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The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Social displacement and relational andragogy in generative artificial intelligence-enhanced learning and teaching

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Generative artificial intelligence (GenAI) is changing how students learn and how they seek support. This conceptual paper develops social displacement theory to explain how GenAI may replace interpersonal encounters that would otherwise contribute to social learning, belonging, and access to future support. It proposes the ABCs of Human-GenAI Support Decision-Making, in which (A) achievement, (B) burdens, and (C) connections shape whether students rely on independent effort, human support, GenAI, or a combination of these resources. It then advances relational andragogy as an institutional response suited to connected adult learning in a digital society. Relational andragogy intentionally cultivates trust, compassion, mattering, psychological safety, and mutuality while preserving learner agency. Through these relational conditions, institutions can support achievement over time, respond compassionately to external burdens, strengthen students' anchors of connection, and develop more informed human-GenAI support choices. The framework does not assume that human support is always preferable or that GenAI use is inherently harmful. Instead, we distinguish augmentative uses that expand access or prepare students for human interaction from substitutive patterns that may progressively weaken learning communities. Practical and theoretical implications are offered for educators, student support services, institutional policy, and future empirical testing.

Keywords: generative AI, human-computer interactions, belonging, social connection, relational andragogy, conceptual

Introduction

By the time of reading this, generative artificial intelligence (GenAI) will be no stranger to any educator. Much of the research to date prioritises academic integrity, assessment integration, assurance of learning, and technological affordances (e.g., Eaton et al., 2026; Nieminen et al., 2026). Yet, a more consequential social effect of GenAI may be less visible at the immediate point of usage. A student who once asked a classmate to explain a difficult concept can now ask a chatbot, whilst a student uncertain about a source can opt to bypass scheduling an appointment with a librarian, while another can seek reassurance after a poor result without speaking to a tutor, advisor, or friend (Crawford et al., 2026). GenAI offers an anxious student in an anxiety-inducing act of learning (Barnett, 2022) an immediate response, privately, and without visible judgement, making it especially attractive when human help feels inconvenient, exposing, or socially demanding, with emerging evidence suggesting that this substitution matters because students who feel socially supported by GenAI may also report lower human social support, greater loneliness, and weaker academic persistence than students who feel supported by other people (Crawford et al., 2024).

Higher education responses to GenAI remain dominated by immediate institutional challenges. Researchers have framed GenAI policy towards authorship and integrity, and educators and institutional responses have largely framed GenAI through assessment validity, academic integrity, and the assurance of learning (Dollinger & Nieminen, 2026). Yet, the practical question facing educators is increasingly visible in classrooms: when a student resolves a learning need through GenAI, what human exchange has been avoided, shortened, or rendered unnecessary? Existing work has identified the possibility that AI support may substitute for interactions with peers, academics, librarians, and advisers, with the social consequences then flowing indirectly through belonging, wellbeing, and loneliness (Crawford et al., 2024). What remains absent is an

account of the cumulative process through which repeated substitutions reshape educational relationships. The challenge is to explain what human activity GenAI use replaces.

Media displacement theory provides a useful starting point that requires extension to interpersonal displacement. Displacement research has traditionally examined how new media reallocate finite time and attention away from older media, particularly where the new medium provides a similar function more efficiently or attractively (De Waal & Schoenbach, 2010; Lee & Leung, 2008). This literature distinguishes substitution from supplementation, recognising that a new technology may either replace an established activity or expand engagement across multiple channels. GenAI offers a complication as its functional alternative is often not another equivalent medium of GenAI. Instead, it may replace a person who would otherwise explain, reassure, question, challenge, or simply remain present (Pani et al., 2024). GenAI can replace the immediate support task while removing the relational encounters that accompany it. Its immediacy and low interpersonal risk may also allow students to offload the discomfort involved in admitting uncertainty, revealing limited knowledge, or initiating contact. This extension of displacement from competition between media to the removal of interpersonal opportunities offers a revised pathway to explain how GenAI usage may affect student wellbeing over time.

