



# Factors influencing internship experiences in a bachelor's degree program in Biological Sciences

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**ABSTRACT.** Supervised Curricular Internship is an essential component in teacher training, serving as a bridge between academic theory and educational practice. This link not only fulfills a curricular requirement but also provides interns with an opportunity for immersion in the sociocultural reality of education, enabling the integration of these skills. The study presented here aims to quantitatively analyze the organizational and personal factors that influence intern satisfaction at a public educational institution. Using a structured questionnaire as the main data collection tool, the study addresses variables such as supervisor support, clarity of proposed activities, perception of the functional and social value of the internship, overall satisfaction with the internship experience, and the level of intern initiative. The results reveal that supervisor support, task clarity, and the perceived functional and social value play significant roles in intern satisfaction, outweighing influences such as gender. The significant influence of teacher support, both directly and indirectly through the perceived social value, underscores the importance of interpersonal relationships and active involvement of supervising teachers. Moreover, the interns' proactivity, encouraged by task clarity and functional value, is highlighted as crucial for a positive internship experience. It is concluded that well-structured internship programs, which offer qualified support from supervising teachers and emphasize practical relevance in the educational context, are important elements for maximizing intern satisfaction.

**Keywords:** teacher training; supervised curricular internship; satisfaction in the internship; organizational and personal factors.

## Factores que influyen en la experiencia de los pasantes en un curso de licenciatura en Ciencias Biológicas

**RESUMEN.** El Práctico Curricular Supervisado es un componente esencial en la formación de profesores, actuando como un puente entre la teoría académica y la práctica educativa. Este enlace no solo cumple un requisito curricular, sino que también brinda a los pasantes una oportunidad de inmersión en la realidad sociocultural de la educación, permitiendo la integración de estas competencias. El estudio aquí propuesto tiene como objetivo analizar de manera cuantitativa los factores organizacionales y personales que influyen en la satisfacción de los pasantes en una institución pública de enseñanza. Utilizando un cuestionario estructurado como instrumento principal de recolección de datos, el estudio aborda variables como el apoyo del supervisor, la claridad de las actividades propuestas, la percepción del valor funcional y social del práctico, la satisfacción general con la experiencia del práctico y el nivel de iniciativa de los pasantes. Los resultados revelan que el apoyo del supervisor, la claridad de las tareas y el valor funcional y social percibido desempeñan roles relevantes en la satisfacción de los pasantes, superando influencias como el género. La influencia significativa del apoyo del profesor, tanto directa como indirectamente a través del valor social percibido, subraya la importancia de las relaciones interpersonales y la participación activa de los profesores supervisores. Además, la proactividad de los pasantes, incentivada por la claridad de las tareas y por el valor funcional, se destaca como fundamental para una experiencia de prácticas positiva. Se concluye que los programas de prácticas bien estructurados, que ofrecen apoyo cualificado de los profesores supervisores y enfatizan la relevancia práctica en el contexto educativo, son elementos importantes para maximizar la satisfacción de los pasantes.

**Palabras clave:** formación de profesores; prácticas curriculares supervisadas; satisfacción en la práctica; factores organizacionales y personales.

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## Introduction

The Supervised Teaching Practicum is a vital bridge between theory and practice in teacher education programs, since it integrates knowledge acquired throughout the academic course with the sociocultural realities of educational institutions. This immersion phase allows prospective teachers to apply theoretical skills in practical settings, facing challenges that help refine their professional competencies. The importance of this stage is emphasized by scholars such as Pimenta and Lima (2004), who view the practicum as an opportunity for continuous development and preparation for the demands of contemporary teaching.

Many authors highlight the practicum's role in the effective transition of students into professional environments, underscoring the pedagogical guidance and robust structure that characterize this experience (Sides & Mrvica, 2016; Pimenta & Lima, 2004; Sweitzer & King, 2009). Characterized by a well-defined structure and a strong focus on pedagogical mentoring, the practicum provides essential hands-on experience for consolidating theoretical learning. It is fundamental to building professional identity and to developing the knowledge required for teaching (Menezes, 2023a).

