angola's Education System, Presidential Decree No. 198 of August 10, 2018, the Professional Model, the Teaching Process Plan, subject syllabi, and methodological and organizational guidelines for the program.

All reviewed documents underscore the imperative of improving educational quality as a priority within the broader transformation processes underway in the Republic of Angola.

The Basic Law of the Angolan Education System (Annex 2) highlights central and distinctive elements of the current educational model adopted by Angolan universities. Presidential Decree No. 198 of August 10, 2018 (Annex 3) establishes the legal framework regulating the design,

organization, and implementation of undergraduate curricula across higher education institutions (HEIs). This decree aims to foster curricular harmonization within the higher education subsystem. It defines the curriculum as a structured plan of teaching and learning that outlines objectives, content, and processes, serving as a guide for pedagogical action. Through it, institutions clarify what should be taught (content), why (objectives), how (methodology), and when (sequence).

Each new degree program must receive approval from the Ministry of Higher Education following consultation with the respective professional associations. In practice, this step often remains unfulfilled. For instance, the Angolan Psychologists' Association has operated without an elected Chair for over two years due to internal conflicts. At UTANGA, the Psychology program was approved by Executive Decree No. 15 of January 6, 2012.

Curricula are developed independently by each institution with legal personality, despite belonging to the national higher education subsystem. The regulations outlined in Decree 198-2018 carry binding authority and provide guidelines for curriculum development, implementation, management, and oversight within HEIs.

Governing Documents of the Degree Program

The curriculum documents for the Psychology degree present semester-based academic units organized into three stages: a basic cycle, a specialization cycle, and a pre-professional cycle. Courses fall into mandatory, transversal, and elective categories. The program employs a face-to-face instructional model. The Psychology curriculum at UTANGA consists of 40 subjects distributed over 8 semesters.

Evidence indicates a lack of full development and structural consistency in these documents. Some merely define the professional profile and career outcomes, omitting proper justification. Proposed objectives more closely resemble professional challenges than actual training goals.

The Professional Model emphasizes the importance of aligning the training of psychology professionals with ongoing transformations in Angola's socioeconomic model. This reference serves as a foundation for developing a proposal to enhance Psychology training through new theoretical and methodological approaches aimed at STI prevention.

This document highlights potential opportunities for STI prevention through the structuring of the curriculum, which begins with a set of foundational intentions defined by the Ministry of Higher Education of the Republic of Angola for public and private institutions alike. These include:

The adoption of a basic structural framework for general education development.

Vertical and horizontal articulation of curriculum components.

Orientation toward comprehensive professional development, focusing on the acquisition of skills, values, and competencies while respecting Angola's cultural and ethnolinguistic diversity and promoting continued learning.

The Teaching Process Plan outlines the distribution of instructional hours across courses. However, none of the general objectives explicitly address STI prevention. Most courses guide students toward specific areas of professional practice during the final two years (the professional cycle), resulting in significant gaps. Students graduate with in-depth knowledge in only one area, leaving them unprepared to work in others—an issue that arises frequently upon entering the job market.

The program also includes a more general track, which, although not designed for specialized training, organizes subjects into thematic clusters corresponding to primary areas of psychological practice: organizational and labor, clinical, social, and educational—an approach currently adopted by UTANGA.

Analysis of methodological and organizational guidelines revealed a positive emphasis on interdisciplinarity and a stated intention to train professionals as health promoters, including roles in prevention, evaluation, and treatment. Nonetheless, the curriculum lacks theoretical and methodological components to support explicit instruction in STI prevention, despite the potential embedded in its knowledge structure.

Strengthening collaborative efforts across the degree program emerges as essential. Such collaboration would allow educators to leverage the educational potential of course content to promote students' comprehensive development. To this end, extracurricular and outreach activities related to STI prevention should be coherently integrated into the training process.

Results of the Analysis of Pedagogical Process Outputs

To verify actions aimed at training Psychology graduates in the prevention of sexually transmitted infections (STIs), eight syllabi were examined from courses included in the curriculum: Cognitive Psychology, Developmental Psychology, Research Methods, Psychology and Community, Psychology and Health, Social Psychology II, Health Psychology, and again Psychology and Community. An integrated analysis produced the following findings:

- Overall, the justification sections in 100% of the course syllabi emphasize the importance of STI prevention; however, they fail to articulate a clear intention to develop student competence in this area.

- The course objectives, derived from the general course framework, do not align with those outlined in the professional model. Moreover, the objectives often omit explicit reference to STI prevention.