That problem matters because learning is relational before it is technological. The need to belong is sustained through frequent, positive interactions situated within relationships marked by continuity and concern for one another's welfare (Baumeister & Leary, 1995). Relational pedagogy similarly positions learning as a process constituted through trust, reciprocity, care, communication, and meaningful encounters among students, peers, and educators (Owusu-Agyeman & Pillay, 2023; Su & Wood, 2023). These relationships do not emerge only through formal mentoring or extended conversation. They are built through ordinary questions, moments of uncertainty, brief exchanges after class, shared problem solving, and the gradual recognition that one matters within a learning community. Relational accounts also recognise that educational relationships are shaped by technologies, spaces, material conditions, and the wider environments in which learning occurs (Gravett et al., 2024). A theory of social displacement must therefore account for both the interaction removed and the relational future that may no longer develop.

This paper advances a theory of social displacement for GenAI enhanced education. Social displacement is defined as the process through which GenAI satisfies a learning, support, or emotional need in place of a human interaction that would otherwise have occurred, thereby changing opportunities for social learning, relationship formation, and belonging. GenAI may prepare students to participate, reduce barriers to initial engagement, or strengthen later human interaction when used augmentatively. Its consequences instead depend on which interactions are displaced, why students substitute GenAI for people, and whether educational design restores or removes relational opportunities.

This paper makes three connected contributions. First, it extends media displacement theory to explain how GenAI can replace interpersonal encounters, potentially reducing opportunities for relationships and future support to develop. Second, the ABCs of Human-GenAI Support Decision-Making identify achievement, burdens, and connections as interacting conditions shaping students' support choices. Third, relational andragogy specifies an educational response that develops adult learners' capacity to judge when independent effort, human support, GenAI, or combined support is appropriate. The proposed contribution lies in connecting immediate support decisions with their cumulative relational consequences and identifying how institutions might prepare students to navigate these decisions beyond the immediate presence of an educator.

Three forces of social displacement

Social displacement can occur for diverse reasons, including possible pathways through GenAI. Students encounter GenAI from within an existing ecosystem of relationships, responsibilities, and academic experiences that shapes whether they seek support from a person, use GenAI, combine the two, or avoid help altogether. Fawns' (2022) entanglement pedagogy captures the technology-learning interface, while our account extends attention to relationships beyond the classroom. Early evidence indicates that GenAI-based support may provide immediate academic value while also substituting for human support associated with

belonging, wellbeing, and persistence (Crawford et al., 2024). The decision to use GenAI instead of a human actor is therefore unlikely to be explained by adoption, access, or literacy in isolation. As we will discuss, it emerges from the interaction of three core forces: 1) the social capital available to the student, 2) the external pressures competing for their attention, and 3) their present level of academic achievement. Our concern is the conditions under which GenAI becomes preferable to socially based support.

Theoretical framing

The concept of the social other provides the relational frame for our position. Crawford et al. (2026) propose that GenAI can provide reassurance, emotional regulation, planning, and rehearsal with low interpersonal risk, while lacking the mutuality and embodied connection associated with durable belonging. Crawford et al. (2026) argue that GenAI has become a de facto emotional support tool for university students, used privately for reassurance, planning, emotional regulation, and rehearsing difficult conversations, even as institutions deploy chatbots to "scale" wellbeing services. GenAI's capacity to both act, and be seen as, a low-risk "social other," offers possible and temporary psychological safety and parasocial bonds, but it fails on mutuality and embodied connection that genuine, durable belonging requires. GenAI can therefore operate as one actor within a wider relational ecosystem in which students choose among human, technological, and independent forms of support.

