

Beyond the screen: an integrative review of belonging antecedents in online courses

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Abstract

Purpose – Research shows that students who feel they belong in their courses have higher motivation, engagement and achievement. However, studies on sense of belonging (SB) in online education, particularly in leadership courses, remain limited. Additionally, relevant research is scattered across disciplines, making it challenging for readers to identify the related literature. This review synthesizes existing research on factors that foster SB in online courses and explores implications for leadership education.

Design/methodology/approach – This study employs an integrative literature review method, systematically searching databases for journal articles published in English.

Findings – The review includes 12 journal articles, revealing three primary levels of antecedents influencing SB in higher education online courses: individual, course and environmental levels. Key strategies for fostering SB include intentional course design, interactive learning, caring pedagogy and inclusive practices.

Originality/value – To the best of my knowledge, this review presents the first comprehensive analysis focusing solely on the antecedents of SB in online courses, offering recommendations for future research and teaching strategies.

Keywords Sense of belonging, Online courses, Leadership education, Higher education, Integrative literature review

Paper type Research paper

Introduction

As a fundamental human need, sense of belonging (SB) refers to the feeling of relatedness or connection to others (Booker, 2016; Maslow, 1943). In the classroom context, SB means students' perception of being valued, included, accepted and encouraged by peers and instructors within the classroom environment, in addition to feeling like an integral part of the class life and activities (Goodenow, 1993). SB in college courses is known to offer several benefits, such as course performance, student attrition as well as students' motivation and engagement (Zumbrunn, McKim, Buhs, & Hawley, 2014; Fink, Frey, & Solomon, 2020). While the majority of the research on belonging has focused on students in educational settings, such as SB to school (Allen, Gray, Baumeister, & Leary, 2022; Cohen & Garcia, 2008), only scarce research has explored course belonging in online education settings (Peacock & Cowan, 2019). Despite the significant shift to online teaching during the COVID-19 pandemic, there is little guidance for instructors on how to create belonging in online teaching environments. Therefore, this study examines literature for the antecedents of SB in online courses in the higher education context.



Belonging plays a critical role in online courses, yet much of the existing research on classroom belonging has focused mostly on in-person courses (Peacock & Cowan, 2019). Additionally, the scarce literature on course belonging in online courses was mainly centered on belonging in STEM disciplines (science, technology, engineering and mathematics), highlighting a critical research gap in non-STEM fields, such as leadership education.

Furthermore, the existing research on belonging, including online course belonging, has been undertaken in different disciplines in a siloed way (Allen, Kern, Rozek, McInerney, & Slavich, 2021). This makes it harder for researchers and instructors to keep up with the latest research on course belonging. Thus, this integrative literature review (ILR) aims to synthesize and analyze research from different fields of study, offering insights relevant to leadership education. This approach is particularly beneficial, as an initial search for literature on online course belonging within leadership education yielded no results.

ILR refers to a research approach that involves reviewing, critiquing and synthesizing related literature on a specific topic. This process is conducted in a comprehensive and integrated manner to develop new frameworks and perspectives on the subject (Torraco, 2005). As Torraco (2005) explains, ILRs are particularly useful for examining emerging topics because they offer a thorough conceptualization and synthesis of existing research. Accordingly, this study employs an ILR approach for the emerging topic of SB in online courses.

Background of the study

Siemens, Gašević, and Dawson (2015) define online learning – also known as e-learning, virtual learning or computer-based learning – as a form of distance education where technology facilitates instruction, all teaching occurs online and students and instructors do not need to be available at the same time or place.

In the higher education context, SB has gained importance over time as a part of student experience due to its effect on student attitudes and outcomes, such as academic self-efficacy, course performance, persistence and engagement (Freeman, Anderman, & Jensen, 2007; Gopalan & Brady, 2020; Edwards, Barthelemy, & Frey, 2022; Dulfer, Gowing, & Mitchell, 2024). Despite the growing research interest in SB, the literature reveals a lack of consistent definitions for belonging within educational settings (Allen & Bowles, 2012). As mentioned earlier, Goodenow (1993, p. 25) defines student SB as “students’ perceptions of being valued, included, accepted, and encouraged by peers and instructors, as well as feeling like an integral part of the class environment and activities.” Researchers have explored various related yet distinct concepts associated with SB, including community (McMillan & Chavis, 1986), mattering (Elliott, Kao, & Grant, 2004) and fitting in (Nora, 2004). All these concepts underscore the essential need for students to feel like valued members of a supportive and affirming larger community (Clements *et al.*, 2022; Johnson *et al.*, 2007).

