

## **Title**

Artificial Intelligence and Postsecondary Student Learning and Personal Development: A New Framework for a New Age of Undergraduate Education

## **Overview**

This paper advances an expanded conceptual framework for understanding postsecondary student engagement, learning outcomes, and personal development in the age of Artificial Intelligence (AI). Building on Pascarella's (1985) causal model and Weidman's (1989) undergraduate socialization model, the framework positions AI as a new and influential socialization agent transforming college student experiences.

## **Purposes**

The purposes of this paper are: (1) To examine the conceptual foundations of Pascarella's (1985) causal model and Weidman's (1989) undergraduate socialization model considering the pervasive integration of AI into higher education environments; (2) To theorize AI as a novel socialization agent that interacts dynamically with existing human, institutional, and environmental influences on student learning and personal development; (3) To propose an expanded conceptual framework that accounts for AI's role in shaping cognitive effort, self-regulated learning, help-seeking behavior, peer and faculty interactions, and students' sense of belonging and agency.

## **Methodology: Literature Review and Conceptual Reasoning**

This paper employs a literature review and conceptual reasoning methodology—a rigorous approach in higher education theory-building scholarship. The literature review synthesizes four interconnected bodies of scholarship: (1) foundational theoretical models of student development and undergraduate socialization, with primary focus on Pascarella (1985) and Weidman (1989); (2) postmodern and critical perspectives on socialization that challenge modernist assimilation frameworks (Tierney, 1997); (3) empirical works that applied Pascarella (1985) and Weidman (1989) models, examining their strengths and limitations, including but not limited to scholarship demonstrating how Weidman's socialization processes shape students' values, career aspirations, and professional identity; and (4) emerging empirical and conceptual work on AI's influence on postsecondary student learning, engagement, and development.

Using conceptual reasoning, this paper identifies structural and theoretical gaps in existing models and systematically integrates AI as a new construct into the causal logic of these frameworks. Pascarella's (1985) iterative, heuristic spirit—wherein empirical testing is expected to yield more refined and accurate alternative models—explicitly invites this kind of theoretical extension. Similarly, Weidman's (1989) socialization model, as revised through postmodern critique, is flexible enough to incorporate non-human agents as sources of normative pressure and interpersonal influence.

## Results and Discussion: An Expanded Framework

The expanded framework proposed in this paper conceptualizes AI as an additional environmental and socializing force that interacts dynamically with existing elements in both Pascarella's and Weidman's models. Specifically, AI is positioned as occupying four roles within the framework:

1. An environmental mediator: AI tools alter the institutional environment and the normative academic and social contexts that students navigate. Within Bronfenbrenner's ecological model (1979), AI interacts across multiple layers of environment that shape expectations for how learning tasks are accomplished and how students interact with peers and faculty.
2. A socializing agent: Like faculty and peers, AI tools transmit norms, provide feedback, scaffold knowledge acquisition, and influence students' values and self-perceptions as learners (Chan & Hu, 2023).
3. A quality-of-effort modifier: AI's potential for cognitive offloading directly affects the quantity and quality of student effort—a key proximal determinant of learning outcomes in Pascarella's model—raising critical questions about cognitive engagement, academic integrity, and deep learning.
4. By integrating AI into established theoretical models, this framework calls for a more comprehensive understanding of student experiences and outcomes in contemporary higher education, providing a foundation for future empirical research and evidence-informed policy and practice.

This paper makes three contributions to higher education scholarship. First, it extends two foundational frameworks—Pascarella (1985) and Weidman (1989)—into the contemporary AI-mediated learning environment, demonstrating that their core logic remains durable and generative when expanded to account for non-human agents. Second, it provides researchers with a theoretically grounded vocabulary for studying AI's influence on student development, enabling more precise hypothesis generation and model testing. Third, it offers practitioners and policymakers a conceptual basis for designing AI-informed interventions that support, rather than undermine, student learning, belonging, and developmental growth.

## References

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