Force 1: Social capital and connection

Social capital provides a base understanding of whether help is available and usable. Students draw on multiple anchors of connection across family, friendships, employment, community, peer groups, teaching staff, professional networks, and institutional services (Grant-Vallone et al., 2003). These anchors provide different configurations of emotional support, information, encouragement, identity, recognition, and practical assistance. Social capital consequently involves more than the number of people surrounding a student, since forms of connectedness, network cohesion, and civic participation provide distinct resources and are not closely interchangeable (Chetty et al., 2022a). In higher education, personal and institutional networks can provide the information and support needed to understand academic expectations, respond to difficulty, and persist through university life (Mishra, 2020). A student may therefore be surrounded by people and still lack the relationships needed to ask for academic help.

Anchors of connection differ in their reach and educational function. Bonding relationships can provide care, confidence, continuity, and a secure identity, while bridging relationships connect students to unfamiliar information, institutional knowledge, professional identities, and opportunities beyond their immediate networks (Jensen & Jetten, 2015; Mishra, 2020). Strong exposure to other people does not itself ensure that relationships will form, since access to potential contacts and the conversion of contact into friendship are distinct processes shaped by institutional settings (Chetty et al., 2022b). For example, a student may possess rich family, workplace, cultural, or community connections while having limited access to peers, educators, advisers, or librarians whom they feel able to approach. Social displacement can therefore emerge from a generally strong but poorly aligned support network rather than social isolation alone.

Force 2: External pressures during learning

External responsibilities are often sources of meaning before they become sources of constraint. Employment can provide identity, independence, skills, friendship, and future opportunity, while caregiving and family responsibilities can offer purpose, reciprocity, and enduring attachment. Students who balance multiple roles can flourish when those roles are supported by belonging and meaningful social participation, suggesting that responsibility should not be treated automatically as a deficit or burden (Jie et al., 2025). Material circumstances are similarly multidimensional, since financial conditions interact with learning resources, living arrangements, participation, dignity, psychological wellbeing, and access to social life (Ruswa & Gore, 2022). These anchors can strengthen life beyond university while reducing the time available to activate human support within it. External pressure changes the relative cost of asking another person. Financial stress and paid work can restrict study time, participation, and access to academic support (Hall, 2010; Moore et al.,

2021; Svanum & Bigatti, 2006). Under these conditions, students may increasingly evaluate support through its time, effort, psychological cost, and practical value (Bunce et al., 2017; Woodall et al., 2014). GenAI may therefore become a rational means of preserving valued external commitments while sacrificing lower-stakes campus interaction.

Force 3: Achievement levels and anxiety

Academic achievement shapes both the urgency and purpose of GenAI use. Students who are failing may seek rescue, remediation, reassurance, or sufficient assistance to complete an immediate task. Students who are passing may use GenAI to maintain performance, manage routine uncertainty, or reduce the time required to sustain acceptable outcomes. High achieving students may instead use it to optimise work, test ideas, accelerate production, or protect a desired level of performance. These positions are accompanied by different psychological conditions, since perceived difficulty and the consequences attached to evaluation increase anxiety, while anxiety is negatively associated with academic performance across university and other educational settings (von der Embse et al., 2018). Achievement therefore changes the function of GenAI even when the visible act of use looks the same. Academic achievement is also produced within the social ecosystem that it subsequently influences. Social anxiety can restrict the formation of new ties, while weaker social ties can contribute to poorer academic outcomes and reduced protection against later anxiety (Brook & Willoughby, 2015). Achievement, social ties, and anxiety consequently operate reciprocally rather than as independent inputs. A student experiencing declining performance may feel an increased need for help at the same time that shame, uncertainty, or fear of evaluation make interpersonal help seeking harder (e.g., Langenkamp et al., 2026). GenAI provides a pathway that resolves this tension by supplying assistance without requiring the student to disclose difficulty to another person.

How students respond with human and GenAI support options

These three forces shape the conditions under which students choose human, GenAI, combined, or independent support (see Figure 1). They explain why the same technology can operate as an optional convenience, an augmentation of rich human support, a compensation for inaccessible support, or a substitute for an interaction that would otherwise have occurred. The three forces reframe GenAI use as a relational choice among competing goods. Strong external relationships may legitimately take priority over additional campus interaction, while GenAI can reduce unnecessary delay or anxiety in accessing support.

