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In Search for an Agile Epistemology: Implicit Conceptions in Research

Abstract

This theoretical article explores the role of implicit conceptions in scientific research, focusing on how these hidden frameworks influence the design, execution, and interpretation of studies. Drawing on the concept of tacit knowledge (Polanyi 1966; Malik 2023), it examines how researchers' intuitive and non-verbalizable understandings shape their theoretical, methodological, and collaborative practices. The discussion is structured around four dimensions: tacit knowledge as an epistemological foundation, researcher identity, contextual influences, including paradigmatic and epistemological tensions, and the assessment and monitoring of implicit conceptions. The article emphasizes the need for epistemological flexibility, encouraging researchers to navigate positivist, interpretative, and critical paradigms based on the phenomenon under study. It critiques the "publish or perish" logic, advocating for prioritizing quality and knowledge advancement over market pressures. By adopting interdisciplinary and transversal approaches, researchers can address complex phenomena more comprehensively. Finally, the article highlights the importance of lifelong and cross-disciplinary training to equip researchers for contemporary scientific challenges while fostering innovation and adaptability.

Keywords: implicit conceptions, tacit knowledge, researcher identity, epistemological flexibility, interdisciplinary research.

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W poszukiwaniu elastycznych epistemologii: niejawne koncepcje w badaniach naukowych

Abstrakt

Niniejszy artykuł teoretyczny bada rolę niejawnych koncepcji w badaniach naukowych, koncentrując się na tym, jak te ukryte ramy wpływają na projektowanie, realizację i interpretację badań. Opierając się na pojęciu wiedzy ukrytej (Polanyi 1966; Malik 2023), analizuje, w jaki sposób intuicyjne i niewerbalizowalne rozumienia badaczy kształtują ich praktyki teoretyczne, metodologiczne i współpracy. Dyskusja obejmuje cztery wymiary: wiedza ukryta jako podstawa epistemologiczna, tożsamość badacza, wpływy kontekstowe, w tym napięcia paradygmatyczne i epistemologiczne, oraz ocena i monitorowanie niejawnych koncepcji. Artykuł podkreśla potrzebę elastyczności epistemologicznej, zachęcając badaczy do poruszania się między paradygmatami pozytywistycznymi, interpretatywnymi i krytycznymi w zależności od badanego zjawiska. Krytykuje logikę „publikuj lub zgiń", proponując priorytetowe traktowanie jakości i rozwoju wiedzy ponad presją rynku wydawnictw akademickich. Przyjęcie podejść interdyscyplinarnych i transwersalnych umożliwia szersze i bardziej kompleksowe zrozumienie złożonych zjawisk. Na koniec artykuł podkreśla znaczenie ustawicznego, interdyscyplinarnego szkolenia, aby wyposażyć badaczy w umiejętności niezbędne do sprostania współczesnym wyzwaniom naukowym, promując innowacje i adaptacyjność.

Słowa kluczowe: niejawne koncepcje, wiedza ukryta, tożsamość badacza, elastyczność epistemologiczna, badania interdyscyplinarne.

Introduction

In scientific research, implicit conceptions are the hidden frameworks that underpin how researchers design, execute, and interpret their studies. Although these conceptions are often unexamined, they profoundly influence not only theoretical and methodological decisions but also collaborative practices. Understanding these frameworks may provide interesting clues for advancing collaborative and innovative research practices.

According to Michael Polanyi (1966), tacit knowledge forms the basis of these hidden conceptions, encompassing the skills, intuitions, and understandings that guide researchers, but cannot be fully articulated. Building on Polanyi's foundational insights, Abida Malik (2023) expands on this notion, describing tacit knowledge as an "invisible scaffolding" that allows researchers to navigate complex challenges and make critical decisions, even without fully conscious reasoning.

These hidden frameworks operate on multiple levels, shaping both individual decision-making and collective norms within scientific communities. In line with

this, Thomas S. Kuhn (1962/1996) argued that paradigms—shared frameworks that define what constitutes as valid knowledge—are sustained by tacit agreements among community members. However, these agreements can generate conflicts when researchers collaborate across disciplines, where paradigms often diverge (Osbeck, Nersessian 2017). For instance, interdisciplinary collaborations or mix methods methodology require reconciling differences in methodological expectations and epistemological assumptions, which may not always be explicitly addressed (Holbrook 2013).