However, the practicum's effectiveness and impact are closely tied to interns' satisfaction. This satisfaction, reflected in preservice teachers' well-being and engagement in teaching activities, is influenced by a variety of factors (Almeida & Pimenta, 2015; Beenen, 2007; Dixon et al., 2005; Menezes, 2023b; Sawyer, 1992; Scholz-Kuhn et al., 2023; Silva & Pedreira, 2016; To & Lung, 2020; Yu et al., 2023). In this context, the present study investigates organizational and individual aspects that shape interns' satisfaction during the Supervised Teaching Practicum in a public educational institution. Recognizing intern satisfaction as an indicator of success for this training phase, the study examines a range of factors, from the support provided by the mentor to the clarity of role expectations and the quality of peer interactions. Building on analyses by Sawyer (1992), Dixon et al. (2005), and Silva and Pedreira (2016), the article seeks to understand how these elements influence interns' experiences, contributing to their preparation for teaching and to their overall well-being.

## Literature Review

The experience of the practicum is strongly shaped by interns' motivation, a construct at the core of Self-Determination Theory developed by Deci and Ryan (2000). This theory holds that motivation is nourished by the human needs for autonomy, competence, and relatedness. In the practicum context, intrinsic motivation, which originates within the individual, is important for active performance and positive impact. It flourishes when interns perceive autonomy in their activities, when they recognize that their skills are being appropriately challenged and developed, and when they feel connected to peers and to the host institution (Deci & Ryan, 2000).

In addition, Goal-Setting Theory by Locke and Latham (2002) and the expectancy-value framework by Eccles and colleagues (1998) underline the importance of setting clear goals to sustain motivation. In practicum settings, specific and measurable objectives give interns direction and purpose, which encourages them to pursue and attain positive outcomes. Motivation becomes a dynamic force that drives both the effectiveness and the impact of the practicum. When interns are intrinsically motivated, feel autonomous, competent, and connected, and are guided by clear goals, they are more likely to maximize learning opportunities and to contribute to the school.

Beyond motivation, other factors highlighted in the literature are relevant to practicum satisfaction, reflected in preservice teachers' well-being and contentment with their teaching activities. These factors include the support provided by the practicum supervisor, clarity of assigned tasks, the quality of interactions with peers, and the perceived functional and social value of the internship. Scholars such as Almeida and Pimenta (2015), Beenen (2007), Dixon et al. (2005), Menezes (2023b), Sawyer (1992), Scholz-Kuhn et al. (2023), Silva and Pedreira (2016), To and Lung (2020), and Yu et al. (2023) have emphasized these aspects.

Support from the practicum supervisor is particularly salient. Such support helps interns perceive the value of their contributions and safeguards their social well-being, both of which are essential for a productive experience. Dixon et al. (2005) examined how supervisor support, job challenge, and role stress affect interns' affective organizational commitment. In a study with 71 sport and recreation management interns from four U.S. universities, they found a positive and significant association between supervisor support and job

challenge with affective commitment, whereas role stress showed a negative relation. Regression analyses indicated that job challenge was the strongest predictor of affective organizational commitment.

Silva and Pedreira (2016) stressed the importance of the cooperating teacher during the supervised practicum. They argue that participation should not be limited to bureaucratic tasks such as signing forms. The cooperating teacher plays a central role in the development of future teachers by sharing experiences, providing guidance, correcting actions, and most importantly encouraging reflection on teaching practice. This support shapes the overall practicum experience and directly influences interns' ability to connect theory and practice (Jackson et al., 2019).

Task clarity is another fundamental factor. It involves communicating duties, timelines, procedures, and expectations to interns. Clarity reduces role ambiguity and is positively associated with job satisfaction, as highlighted by Sawyer (1992). In a detailed investigation, Beenen (2007) explored the effects of supervision and task clarity on practicum effectiveness using a sample of 122 MBA interns from three U.S. business schools. Task clarity had a significant impact on learning effectiveness and encouraged self-initiated behavior. High task clarity, especially when combined with low autonomy, benefited less experienced interns and enhanced their learning.

