Educational Psychology Review (2025) 37:38
https://doi.org/10.1007/s10648-025-10009-3

REVIEW ARTICLE

Centering Social Fit, Self-Concept Fit, Goal Fit, and Resource Fit as Core Elements of Students' Experiences of Belonging at School

Alexander S. Browman[1]

Accepted: 14 March 2025

Abstract

A common theme across psychological research on belonging in school has been a focus on the social—on the quality of students' connections to others in the school environment. In this review, I argue that when a student indicates that they do or do not "feel like I belong at my school," social connections are necessary but not sufficient to fully explain that experience. Extending Schmader and Sedikides' State Authenticity as Fit to Environment model, I instead propose that this experience hinges on four factors: the degrees to which (a) teachers and other students accept, value, and include a student socially (social fit), (b) an academic setting's structures and norms support and afford their personal goals and values (goal fit), (c) the school environment naturally activates or supports their connections to their most valued identities (self-concept fit), and (d) the school environment provides sufficient financial, nutritional, health, and safety resources to meet their needs in these domains (resource fit). In reviewing how students, especially those from from historically under-researched backgrounds, define belonging, I demonstrate both the divergence of their definitions from the traditional psychological focus on social connections alone, and the convergence of their definitions with these four forms of person–environment fit. I therefore argue that shifting to a model of students' experiences of belonging that centers on self-concept, goal, resource *and* social fit would provide an especially fruitful future for research on this subject.

Keywords Belonging · Person–environment fit · Identity · Goals · Needs · Resources · Authenticity

It's everywhere. College T-shirts, notepads, and posters proclaim "You Belong!" Higher-ed associations offer training on how to increase students' sense of belonging, and philanthropies are encouraging colleges' efforts with

✉ Alexander S. Browman
abrowman@holycross.edu

[1] Department of Psychology, College of the Holy Cross, Worcester, MA, USA

Published online: 12 April 2025

> grants. Belmont University, in Nashville, is hiring a vice president for hope, unity, and belonging, and soon you won't be able to look through a college directory without finding a high-level position devoted to the mission. (Lu, 2023)

Across all levels of education, promoting and maintaining students' sense of belonging in school has become a focal academic concern among today's parents, teachers, school administrators, and education researchers. The reason for this fixation is clear: a substantial body of research has shown that when students feel they belong at school, they often have higher attendance, are more engaged and less disruptive in class, earn higher grades, and complete school at higher rates (Allen et al., 2021b; Good et al., 2012; OECD, 2018; Walton & Cohen, 2007; cf. Fong et al., 2024).

Given this growing interest and supportive evidence, the goal of this article is to interrogate the question Lu (2023) asks bluntly in the title of their above-quoted article: "everyone is talking about 'belonging' [but] what does it really mean?" More specifically, when a student indicates that they do or do not feel like they belong at school, what, psychologically, are they experiencing? To address this question, I begin by arguing that educational and social psychological research on belonging has overwhelmingly focused on students' *social connections to others at school*, and I present a quantitative instrument item analysis of some of the most commonly used researcher-designed measures of belonging in these fields as support. Next, I present a conceptual model extension, proposing that students will report feeling like they belong at school when they experience their academic environment and critical people in it as supporting, validating, and aligning with not only their social connections to others, but also three other elements of who they are: their valued identities; their goals; and their basic financial, nutritional, health, and safety needs. Using this model as a foundation, I then review qualitative research on how students themselves, especially those from systematically marginalized groups, describe their experiences of belonging in order to demonstrate that these experiences are better captured by the extent to which they are able to experience those four forms of psychological fit, versus their feelings of social connection alone. Finally, I close with a discussion of how expanding our understanding of students' experiences of belonging to include not only their social connections to others but also whether their valued identities, goals, and basic financial, nutritional, health, and safety needs are supported and validated at school could provide a more fruitful future for research and intervention on belonging in school.

Psychology Has Historically Equated Belonging with Social Connectedness

Improving students' sense of belonging at school requires a comprehensive and accurate understanding of what, psychologically, *students themselves* are experiencing when they indicate that they do or do not feel like they belong at school. However, in line with other scholars (Allen et al., 2021b), I argue that psychological

research on students' experiences of belonging in school has overwhelmingly focused on their sense of social connection to others in the school environment, and has therefore overlooked other factors that may be essential to these experiences.

Reviews of seminal theoretical discussions and operationalizations of the concept of belonging provide support for this view, and help clarify why the term "belonging" may have become largely synonymous with social connections in psychology. One of the most influential contributors to contemporary psychological theory and research on belonging is a seminal paper by social psychologists Baumeister and Leary (1995), which argued that the "need to form and maintain strong, stable interpersonal relationships" is a "fundamental human motivation." While this idea was not new to psychology—as Baumeister has explained, "we took an idea that had been in the background (dating back at least to Freud)" (Allen et al., 2022, p. 1136)—it was this paper that "moved [this fundamental motivation] into the foreground, as a major driver of much of social life," and that formally dubbed it "the need to belong." This perspective on the concept of "belonging" has now been referenced over 37,000 times, or an average of over 1200 times per year since its publication. Independently, in 1993, educational psychologists Goodenow (1993, p. 80) and Goodenow and Grady (1993, pp. 60–61) proposed that "students' sense of belonging in the school or classroom" refers to "the extent to which students feel personally accepted, respected, included, and supported *by others* in the school social environment" (emphasis added). This has become the most commonly used definition of "belonging" in the field of educational psychology (Allen et al., 2021b, c), having now been referenced over 6000 times. In other words, for more than 30 years, both social and educational psychology have tended to equate the concept of "belonging" with one's perceived social connections to others.