In the field of leadership education, there is a lack of research on SB in both face-to-face and online courses. Some studies link leadership education to SB-related theories, such as the Community of Inquiry (CoI) framework. Developed by Garrison, Anderson, and Archer (1999), the CoI framework emphasizes deep and meaningful learning through three interconnected components: social presence, cognitive presence and teaching presence (Garrison, 2011). Focusing on the social presence component, Downing’s (2016) study of online undergraduate leadership students highlighted the significance of specific instructor practices, including feedback, demonstrated care, instructor availability and timely communication. Moreover, based on the CoI model, McCarron and Yamanaka’s (2022) article offered strategies for culturally relevant/sustaining and equitable online leadership education. Additionally, Darby (2022) applied the CoI framework and the Universal Design for Learning (UDL) framework (Rose & Strangman, 2007; Universal Design for Learning, n.d.) to propose teaching strategies and course designs that encourage peer-to-peer engagement in online leadership courses. The UDL framework used in Darby’s (2022)

study emphasizes flexible learning environments that can meet diverse student needs (Rose & Strangman, 2007; Universal Design for Learning, n.d.). Despite these contributions, research on fostering SB in leadership courses remains scarce.

This literature review is guided by two theoretical frameworks. The first is Moore's (1989) Theory of Three Types of Interaction: learner-content, learner-instructor and learner-learner interaction. When these three forms of interaction are operating at their highest levels, they minimize "transactional distance," a term defined as the psychological and communicative space where misunderstandings may arise between instructors and learners (Moore & Kearsley, 1996; Dulfer *et al.*, 2024). Minimizing transactional distance enhances SB in online learning environments (Dulfer *et al.*, 2024; Moore & Kearsley, 1996).

The second framework is Allen *et al.*'s (2021) integrative model of belonging, which conceptualizes belonging as a dynamic experience shaped by four interrelated components: competencies, opportunities, motivations and perceptions. These components interact within students' social, environmental and temporal contexts, influencing how they experience belonging.

These two frameworks complement each other for the understanding of student SB in online learning environments. While Moore's (1989) theory of interaction discusses the mechanisms through which belonging can develop, Allen *et al.*'s (2021) framework explains how students develop an SB through these interactions. Together, they provide valuable insights for understanding SB in online courses.

The purpose of this study is to synthesize current literature on SB in online classes, focusing on empirical studies of belonging antecedents and developing a future research agenda. This study will also help leadership researchers and educators to understand the drivers of SB based on empirical evidence. Following Torraco's (2005) guide to conducting integrative literature review (ILR), this research addresses three questions:

- RQ1. How has the SB in online courses been examined in prior research? (e.g. scales utilized, sample characteristics and research designs used).
- RQ2. What factors affecting the SB in online courses have been empirically identified?
- RQ3. What implications do these findings have for leadership education?

Methods

An ILR enables researchers to move beyond analyzing and synthesizing primary research outcomes, offering new insights and summary of knowledge about a specific topic (Lubbe, Ham-Baloyi, & Smit, 2020). This ILR was conducted following the guidelines outlined by Torraco (2005) for writing integrative literature reviews, along with the corresponding checklist provided by the author. These checklist items were adapted to this current study based on the studies of Torraco (2005) and Holden and Bruce (2024), as explained in Table 1.

Eligibility criteria

For this review, I looked at peer-reviewed scholarly journal articles written in English. The studies selected for inclusion met the following criteria:

- (1) The study clearly explored the antecedents of online courses (fully online or hybrid/blended instruction) SB within a higher education context (e.g. universities, colleges and community colleges).
- (2) Study was published in a peer-reviewed scholarly journal.
- (3) Study was published in English.