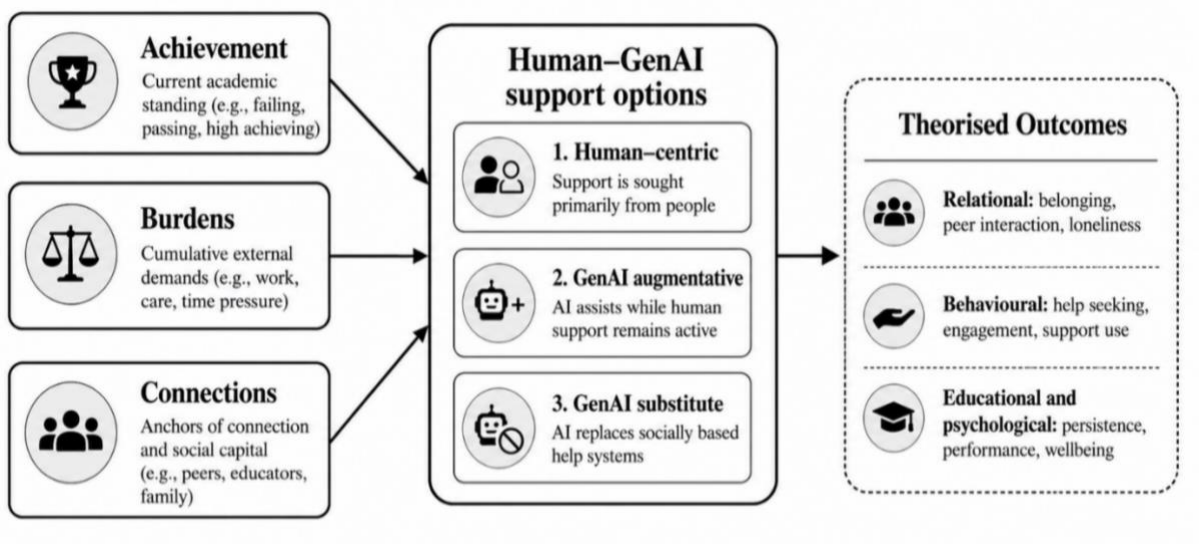


Figure 1. The ABCs of human-GenAI support decision-making

The theoretical concern is the relational opportunity removed when GenAI resolves a need that might otherwise have produced human contact. This distinction also explains why the amount of GenAI use is less informative than the support pathway it supplements or replaces. The following discussion examines how

individual substitutions may accumulate into broader changes in belonging, loneliness, and the relational architecture of higher education.

Possible benefits and unintended consequences of GenAI in help-seeking

Support choices can be evaluated through their relational, behavioural, educational, and psychological consequences. Figure 1 focuses on pathways involving external support: seeking human assistance, using GenAI alongside human support, or substituting GenAI for a human interaction. Students may also attempt a problem independently or leave a support need unmet. Students frequently do not engage with available academic support even when struggling, with attitudes, stigma, prior experiences, and perceived social norms shaping whether support is activated (Bornschlegl et al., 2020). Formal help seeking may also threaten students' situated sense of competence, independence, or legitimate pride in their capacity to cope, particularly when asking for help appears to convert an ordinary difficulty into an individual problem (Clegg et al., 2006). Perceived vulnerability and fear of appearing incapable similarly reduce the likelihood that students will approach instructors, even where the instructor is available and knowledgeable (Qayyum, 2018). GenAI may provide a valuable route out of non-engagement when the realistic alternative is unresolved confusion, avoidance, or withdrawal.