This argument is further supported by examining how the concept "belonging" has been operationalized in quantitative social and educational psychology research. I focus on quantitative research because surveys of researcher attitudes and examinations of the types of work that are most commonly published and funded suggest that the field of psychology has historically valued quantitative over qualitative research (Marchel & Owens, 2007; L. D. Roberts & Povee, 2014).

Gray, Matthews, and Hope (2018, pp. 106–107) performed a content analysis of 18 belonging-related measures that emerged during the 20-year period that followed the introduction of Goodenow (1993) and Goodenow and Grady's (1993) definition of belonging (1993–2012). Based on my own analysis of their reported findings, 14 of the 18 measures assessed social connectedness-related themes (i.e., "students' perceptions of interpersonal bonds with other individuals in their classroom or institution" [their "social attachment" theme], "of social interdependence within their schooling environment" [their "helping" theme], or "that their membership in that classroom or institution was not valued by others" [their "mattering" theme]). Similarly, Mahar and colleagues (2014) reviewed 18 belonging-related measures that were published between 1990 and 2009—17 of which were different from those examined by Gray and colleagues (2018). These instruments, too, appeared to assume that "the sense of belonging is dependent on opportunities for interaction with others. Each survey reviewed referenced this variable… using words such

as "'relationships,' 'making friends,' 'spending time,' and 'bonding'" (Allen et al., 2021b, p. 90).

To extend these findings to the present day, I conducted a new content analysis of some of the most commonly used quantitative measures of belonging in the published psychological literature between 2013 and 2023. To identify relevant measures, I examined quantitative studies of belonging that were published in 18 prominent educational and social psychology journals over this time period. Studies were identified using the following search prompt on Google Scholar: *allintitle: belong OR belonging source: "name of journal"*. For educational psychology, the journals I searched were (alphabetically) *AERA Open, American Educational Research Journal, British Journal of Educational Psychology, Contemporary Educational Psychology, Educational Psychologist, Educational Psychology, Journal of Educational Psychology, Learning and Individual Differences,* and *Social Psychology of Education*. For social psychology, the journals were *British Journal of Social Psychology, European Journal of Social Psychology, Group Processes and Intergroup Relations, Journal of Experimental Social Psychology, Journal of Personality and Social Psychology, Personality and Social Psychology Bulletin, Psychological Science, Self and Identity,* and *Social Psychological and Personality Science*.

These searches returned 80 individual studies that included a quantitative measure of belonging, across 62 separate articles. Eight measures were especially prominent across this 10-year period, appearing in a combined total of 47 of the identified studies: the Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993); the Sense of Social Fit Scale (SSF) and the Belonging Uncertainty Scale (Walton & Cohen, 2007); the Membership and Acceptance subscales of the Math Sense of Belonging Scale (Good et al., 2012); the Programme for International Student Assessment's (PISA) Students' Sense of Belonging Scale (OECD, 2018); the Relatedness subscale of the Balanced Measure of Psychological Needs Scale (Sheldon & Hilpert, 2012); the Belonging subscale of Williams' (2009) Need Satisfaction Index; and the Group Inclusion subscale of Sheldon and B. A. Bettencourt's (2002) Need-Satisfaction Index. The majority of the remaining studies featured either measures that were developed specifically for the studies in that article, or other measures that did not appear in any of the other articles examined. However, many of the items included in these studies were similar to those included in the prominent measures listed above. I therefore focused my analyses on the 8 most prominent measures that emerged.

Table 1 lists the 70 items that make up these 8 measures. To test whether quantitative measures of belonging used in psychological research have focused primarily on social connections with others, each item was coded by the author and three research assistants for whether it primarily "Assesses the degree to which a student feels that teachers or other students at their school *socially* accept, value, and include them and others with their identities, goals, and needs"—that is, their sense of social fit or connectedness to others. While items were also coded for 4 other factors (detailed in the "Self-Concept Fit, Goal Fit, and Resource Fit, and Their Centrality to Students' Experiences of Belonging at School" section below, and in the Appendix), this "social fit" code captured the greatest number—33—of the 70 items that