Table 1. Adaptation of Torraco’s checklist for conducting an integrative literature review

Checklist item	The application
<i>Before writing an integrative literature review</i>	
Need and purpose for integrative literature review	The COVID-19 pandemic increased the research interest in online learning. However, research on belonging in online courses remains scarce and scattered across disciplines. An ILR allows synthesis of existing studies and identification of future research areas. The purpose of the ILR is provided in the manuscript
<i>Organizing an integrative literature review</i>	
Conceptual structuring of the review	The manuscript is organized around two guiding theories
Explanation of how the review is conducted	Methods are explained including keywords, databases, inclusion/exclusion criteria, and staged review process
<i>Writing an integrative literature review</i>	
Critical analysis	Strengths and weaknesses of the existing literature are provided
Synthesis	Common themes are identified, and future research areas are provided
Logic and conceptual reasoning	Background of the study section discusses theories guiding synthesis and critique
Future research	Potential future topics are provided
Clear writing	The text is checked for clarity and author’s tone and reviewed by a language editor

Source(s): Adaptation based on [Torraco \(2005\)](#) and [Holden and Bruce \(2024\)](#)

- (4) The study was empirical research, utilizing quantitative, qualitative or mixed methods approaches.

Criteria for exclusion:

- (1) The studies that did not focus on antecedents of SB in online courses.
- (2) Studies that are not peer-reviewed scholarly journal articles.
- (3) Secondary resources such as literature reviews or meta-analyses.
- (4) Studies that were few pages in length, such as book reviews.
- (5) Studies that were not in a higher education context.

Search

I conducted the initial search on July 17, 2024, with the following keywords: belonging AND (online OR virtual OR eLearning) AND (course). These search terms needed to be listed in the titles or abstracts or subject terms of the resources. Given the study’s focus on SB in online courses, belonging was used as the primary keyword, rather than incorporating related but distinct, terms, such as fitting in or community, which could have resulted in less relevant search results.

A university library’s website was used for searching. The website utilized the EBSCOhost platform, which searches multiple databases simultaneously through one interface. The following databases were selected based on the research questions and the library’s recommendations for education and leadership-related databases within the EBSCOhost platform: Academic Search Complete, APA PsycInfo, Education Research Complete, ERIC and JSTOR Journals. The additional limiter of “English language” was also selected in this interface. This search resulted in 457 resources being identified. Combining all these resources resulted in 291 unique resources after eliminating duplicate items within and across the databases. [Figure 1](#) lists the selection process in a diagram format.

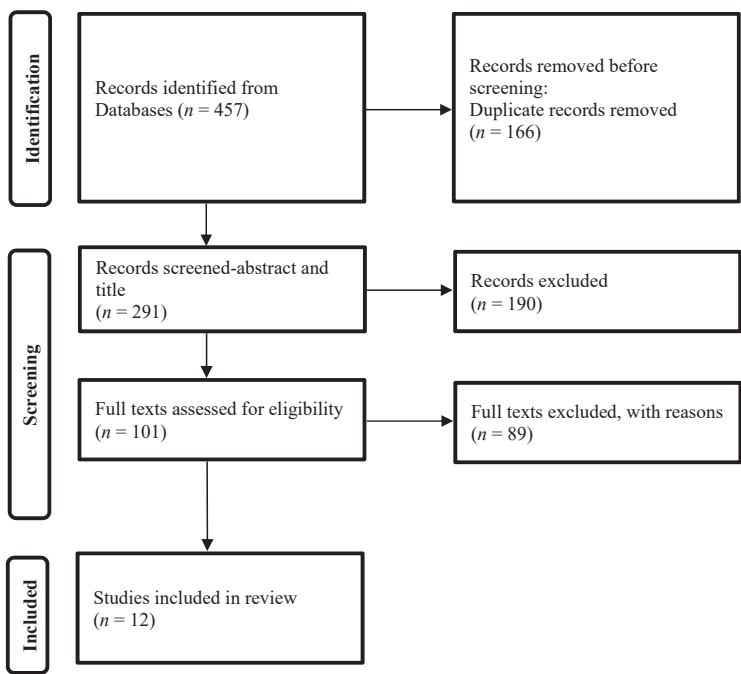


Figure 1. Diagram of the selection process. **Source:** Author’s own work

After the abstract and title review, 190 resources were rejected for the reasons listed earlier, including not being a peer-reviewed journal article, and 101 resources remained. Next, I screened the full texts of the manuscripts based on the eligibility criteria, and 12 studies remained. These twelve articles are summarized in [Table 2](#).

Findings

Research design

This section reviews key themes from prior research on the SB in online courses, focusing on research design. The [first research question](#) was, “How has the SB in online courses been examined in prior research? (e.g. scales utilized, sample characteristics, and research designs used).” [Table 3](#) lists the characteristics of the articles examined.