Complementing these findings, opportunities to plan collaboratively with the cooperating teacher and to define classroom activities clearly are also essential (Menezes, 2023a, 2023b). These aspects help create meaningful learning experiences that are fundamental to the development of a professional identity in teaching. A collaborative and well-structured approach not only enriches the educational process, it also facilitates interns' integration into the school environment and promotes a smoother and more effective transition into teaching practice. Together, these elements underscore the importance of a well-planned and well-structured practicum, not only for developing practical skills, but also for constructing interns' professional identity (Almeida & Pimenta, 2015; Menezes, 2023a, 2023b).

The importance of peer interactions during the Supervised Teaching Practicum has been increasingly recognized as a relevant factor for interns' development. A recent study by Yu et al. (2023) found that, among different types of personal relationships with parents, teachers, and peers, peer relations are most closely associated with academic performance. Drawing on a sample of 58,037 students, the study showed that the quality of personal relationships is significantly and positively correlated with academic performance, with peer relations having the strongest association. These findings reinforce that high-quality peer interactions during supervised practicums not only enhance technical and theoretical competencies, they also foster interpersonal skills that are essential for professional effectiveness. The results underscore the need for educators to attend to students' personal relationships, especially peer relations, given their impact on performance (Yu et al., 2023).

The sociocultural theory of Vygotsky, which emphasizes the construction of knowledge through social interaction, is closely connected to the importance of peer interactions during the practicum. Just as Vygotsky argued that learning first occurs in the social domain, interactions among interns and their peers provide a rich environment for building knowledge and skills. Such interactions improve academic performance and are also fundamental to professional and personal development (Vygotsky, 2001). Peer learning can be seen as a practical application of Vygotskian dialectical theory in the practicum context. From this perspective, the exchange of ideas and experiences among peers reflects the inseparability of theory and practice and promotes interns' cognitive and professional growth.

The relationship between personal values and behavior is another factor linked to interns' interest in and satisfaction with the practicum. Personal values predict a wide range of human behaviors, which supports the idea that values guide individuals' decisions and actions (Sagiv et al., 2017). Research shows that values shape attitudes, preferences, and explicit behaviors (Alfirević et al., 2021; Barni et al., 2019).

In educational and professional contexts the salience of values becomes even clearer. In school settings there is a systematic relationship between students' personal values and their behaviors (Scholz-Kuhn et al., 2023). This study, which focused on school-age children, suggests that learners who perceive high functional and social value in their educational contexts tend to display more proactive and motivated behaviors. Although conducted with children, the findings can be extrapolated to higher education. Similar perceptions among university students could likewise foster more engaged and enthusiastic attitudes toward academic activities and practicums.

In sum, support from the practicum supervisor, clarity of assigned tasks, the quality of peer interactions, and interns' perceived functional and social value together constitute key elements of a successful practicum

experience. Acting in concert, these factors maximize preservice teachers' professional and personal development and prepare them effectively for the transition into professional environments.

Understanding the determinants of practicum satisfaction is important, particularly given the scarcity of studies on these determinants within educational institutions. Satisfied interns tend to perform better and are more likely to consider a career in teaching (Hergert, 2009). Dissatisfaction, in turn, may lead to adverse consequences such as higher turnover, lower commitment, and well-being problems among interns. It is therefore imperative that educational institutions, especially public ones, identify and address the elements that influence practicum satisfaction, with the goal of improving the practicum experience and strengthening the future of the teaching profession (Narayanan et al., 2010).

## Materials and Methods

This study employed a quantitative approach to examine factors associated with the satisfaction of 92 university students enrolled in a Biological Sciences teacher education program at a public institution, after they completed the Supervised Teaching Practicum in Science and Biology. Participants included 64 women, 20 men, and 8 who did not report gender. The course covers the preservice teacher's entry into classroom practice in public elementary and secondary schools, lesson planning, classroom observation, and classroom teaching. It also emphasizes reflection on teaching practice and the exchange of experiences accumulated during school-based activities. The total workload is 90 hours, of which 60 hours are devoted exclusively to classroom teaching activities.