Table 1 Prominent measures of belonging and assigned codes

Items (R = reverse scored)	Final Code
Psychological Sense of School Membership Scale (Goodenow, 1993)	
1) I feel like a real part of [school name]	General/non-specific fit
2) People here notice when I'm good at something	Social fit
3) It is hard for people like me to be accepted here. (R)	Self-concept fit
4) Other students in this school take my opinions seriously	Social fit
5) Most teachers at [school name] are interested in me	Social fit
6) Sometimes I feel as if I don't belong here. (R)	General/non-specific fit
7) There's at least one teacher or other adult in this school I can talk to if I have a problem	Resource fit
8) People at this school are friendly to me	Social fit
9) Teachers here are not interested in people like me. (R)	Social fit
10) I am included in lots of activities at [school name]	Social fit
11) I am treated with as much respect as other students	Social fit
12) I feel very different from most other students here. (R)	General/non-specific fit
13) I can really be myself at this school	Self-concept fit
14) The teachers here respect me	Social fit
15) People here know I can do good work	Goal fit
16) I wish I were in a different school. (R)	General/non-specific fit
17) I feel proud of belonging to [school name]	General/non-specific fit
18) Other students here like me the way I am	Social fit
Sense of Social Fit Scale (Walton & Cohen, 2007)	
1) People at [school name] accept me	Social fit
2) I feel like an outsider at [school name]. (R)	General/non-specific fit
3) Other people understand more than I do about what is going on at [school name]. (R)	General/non-specific fit
4) I think in the same way as do people who do well at [school name]	General/non-specific fit
5) It is a mystery to me how [school name] works. (R)	Goal fit
6) I feel alienated from [school name]. (R)	General/non-specific fit
7) I fit in well at [school name]	Social fit
8) I am similar to the kind of people who succeed at [school name]	Goal fit
9) I know what kind of people [school name] professors are	General/non-specific fit
10) I get along well with people at [school name]	Social fit
11) I belong at [school name]	General/non-specific fit
12) I know how to do well at [school name]	Goal fit
13) I do not know what I would need to do to make a [school name] professor like me. (R)	Social fit
14) I feel comfortable at [school name]	General/non-specific fit
15) People at [school name] like me	Social fit
16) If I wanted to, I could potentially do very well at [school name]	Goal fit
17) People at [school name] are a lot like me	Self-concept fit
Belonging Uncertainty Scale (Walton & Cohen, 2007)	
1) Sometimes I feel that I belong at [school name], and sometimes I feel that I don't belong	General/non-specific fit

Table 1 (continued)

Items (R = reverse scored)	Final Code
2) When something bad happens, I feel that maybe I don't belong at [school name]	General/non-specific fit
3) When something good happens, I feel that I really belong at [school name]	General/non-specific fit
Membership & Acceptance subscales of the Math Sense of Belonging Scale (Good et al., 2012): "When I am in [a math setting / school name]…"	
1) I feel that I belong to the [math / school name] community	General/non-specific fit
2) I consider myself a member of [the math world / school name]	General/non-specific fit
3) I feel like I am part of the [math / school name] community	General/non-specific fit
4) I feel a connection with the [math / school name] community	General/non-specific fit
5) I feel accepted	Social fit
6) I feel respected	Social fit
7) I feel valued	Social fit
8) I feel appreciated	Social fit
9) I feel disregarded. (R)	Social fit
10) I feel neglected. (R)	Social fit
11) I feel excluded. (R)	Social fit
12) I feel insignificant. (R)	General/non-specific fit
Programme for International Student Assessment's (PISA) Students' Sense of Belonging Scale (OECD, 2018)	
1) I feel like an outsider at school. (R)	General/non-specific fit
2) I make friends easily at school	Social fit
3) I feel like I belong at school	General/non-specific fit
4) I feel awkward and out of place in my school. (R)	General/non-specific fit
5) Other students seem to like me	Social fit
6) I feel lonely at school. (R)	Social fit
Belonging subscale of the Need Satisfaction Index (Williams, 2009)	
1) I felt ''disconnected.'' (R)	General/non-specific fit
2) I felt rejected. (R)	Social fit
3) I felt like an outsider. (R)	General/non-specific fit
4) I felt I belonged to the group	General/non-specific fit
5) I felt the other players interacted with me a lot	Social fit
Relatedness subscale of the Balanced Measure of Psychological Needs Scale (Sheldon & Hilpert, 2012)	
1) I felt a sense of contact with people who care for me, and whom I care for	Social fit
2) I was lonely. (R)	Social fit
3) I felt close and connected with other people who are important to me	Social fit
4) I felt unappreciated by one or more important people. (R)	Social fit
5) I felt a strong sense of intimacy with the people I spent time with	Social fit
6) I had disagreements or conflicts with people I usually get along with. (R)	Social fit
Group Inclusion subscale of Sheldon & B. A. Bettencourt's (2002) Need-Satisfaction measure	
1) To what extent do you feel included in this group?	Social fit
2) To what extent do you feel well integrated into this group?	General/non-specific fit
3) To what extent do you feel a sense of belongingness with this group?	General/non-specific fit

Table 1 (continued)

Items (R = reverse scored)	Final Code
Total (out of 70 items)	
Social fit	33
General/non-specific fit	28
Goal fit	5
Self-concept fit	3
Resource fit	1

made up these prominent measures of belonging (e.g., "Other students here like me the way I am," "I get along well with people at [school name]").