- Content organization follows a logical sequence and maintains relevance to the designated subject matter. Nonetheless, explicit references to STI prevention appear only in Psychology and Community, Psychology and Health, Social Psychology II, and Health Psychology, while the remaining syllabi lack such references.

- No evidence supports the implementation of educational actions targeting the integration of socio-economic and cultural factors into health promotion, health education, or STI prevention efforts.

- Only the methodological and organizational guidelines of Psychology and Community, Psychology and Health, Social Psychology II, and Health Psychology provide some instructions that support the inclusion of STI prevention. The rest of the courses offer no such recommendations.

- This aspect of the syllabi lacks sufficient theoretical and methodological grounding to address STI prevention comprehensively, thereby limiting its integration into the training process for Psychology students.

Course Lesson Plans

The review of lesson plans (Annex 4) from the subjects Cognitive Psychology, Developmental Psychology, Research Methods, Psychology and Community, Psychology and Health, Social Psychology II, and Health Psychology—all part of the Psychology degree program curriculum—served as a means to assess the extent to which professional training addresses the prevention of sexually transmitted infections (STIs). The most significant findings include the following:

- Coherent incorporation of STI prevention into Psychology graduate training appears only in Social Psychology II and Health Psychology.

- Partial incorporation exists in Psychology and Community and Psychology and Health.

- Cognitive Psychology lacks any provision for addressing STI-related content. This finding reveals that:

- Only Social Psychology II and Health Psychology utilize theoretical and methodological knowledge to address STI prevention.

- Lesson plans do not consistently include explicit educational activities related to STI prevention as part of their content. However, in Social Psychology II and Health Psychology, occasional research and outreach activities have been designed with this focus.

- These findings suggest that STI prevention has not been prioritized across the curriculum, despite evident commitment and motivation from faculty members to support Psychology training.

- The analysis confirms the absence of a deliberate, structured effort aimed at integrating STI prevention. Notable achievements include the planning and implementation of actions intended to facilitate discussions on this content at each academic level (from second to fourth year). Nonetheless, these gaps reflect the inadequacy of the program's methodological work in fully supporting Psychology students' education in STI prevention.

Classroom Observation Results

Eight classes were observed with the aim of verifying how the Psychology degree program addresses training in the prevention of sexually transmitted infections (STIs), using the observation guide detailed in Annex 5. The key findings include the following:

- Social Psychology II and Health Psychology demonstrated the highest level of coherence in preparing Psychology graduates for STI prevention, thus considered as successfully achieving this objective.

- In the courses Psychology and Community and Psychology and Health, training on STI prevention appeared sporadically and lacked consistent integration. These cases were therefore classified as partially achieved. No evidence of such training appeared in the remaining subjects.

- In 68.5% of the observed classes, instructors displayed insufficient theoretical and methodological knowledge to effectively train Psychology students in STI prevention.

- In 31.5% of the observed sessions, educators designed purposeful learning activities within the course content to promote training in STI prevention for Psychology students.

These findings indicate that the Psychology program's training in STI prevention remains largely unachieved. The main shortcomings stem from gaps in faculty preparation to design and deliver instruction in this area. While partial progress was noted in Psychology and Community and Psychology and Health, these deficiencies can be attributed to a lack of clear guidance in subject syllabi and limited methodological development within the curriculum related to the focus of this research.

Results of the Interviews with University Administrators

The interview (Annex 6) was conducted with the Rector, Vice-Rector for Academic Affairs, Vice-Rector for Scientific Research, Postgraduate and University Extension, the Secretary General, and the Head of the Department of Humanities and Social Sciences. The aim involved gathering diagnostic and evaluative information on the initial state of training for Psychology students in the prevention of sexually transmitted infections (STIs), as well as assessing faculty preparation for addressing this subject.

Analysis of the responses revealed the following insights:

- All interviewees (100%) acknowledged the importance of students acquiring knowledge related to STI prevention (types and methods of prevention). However, they viewed this knowledge as typically emerging from general undergraduate training or life experience, rather than from specialized courses or continuing education. They emphasized the role of faculty in incorporating STI-related content into their subject areas as a critical strategy to prepare students for future professional practice.

- Likewise, 100% of respondents stressed the importance of faculty members possessing theoretical and practical knowledge of STI prevention, particularly in relation to the local context. Mastery of theoretical and methodological approaches to this topic was considered essential.