According to [Table 3](#), the majority of studies were conducted in the USA (eight articles), followed by Australia (three articles). A notable trend is that seven of the 12 studies focused on STEM courses, suggesting that SB at the course level is an important concern in this field. The participants in these studies included undergraduate and graduate students, teaching faculty and alumni.

The theoretical frameworks used in the articles included [Moore’s \(1989\)](#) Triangle of Interaction, [Ryan and Deci’s \(2000\)](#) Self-Determination Theory, [Dewsbury and Brame’s \(Dewsbury & Brame, 2019; Dewsbury, 2020\)](#) Inclusive Teaching Model, [Cohen and Garcia’s \(2008\)](#) Identity Engagement Model and [Motta and Bennett’s \(2018\)](#) Pedagogy of Care.

The scales used to measure SB in online courses included [Lingat et al.’s \(2022\)](#) “Brief Course Belonging Scale” (developed for both online and face-to-face learning environments), [Hoffman, Richmond, Morrow, and Salomone’s \(2002\)](#) “Sense of Belonging Scale,” [Goodenow’s \(1993\)](#) “Psychological Sense of School Membership Scale” (used with

Table 2. Summary of articles selected for review

Study	Summary
Dulfer <i>et al.</i> (2024)	Investigates how interaction between learners, instructors, and content in online learning environments affects students' SB and engagement in higher education
Kingsley and Mihai (2023)	Explores how using the Flip platform in online courses can enhance student connection and SB through video-based discussions
Guajardo (2023)	This case study from Japan examines how value-creating and critical pedagogy approaches can foster a sense of community and belonging in online university courses during the COVID-19 pandemic
Zhou, Li, Xu, Holton, and Sato (2023)	Revealed that study-together groups in online courses improved SB
Thacker, Seyranian, Madva, Duong <i>et al.</i> (2022)	Found that interactive synchronous instruction particularly benefits underrepresented students (Black or African American and Hispanic) in STEM courses by cultivating feelings of belonging and engagement during the COVID-19 pandemic.
James, Bond, Kumar, Tomlins, and Toth (2022)	Examines how twenty-five educators at an Australian university adapted their teaching practices to maintain student belonging during the transition to online learning during the COVID-19 pandemic
Clements <i>et al.</i> (2022)	Revealed that the incorporation of learning assistants in introductory biology courses fostered a sense of course belonging and belonging to STEM
Edwards <i>et al.</i> (2022)	Found a recursive relationship between students' course level social belonging (measured as two separate components: SB and belonging uncertainty) and course performance in online chemistry courses during the COVID-19 pandemic.
Thacker, Seyranian, Madva, and Beardsley (2022)	Interviews with twenty-five STEM faculty revealed varying approaches to supporting student belonging during the COVID pandemic, ranging from caring responses to crisis management
Cox, Stepovich, Bennion, Fauconier, and Izquierdo (2021)	Analyzed how remote learning during the COVID-19 pandemic differently impacted motivation and SB across various demographics on chemistry courses. It found particular course belonging challenges for females and certain ethnic groups (White/Caucasian and Black/African)
Thomas, Herbert, and Teras (2014)	Explores students' experiences of belonging in online courses and documents the methods instructors use to create belonging in virtual learning environments
Cheryan, Meltzoff, and Kim (2011)	Found that the design of virtual classrooms impacts women's interest and anticipated success in computer science courses by affecting their SB
Source: Author's own work	

adaptation to a single class), Fink *et al.*'s (2020) "Student Belonging" scale and Cheryan, Plaut, Davies, and Steele's (2009) "Ambient Belonging Scale."

Antecedents

The [second research question](#) was, "What factors affecting the SB in online courses have been empirically identified?" The factors from the reviewed studies are categorized into three levels: individual, course and environmental. [Table 4](#) presents this classification.

(1) Individual-level factors

These factors influence students personally, rather than all those on a course collectively. Key influences at this level include sociodemographic characteristics (student gender and ethnicity) and academic performance factors.