In addition, the second greatest number of items (28) were coded as capturing students' *general* feelings of fit at school, where it is not clear for what specific reasons or in what specific ways they feel that they do or do not belong at school—for example, "I belong at [school name]" and "I wish I were in a different school." This means that 61 of the 70 items that made up these prominent measures of belonging assessed either students' sense of social connectedness at school, or non-specific feelings of belonging at school. This is notable, because while these general items should capture students' sense of belonging however they themselves define it, all 8 measures were presented in their original publications and scored in most[1] subsequent publications as unidimensional. This suggests an assumption that participants interpret the general items as also assessing their sense of social connectedness. Supporting this assumption, many of these measures are explicitly framed in their original publications solely as measures of social connectedness. Goodenow (1993) presents the PSSM as a measure of "the extent to which students feel personally accepted, respected, included, and supported *by others* in the school *social* environment" (p. 80, emphasis added). Walton and Cohen (2007) explicitly state that their work focuses on "the need for *social belonging*—for seeing oneself as socially connected" (p. 82, emphasis in original), and that the Belonging Uncertainty Scale measures the extent to which students are "uncertain of the quality of their *social* bonds" (p. 82, emphasis added). The OECD (2018) has framed their Students' Sense of Belonging Scale as a measure of the extent to which

[1] While most studies have scored these measures as unidimensional, some have argued that they are in fact multidimensional (e.g., Cheung & Hui, 2003; Freeman et al., 2007; Hagborg, 1994; Knekta et al., 2020; Maghsoodi et al., 2023; O'Farrell & Morrison, 2003; Ye & Wallace, 2014; You et al., 2011). However, these efforts have not reached consensus on the most appropriate factor structures or definitions.

students "form and maintain at least a minimum number of *interpersonal relationships*" (emphasis added). And, Sheldon and Hilpert (2012, p. 439) describe the relatedness subscale of the Balanced Measure of Psychological Needs Scale as a measure of "experiences of closeness and connectedness with others."

Taken together, these findings suggest that in the fields of educational and social psychology, the definition and measurement of belonging has focused largely on people's sense of social connection to others in the relevant environment.

Self-Concept Fit, Goal Fit, and Resource Fit, and Their Centrality to Students' Experiences of Belonging at School

While it is unquestionably important that students feel accepted, respected, included, and supported by others in their school environment (Baumeister & Leary, 1995; Goodenow & Grady, 1993), I propose that there are additional factors that influence when students will feel that they do or do not belong at school. Indeed, prior research has found that people's responses on general, non-specific measures of belonging (e.g., "I felt like I didn't belong") are not fully captured by their experiences of social connection to others (e.g., "Others did things to reject me"; Slepian & Jacoby-Senghor, 2021). I therefore argue that when we examine how students themselves describe their experiences of belonging in school, the phenomenology of these experiences includes both feeling socially connected to others in that environment *and* a number of other psychological factors that social psychologists have associated with another construct: the experience of state authenticity.

At a broad level, scholars have defined state authenticity as the sense or feeling that the "operation of one's true- or core-self" is "unimpeded" (Kernis & Goldman, 2006, p. 344), or that "one is currently in alignment with one's true or genuine self, that one is being their real self" (Sedikides et al., 2017, p. 521). While scholars have long debated whether people have an *objective* "true," "genuine," "real," or "core" self (for reviews, see Baumeister, 2019; Jongman-Sereno & Leary, 2019; Rivera et al., 2019), much research suggests that people (a) *believe* that they have a true self, (b) can consciously report "those aspects of the self that are considered, by the person, to be most emblematic of his or her true nature" (Schlegel et al., 2009, p. 475)—known as their true self-*concept*—and (c) experience better psychological and behavioral outcomes when they feel that they are acting in line with their true self-concept (for reviews, see Rivera et al., 2019; Schlegel & Hicks, 2011). Thus, in the present work, state authenticity will refer to the sense or feeling that one is

currently able[2] to think and act in alignment with their true self-concept[3] without experiencing psychological threat or friction.[4]

I call attention to the concept of state authenticity in the present work because, in my view, the psychological factors that are proposed as necessary for a person to have this experience align closely with those that students identify as essential to their experiences of belonging in school. To demonstrate this, I use Schmader and Sedikides' (2018) State Authenticity as Fit to Environment model (SAFE) as a foundation. The SAFE model proposes that feeling fully authentic in an environment hinges on that environment affording that person three distinct forms of self–environment fit (Aday et al., 2024; Schmader & Sedikides, 2018). The first is *social fit*, which—in alignment with the concept of social connectedness—is the degree to which the teachers and other students[5] at their school generally accept, value, and include people with the target student's particular identities, goals, and needs *socially*.[6] The second is *self-concept fit*, or the degree to which an academic environment naturally activates and supports a student's connections to their most valued identities, without arousing a sense of friction or threat. The third is *goal fit*, or the