- A majority (80.5%) recognized the current lack of coherence in Psychology students' training on STI prevention. They attributed this to the limited curricular focus across individual subjects, which tend not to address sexual health, STI prevention, or associated psychosocial factors. This situation reflects faculty members' insufficient theoretical-methodological preparation on the subject.

- All respondents (100%) noted the existence of formative activities that promote STI-related knowledge within the program. However, they also highlighted the absence of dedicated courses focused on sexual health or STI prevention. Relevant content appears scattered across general subjects, lacking a structured or in-depth approach.

- Additionally, all administrators pointed out that outreach activities directed toward community engagement rarely appear integrated into course content across academic years. This omission suggests low levels of commitment and motivation among faculty for implementing such initiatives.

Administrators identified the following as the most frequent outreach activity:

The biannual "Red December" campaign.

They also cited the main shortcomings as follows:

- Inadequate theoretical and methodological preparation among faculty to address STI prevention.
- The Psychology curriculum does not provide explicit guidance on how to integrate STI prevention.
- Courses rarely adopt an interdisciplinary perspective necessary to approach this and other complex topics in a way that fosters stronger professional preparation.

Results of the Faculty Survey

The survey (Annex 7) was administered to 30 Psychology faculty members in an atmosphere of respect and openness, with the goal of gathering insights into their preparedness for training Psychology students in the prevention of sexually transmitted infections (STIs), as well as how they currently address this topic in class.

The findings are as follows:

-46% of respondents reported feeling prepared to undertake the task of training Psychology students in STI prevention. However, they noted that their knowledge mainly relates to types of STIs and basic prevention methods, derived more from personal experience and general undergraduate education than from specialized training or professional development courses.

-Only 43% acknowledged the importance of addressing STI prevention directly within the classroom setting. They offered the following justifications:

> Encourages self-care among students, particularly given the existence of STI cases within the university and, specifically, within the Psychology program.
>
> Provides students with cognitive tools and accurate, up-to-date information necessary for community-based prevention work.
>
> Supports the redefinition of professional roles regarding psychologists' involvement in STI prevention.
>
> Creates a space conducive to behavioral change and the promotion of safe sex.
>
> Promotes the development of communication, decision-making, and negotiation skills essential for psychoeducational work in professional practice.

-70% of professors indicated having occasionally addressed factors contributing to STI transmission in their classes. All agreed that Psychology graduates should possess knowledge related to the prevention of communicable chronic diseases, emphasizing the need for greater collaboration among faculty to achieve this aim.

-Only 16% reported occasionally including independent assessment activities related to STI prevention within their course evaluations.

-Just 26% stated that they make regular use of up-to-date bibliographic sources and information and communication technologies (ICTs) for teaching about STI prevention and its primary causes.

-40% of respondents claimed familiarity with the normative documents that govern STI prevention. However, they admitted that classroom discussions tend to focus more on STIs themselves and their prevention rather than on the legal frameworks. While some mentioned the importance of the National Institute for the Fight Against AIDS, they generally discussed its work in broad terms.

-Only 20% expressed satisfaction with the outcomes related to STI prevention within the educational setting, whereas the remaining faculty members indicated dissatisfaction. Their reasoning reflected a shared perception that the topic does not receive systematic or intentional attention. Within the curriculum, STI prevention appears mainly in the Psychology and Health course, and related activities typically occur only in December during the "Red December" HIV awareness campaign.

-Nonetheless, 100% of surveyed professors expressed strong interest and commitment toward preparing future Psychology professionals to address STI prevention effectively.

The results confirm the insufficient preparation among faculty members for training Psychology students in STI prevention—an issue that directly affects the quality of future professional formation. Figure 2.1 presents a visual summary of these findings.