Participation was voluntary after the completion of classroom teaching, in accordance with relevant ethical guidelines. These guidelines included protecting participants' privacy and obtaining informed consent via a written consent form. The project was approved by the Research Ethics Committee under CAAE number 76759723.9.0000.5540.

Data were collected using a structured questionnaire that captured variables such as supervisor support, clarity of assigned activities, perceived functional and social value of the practicum, satisfaction with the overall practicum experience, and interns' level of self-initiative. The questionnaire was developed from items adapted from prior literature (Beenen, 2007; Lai et al., 2012; Narayanan et al., 2010; Patton & Dial, 1988; Phoebe, 2010; Sawyer, 1992) and was calibrated to reflect the specific features of the Biological Sciences practicum. Although conducting a full pilot study would have been desirable, it was not feasible in the present project.

Each construct was assessed with specific items: supervisor support with three items adapted from Beenen (2007) and Phoebe (2010), task clarity with five items based on Beenen (2007) and Sawyer (1992), perceived functional value and perceived social value with three items each derived from Lai et al. (2012), practicum satisfaction with three items inspired by Narayanan et al. (2010), and self-initiative behavior with two items adapted from Patton and Dial (1988).

Responses were recorded on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), which enabled a graded assessment of interns' perceptions across the investigated dimensions. This methodological approach provides information on the elements that contribute to practicum satisfaction in the context of practical teacher preparation, with the aim of improving the quality of the Supervised Teaching Practicum in teacher education programs.

After data collection, statistical analyses were performed using JASP (Goss-Sampson, 2019). Descriptive analyses first summarized central tendencies and dispersion for each item. Next, Pearson correlations were computed to examine relationships among the variables of interest. Finally, analysis of variance (ANOVA) was conducted to compare means across three or more independent groups. For example, we examined whether practicum satisfaction differed significantly as a function of different levels of supervisor support or task clarity.

## Results and Discussion

A series of t tests was initially conducted to explore the effect of gender on preservice teachers' perceptions of satisfaction with the practicum. The t-test results indicated that no significant differences were observed between the mean scores of female and male interns across the 19 items, which addressed the following themes: supervisor support, clarity of the assigned task, perceived functional and social value during the practicum, practicum satisfaction, and the degree of self-initiative behavior demonstrated.

The absence of significant differences in the mean scores for the evaluated items suggests that factors beyond gender may be more decisive for interns' satisfaction, a point also corroborated in the work of To and Lung (2020).

When examining the results presented in Table 1, it is possible to capture a portrait of the practicum experiences reported by the students. This analysis allows us to visualize the various facets that make up an intern's experience. The indicators used to measure these elements present important aspects of what makes a practicum experience truly satisfactory.

At first glance, the support offered by instructors is rated positively, although there is variation in students' perceptions. This suggests that while most interns feel supported by their supervisors, there is room to improve the consistency of this support. The importance of qualified guidance is fundamental to students' professional development, indicating that the active presence and guidance of instructors are key elements for improving the practicum experience (Silva & Pedreira, 2016; Mello & Higa, 2017; Luz et al., 2023).

**Table 1.** Evaluation of the Supervised Teaching Practicum Experience

Dimension	Mean	SD	Variance	Min	Max
Supervisor support	3.66	0.82	0.67	2.30	5.00
Task clarity	3.14	0.91	0.82	1.60	4.80
Functional value	3.74	0.58	0.34	2.30	4.70
Social value	4.67	0.43	0.19	4.00	5.00
Self-initiative behavior	4.02	0.67	0.45	3.00	5.00
Practicum satisfaction	3.92	0.64	0.40	2.70	5.00

Source: Author's elaboration.