[2] Much of the existing research defines *state* authenticity as whether a person *feels they are able* to be their true self in a given environment without experiencing psychological threat or friction. However, it is important to acknowledge that regardless of whether or not a person *feels able* to do so, they can still choose to *behave* authentically or inauthentically in that environment. While people are certainly more likely to behave authentically in environments where they experience a sense of state authenticity (for review, see Schmader & Sedikides, 2018), research has shown that some individuals (i.e., those who report high *trait* authenticity or authentic *personalities*, assessed with items like "I am true to myself in most situations" and "I think it is better to be yourself, than to be popular") are more likely to feel, think, and behave in line with their "true" self even if they are not experiencing *state* authenticity in the current situation or environment (e.g., Lenton et al., 2013). However, the present theoretical model focuses on theories of *state* (versus trait) authenticity, because it seems unlikely that a student will feel like they belong in an academic environment—the primary focus of the present work—if they choose to act in line with their "true" self but they experience a sense of psychological threat or friction while doing so.

[3] Of note, this perspective implies that there is a metacognitive prerequisite to experiencing both state authenticity *and* state inauthenticity: the person must feel that they have a clear understanding of their true nature (also known as authentic self-awareness, lack of self-alienation, or self-concept clarity; Campbell et al., 1996; Kernis & Goldman, 2006; Knoll et al., 2015; Sedikides et al., 2019). If a person feels that they do not have a clear sense of who they truly are, then they cannot determine whether or not they are thinking and acting in alignment with who they truly are. As a result, it may be difficult or even impossible for those who are in an earlier stage of identity development (e.g., Harter, 2012) or who have recently experienced a major life change that has affected their sense of self (e.g., Slotter & Emery, 2017) to experience a true sense of state authenticity or inauthenticity, and the associated psychological and behavioral consequences.

[4] This experience has also been referred to as authentic self-expression or authentic living (Kernis & Goldman, 2006; Knoll et al., 2015; Sedikides et al., 2019).

[5] Research on social belonging has highlighted the unique contributions of social fit with peers versus social fit with teachers for students' broad sense of belonging in school (e.g., Matthews et al., 2021; Wallace et al., 2012). While the present model recognizes these as unique dimensions of social fit, for brevity, this review will not extensively explore this distinction.

[6] Note that, as with belonging, a number of conceptualizations and measures of authenticity have centered on social fit experiences alone (e.g., English & Chen, 2011; Gan & Chen, 2017; Shelton et al., 2005). However, the present work adopts the SAFE model's (2018) more contemporary view of state authenticity as a product of both social *and* non-social fit experiences.

degree to which an academic environment's structures and norms support and afford a student's personal goals and values.

Furthermore, the SAFE model proposes that when a person has these experiences of "fit" in an environment, they will enjoy metacognitive experiences of fluency (Schmader & Sedikides, 2018). By fluency, I mean that being and acting in that environment, with their unique identities, goals, and social and resource needs, feels relatively natural, inconspicuous, frictionless, comfortable, and "right." By contrast, when a person has experiences of "non-fit" with regard to these four factors, they will suffer metacognitive experiences of disfluency, such that thinking and acting in line with their valued identities, goals, and needs makes them feel uncomfortably conspicuous, self-conscious, unnatural, and "wrong" in that environment. And critically, the model hypothesizes people are more likely to approach, invest greater effort in, and have sufficient cognitive resources to perform well on tasks associated with environments that feel fluent, while the inverse should occur for tasks associated with environments that feel disfluent.

More specifically, the SAFE model proposes that each of the multiple forms of fit introduced above promotes its own unique and independent experience of fluency. When teachers and other students in that environment accept, value, and include a student socially (social fit), that student will feel that they can engage in social behaviors without needing to navigate others' expectations or social constraints. This is *interpersonal fluency*. When the environment's structures and norms support and afford a student's personal goals and values (goal fit), the actions that they perform in that environment feel autonomous and self-determined. This is *motivational fluency*. And when an environment naturally supports a student's connections to their most valued identities or selves, such that they do not experience a sense of cognitive friction between their "true self" and the environment, they can feel relatively unaware of themselves in that environment. I will refer to this as *being-cognition fluency*.[7] Together, these separate fluency experiences are proposed to be "precursors to a more gestalt sense of being authentic" (Schmader & Sedikides, 2018, p. 228).

I propose that these three types of fit and fluency are also critical elements in students' descriptions of their experiences of belonging in school, along with two additional elements. The first is a fourth type of fit: the degree to which an institution provides that student with sufficient financial, nutritional, and physical and mental health and safety resources to meet their basic needs in these domains, which I will refer to as *resource fit*. By "sufficient to meet their basic needs," I mean that during the time that they are meant to be engaged in schoolwork—both during their scheduled school hours, and when it is assumed that they will be able to devote sufficient time to studying or completing assigned homework outside of scheduled school

[7] The SAFE model refers to this simply as "cognitive fluency." However, as I will explain, my proposed model posits two distinct forms of cognitive fluency. I therefore use the term "being-cognition fluency" to distinguish it from the other proposed form ("need-cognition fluency"). I feel this qualifier is appropriate because, as Schmader and Sedikides (2018) note, the term "being-cognition" (or "B-cognition") was coined by Maslow (1961) to describe experiences where "the person can then become egoless" (p. 255), "leaving behind self-consciousness and self-observation… [and experiencing] a strong real self" (p. 260), which aligns well with the form of fluency the SAFE model posits.

hours—they do not have to spend excessive time or mental effort tending to their financial, nutritional, health, and safety needs.