Moreover, beyond methodological implications, implicit conceptions regarding epistemological research significantly shape researchers' professional identities. Montserrat Castelló, Lynn McAlpine, Anna Sala-Bubaré, Kelsey Inouye, and Isabelle Skakni (2020), for example, demonstrated that these frameworks evolve as researchers navigate transitions between academic stages, balancing personal aspirations with institutional demands. For doctoral students, who are early-career researchers, supervisors, for example, play a crucial role in this process. Their ability to recognize and address these implicit frameworks is essential for fostering a research environment where emerging scholars can critically engage with methodological and epistemological choices.

Furthermore, participatory research contexts, as highlighted by Meagan Call-Cummings, Melissa Hauber-Özer, and Giovanni Dazzo (2019), provide an illustrative lens for examining implicit conceptions. Ethical dilemmas and power dynamics in such settings compel researchers to renegotiate their assumptions, reshaping both their identities and practices.

This article, thus, seeks to explore theoretically the implications of implicit conceptions in the context of scientific research through four interconnected dimensions:

- Tacit knowledge as an epistemological framework: How implicit knowledge influences theoretical and methodological choices.
- Researcher identity: How hidden frameworks shape academic transitions and professional growth.
- Research context under debate: Paradigms and epistemological tensions: How implicit frameworks manifest and are challenged in interdisciplinary contexts.
- Measuring and monitoring implicit conceptions.

By addressing these dimensions, the study aims to contribute to a deeper understanding of the implicit foundations of academic practice, providing insights to improve research training, collaboration, and knowledge production. These dimensions are examined in depth in the subsequent sections, offering a comprehensive view of the influence and challenges posed by implicit conceptions.

Theoretical framework

Tacit knowledge as a foundation

Tacit knowledge, as introduced by Michael Polanyi (1966), encompasses the non-verbalizable skills and understandings that researchers rely on to perform complex tasks. This knowledge is essential for methodological flexibility and problem-solving in uncertain or novel research contexts. Tacit knowledge supports researchers in making intuitive, but foundational decisions that maintain the integrity of their work (Malik 2023). For instance, researchers often rely on tacit knowledge when integrating methodologies or interpreting ambiguous data. Two distinct contexts of practice serve to exemplify this issue. The first is research involving researchers from different disciplinary backgrounds, while the second is the utilization of a mixed research methodology, combining qualitative and quantitative approaches.

In interdisciplinary research, tacit knowledge plays a critical role in mediating epistemological divides. Lisa M. Osbeck and Nancy J. Nersessian (2017), for example, describe how researchers develop "epistemic identities" through tacit knowledge, enabling them to navigate methodological conflicts and collaborate effectively. J. Britt Holbrook (2013), on the other hand, highlights that domain-specific barriers often hinder interdisciplinary collaboration, as researchers struggle to reconcile conflicting methodological expectations.

Interdisciplinary research amplifies the complexities of conceptual activation, requiring researchers to reconcile distinct terminologies, methodologies, and epistemological frameworks. Lisa R. Lattuca, Lois J. Voigt, and Kimberly Q. Fath (2004) highlight that successful interdisciplinary learning involves adapting not only knowledge but also conceptual assumptions to the norms and expectations of different disciplines.

Language barriers further compound these challenges. Bryan A. Brown and Kihyun Ryoo (2008) found that inaccessible scientific terminologies hinder the transfer of concepts across fields, particularly among students without targeted instructional support. For instance, researchers transitioning from a quantitative discipline to a qualitative one may struggle to adapt to the nuanced language of interpretive analysis. These insights emphasize the need for tailored strategies that bridge disciplinary divides and foster effective communication and collaboration.