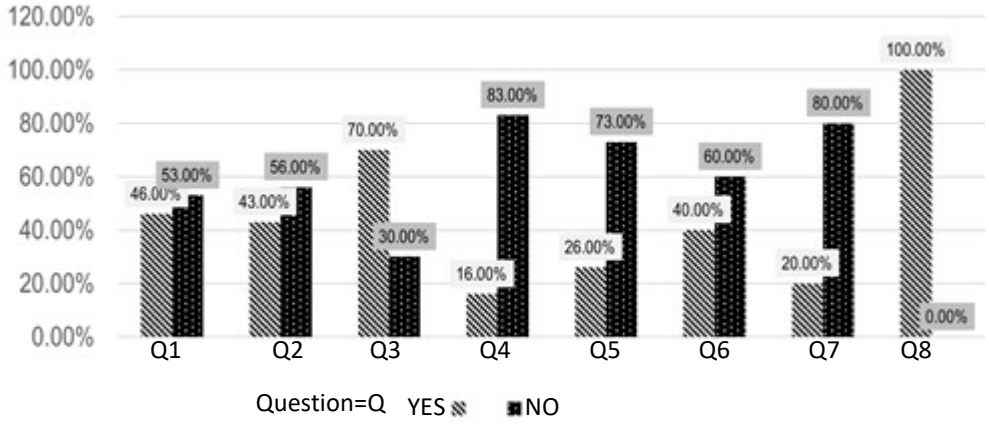

Figure 1. Results of the Faculty Survey

Results of the Student Survey

The survey was administered to 68 students from the second to fourth year of the Psychology degree program (Annex 8) during the 2023 academic year. The objective involved assessing students' perceptions regarding the undergraduate training they received in the prevention of sexually transmitted infections (STIs) (Annex 9). The results of the collected data are presented in Figure 2.

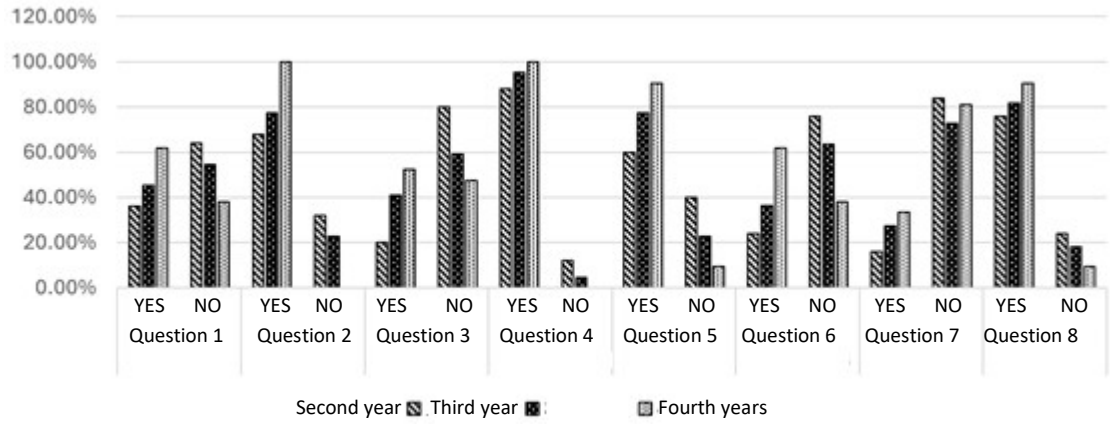

Figure 2. Results of the Student Survey

Regarding students' knowledge of sexually transmitted infections (STIs), an upward trend emerged across academic years, with 36%, 45%, and 61% of second-, third-, and fourth-year students, respectively, reporting familiarity with the topic. Most students defined STIs as infections transmitted through sexual intercourse, particularly unprotected sex.

All fourth-year students reported receiving classroom information about the main factors contributing to the emergence of STIs. However, only 68% of second-year students and 77% of third-year students reported the same. According to their responses, this content typically arises in the Psychology and Health course and during the "Red December" awareness activities.

Only 20%, 40%, and 52% of students in the second, third, and fourth years, respectively, indicated having consulted literature related to STI prevention. Most referenced doing so only for specific assignments or activities scheduled within the Psychology and Health course.

Across all years, students expressed agreement on the importance of understanding STI prevention measures—not only for personal well-being and self-care but also to enable professional engagement in health promotion and psychosocial support for individuals living with STIs. Affirmative responses increased progressively: 88% in the second year, 95% in the third year, and 100% in the fourth year.

The majority reported having conducted independent work on STIs and their prevention, with 60%, 77%, and 90% of students in each respective year confirming such engagement.

Only 24%, 36%, and 61% of students in the second, third, and fourth years, respectively, mentioned having participated in activities aimed at STI prevention within their communities. References mainly pointed to December-related events tied to the "Red December" campaign marking World AIDS Day.

Student satisfaction with the STI-related education received remains low. Only 16%, 27%, and 33% of students in each respective year expressed satisfaction with the outcomes. Many agreed on the need for broader curricular inclusion of STI-related content across various subjects to better prepare them for community engagement and prevention efforts.