Sociodemographic factors: Research highlights gender differences in SB within STEM courses. Specifically, [Edwards *et al.* \(2022\)](#) reported that female students experience lower SB

Table 3. Study characteristics

Study	Country	Research design	Course area	Participants/Sample	Course delivery mode
Dulfer <i>et al.</i> (2024)	Australia	Mixed method	International education	Survey: 20 alumni from a postgraduate online course, focus groups: 8 participants, individual interviews: 4 participants	Flipped course in bichronous online format (asynchronous and synchronous components)
Kingsley and Mihai (2023)	USA	Mixed method	Children’s literature for one course. The area for the 2nd course is not provided	36 undergraduate students	Two asynchronous online courses
Guajardo (2023)	Japan	Qualitative	Special Studies in General Education (“Democracy, Dialogue,” and “Global Leadership” courses)	About 30 students	Two synchronous online courses
Zhou <i>et al.</i> (2023)	USA	Quantitative	Chemistry	253 undergraduate students	Asynchronous online course with voluntary synchronous components
Thacker, Seyranian, Madva, Duong <i>et al.</i> (2022)	USA	Mixed method	STEM (Physics and Calculus)	Survey: 43 undergraduate students, small group or individual interviews: 23 students	Synchronous and asynchronous online courses
James <i>et al.</i> (2022)	Australia	Qualitative	Enabling courses	25 educators	Bichronous online courses
Clements <i>et al.</i> (2022)	USA	Mixed method	Biology	Survey: 575 students, focus groups: 333 students	In-person and flipped courses in bichronous online format
Edwards <i>et al.</i> (2022)	USA	Quantitative	Chemistry	725 students	An asynchronous online course and a bichronous online course
Thacker, Seyranian, Madva, and Beardsley (2022)	USA	Qualitative	STEM	25 STEM faculty	Synchronous and asynchronous teaching modes
Cox <i>et al.</i> (2021)	USA	Mixed method	Chemistry	283 students	Bichronous online format
Thomas <i>et al.</i> (2014)	Australia	Qualitative	Different disciplines	21 students and 46 teaching staff (individual interviews or focus groups)	A variety of online courses- teaching mode is not specified

(continued)

Table 3. Continued

Study	Country	Research design	Course area	Participants/Sample	Course delivery mode
Cheryan et al. (2011)	USA	Mixed method	Computer Science	Three experiments: Experiment 1: 59 students, experiment 2: 62 students, experiment 3: 34 students	NA- Classrooms created in Second Life for the experiments
Source(s): Author's own work					

Table 4. Classification of antecedents by level

Individual level		Course level	Environmental level
Sociodemographic	Academic performance	Course and instructor characteristics	
Gender	Mid-term performance	Course design and structure (e.g. course content offered in modules)	COVID-19 pandemic
Ethnicity	Competency belonging (based on competency demonstrated in the course and former courses)	Instructor pedagogy such as caring pedagogy Relationship with peers and instructor Interactive synchronous instruction, including interactive weekly webinars and learning assistants Opportunities for interaction, including small groups in Zoom class sessions and study together groups Design of the virtual learning environment (e.g. objects in a virtual world) Using a video-based discussion tool (e.g. FLIP)	
Source(s): Author's own work			

and greater belonging uncertainty, characterized by concerns about the quality of social relationships and academic abilities, compared to male students at the start of an online chemistry course. [Cox et al. \(2021\)](#) found similar trends in an online chemistry course, where female students reported lower SB than their male peers.

Studies also found ethnic and racial differences in terms of SB. [Thacker, Seyranian, Madva, Duong et al.'s \(2022\)](#) research indicated that interactive synchronous instruction was particularly important for fostering SB among students of color. Additionally, [Cox et al. \(2021\)](#) revealed that both White/Caucasian and Black/African students experience lower SB than Asian/Pacific Islander students.

Academic performance factors: [Edwards et al.'s \(2022\)](#) study pointed out that higher midterm exam performance is associated with greater SB and lower belonging uncertainty.

Moreover, [Thacker, Seyranian, Madva, Duong et al.'s \(2022\)](#) article revealed that students' sense of connection to their courses depended on both social belonging (formed through interactions and relationships with peers and faculty) and competency belonging (based on competency demonstrated in the course and former courses).

(2) Course-level factors

These factors affect SB across an entire course. The course-level factors emphasize the importance of interactive teaching and faculty support to students in fostering SB. Upon reviewing the 12 articles, it is clear that current research is stronger on course-level factors than individual or environmental ones, as these studies explore a variety of course-related factors.

Firstly, synchronous interactive instruction was found to be beneficial to SB, while non-interactive synchronous lessons negatively predicted SB ([Thacker, Seyranian, Madva, Duong et al. 2022](#); [Guajardo, 2023](#); [Dulfer et al., 2024](#)). Additionally, small-group interactions (whether student-led, instructor-led or facilitated by learning assistants) enhance SB ([Clements et al., 2022](#); [Guajardo, 2023](#); [Zhou et al., 2023](#)).