Different methods (data collection, strategies for analysis) may mix well, but different methodologies and research paradigms (underlying philosophies and epistemologies) do not mix so easily (Gill 2011: 309). Manfred Max Bergman (2010) highlights the tensions inherent in mixed-methods research, where differing paradigmatic expectations regarding rigor, replicability, and subjectivity must be reconciled. Such conflicts underscore the dual role of paradigms: as necessary structures for advancing knowledge within fields and as potential barriers to collaboration across them. Andrew Sparkes (2015), for example, analyses

the tensions that emerge in research using mixed methodologies, examining the impact of these tensions on three key issues: the resolution and interpretation of contradictions between results obtained from, for example, analyzing information from questionnaires and in-depth interviews, the representation or display of results, and the criteria used to evaluate the research. In relation to the possible contradictions present in the results, he argues that they are often interpreted more as an obstacle than as an opportunity to better understand the complexity of the phenomenon under study. Regarding how to display the results, mixed methods researchers have primarily relied on the rhetorical conventions of the scientific narrative (e.g., use of the passive voice and third person) to inform the quantitative component of their study, and the conventions of the realist narrative (e.g., experiential authority, participant point of view, and interpretive omnipotence) to inform the qualitative components (Sparkes 2015). This is important to consider since, nowadays, there are different genres that draw on more narrative, artistic and performative approaches, such as autoethnography, poetic performances, ethnodrama, ethnographic non-fiction and musical performance that might fit better with the topic under study (Sparkes 2002). Indeed**,** recent research has highlighted alternative qualitative genres that extend beyond traditional academic writing, incorporating more artistic and performative approaches (Leavy 2015; Prendergast 2009; Sparkes, Smith 2013). Poetic inquiry, for example, is increasingly recognized for its ability to capture emotional depth and complexity through verse, facilitating a deeper engagement with research findings (Prendergast, Leggo, Sameshima 2009; Faulkner 2020; Bruno, Iborra in press). Similarly, autoethnography (Ellis, Adams, Bochner 2011), ethnodrama, and performative writing (Saldaña 2011) offer alternative ways to represent and analyze lived experiences, expanding the epistemological possibilities of qualitative research.

As Sparkes and Smith (2013) argue, selecting an appropriate narrative mode not only shapes how findings are communicated but also influences their interpretative potential. Researchers must critically assess which genre aligns best with their epistemological stance and research objectives, ensuring that methodological choices reflect the complexity of the studied phenomena.

Given this diversity in methodological and representational approaches, it becomes essential to consider how these alternative genres align with the established criteria used to evaluate qualitative research.

Nowadays, in the process of evaluating the results, the criteria of credibility, reliability, transferability and confirmability are frequently the only ones employed. A parallel perspective is adopted at the expense of other criteria (Guba, Lincoln 1989). To illustrate, Thomas Readdy, Joseph Raabe, and Jessica Harding (2014) propose an alternative set of criteria for evaluating their study, tailored to align with the specific objectives of their research. These criteria include the following: the relevance and significance of the subject matter, the rigor and credibility of the methodology, the resonance and meaningful contribution of the findings, the ethical considerations, and the coherence of the research design.

Taken together, these considerations could be put forward as Kerry McGannon and Angela Schweinbenz (2011) highlight, when they state that "the regular subordination of qualitative research in MMR creates an implicit power hierarchy. They suggest that "the mixed methods discourse of inclusiveness and pragmatism as well as paradigmatic pluralism may actually serve as a cover for the continuing dominance of post-positivism, marginalizing non-positivist research methodologies" (McGannon, Schweinbenz 2011: 377, as cited in Sparkes 2015: 23).

To address these challenges, researchers must engage in explicit reflection on implicit frameworks to enable effective problem-solving and integration across disciplines.

As we have seen in relation to what criteria are used to evaluate an investigation, tacit knowledge shapes the operationalization of scientific concepts like validity and objectivity. Bergman (2010) highlights that these concepts are often defined through tacit agreements within academic communities, creating tensions when researchers work across paradigms.

Jan H. F. Meyer, Martin P. Shanahan, and Rüdiger C. Laugksch (2005) suggest that research training programs should explicitly address tacit knowledge to equip researchers with tools to manage methodological diversity and epistemological tensions. Such training becomes particularly critical as researchers navigate their evolving identities within diverse academic contexts.