A high level of willingness emerged among students to engage in STI prevention initiatives within educational institutions and the broader community. This disposition was evident in the affirmative responses of 76%, 81%, and 90% of students from the second, third, and fourth years, respectively. Their motivation stems primarily from their identity as future psychologists and their sense of responsibility toward community health in the Angolan context. Students emphasized the need to address STIs, which significantly affect people of various age groups, particularly adolescents and youth.

Although the survey results suggest that sexual health knowledge deepens over the academic years, cultural limitations persist. Students' limited knowledge of STIs continues to affect both their academic formation and their readiness for future professional practice.

Results of the Methodological Triangulation

Based on the information obtained through the various applied research methods, a methodological triangulation was conducted. The following conclusions were drawn:

The document review regarding undergraduate training in the Psychology program revealed the necessity of preparing graduates with comprehensive knowledge of sexually transmitted infections (STIs). This need was corroborated by the analysis of course syllabi, interviews with university administrators, and the surveys conducted with both faculty and students.

The analysis of pedagogical process outputs confirmed the absence of intentional methodological focus on STI-related themes. Review of course syllabi, lesson plans, and the

faculty survey revealed a lack of theoretical-methodological frameworks to support the training of Psychology students in STI prevention.

An integrated analysis of the diagnostic results enabled the identification of both strengths and weaknesses within the dimensions defined for this research, as detailed below:

Strengths and Weaknesses of Dimension 1: Cognitive

Strengths:
-The analyzed documents acknowledge the need to train undergraduate students with a solid understanding of STI prevention.
-Both administrators and faculty recognize the importance and relevance of preparing Psychology graduates for the prevention of sexually transmitted infections.

Weaknesses:
-The normative documents fail to provide sufficient guidance on the training of Psychology graduates in the prevention of sexually transmitted infections.
-The methodological guidelines within the Psychology program syllabi do not consistently reveal explicit interrelation and cooperation among subjects in the curriculum to support STI prevention.
-Limited theoretical and methodological knowledge exists regarding the training of Psychology students in STI prevention, hindering an interdisciplinary approach.
-Methodological work remains insufficient across the various subjects of the Psychology program to adequately support STI prevention training.

Strengths and Weaknesses of Dimension 2: Procedural

Strengths
-Faculty members recognize the deficiencies in their ability to train Psychology students in the prevention of sexually transmitted infections.
Weaknesses
-Theoretical and methodological approaches to STI prevention are not consistently integrated into the content of the subjects studied.
-Instruction on STI prevention across the various subjects in the Psychology program lacks both systematization and intentional design.

Strengths and Weaknesses of Dimension 3: Affective-Behavioral
Strengths
-Both students and faculty demonstrate strong motivation to acquire knowledge related to STI prevention through the different subjects of the Psychology program.

Weaknesses
-Faculty members from various subjects exhibit shortcomings in the affective domain concerning STI prevention training, as they do not consistently demonstrate:
-An appropriate appreciation for the role of STI prevention in Psychology training.
-A critical and reflective attitude toward the development of this competency.
-A clear commitment to integrating STI prevention into student training.

Based on the results obtained from the indicators and dimensions, the initial state of the core variable predominantly falls within the "not achieved" category. This confirms the existence of significant shortcomings in the training of Psychology students regarding the prevention of sexually transmitted infections.

The findings from the investigative process support the existence of the previously stated scientific problem and highlight the need for a coherent theoretical-methodological framework that can guide the transition from the current state to the desired one.

Conclusions

As part of the investigative process, a preliminary study was conducted at the Technical University of Angola, which allowed for the identification of several strengths related to the training of Psychology graduates in the prevention of sexually transmitted infections (STIs). These include:

- The support of the institution's highest academic and administrative authorities.
- The opportunities offered by the existing degree curriculum.
- Prior experience in STI promotion and prevention activities.
- The presence of ongoing research projects related to STI promotion and prevention.

The research findings related to STI prevention reveal that, despite a willingness for change, certain limitations persist. Both the theoretical analysis and empirical inquiries conducted confirm the challenges associated with preparing Psychology graduates in STI prevention at the Technical University of Angola. Key issues identified include:

- Lack of consensus within the university's academic community regarding the importance of including STI prevention in Psychology training.
- Ongoing insufficiencies in the methodological work conducted across the program to support this area of training.
- Absence of planned extracurricular activities specifically addressing STI prevention within the Psychology curriculum.
- Lack of a theoretical-methodological framework capable of guiding the integration of STI prevention training within the instructional structure, despite the potential offered by the curricular knowledge system.