Moreover, faculty support to students plays a crucial role in SB. [Thacker, Seyranian, Madva, and Beardsley \(2022\)](#) found that genuine faculty care fosters social belonging. Similarly, [James et al. \(2022\)](#) highlighted the importance of a pedagogy of care, where instructors encourage open conversation, build relationships with students, personalize learning experiences and recognize students as individuals. [Dulfer et al. \(2024\)](#) further emphasized that teacher disposition, pedagogical awareness and, to a lesser extent, technical skills are essential for cultivating SB in online courses, underscoring the significant role of the relationship between instructors and students.

(3) Environmental-level factors

These are external influences that affect the course environment. The only factor identified in the reviewed studies was the COVID-19 pandemic. Among the 12 articles selected for review, six of them were conducted during the pandemic (e.g. [Thacker, Seyranian, Madva, & Beardsley, 2022](#), [James et al., 2022](#) and [Edwards et al., 2022](#)).

Discussion and conclusion

Overall, these outcomes illustrate that SB is a complex construct, affected by factors at the individual, course and environmental levels. The study findings underline the need for intentional course design, incorporating interactive elements, caring pedagogy and inclusive practices to foster SB across diverse student populations. These insights align with the CoI framework ([Garrison et al., 1999](#)), as both the findings from this study and the CoI emphasize the creation of a supportive class community that facilitates open communication, collaboration and meaningful discussion in a safe environment.

Several studies have provided valuable perspectives on student and faculty experiences during the COVID-19 pandemic and the shift to emergency online teaching. For example, [Thacker, Seyranian, Madva, and Beardsley \(2022\)](#), along with [James et al. \(2022\)](#), underscore the significance of faculty demonstrating genuine care, aligning with Noddings' pedagogy of care approach ([Noddings, 1995](#)). According to Noddings, caring environments are characterized by smaller groups or classes, less competition, respect for diversity in interests, more dialogue, a curriculum that accommodates students' unique needs and interests and less rigidity in rules and punishments ([Noddings, 1995](#); [Velasquez, West, Graham, & Osguthorpe, 2013](#)). Drawing from this approach, [Thacker, Seyranian, Madva, Duong et al. \(2022\)](#) and [James et al. \(2022\)](#) also point out that belonging is a subjective experience, and it is important to recognize the different needs of students. In line with this subjective experience perspective, while studies, such as those of [Dulfer et al. \(2024\)](#), [Thacker, Seyranian, Madva, Duong et al. \(2022\)](#) and [Guajardo \(2023\)](#), discuss the benefits of synchronous online instruction, it is crucial to recognize that accessibility to such sessions remains a challenge to

some students due to factors, such as other life responsibilities and time constraints. Thus, future research should further explore methods for fostering SB in asynchronous learning environments, including utilizing collaborative tools like Perusall, Google Docs and Padlet.

A particularly underexplored aspect of SB in online courses is competency belonging, which refers to students' SB based on their perceived academic competence. [Thacker, Seyranian, Madva, Duong et al. \(2022\)](#) found that students with greater subject matter knowledge reported higher competency belonging, even when lacking social belonging. Further research on competency belonging in online courses would be valuable.

Moreover, [Edwards et al. \(2022\)](#) conceptualize course-level social belonging as sense of belonging (sense of interpersonal relationships) and belonging uncertainty (concerns about the quality of social relationships and academic abilities). While belonging uncertainty has been widely studied in broader belonging literature (e.g. [Deiglmayr, Stern, & Schubert, 2019; Hühne & Zander, 2019; Totonchi et al., 2023](#)), research on this concept for online courses remains limited. Future studies can further examine how belonging uncertainty impacts online learning experiences.

Based on the findings of this literature review and [Allen et al.'s \(2021\)](#) article, in which the authors identify an integrative framework of belonging with competencies, opportunities, motivations and perceptions components, this current study presents an illustration of antecedents of SB in online courses ([Figure 2](#)). The figure illustrates that SB arises from the interaction of individual, course-level and environmental factors. Environmental factors are positioned separately from individual and course-level ones, as they not only directly impact SB but also may shape individual and course-related elements.