The clarity of tasks assigned to interns received more varied evaluations, indicating a less uniform experience among participants. This variation suggests that defining and communicating practicum responsibilities and objectives may be areas requiring particular attention. Greater clarity in assigned tasks is essential for enabling students to engage meaningfully in their activities, thereby enhancing learning and the practical application of acquired knowledge (D'Abate et al., 2009; Menezes, 2022; Menezes, 2023b).

The functional value of the practicum, as perceived by students, was rated quite positively, reflecting the relevance and usefulness of the experience for professional and personal development. This perception highlights the practicum as a growth opportunity aligned with students' aspirations and career goals (Arrais & Silva, 2021; Narayanan et al., 2010; Pimenta & Lima, 2004). Notably, the social value of the practicum was the highest-rated aspect, indicating that interpersonal relationships and network building during this period are highly valued by students. This high level of satisfaction regarding social value suggests that the practicum offers a platform for developing social and professional skills, in addition to contributing to the creation of a relevant network of contacts (Menezes, 2023a).

This finding corroborates Vygotsky's theory on the importance of social interactions in cognitive development, suggesting that the practicum goes beyond the mere application of theoretical knowledge and serves as a catalyst for the development of interpersonal skills and the construction of a professional network (Vygotsky, 2001). Thus, students' appreciation of the social component highlights the practicum as an environment conducive not only to technical learning but also to the refinement of social skills and the formation of connections that may be crucial for their future professional trajectory.

Interns' self-initiative behavior in this study was also positively evaluated, suggesting that students who engage proactively in their tasks tend to take fuller advantage of their experiences (Barni et al., 2019; Menezes, 2023b). This result underscores the importance of preservice teachers' autonomy and their pursuit of learning and development opportunities within the practicum context. Finally, overall satisfaction with the practicum experience was positive, indicating that interns generally find value and meaning in their activities. This reflects the effectiveness of practicum programs in meeting students' expectations and needs by providing learning and development opportunities.

To provide a deeper understanding of preservice teachers' satisfaction with their practicum experiences, a correlation analysis was performed. Table 2 presents this analysis, showing the correlations between practicum satisfaction and the five variables examined. These correlations help identify which aspects of the practicum are most closely associated with participants' overall satisfaction.

**Table 2.** Pearson correlations between practicum satisfaction and related variables

		Pearson's r		p
Practicum satisfaction	Supervisor support	0.473	***	< .001
	Task clarity	0.315	**	0.002
	Functional value	0.479	***	< .001
	Social value	0.172		0.102
	Self-initiative behavior	0.597	***	< .001

Source: Prepared by the author.

Analyzing the correlation table, it is possible to observe the interrelationships between practicum satisfaction and several factors that contribute to students' experience. First, the correlation between supervisor support and practicum satisfaction is moderately strong ( $r = 0.473$ ) and statistically significant ( $p < .001$ ). This indicates that the support perceived from practicum supervisors is an influential component of preservice teachers' satisfaction.

This pattern found in our analysis echoes previous research underscoring the importance of supervisor support for interns' professional development (Beggs et al., 2008; Sweitzer & King, 2009). Evidence suggests that the more robust the support, the greater the students' satisfaction with their practicum experiences. Such correlation reinforces the role of practicum supervisors in shaping practicum experiences (Reister, 2023).

Crisp and Cruz (2009) identified four essential functions performed by supervisors: providing emotional and psychosocial support, guidance for career and professional development, academic advising, and serving as role models. Effective performance of these functions is associated with reports of better outcomes from students, including increased satisfaction with their practicum (Crisp & Cruz, 2009). This finding aligns with literature recognizing support as a fundamental, though variable, element in the practicum experience (Beggs et al., 2008; Luz et al., 2023; Mello & Higa, 2017; Silva & Pedreira, 2016).