The analysis reveals a clear contradiction between the social demands placed on Psychology professionals—particularly regarding prevention efforts and psychosocial support for reducing STI rates—and the theoretical-methodological limitations among faculty that hinder their ability to design and implement effective, comprehensive training in this area.

The diagnostic process confirmed the existence of conceptual, procedural, and affective-behavioral limitations that hinder the effective use of the Psychology program's potential for STI prevention training.

Initial diagnostic findings also showed that key curriculum documents do not explicitly recognize the need to train Psychology students in STI prevention. As a result, these documents fail to provide adequate guidance for integrating this topic into course content across the curriculum.

Students demonstrated limited understanding of STI prevention, and faculty lacked the consistency and intentionality needed to design and implement such training effectively.

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ANNEX 1
SCALE FOR THE EVALUATION OF INDICATORS, DIMENSIONS, AND THE CORE VARIABLE

Objective: To assess the indicators, dimensions, and the core variable during both the initial and final diagnostic phases.
The scale is based on the frequency of occurrence of the indicators, categorized as: Fully Achieved, Partially Achieved, Not Achieved

Dimension I: Cognitive

Indicators	Fully Achieved	Partially Achieved	Not Achieved
1.1	Demonstrates thorough understanding of concepts related to sexually transmitted infections (STIs).	Demonstrates limited understanding of concepts related to STIs.	Does not demonstrate understanding of concepts related to STIs.
1.2	Demonstrates comprehensive knowledge of preventive measures to avoid STIs.	Demonstrates limited knowledge of preventive measures to avoid STIs.	Does not demonstrate knowledge of preventive measures to avoid STIs.
1.3	Demonstrates understanding of major health prevention issues within the community.	Demonstrates limited understanding of major health prevention issues within the community.	Does not demonstrate understanding of major health prevention issues within the community.
1.4	Demonstrates comprehensive knowledge of preventive measures to avoid STIs.	Demonstrates limited knowledge of preventive measures to avoid STIs.	Does not demonstrate knowledge of preventive measures to avoid STIs.

Cognitive Dimension Evaluation Criteria
Fully Achieved: No difficulties observed in any of the indicators.
Partially Achieved: One or more indicators evaluated as Partially Achieved or Not Achieved.
Not Achieved: Two or more indicators evaluated as Not Achieved.

Dimension II: Procedural

Indicators	Fully Achieved	Partially Achieved	Not Achieved
2.1	Systematically designs activities to contribute to the prevention of sexually transmitted infections (STIs) in educational institutions and the community.	Occasionally designs activities to contribute to STI prevention in educational institutions and the community.	Does not design activities to contribute to STI prevention in educational institutions and the community.

Indicators	Fully Achieved	Partially Achieved	Not Achieved
2.2	Systematically applies knowledge on STI prevention when carrying out preventive actions.	Occasionally applies knowledge on STI prevention when carrying out preventive actions.	Does not apply knowledge on STI prevention when carrying out preventive actions.
2.3	Systematically implements learned procedures to support STI prevention in educational institutions and the community.	Occasionally implements learned procedures to support STI prevention in educational institutions and the community.	Does not implement learned procedures to support STI prevention in educational institutions and the community.

Procedural Dimension Evaluation Criteria
Fully Achieved: No difficulties observed in any of the indicators.
Partially Achieved: One or more indicators evaluated as Partially Achieved or Not Achieved.
Not Achieved: Two or more indicators evaluated as Not Achieved.

Dimension III: Affective-Behavioral

Indicators	Fully Achieved	Partially Achieved	Not Achieved
3.1	Systematically demonstrates interest and commitment to the prevention of sexually transmitted infections (STIs).	Occasionally demonstrates interest and commitment to STI prevention.	Does not demonstrate interest or commitment to STI prevention.
3.2	Systematically expresses satisfaction with the outcomes of their education on STI prevention.	Occasionally expresses satisfaction with the outcomes of their education on STI prevention.	Does not express satisfaction with the outcomes of their education on STI prevention.
3.3	Systematically shows feelings of disapproval toward behaviors that do not contribute to STI prevention.	Occasionally shows feelings of disapproval toward behaviors that do not contribute to STI prevention.	Does not show feelings of disapproval toward behaviors that do not contribute to STI prevention.
3.4	Systematically participates actively in STI prevention activities organized in educational institutions and the community.	Occasionally participates actively in STI prevention activities organized in educational institutions and the community.	Does not participate actively in STI prevention activities organized in educational institutions and the community.