A notable gap in the literature on SB in online courses is the lack of focus on learner motivations to belong and competencies to belong, as described by [Allen et al. \(2021\)](#). In [Allen et al.'s \(2021\)](#) framework, the competencies refer to the skills and abilities necessary to connect with others and experience SB. While studies, such as [Hoffman et al. \(2021\)](#), have explored the relationship between social competencies and belonging in physical learning environments, this literature review finds no research examining this concept in the context of online courses.

Furthermore, [Allen et al. \(2021\)](#) define motivations to belong as the need or desire to connect with others. In online courses, motivations to belong can vary among students ([Brodie & Osowska, 2021](#)), as some may focus solely on completing the course or might lack the time to connect with others. However, motivations to belong have been absent in existing research on SB in online courses.

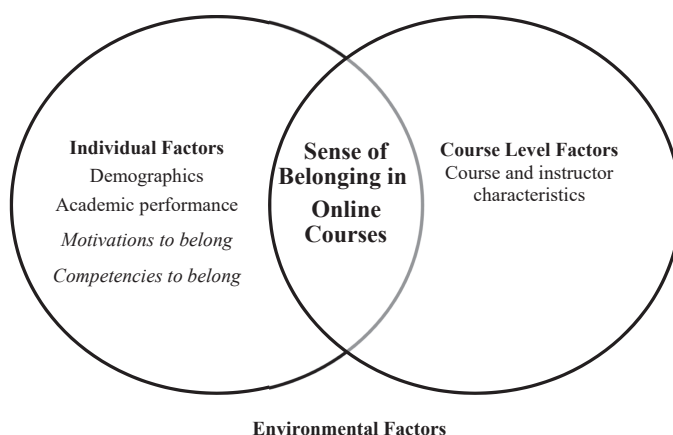


Figure 2. Illustration of antecedents of SB in online courses. **Source:** Author's own work

From [Allen et al.'s \(2021\)](#) framework, the perceptions to belong component, which refers to subjective feelings and cognitions regarding one's experiences, is not included in the illustrated model, as this study focuses specifically on the antecedents of SB. Similarly, the opportunities for belonging (enablers of belonging) component is omitted, as it is already integrated within the course design factor in the offered model. The course design elements inherently create opportunities for belonging through learner-content, learner-instructor and learner-learner interactions, as described by [Moore \(1989\)](#).

Moreover, as shown in [Table 4](#), which classifies the antecedents by level, there has been limited research examining different SB factors at the individual and environmental levels. Future studies should further explore individual factors, such as how different demographic characteristics relate to SB as well as competencies and motivations to belong. In addition, future studies could examine the role of intersectionality in demographic factors, such as the experiences of first-generation female students, as explored in [Edwards et al.'s \(2022\)](#) article. For environmental factors, research directions include examining the effects of increasing online class sizes and assessing the impact of institution-wide inclusion and belonging training programs for educators.

Additionally, there is a lack of consensus in the literature regarding the definition and conceptualization of course belonging ([Allen & Bowles, 2012](#); [Allen et al., 2021](#)). As a result, various scales have been used to measure SB in online courses, including those by [Lingat, Toland, and Dueber \(2022\)](#), [Goodenow \(1993\)](#) and [Fink et al. \(2020\)](#). The inconsistency in belonging conceptualization and measurement instruments hinders researchers' ability to compare findings across studies. In addition, some belonging scales are adaptations of instruments originally designed to measure different constructs. For example, [Goodenow's \(1993\)](#) scale was developed to assess sense of school membership, not course belonging. Therefore, it would be beneficial for researchers to establish a standardized conceptualization of course belonging and develop validated instruments specifically designed for SB.

In addition, as previously noted, most studies on course belonging have focused on STEM disciplines. [Allen et al. \(2021\)](#) highlight that belonging is often examined in disciplinary silos, thus limiting broader insights. Hence, future research should explore online courses beyond STEM, as belonging is crucial across all academic fields. Interdisciplinary studies and information sharing on best practices for fostering course belonging would also be valuable.

Notably, belonging is a fluid and subjective experience that changes over time and context ([Gillen-O'Neel, 2021](#)). To capture these fluctuations, future research can measure belonging at multiple points throughout the semester (e.g. beginning, middle and end). Longitudinal studies could also offer insights into trends in course belonging over time, such as comparing student experiences during and after the COVID-19 pandemic.

Implications for leadership education

This section addresses the [third research question](#): "What implications do these findings have for leadership education?"