Implicit conceptions and researcher identity

The identity of a researcher is shaped by personal aspirations, institutional demands, and implicit frameworks that influence their academic journey. Montserrat Castelló, Lynn McAlpine, Anna Sala-Bubaré, Kelsey Inouye, and Isabelle Skakni (2020) identified four dimensions of researcher identity:

- Transition: Researchers navigating academic transitions, such as progressing from doctoral to postdoctoral roles, often redefine valid knowledge while balancing institutional and disciplinary expectations.
- Balance: Reconciling personal goals with institutional requirements is an ongoing negotiation. Montserrat Castelló, Lynn McAlpine, Anna Sala-Bubaré, Kelsey Inouye, and Isabelle Skakni (2020) emphasize that achieving this balance is essential for maintaining motivation and avoiding professional burnout.
- Personal Development: Reflecting on and challenging implicit frameworks fosters academic growth.
- Stability: Despite navigating transitions, researchers maintain core ethical principles and disciplinary commitments, which act as anchors for their professional identity.

While these dimensions highlight the internal processes that shape researcher identity, external contexts also play a significant role in challenging and transforming these frameworks. Thomas Szulevicz, Peter C. Lund, and Rolf L. Lund (2022), for

example, show the importance of research context by analyzing the type of research conducted in a representative sample of master's studies program in psychology conducted in Denmark. Contrary to what normally occurs in doctoral programs, psychology students clearly prefer qualitative over quantitative research methods in their master's thesis projects. This common shift, in the methodological and epistemological preferences of doctoral students and postdoctoral researchers, illustrates the criticism made by Noomi Matthiesen and Charlotte Wegenerr (2019) when they observe that psychology theses in general are well structured and well communicated, but also tend to be a little bit boring, as most of them follow the same pattern, and only few students take risks when writing them. One of the main external factors for this would be, according to these authors, a strong performance and zero-error culture among students; to this, we would also add researchers in general.

In participatory research, external factors such as ethical dilemmas and power dynamics compel researchers to critically evaluate their assumptions.

Meagan Call-Cummings, Melissa Hauber-Özer, and Giovanni Dazzo (2019) demonstrated that engaging with communities in participatory settings often forces researchers to navigate tensions between their own epistemological frameworks and the needs of the communities they serve. This reflective process can lead to profound changes in both identity and practice, fostering a deeper alignment between researchers' values and their academic work.

In the particular case of researchers in training, such as doctoral students, studies have been conducted to uncover their implicit conceptions of research. Rod Pitcher (2011), for example, identified four primary metaphors that doctoral students use to conceptualize research:

- Explorative: Students described research as a "journey," using images like "uncharted waters" or "treasure of knowledge." These metaphors reflect a view of research as a process of discovery filled with uncertainty and excitement (Pitcher 2011: 978).
- Spatial: Research was framed as covering a "field" or exploring "regions of thought," emphasizing the breadth and expansive nature of academic inquiry (Pitcher 2011: 979).
- Constructive: Metaphors such as "adding another brick to the wall" indicate that students perceive research as a cumulative and structured process, building incrementally on existing knowledge (Pitcher 2011: 979).
- Organic: Students likened research to a "living entity," using phrases like "body of knowledge" or ideas that "feed off each other." This metaphor highlights the dynamic and ever-evolving nature of scholarly work (Pitcher 2011: 980).

These metaphors not only reveal doctoral students' implicit conceptions of research but also influence how they approach their academic processes, directly shaping their developing researcher identities.

While doctoral students' conceptions provide valuable insights into how emerging researchers approach their academic journey, the perspectives of supervisors add a complementary dimension to understanding how research identities are shaped

and supported. Supervisors, indeed, play a pivotal role in shaping the research journey of postgraduate students, often serving as mediators between the students' implicit conceptions and institutional expectations. Authors such as Margaret Kiley and Gerry Mullins (2005) explored supervisors' conceptions of research, uncovering a diverse spectrum of perspectives that influence their supervisory practices.