Technology-based support can reduce the practical and psychological costs of seeking help. Digital support channels can provide privacy, immediacy, convenience, and assistance at the point when a student encounters an impasse, allowing learning to continue rather than pause while a response is awaited. Students using live chat, for example, valued rapid clarification, greater access to staff, and the sense that teaching teams cared about their learning, with these benefits particularly evident for online students who had fewer opportunities for direct interaction (Broadbent & Lodge, 2021). Technology can also help students regulate the sequence of support by clarifying what they know, identifying the specific point of uncertainty, and preparing a more focused question before approaching a peer, educator, or adviser. This may make GenAI augmentative rather than substitutive, as a student could initially problem solve with the tool and then ask an adviser to sense check their interpretation, identify blind spots, or confirm an appropriate next step.

The unintended consequence arises when successful resolution repeatedly removes opportunities for socially productive help seeking. Human assistance also varies in quality, since peer support can become unhelpful when another student takes over rather than enabling learning, while formal support can be poorly timed, socially threatening, or disproportionate to the question being asked (Clegg et al., 2006). Independent problem solving can also be productive when it enables self-regulation, provided that the student remains capable of recognising an impasse and escalating when needed. Students already select different channels according to urgency, privacy, complexity, and the value of obtaining multiple perspectives, suggesting that effective support is normally a sequence of context dependent decisions rather than a single preferred source (Broadbent & Lodge, 2021). Repeated GenAI substitution may become the default response to uncertainty, progressively replacing exchanges through which students encounter peers, build trust in educators, learn how institutional support works, and become known within a learning community.

Why we need relational andragogy in higher education

Relational andragogy connects the relational conditions of learning with adult learners' responsibility for deciding how to seek and use support. It draws on relational pedagogy's emphasis on trust, reciprocity, belonging, and purposeful connection (Su & Wood, 2023), including recognition that technologies, spaces, and material conditions shape participation (Gravett et al., 2024). Its distinctive contribution is support judgement: the capacity to recognise a need, evaluate available human and technological resources, and decide how support should be mobilised. GenAI makes these decisions possible in homes, workplaces, commutes, and private moments of uncertainty, beyond an educator's immediate presence (Crawford et al., 2026). Relational andragogy therefore treats the capacity to navigate support as an educational outcome in its own right.

Relational and compassionate pedagogies provide foundations for this capability. Relational pedagogy foregrounds ethical care, communication, respect, trust, and mattering (Owusu-Agyeman & Pillay, 2023), while compassionate pedagogy emphasises recognising distress or disadvantage and acting to mitigate

barriers to participation (Killingback et al., 2025). These commitments can inform students' decisions across educational settings and everyday life. Our extension concentrates on how learners develop and exercise judgement when several forms of support are available and their immediate benefits may differ from their longer-term relational consequences. The institutional task is to create supportive relationships and opportunities for students to learn how to mobilise, contribute to, and sustain them alongside technological assistance. Student independence should also be distinguished from learning in isolation. Adult learners need to tolerate productive uncertainty, recognise the limits of their knowledge, and decide when additional support is warranted. Relational learning preserves agency by positioning students as contributors to reciprocal learning rather than passive recipients of assistance (Chong, 2026; Su & Wood, 2023). Support judgement therefore concerns the capacity to mobilise an appropriate human or technological resource while retaining responsibility for the decision.

GenAI makes critical support choice part of what students must learn. GenAI can reduce unproductive frustration, provide explanations when human assistance is unavailable (e.g., 2 a.m. study support), help students formulate an initial interpretation, and prepare them to approach an educator or adviser with a more focused question. It can also become a low-risk social other that offers privacy and immediate responsiveness without the exposure, delay, or obligation attached to human interaction (Crawford et al., 2026). However, emerging evidence suggests that repeated reliance can redirect questions away from peers, weaken mentorship, reduce exposure to diverse perspectives, and diminish the collaborative problem solving through which learning communities form (Hou et al., 2025). The same students also reported positive uses, reinforcing the importance of examining the support pattern GenAI enables or replaces (Hou et al., 2025). Students must learn to judge whether GenAI is helping them think, preparing them to collaborate, concealing an unresolved limitation, or making a valuable human interaction appear unnecessary.