Subsequently, a positive but smaller correlation is observed between task clarity and practicum satisfaction ( $r = 0.315$ ), which remains statistically significant ( $p = 0.002$ ). This finding points to the importance of clearly understanding obligations and expectations within the practicum as a fundamental element of the interns' experience. Clear definition of what is expected can enhance the quality of the practicum experience, marking a key aspect for success and satisfaction in the process. Studies by D'Abate et al. (2009) and Menezes (2022) corroborate that such clarity not only increases satisfaction but also indicates areas where improvements are possible and desirable. The literature supports the idea that effective communication and clear specification of tasks are important for optimizing the educational and professional outcomes of the practicum (D'Abate et al., 2009; Menezes, 2022; Narayanan et al., 2010).

Grounded in Deci and Ryan's (2000) Self-Determination Theory, three basic psychological needs are essential for intrinsic motivation and well-being: autonomy, competence, and relatedness. Clearly specifying responsibilities can satisfy the need for competence, encouraging interns to perceive themselves as capable of fulfilling assigned tasks, which in turn enhances satisfaction. Furthermore, Locke and Latham's (2002) Goal-Setting Theory highlights the value of clear and specific goals for boosting motivation and improving performance. In the practicum environment, clarity of assignments and expectations facilitates interns' focus, providing them with a sense of direction and purpose (Locke & Latham, 2002).

Regarding functional value, the correlation is comparable to that observed with supervisor support ( $r = 0.479$ ), showing statistical significance ( $p < .001$ ). This finding indicates that interns who view their practicum as beneficial and relevant to their professional and personal growth generally report greater satisfaction with the experience. The concept of functional value is closely linked to the congruence between the practicum and students' career goals, as well as to the practical learning they acquire for their professional trajectory. This observation aligns with Self-Determination Theory, suggesting that experiences that promote competence and autonomy can intensify intrinsic motivation and well-being (Deci & Ryan, 2000).

Social value, in turn, despite its positive correlation with practicum satisfaction ( $r = 0.172$ ), did not reach statistical significance ( $p = 0.102$ ). This suggests that, although social interactions and networking may add value to the practicum experience, these factors are not essential to interns' overall satisfaction. It is possible that social elements are considered secondary by students compared with the importance of supervisor support, clarity of responsibilities, and functional value.

The correlation between interns' self-initiative behavior and practicum satisfaction stands out as the strongest among all evaluated aspects ( $r = 0.597$ ), and is statistically significant ( $p < .001$ ). This result highlights the importance of active participation and the autonomous pursuit of opportunities within the

practicum setting for students' overall satisfaction. This finding emphasizes the role interns play in their own learning experience and satisfaction, where individual initiative and proactivity translate into tangible benefits (Menezes, 2023a). According to the author, those who demonstrate a high degree of these competencies tend to engage more actively and adopt proactive behaviors, which directly correlates with higher levels of practicum satisfaction. The significant association between self-initiative and satisfaction, as highlighted by the study, reinforces the idea that proactivity not only enriches the practicum experience but is also essential for maximizing learning and professional development (Luthans & Youssef-Morgan, 2017).

An analysis of variance (ANOVA) was conducted to evaluate the predictive model of practicum satisfaction as a function of multiple independent variables. Results indicate that the model was significant,  $F(5, 86) = 17.013$ ,  $p < .001$ , suggesting that the set of predictor variables explains a substantial portion of the variance in practicum satisfaction. The regression sum of squares, representing the variance explained by the model, was 18.286, whereas the residual sum of squares, or unexplained variance, was 18.486. The mean square for the regression was significantly larger than the mean square for the residuals, indicating a good model fit. This means that the regression model has significant explanatory power for the variability of the dependent variable. In academic contexts, such a level of significance is generally considered sufficient to assert that the predictor variables have a true and measurable effect on the outcome variable.

To gain a better understanding of the factors influencing practicum satisfaction, a regression analysis was performed (Table 3). This analysis makes it possible to evaluate the individual influence of each predictor variable on practicum satisfaction.