Affective-Behavioral Dimension Evaluation Criteria
Fully Achieved: No difficulties observed in any of the indicators.
Partially Achieved: One or more indicators evaluated as Partially Achieved or Not Achieved.
Not Achieved: Two or more indicators evaluated as Not Achieved.

General Evaluation Scale for the Core Variable

Fully Achieved:

- Assimilates knowledge (concepts, risk factors, and action strategies) related to the prevention of sexually transmitted infections (knowing).
- Applies knowledge regarding the components of the educational process for STI prevention (knowing how to do).
- Possesses and demonstrates motivations, attitudes, and values oriented toward STI prevention, recognizing that such behaviors promote individual and social well-being (knowing how to be).

Partially Achieved:

- Partially assimilates knowledge (concepts, risk factors, and action strategies) related to STI prevention (knowing).
- Applies some knowledge regarding the components of the educational process for STI prevention (knowing how to do).
- Possesses and demonstrates some motivations, attitudes, and values oriented toward STI prevention, recognizing its importance for individual and social well-being (knowing how to be).

Not Achieved:

- Fails to assimilate knowledge (concepts, risk factors, and action strategies) related to STI prevention (knowing).
- Does not apply knowledge regarding the components of the educational process for STI prevention (knowing how to do).
- Does not possess or demonstrate motivations, attitudes, or values oriented toward STI prevention, despite its relevance to individual and social well-being (knowing how to be).
- Escala para evaluar la variable de forma general

ANNEX 2
GUIDELINE FOR DOCUMENT REVIEW

Objective:
To verify, within the normative documents that constitute the degree curriculum and other materials related to the methodological guidelines of the courses, the provisions established for the training of Psychology graduates in the prevention of sexually transmitted infections (STIs).

Documents to be reviewed and aspects to be evaluated in each case:

- Professional Profile Model: Foundations established for the training of Psychology graduates in STI prevention.
- Teaching Process Plan: Placement and relevance of STI prevention content in the Psychology curriculum.
- Course Programs: Potential of course content to support the training of Psychology graduates in STI prevention.
- Methodological and Organizational Guidelines for Courses: Degree to which methodological guidelines promote STI prevention training for Psychology students.

ANNEX 3
GUIDELINE FOR THE REVIEW OF COURSE LESSON PLANS

Objective:
To verify the training of Psychology graduates in the prevention of sexually transmitted infections.

Aspects to be evaluated:

- Coherence in addressing STI prevention within Psychology training.
- Use of theoretical and methodological knowledge for STI prevention instruction.
- Integration of formative activities within course content that support STI prevention training.
- Importance assigned to STI prevention in the professional preparation of Psychology students.
- Disposition and motivation to address STI prevention in the educational process.

Evaluation Scale: Fully Achieved, Partially Achieved, Not Achieved

ANNEX 4
CLASSROOM OBSERVATION GUIDE

Objective:
To verify the training of Psychology graduates in the prevention of sexually transmitted infections.
Course:
Instructor:
Topic:
Legend:
Fully Achieved (FA)
Partially Achieved (PA)
Not Achieved (NA)

Aspects to Be Observed	Category		
	LT	**LP**	**NL**
Procedural Dimension			
Provides a coherent approach to the training of Psychology graduates in the prevention of sexually transmitted infections (STIs). Utilizes theoretical and methodological knowledge to support the training of Psychology graduates in STI prevention. Designs and implements formative activities as part of the content aimed at training Psychology graduates in STI prevention.			

ANNEX 5
INTERVIEW GUIDE FOR ADMINISTRATORS AT THE TECHNICAL UNIVERSITY OF ANGOLA

Objective:
Gather diagnostic and evaluative information from university administrators regarding the initial state of Psychology graduates' training in the prevention of sexually transmitted infections (STIs), as well as the level of faculty preparedness to address this issue.

Key Aspects to Consider:
Perceived importance of training Psychology graduates in the prevention of sexually transmitted infections.

Identified Needs:
-Acquisition of knowledge related to STI prevention.
-Development and application of normative guidelines for integrating STI prevention into Psychology training.
-Mastery of theoretical and methodological foundations concerning the training of Psychology graduates in STI prevention.
-Inclusion of formative activities within course content specifically designed to address STI prevention.
-Demonstrated willingness and motivation to enhance the training of Psychology graduates in STI prevention.