The aforementioned authors identified four primary categories of supervisors' conceptions:

- Technical Conceptions: Research is seen as a systematic and rigorous process with clearly defined steps. Supervisors emphasizing this approach often prioritize methodological rigor, ethical practices, and relevance.
- Creative and Innovative Conceptions: Research is perceived as an opportunity for innovation and originality thus emphasizing creative approaches to problem-solving and the generation of novel insights.
- Integrating Complexity: This perspective highlights synthesizing complex knowledge and connecting diverse ideas as key elements of research.
- Transformative Conceptions: Research is viewed as a transformative journey, not only for the field but also for the researcher, emphasizing personal growth, reflective practices, and broader societal impacts.

These conceptions seem to significantly shape supervisory practices. Supervisors with technical conceptions may focus on structured guidance and methodologies, while those with creative orientations might encourage exploratory thinking. However, conflicts can arise when supervisors' technical conceptions clash with students' more exploratory or organic approaches, potentially impacting the mentoring dynamic and research progress. Kiley and Mullins (2005) emphasize that supervisors who understand and adapt to the implicit conceptions of their students can foster more effective collaborations and research outcomes. By recognizing and addressing the diversity of these implicit conceptions, supervisors not only enhance their own practices but also contribute to the professional identities and academic growth of their students.

The research context under debate: paradigms and epistemological tensions

While tacit knowledge and researcher identities form the individual foundations of implicit frameworks, contextual factors serve as the environmental backdrop that shapes their application and evolution. These factors—specific problem situations, epistemological beliefs, and the language framing concepts—not only influence the activation of knowledge but also mediate how individuals refine and adapt their conceptual understanding in dynamic settings.

Conceptual knowledge is not static; its understanding and application are fluid processes shaped by context. In this sense, it is essential to analyze how certain environments affect the construction and refinement of conceptions. For example, William A. Sandoval (2005) explored how inquiry-based learning environments

shape "practical epistemologies," or students' beliefs about knowledge and learning. Encouraging students to test hypotheses and iteratively refine their ideas fosters the development of more sophisticated conceptual frameworks. This underscores the importance of adaptable educational strategies that prepare students to face the diverse and changing demands of research settings.

Building on these observations, it becomes clear that the transfer of knowledge between contexts does not occur automatically and therefore requires deliberate scaffolding. For instance, a theory learned in a classroom may not seamlessly apply to fieldwork or interdisciplinary projects. To address this challenge, Allen F. Repko (2008) suggests that educational interventions should focus on fostering adaptability and cognitive flexibility, which are essential for preparing researchers to operate effectively in diverse scenarios.

Given this landscape, contextual factors not only determine how knowledge is activated but also influence how it evolves across different disciplines and applications. This implies that research training must integrate these influences by incorporating diverse contexts, bridging theoretical concepts with real-world scenarios, and fostering interdisciplinary collaboration. Lattuca, Voigt, and Fath (2004) emphasize that integrating interdisciplinary perspectives into training significantly enhances researchers' ability to adapt conceptual frameworks to complex challenges.

In this context, supervisors and educators play a key role. Designing environments that prioritize cognitive flexibility and knowledge transfer enables them to actively engage with the interplay between context, language, and epistemology. This approach ensures that research training cultivates a new generation of scholars prepared to navigate the increasingly dynamic and interdisciplinary academic landscape.

However, fully understanding the role of contextual factors in implicit frameworks requires analyzing how scientific paradigms and epistemological tensions operate. These tensions are particularly evident in interdisciplinary contexts, where paradigms that typically guide practices within a discipline may conflict with those of other fields. In this dual role, paradigms not only act as guides but also impose constraints that shape researchers' tacit conceptions and methodological decisions.

Building on this line of analysis, it is relevant to explore the intricate dynamics of scientific paradigms and the epistemological tensions they generate. These tensions, especially pronounced in interdisciplinary research, present significant challenges in reconciling diverse paradigms. Understanding these dynamics provides a deeper perspective on how implicit conceptions are shaped, challenged, and renegotiated within and across disciplines.