Second, in line with this proposed addition of resource fit, I propose that experiencing resource fit also promotes a unique experience of fluency. Specifically, I suggest that because the institution has provided sufficient financial, nutritional, health, and safety resources, the student will be able to feel relatively unaware of these needs while in that environment. As a result, their ability to devote sufficient mental and temporal bandwidth to their schoolwork will be more fluid, comfortable, and frictionless. I refer to this experience as *need-cognition fluency*.

In summary, I argue that when students report that they do or do not feel that they belong at school, that phenomenological experience is the cumulative result of whether or not they are currently experiencing being-cognition fluency, motivational fluency, interpersonal fluency, and need-cognition fluency in that environment. Figure 1 provides a complete illustration of this proposed theoretical model of students' experiences of belonging in school and its associated definitions.

To date, however, psychological research on belonging has generally not examined the majority of these proposed factors. To demonstrate this, each of the 70 items examined in my above-mentioned content analyses of prominent quantitative measures of belonging was also coded for whether it primarily "Assesses the degree to which a student feels that their academic environment and those in it naturally support their ability to enact their most valued identities, without arousing a sense of friction or threat" (self-concept fit), "Assesses the degree to which a student feels that their academic environment's structures and norms support their personal goals and values" (goal fit), or "Assesses the degree to which a student feels that academic institution provides them with sufficient financial, nutritional, and physical and mental health and safety resources (so that during the time that they are meant

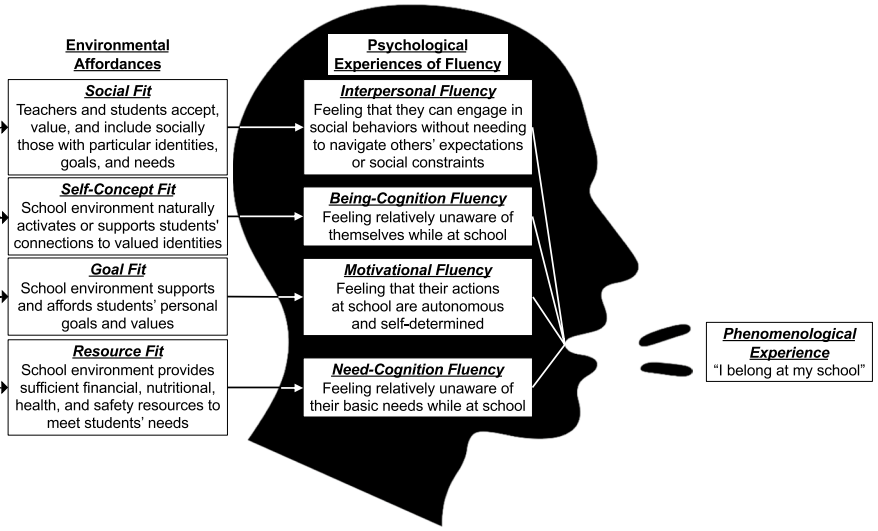

Fig. 1 Proposed theoretical model for understanding students' experiences of belonging in school

to be engaged in schoolwork, they do not have to spend excessive time or mental effort tending to their financial, nutritional, and physical and mental health and safety needs)" (resource fit). As shown in Table 1, we determined that only 5 items potentially assessed goal fit (e.g., "I am similar to the kind of people who succeed at [school name]"); only 3 potentially assessed self-concept fit (e.g., "I can really be myself at this school"); and only 1 potentially assessed resource fit ("There's at least one teacher or other adult in this school I can talk to if I have a problem"). Similarly, my own review of Gray, Matthews, and Hope's (2018) examination of 18 belonging-related quantitative measures concluded that only 7 measures included items assessed what the present model would classify as self-concept fit-related themes (i.e., "students' perceptions that they perceived their school to be a place where they did not have to act fake in order to feel a sense of inclusion" [their "authenticity" theme] or "students' perceptions of commonalities between themselves and others in their school" [their "similarity" theme]); only 3 assessed goal fit-related themes (i.e., "students' confidence in their potential to successfully complete their schoolwork" [their "competence" theme]); and only 4 assessed what the present model would classify as resource fit-relevant themes (i.e., "students' perceptions of school as a place where they were free from being harmed" [their "safety" theme]).

Despite these trends in quantitative research, I will next show that when qualitative methods are used to capture what "belonging" actually means to diverse samples of students in their own words, self-concept fit, goal fit, and resource fit emerge, as does their role in students' academic motivation and performance. In other words, I argue that what makes students feel like they do or do not belong at school is better captured by how psychology *defines and operationalizes* state authenticity than by how psychology generally *defines and operationalizes* belonging. Based on these analyses, I conclude that future psychological research on belonging in school should focus on the four proposed experiences of fit that students themselves say influence their sense of belonging at school, rather than solely on their experiences of social connection at school.