Figure 2 positions relational andragogy as the institutional mechanism through which higher education can shape the ABC ecosystem and students' human-GenAI support choices. In this paper, We define relational andragogy through five conditions: trust, confidence that support can be approached safely; compassion, action to reduce avoidable difficulty; mattering, recognition that the student and their learning count; psychological safety, freedom to expose uncertainty without humiliation; and mutuality, reciprocal recognition and contribution within learning relationships. These commitments extend relational pedagogy's emphasis on intentional connection, reciprocity, belonging, and openness between educators and students (Su & Wood, 2023). Student evidence similarly identifies ethical care, interpersonal communication, respect, and mattering as central features of relational teaching in higher education (Owusu-Agyeman & Pillay, 2023).

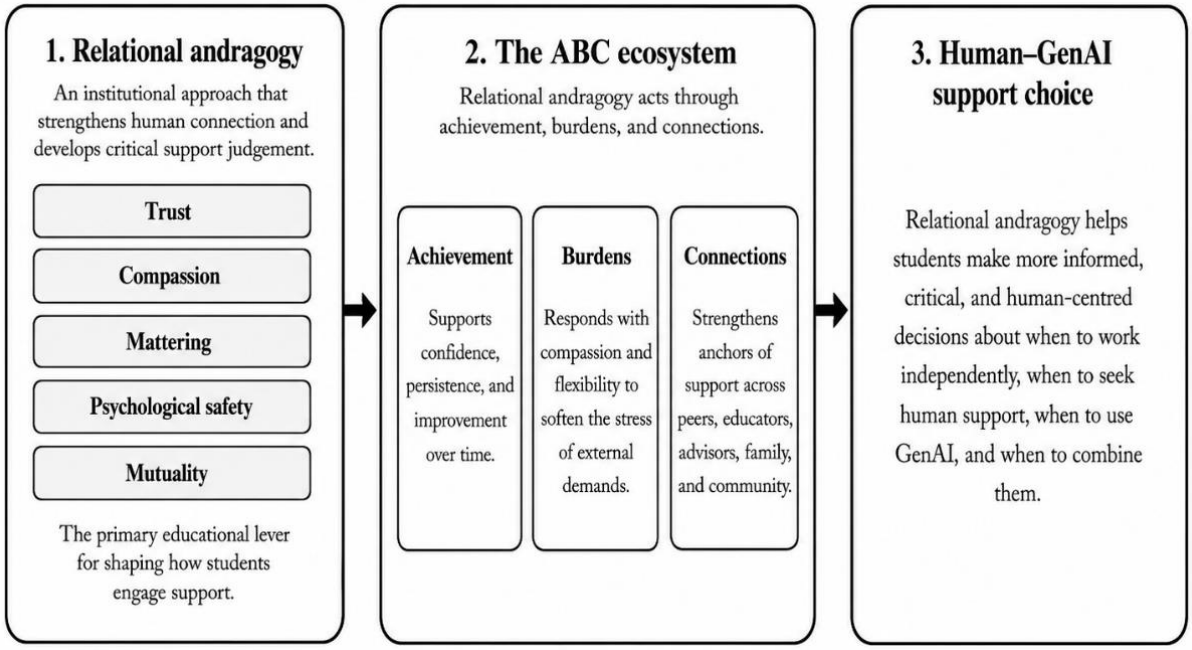


Figure 2. A working model of relational andragogy applied to the ABC ecosystem and human-GenAI support choice

Within the ABC ecosystem, relational andragogy supports achievement by fostering confidence, persistence, and improvement over time; responds to burdens through compassionate flexibility that softens the effects of external demands; and strengthens connections by expanding the accessible and mobilisable anchors available through peers, educators, advisers, family, colleagues, and community. Compassionate approaches support this response by noticing disadvantage and acting to mitigate it through flexible, strengths-based learning environments rather than deficit framings of students (Hamilton & Petty, 2023). These relationships provide information, encouragement, emotional support, and institutional knowledge associated with adaptation, achievement, and persistence (Mishra, 2020), that enable students to flourish during the turbulence of higher education. The model proposes that stronger relational conditions equip students to judge when independent effort is appropriate, when human expertise or care is needed, when GenAI can provide useful scaffolding, and when human and technological support should be combined. GenAI may lower barriers and provide reassurance while offering a different relational form from sustained human mutuality (Crawford et al., 2026). Emerging evidence also indicates that routine redirection toward GenAI can reduce peer interaction, mentorship, and participation in informal learning communities (Hou et al., 2025). Relational andragogy seeks to ensure that students approach support critically, compassionately, and with awareness of when the relationship itself contributes to learning.