By nature, interdisciplinary research requires researchers to navigate between divergent paradigms. In this sense, Osbeck and Nersessian (2017) describe epistemic identities as tacit frameworks that researchers use to integrate different methodological and conceptual perspectives. For instance, a theoretical physicist collaborating with a computational biologist must reconcile epistemologies that prioritize distinct types of evidence and analytical approaches, illustrating the inherent challenges of such collaborations.

Furthermore, Darrell P. Rowbottom (2011) contributes to this discussion by contrasting paradigms with "stances," which represent the individual commitments and attitudes researchers bring to their work. While paradigms operate at a collective level, stances highlight personal epistemological alignments, such as attitudes toward uncertainty or the acceptance of subjectivity. Recognizing this interplay is key to understanding how researchers navigate the epistemic landscapes of modern science.

Overcoming these paradigmatic differences requires more than adopting new methodologies; it also necessitates a critical evaluation of the tacit assumptions underlying practices. Adam P. Rathbone and Kimberly Jamie (2016) illustrate how transitioning from positivist to constructivist frameworks involves rethinking both ethical and methodological commitments. Although challenging, this process can expand epistemological boundaries and foster innovative approaches. For example, qualitative researchers from clinical disciplines have reported significant changes in their interpretive and ethical practices, reflecting a reconfiguration of their epistemic commitments.

Finally, the expansion of interdisciplinary collaborations raises crucial questions about the evolution of paradigms. Lattuca, Voigt, and Fath (2004) advocate for interdisciplinary training programs that foster epistemological agility, emphasizing the construction of shared frameworks rather than the elimination of differences. Such programs enable researchers to successfully navigate the complexities of reconciling diverse perspectives.

In this framework, interdisciplinary dialogue becomes a vital tool for addressing paradigmatic tensions. Holbrook (2013) underscores the importance of mutual recognition of disciplinary values and methods, which not only resolves conflicts but also enriches academic practices by incorporating previously underappreciated perspectives.

Finally, paradigmatic tensions present both challenges and opportunities for contemporary research. Addressing these tensions through critical reflection, interdisciplinary training, and systemic reforms allows researchers to move toward more inclusive and adaptive paradigms. This evolution not only enhances collaboration but also strengthens the capacity of science to address the complexities of the modern world.

Measuring and monitoring implicit conceptions

Building on this, understanding and systematically assessing how researchers conceptualize their work is essential for advancing academic training and fostering interdisciplinary collaboration. Among the available tools, the Conceptions of Research Inventory (CRI), developed by Meyer, Shanahan, and Laugksch (2005), has proven to be a reliable instrument for evaluating undergraduate students' understanding of research. For example, Angela Brew and Constanze Saunders (2020) have demon-

strated its effectiveness in revealing significant differences in students' research conceptions at various stages of their academic journey. While students in earlier stages often view research as a means to an end—primarily academic success—those in advanced stages increasingly perceive it as a dynamic and iterative process aimed at generating knowledge. These findings highlight the importance of tailored pedagogical strategies that adapt to students' developmental stages, ensuring a progression in the depth and complexity of their research conceptions.

Complementing the CRI, other innovative approaches to monitoring research conceptions have emerged. For instance, Patricia Randall Long (2016) used reflective practice and narrative inquiry to explore how participants' understanding of research and professional practice evolved over time. Her findings revealed a shift from rigid, technique-driven approaches to more creative, context-sensitive understandings. These qualitative tools offer valuable insights into the multifaceted and dynamic nature of research conceptions, capturing dimensions that standardized instruments like the CRI may overlook.

The practical applications of these assessment tools are evident in research training programs designed to bridge the gap between students' initial conceptions and the complexities of real-world research. Repko (2008) underscores the transformative potential of interdisciplinary coursework in reshaping students' approaches to research by exposing them to diverse epistemological perspectives. Similarly, Sandoval (2005) emphasizes the value of inquiry-based learning environments, which foster iterative thinking and problem-solving. Reflective activities integrated with structured conceptual inventories allow educators to provide targeted feedback, guiding students to refine their understanding and apply it across varied contexts.