Evidence of the Relations Between Students' Experiences of Fit, Fluency, Belonging, and Their Educational Outcomes

As detailed previously, the measures of belonging in school that have been most commonly used over the past 30 years of psychological research have focused largely on quantitative analyses of social fit experiences and general, unelaborated fit experiences. As a result, the term "belonging" has become synonymous with social fit for many in the fields of educational and social psychology (Allen et al., 2021b).

In addition, to develop such measures, researchers have often, on their own, created a pool of items that seem potentially relevant to their construct of interest (in this case, social connections), administered all the items in that pool to a sample or samples of participants, and used factor analysis to narrow them down the pool to a smaller, quantitatively convergent final set of items. Indeed, this appears to be the approach used to develop many of the measures that have come to define belonging

for the field of psychology, with five of the eight measures discussed in my above analysis appearing to have been developed in this way (sufficient scale development details were not provided for the remaining three measures). In addition, as has frequently been the case across much of educational and social psychology (DeCuir-Gunby & Schutz, 2014; Graham, 1992; Matthews & López, 2020; S. O. Roberts & Mortenson, 2023), many of these measures also appear to have been initially validated using small, non-representative, primarily White and middle-class samples, with none appearing to test for differences in factor structure based on race-ethnicity, socioeconomic status (SES), or other potentially meaningful demographic or cultural group indicators.

In this section, I demonstrate why these tendencies are limiting, both for research designed to understand how and when students experience belonging, and for teacher and institutional efforts to increase students' experiences of belonging and associated outcomes among their students. Specifically, I examine *qualitative* studies that have attempted to explicitly capture what "belonging" actually means, in their own words, to students from groups that have been historically underrepresented, marginalized, or excluded from education and associated research—including, but not limited to, students of color, women, students from lower SES backgrounds, and students with disabilities. My analysis demonstrates that self-concept, goal, and resource fit all emerge as central to both students' experiences of belonging at school, and to their academic motivation and performance. In addition, this research also provides suggestions for how teachers and institutions might influence students' sense of belonging via their impact on self-concept, goal, and resource fit.

Self-Concept Fit and Being-Cognition Fluency

Self-Concept Fit as an Element of Belonging in School

Many theorists and qualitative scholars have suggested that one's ability to maintain a feeling of connection to their most valued identities or selves while at school, without arousing a sense of friction or threat, is an important component of a person's sense of belonging in that environment. Focusing on literacy education, McCarthey and Moje (2002) addressed the questions, "Why, indeed, should literacy theorists, researchers, and teachers care about how readers' identities are constructed, represented, and performed in acts of reading? Why should it matter that certain literacy practices may be tied to or evoke certain identities for readers?" (p. 228). They respond that "identity matters because it… shapes or is an aspect of how humans make sense of the world and their experiences in it, *including their experiences with texts*" (p. 228, emphasis added), and because many students are ultimately "searching for ways to construct or represent identities and stories that allow them to belong" (p. 232). For example, Moje notes that "a number of the youth I worked with in past studies rejected the readings that teachers had chosen for them because they could not *identify* with the people in the stories" (p. 229, emphasis in original). Furthermore, in their work with gang-connected Latinx, Vietnamese, Laotian,

and Samoan youth, Moje (2000) described how graffiti represented a critical literacy practice for these students, but that this practice and its practitioners are usually labeled as deviant and "unsanctioned" in mainstream literacy education environments. In other words, these scholars argue that the likelihood of a student feeling "I belong in my literacy education environment" hinges in part on whether they feel that environment—including the readings assigned, and the ways in which reading and writing are and are not valued—connects with valued parts of their identity, or requires them to suppress those parts of themselves. Most notably, these experiences are generally not contingent on their *social connections with others* in that environment (i.e., social fit), but on more structural elements of the environment itself.

Faircloth (2009) similarly argued that "a student's ability to craft a sense of belonging… may be inextricably linked to whether the student experiences a sense of congruence between their own sense of self and the self-definitions accorded support within their context" (p. 327). Indeed, in their qualitative study with an ethnically diverse group of ninth-graders, they found that students' experiences of disconnection from school seemed to be driven by "discordance between their personally held and the school-defined identities and values" (p. 326; see also Wallace et al., 2012). For example, one student stated, "In order to 'make it' at this school, I would have to dress differently and *be someone that I'm not*" (p. 340, emphasis in original). As a further demonstration of the importance of self-concept fit for students' sense of belonging, Faircloth had these students participate in weekly writing and discussion projects in which they were asked to notice connections between their identity and their English course content. The author found that providing students with opportunities to connect school experiences to their valued identities indeed increased their ability to "find or craft a sense of belonging/connection at school" (p. 341–342). For example, one student noted that these activities enabled them to "show people who I really am instead of putting up a front" (p. 338). Thus, Faircloth (2009), too, suggests the likelihood of a student indicating that "I belong in my English class" hinges on whether *the work* they do (not just the *social relationships* they form) in that class connects with and allows them to enact valued identities in that space, versus requiring them to "be someone I'm not."