ANNEX 6
FACULTY SURVEY – PSYCHOLOGY DEGREE PROGRAM

Objective:
Verify the extent of faculty preparedness in training Psychology graduates in the prevention of sexually transmitted infections (STIs), as well as how this topic is addressed with students.

Dear Professor,
This survey forms part of a scientific research study on the training of Psychology graduates in the prevention of sexually transmitted infections at the Technical University of Angola. Your collaboration as an educational professional remains essential to this process. Kindly respond to the following questions.
Thank you in advance for your participation.

Items:

1. Do you consider yourself prepared to train Psychology graduates in the prevention of sexually transmitted infections?
   Yes ___ No ___ Please justify your response.
2. In your classes, do you assign importance to addressing STI prevention?
   Yes ___ No ___ If yes, please provide at least three supporting points.
3. Have you addressed the factors that cause sexually transmitted infections in your classes?
   Yes ___ No ___ If yes, please explain.
4. Have you included STI prevention content in your course's independent assessment activities?
   Yes ___ No ___
5. Do you recommend up-to-date bibliographic sources on STI prevention and its main causes, using information and communication technologies (ICTs)?
   Yes ___ No ___ If yes, please list the sources.
6. Are you familiar with the normative documents that govern STI prevention in education?
   Yes ___ No ___ Please justify your response.
7. Do you feel satisfied with the outcomes achieved regarding STI prevention in your educational environment?
   Yes ___ No ___ Please justify your response.
8. Do you demonstrate interest and commitment to training Psychology graduates for STI prevention?
   Yes ___ No ___

ANNEX 7

SAMPLE SIZE OF STUDENTS FROM SECOND TO FOURTH YEAR OF THE PSYCHOLOGY DEGREE PROGRAM

Population:

Students enrolled in the second to fourth year of the undergraduate Psychology program.

Formula for Calculating Sample Size:

$$n = \frac{Z_\alpha^2 \cdot N \cdot p \cdot q}{d^2 \cdot (N-1) + Z_\alpha^2 \cdot vp \cdot q} = \frac{1{,}96^2 \cdot 100 \cdot 0{,}05 \cdot 0{,}95}{0{,}03^2 \cdot (100-1) + 1{,}96^2 \cdot 0{,}05 \cdot 0{,}95} = 68$$

Where:

n = sample size

N: population size

(1-α)*100%: confidence level

$Z_{\alpha=0,05}$=95% confidence level=1,96

p: expected prevalence of the parameter to be evaluated: 0,05

q= 1-p= 0,95

d: maximum acceptable error≤ 10%= 0.03

Type of Sampling: Probabilistic

Sampling Method: Stratified.

Formula for Calculating Stratum Size:: $n_i = n\left(\frac{N_i}{N}\right)$

Where:

N_i= Size of stratum i

n_i= Sample size in stratum i

Table 1. Enrollment and Sample Size by Academic Year

Academic Year	Matrícula (Población)	Tamaño del estrato
2nd Year	36	25
3rd Year	33	22
4th Year	31	21
Total	N= 100	n=68

ANNEX 8
STUDENT SURVEY – PSYCHOLOGY DEGREE PROGRAM AT UTANGA

Objective:
To gather information from students in the Psychology degree program regarding their knowledge of the prevention of sexually transmitted infections (STIs).

Dear Student,
The data you provide through this questionnaire will prove highly valuable in improving the training of Psychology professionals focused on the prevention of sexually transmitted infections. Your responses will support meaningful changes in knowledge and professional practice.

Thank you very much.

Items

1. Do you know what sexually transmitted infections are?
Yes _____ No _____
If you answered yes, please explain what you know about sexually transmitted infections.

2. Do you receive information in your classes about the main factors contributing to the emergence of sexually transmitted infections?
Yes _____ No _____
Please explain.

3. Have you consulted any literature on methods for preventing these diseases?
Yes _____ No _____
Please explain.

4. Do you consider it important to know the measures for preventing sexually transmitted infections?
Yes _____ No _____
Please explain.

5. Have you completed independent work related to sexually transmitted infections and their prevention?
Yes _____ No _____

6. Do you carry out activities that contribute to STI prevention in your community?
Yes _____ No _____
Please describe the activities.

7. Do you feel satisfied with the education you have received regarding STI prevention?
Yes _____ No _____
Please justify your response.

8. Are you willing to develop activities focused on the prevention of sexually transmitted infections within educational institutions and the community?
Yes _____ No _____
Please explain your answer.