Beyond student training, monitoring conceptions of research also supports the professional development of early-career researchers. As Kit Yu Karen Chan and Jeanette D. Wheeler (2023) demonstrate, interventions like collaborative workshops and cross-disciplinary seminars can promote more integrated and adaptive conceptions of research. By addressing gaps in understanding key concepts such as validity, ethics, and rigor, these initiatives prepare researchers to navigate the intricate challenges of modern scientific inquiry.

In conclusion, systematic efforts to measure and monitor research conceptions are foundational for developing effective educational practices and fostering academic growth. Tools like the CRI, alongside innovative qualitative methods, enable educators and institutions to support researchers at every stage of their academic journey. By advancing a reflective and adaptive research culture, these efforts contribute to the evolution of a more informed and versatile academic community.

Conclusions

This study has explored the multifaceted role of implicit conceptions in scientific research, focusing on the interplay of tacit knowledge, researcher identity, contextual influences, and epistemological tensions. Through the dimensions discussed, it has become evident that understanding these hidden frameworks is crucial for advancing research training, fostering interdisciplinary collaboration, and promoting the production of rigorous and impactful knowledge. The findings underscore the complexity of implicit conceptions and their pervasive influence on the ways researchers design, execute, and interpret their studies.

From our perspective, it is essential to consider the developmental stage of a researcher's career to fully understand how they construct and approach research. Early-career researchers may face challenges and influences distinct from those encountered by experienced investigators. Factors such as institutional expectations, epistemological frameworks, and the research context itself interact dynamically, shaping not only the researcher's identity but also their methodological and theoretical choices. A nuanced understanding of these stages and influences is critical for tailoring support systems and training programs to researchers' specific needs. In this regard, future research could explore how doctoral training programs integrate reflective practices to enhance doctoral students' epistemological awareness while ensuring their complementarity with existing training approaches. Additionally, examining how different supervisory strategies influence the engagement of doctoral candidates with implicit conceptions may provide valuable insights into improving mentoring relationships and research education. These inquiries could contribute to the development of more inclusive and flexible doctoral training models, ultimately strengthening the formation of future researchers. Additionally, scientific inquiry requires moving beyond ideological or methodological rigidity. It is vital to approach research with epistemological flexibility, learning to navigate positivist, interpretative, and critical paradigms with discernment. Researchers must evaluate which paradigm, or methodological stance best aligns with the phenomenon under study, prioritizing the nature of the research questions and the complexity of the phenomena over personal or institutional biases. This pragmatic adaptability fosters not only methodological rigor but also a deeper understanding of complex realities.

Equally important is resisting the "publish or perish" logic and the pressures imposed by the demands of the academic publishing market. Instead, the primary focus of research should remain on ensuring the highest levels of quality and scientific rigor, while contributing meaningfully to the advancement of knowledge. The pursuit of quality over quantity is fundamental to preserving the integrity and purpose of scientific inquiry.

Furthermore, this study highlights the importance of adopting increasingly comprehensive perspectives when exploring phenomena. Researchers should embrace interdisciplinary and transversal approaches that allow them to examine phenomena from multiple angles, leveraging the strengths of different paradigms and method-

ologies to enhance the depth and breadth of their analyses. Avoiding methodological trends or rigid imperatives ensures that research remains relevant and aligned with its primary objectives.

To achieve this, the continuous and transversal training of researchers is indispensable. Developing flexible, open, and interdisciplinary profiles empowers researchers to address the complexities of contemporary research contexts effectively. This commitment to lifelong learning not only enriches individual expertise but also strengthens the collective capacity of the scientific community to advance knowledge in innovative and impactful ways.

Finally, scientific research thrives when it is rooted in reflexivity, adaptability, and a commitment to excellence. By prioritizing these principles, researchers can navigate the evolving landscape of academic inquiry with rigor and resilience, contributing to the progressive development of science and society.