**Table 3.** Regression analysis of the dependent variables examined.

Model		Unstandardized	Standard Error	Standardized	t	p
H <sub>0</sub>	(Intercept)	3.917	0.066		59.109	< .001
H <sub>1</sub>	(Intercept)	0.852	0.596		1.429	0.157
	Supervisor support	0.215	0.110	0.277	1.955	0.054
	Task clarity	-0.184	0.094	-0.262	-1.951	0.054
	Functional value	0.375	0.090	0.343	4.161	< .001
	Social value	-0.093	0.125	-0.063	-0.741	0.461
	Self-initiative behavior	0.469	0.097	0.495	4.818	< .001

Source: Prepared by the author.

The meaning of the intercept ( $\beta = 3.917$ ,  $p < .001$ ) indicates a baseline level of positive behavior, regardless of the predictor variables included in the model. This suggests that there are intrinsic or unmeasured factors contributing to practicum satisfaction, a notion supported by studies emphasizing the importance of individual and motivational factors in education (Deci & Ryan, 2000).

The significant relationship between functional value and preservice teachers' behavior ( $\beta = 0.375$ ,  $p < .001$ ) resonates with Eccles et al.'s (1998) expectancy-value theory, which argues that students' perceptions of the usefulness and relevance of a task are directly related to their engagement and performance. This result highlights the need for educators to design curricula and learning activities that students perceive as useful and applicable to real life.

The lack of statistical significance for task clarity and supervisor support ( $p = 0.054$  for both), despite indicating trends of influence, suggests that these factors may have a complex relationship that is not fully captured by this particular regression model. Previous research has highlighted the importance of supervisor support and task clarity for student engagement (Hattie, 2008) but also acknowledges that these factors may interact with other variables not considered in this model, such as student self-efficacy and the learning context.

The nonsignificance of social value ( $p = 0.461$ ) contrasts with studies emphasizing the role of social relationships and belonging in academic engagement and success (Osterman, 2000). This may indicate that the impact of social value on practicum satisfaction varies according to the educational context or that additional mediating or moderating variables need to be considered to fully understand this effect. In contrast, the significant finding for self-initiative behavior ( $\beta = 0.469$ ,  $p < .001$ ) is consistent with literature on self-determination and proactivity in educational contexts, as highlighted by Zimmerman (2000). This result reinforces the notion that students' ability to act proactively and take initiative in their learning process plays an important role in promoting positive behaviors. Such behaviors include persistence, effort, and active participation, which are fundamental to achieving greater satisfaction with the practicum experience.

## Conclusion

This study shows that elements such as supervisor support, task clarity, and perceived functional and social value are essential to interns' satisfaction, outweighing the impact of gender. The influence of supervisor support, both directly on practicum satisfaction and indirectly through perceived social value, highlights the importance of interpersonal relationships and the active involvement of practicum supervisors. In addition, interns' proactivity, influenced by task clarity and functional value, emerges as a key aspect for a satisfactory practicum experience. It is therefore possible to conclude that well-structured practicum programs are essential for interns' satisfaction. Such programs should include effective supervisor support, clearly defined tasks, high-quality peer interactions, and the valuing of both the functional and social dimensions of activities. It is also important that they emphasize the practical relevance of experiences in the educational context, especially in science education where gaps were observed compared with other subject areas.

Nevertheless, it is important to note this study's limitations. The sample size, consisting of only 92 students, is modest, which may limit the generalizability of the results. The measures employed were based on self-reports, which are susceptible to methodological biases, including social desirability responding. Harman's single-factor test indicated the presence of multiple factors, which partially mitigates concerns about a single factor dominating construct covariance. Additionally, data were collected from students at only one public institution, which restricts the range of educational contexts represented, and the values, behaviors, and perceptions of interns from other institutions or regions may differ substantially.

Furthermore, untested assumptions underlying some of the study's conclusions further limit its ability to provide a comprehensive understanding of the phenomenon under investigation. This suggests the need for more robust methodological approaches in future research, such as mixed methods to capture both quantitative and qualitative perspectives. Future studies should also consider including more diverse samples and multiple institutions to increase generalizability. Accordingly, generalization from this study should be approached with caution, and the findings should be viewed as a foundation for additional investigations that address these limitations and test the unverified assumptions.

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