Teaching online can make it challenging to connect with students, sometimes causing instructors to focus mainly on delivering content, answering questions and grading, while overlooking the importance of belonging and community-building. However, fostering SB in online courses requires intentional course design and perspective-taking. For example, while discussion boards are widely used to encourage student interaction, unanswered student comments or questions may contribute to feelings of isolation. Similarly, course announcements about university resources and events available only to on-campus students may inadvertently lead to a sense of exclusion among online learners ([Brodie & Osowska, 2021](#)). Therefore, careful planning of online interactions and communication strategies is essential.

One effective approach to enhancing student belonging is caring pedagogy, which was found particularly valuable during the COVID-19 pandemic ([James et al., 2022](#); [Thacker, Seyranian, Madva, & Beardsley, 2022](#)). [Deacon \(2012, p. 6\)](#) emphasizes that, "while creating a

context of care is important in all classroom settings, (...) it's even more pressing in online classes" compared to traditional face-to-face environments. As previously discussed, Noddings emphasizes that caring learning environments prioritize smaller class sizes, reduced competition, respect for diverse interests, open dialogue as well as a flexible curriculum that accommodates students' unique needs and interests (Noddings, 1995; Velasquez *et al.*, 2013). Above all, caring pedagogy centers on prioritizing students and nurturing strong student–teacher relationships (Noddings, 1984, 1995; Velasquez *et al.*, 2013). By implementing the caring philosophy in their courses, leadership educators can not only work toward increasing belonging in their classrooms but also model a leadership approach rooted in care and inclusivity.

Moreover, Harvard Business Publishing's Tackling Diversity in Case Discussions article ("Tackling diversity in case discussions", 2019) recommends incorporating a more diverse range of guest speakers and protagonists in case studies to increase representation and belonging in classrooms. Additionally, diversifying instructional materials, such as TED Talks, YouTube videos and infographics, can help students see themselves reflected in the course content.

In addition, given the importance of belonging in organizations (Cenkci, Downing, Bircan, & Perham-Lippman, 2024), leadership educators should explicitly discuss with students their role in fostering inclusive environments within their teams. Courses can also provide opportunities for students to practice inclusive leadership skills through collaborative team projects.

Collaborative work is another key strategy for fostering belonging (Bok, 2023). However, research suggests that while group projects are frequently used in face-to-face leadership courses, group projects are less emphasized online (Jenkins, 2016). Challenges, such as asynchronous communication, time zone differences and varying levels of student commitment (Chang & Kang, 2016), often deter instructors from incorporating group work in online settings. Despite this, group work can enhance SB and develop leadership and teamwork skills in virtual settings (Bok, 2023; Chang & Kang, 2016). Strategies to overcome online group work challenges include individualized grading as opposed to giving a team grade, peer evaluation on contributions of team members, divided tasks in assignment instructions, strategic team formation, and incremental group project progress reports to instructors (Chang & Kang, 2016; Darby, 2022).

Finally, the increasing pressures on higher education faculty (such as rising workloads, growing employment instability and increased expectations) can make it difficult for educators to invest time in belonging-focused interventions (Champlin & Knoedler, 2017; Currie & Vidovich, 2009; Mintz, 2021). Thus, leadership educators need to balance course personalization and student engagement with their own well-being. Institutions should support educators by offering resources and professional development opportunities to sustain these efforts effectively.

Limitations and conclusion

There are several limitations of this study. This research was focused only on scholarly journal articles and did not include academic conference papers, dissertations or grey literature resources, which may have limited the breadth of perspectives considered. Moreover, this study looked at articles only in English and this exclusion of non-English studies might have caused selection bias. Additionally, keywords used for research and the databases used created other limitations of the study. Future research could expand the scope by incorporating a broader range of search terms and databases. Another limitation of this article is that the quality of the selected articles was not evaluated. In addition, this ILR was conducted by a single researcher, which may have affected the screening and selection of articles. While using multiple reviewers is the preferred approach for enhancing reliability (Edwards *et al.*, 2002), Nama *et al.* (2021) suggest that single-reviewer screening can still yield acceptable sensitivity, particularly when exclusion criteria are well-defined and objective.

Despite these limitations, the results provide a robust review for SB on online courses, which are in line with the CoI framework (Garrison *et al.*, 1999) and Moore's (1989) Theory of

Three Types of Interaction. As the demand for online education grows, the importance of fostering SB will remain essential due to its impact on student attitudes and outcomes. Future studies should further explore the antecedents of SB to inform the development of evidence-based strategies that higher education educators can effectively implement.

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