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About the Authors

Luana Bruno, a Doctor of Education and postdoctoral researcher at the University of Alcalá, has an extensive career in research and teaching. She is a co-creator, alongside Dr. Iborra and Dr. Lindquist, of the free emotional management app EMOTONGUE. Currently, she is researching emotional development and change, as well as migration and gender studies. She participates in international projects on migration and affective-sexual relationships in adolescents. As a lecturer, she has taught at the Faculty of Education Sciences in Primary and Early Childhood Education programs, and postgraduate courses such as the Master's in University Teaching and the Master's in Secondary Education Teacher Training. She holds international certificates in Collaborative Practices and Systemic Therapy. From March 2017 to May 2021, she was a researcher in the FPU program at the Department of Education Sciences at the University of Alcalá. She has conducted research stays in the U.S., Germany, Poland, and Italy.

Alejandro Iborra Cuéllar is a Doctor of Psychology from the University of Valencia and an Associate Professor at the University of Alcalá since 2002. He served as the Head of the Department of Education Sciences from 2013 to 2019 and currently coordinates the Doctoral Program in Education and directs the Daisaku Ikeda Education and Development Institute (IEDDAI). His training includes studies in Integrative Gestalt Therapy, Remodeled NLP, and Systemic Therapy, and he has extensively published on personal identity formation and collaborative-experiential-transformational learning. He has taught in Psychopedagogy, Primary Education, and postgraduate programs such as the Master's in University Teaching and the Master's in Secondary Education Teacher Training. He has carried out research stays at universities in the United States, England, and the Netherlands, and participated in international educational projects in Equatorial Guinea, Chile, the Dominican Republic, and the Sahrawi Arab Democratic Republic.

Luana Bruno, doktor pedagogiki i postdoctoral researcher na Uniwersytecie w Alcalá z bogatym doświadczeniem w zakresie prowadzenia badań naukowych i dydaktyki. Wspólnie z dr. Iborrą i dr. Lindquistem jest współtwórczynią bezpłatnej aplikacji do zarządzania emocjami EMOTONGUE. Obecnie prowadzi badania nad rozwojem emocjonalnym i zmianami w tym zakresie, a także nad migracjami i studiami nad płcią. Uczestniczy w międzynarodowych projektach dotyczących migracji oraz relacji afektywno-seksualnych wśród nastolatków. Jako wykładowczyni prowadziła zajęcia na Wydziale Nauk o Edukacji na kierunkach Edukacja Wczesnoszkolna i Przedszkolna, a także na studiach podyplomowych, takich jak studia magisterskie Nauczanie Uniwersyteckie oraz Przygotowanie Pedagogiczne dla Nauczycieli Szkół Średnich. Posiada międzynarodowe certyfikaty z zakresu praktyk współpracy i terapii systemowej. Od marca 2017 do maja 2021 roku była badaczką w ramach programu FPU w Katedrze Nauk o Edukacji Uniwersytetu w Alcalá. Odbyła staże naukowe w USA, Niemczech, Polsce i we Włoszech.

Alejandro Iborra Cuéllar jest doktorem psychologii Uniwersytetu w Walencji i adiunktem na Uniwersytecie w Alcalá od 2002 roku. W latach 2013–2019 pełnił funkcję kierownika Katedry Nauk o Edukacji, a obecnie koordynuje program studiów doktoranckich z pedagogiki oraz kieruje Instytutem Edukacji i Rozwoju im. Daisaku Ikedy (IEDDAI). Jego wykształcenie obejmuje studia z zakresu terapii Gestalt w ujęciu integracyjnym, przeformułowanego NLP oraz terapii systemowej. Opublikował liczne prace naukowe na temat kształtowania tożsamości osobistej oraz uczenia się w modelu współpracy, doświadczenia i transformacji. Prowadził zajęcia na kierunkach psychopedagogika, edukacja wczesnoszkolna oraz na studiach podyplomowych, takich jak Nauczanie Uniwersyteckie oraz Przygotowanie Pedagogiczne dla Nauczycieli Szkół Średnich. Odbył staże naukowe na uczelniach w USA, Anglii i Holandii, a także brał udział w międzynarodowych projektach edukacyjnych w Gwinei Równikowej, Chile, Republice Dominikańskiej oraz Saharyjskiej Arabskiej Republice Demokratycznej.