Implications for practitioners and policy

GenAI policy should encompass the student support ecosystem alongside assessment and academic integrity. Institutions commonly regulate what students may submit, but devote less attention to how GenAI changes the pathways through which students seek clarification, reassurance, advice, and connection. GenAI can provide immediate, private, and low risk support when human assistance is unavailable or socially difficult to access, yet it cannot reproduce the mutual recognition and sustained care associated with durable belonging (Crawford et al., 2026). Policy should therefore protect the accessibility benefits of GenAI while requiring transparency, clear boundaries, appropriate human handover, and continued investment in peer, academic, advisory, and wellbeing services. Policy here should help students identify what kind of support a situation requires.

Practical implications

Relational andragogy should be translated into visible and repeatable practices across the student journey. Educators can strengthen trust by responding predictably to questions, cultivate mattering by recognising

students' contributions, establish psychological safety by normalising uncertainty, and model mutuality by treating students as contributors rather than passive recipients. Compassion should also be expressed structurally through clear expectations, flexible communication channels, accessible extension processes, and learning designs that reduce avoidable difficulty without removing responsibility or challenge. Flexible and strengths-based environments can widen participation while reducing the burden placed on students to repeatedly disclose or defend their support needs (Hamilton & Petty, 2023).

Students need opportunities to practise support judgement through comparative use of independent, human, and GenAI resources. Learning activities can require students to compare an independently developed response, a GenAI response, and feedback from peers or educators, then explain which source was most useful and why. Advisers and teachers can encourage students to use GenAI to clarify an initial problem, organise their thinking, or rehearse a question before bringing it to a person for interpretation, challenge, or sense checking. Institutions should simultaneously protect peer discussion spaces, mentoring relationships, and informal communities because early evidence suggests that routine redirection to GenAI can reduce collaboration, mentorship, and participation in shared learning spaces (Hou et al., 2025). The aim is to prevent convenience from making valuable relationships invisible.

Theoretical implications

Our exploration of social displacement and relational andragogy shifts attention from the amount of GenAI use to the relational function that use performs. It extends media displacement theory by treating the displaced unit as an interpersonal encounter capable of producing information, trust, recognition, motivation, or future support. The ABCs of GenAI Support Choice identify achievement, burdens, and connections as the conditions surrounding that substitution, while relational andragogy specifies the institutional mechanism through which those conditions may be influenced. Achievement may improve gradually, and external burdens may remain largely outside institutional control, but educational settings can strengthen the connections through which students manage both. The model treats displacement as contingent, recursive, and potentially reversible. Each support choice alters the relational ecosystem from which later choices are made: repeated displacement may reduce opportunities to develop future sources of human support, while augmentative GenAI use may strengthen subsequent participation. Relational andragogy can therefore influence both immediate support decisions and the conditions shaping later ones. This processual framing allows scholars to create testable propositions about whether stronger trust, mattering, psychological safety, mutuality, and accessible connections predict more critical and augmentative patterns of GenAI use.

Conclusion

Higher education must recognise which human interactions materially contribute to persistence, achievement, and belonging. Relational andragogy offers a way to connect compassion with adult responsibility by strengthening students' capacity to navigate achievement, burdens, and connections while making informed choices among independent, human, and GenAI support. In a digital society, collaboration and belonging will depend on an honest acknowledgment of the role of technological assistance and its intended and unintended consequences for human relationships.

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