Matthews and colleagues (2021) conducted qualitative interviews with Black and Latinx fifth- through twelfth-graders about the kinds of classroom experiences that influenced their sense of belonging in math. These interviews revealed that one factor that Black and Latinx students felt contributed to their sense of belonging in math is whether their "teacher provides opportunities to use math to… empower cultural identity, understand the world, and critique their social context" (p. 26). While this factor does implicate another social actor (their teacher), the student's experience here that "I belong in my math class" is, again, in part a product of their perception that "mathematics is [not] disconnected from their social and cultural realities" (p. 9), versus solely a product of the nature of their social relationships in that environment. This element is echoed by Black students in Faircloth's (2009) above-described study, who emphasized that they valued "activities dealing with race and culture, because as an African American, I was able to relate to the things I have seen or heard about my culture," and that "When we read To Kill a Mockingbird, I used my race to visualize how it is." Gray and colleagues (2022) provide a

comprehensive review of the evidence that experiences of ethnic-racial identity fit are highly connected to Black students' experiences of belonging at school.

As final examples, through qualitative interviews, Fernández and colleagues (2023) and G. M. Bettencourt (2021) asked working-class students enrolled at British and American universities about the kinds of experiences that influence their sense of belonging on campus. Based on their findings, Fernández and colleagues (2023) broadly argued that "the distance that students from underrepresented groups see between themselves and university norms and culture will increase the gap in participation at university and therefore lead to lower feelings of belonging" (p. 677), with one participant stating "when you belong you do not alter your behaviour… you fit in with your own behaviour" (p. 685). Providing more specific examples, G. M. Bettencourt (2021) found that "participants expressed that their institutions placed very little value on the experiences and strengths of working-class students" (p. 773). For example, one participant expressed that the administration's "actions aren't congruent with the words or the rhetoric, other than they use very strong rhetoric supporting diversity and inclusion. I just don't see it. I didn't feel valued in that identity, identifying as working-class" (p. 774).

Taken together, the extant research suggests that students, including those from a number of systematically marginalized groups, are more likely to feel like they belong at their school when they feel able to maintain connections to their most valued identities or selves, both in the classroom and in the school environment more generally. Critically, this research also provides empirically-supported suggestions for how teachers and institutions can help students develop and maintain a sense of self-concept fit at school. Asset-based and culturally-sustaining pedagogies—educational approaches that aim to explicitly include and highlight the value of the kinds of knowledge students bring from their home cultures—have repeatedly been shown to help support both ethnic-racial identity (i.e., self-concept fit) and school belonging among Black and Latinx students (for reviews, see Covarrubias, 2024; Gray et al., 2022; López et al., 2025). For example, as described above, students of color report greater self-concept fit when their teachers include course materials and assignments that naturally enable students to draw on their racial or cultural experiences (e.g., assigning students to explicitly notice connections between their ethnic-racial identity and their English or math course content; Faircloth, 2009; Matthews et al., 2021; McCarthey & Moje, 2002; Moje, 2000). Similarly, first-generation and lower SES students reported greater self-concept fit (i.e., more disagreement with statements like "I expect that I will have to become a different person to fit in at [university name]") and earned higher grades if, during their transition to a new school, other students at the institution publicly discussed the fact that many of them came from different socioeconomic backgrounds, each of which could provide a unique source of strength that they could leverage to fit in and be successful in school (Townsend et al., 2019, 2021). Finally, the presence of and institutional support for affinity spaces (e.g., Black student unions, LGBTQIA + student organizations) and associated resources have the potential to offer similar benefits for racial and sexual minority students, although further research is needed to identify what specific elements of such spaces and which specific resources are most beneficial for

which students, especially when students' unique intersecting identities are considered (Day et al., 2022; Muraki et al., 2024).

Self-Concept Fit Produces Being-Cognition Fluency, with Implications for Academic Outcomes

As discussed previously, the SAFE model proposes that when an environment naturally supports a student's connections to their most valued identities, such that they do not experience a sense of cognitive friction between these identities and the environment, they can feel relatively unaware of themselves in that environment. This experience of *being-cognition fluency* is hypothesized to be important because not having to think about one's identities or their legitimacy in that context should reduce students' sense of anxiety and free up cognitive resources that can be used for academic pursuits. Thus, this model suggests that experiencing self-concept fit should have positive implications for academic motivation and performance.

Some of the most direct evidence supporting this notion comes from research on social identity threat. Social identity threat—a broader perspective on stereotype threat—is the experience of concern and anxiety that people may face when they enter a context where one or more of their valued social identities is underrepresented, stereotyped as inferior, or otherwise devalued (Steele et al., 2002). Research has shown that when facing this experience, people may feel an acute, uncomfortable sense of conspicuousness and uncertainty about whether people with that identity "belong" in that environment (see Schmader, 2010; Steele et al., 2002). For example, when a student enters a university where their racial-ethnic, gender, socioeconomic, or other identity currently is or has historically been underrepresented or stereotyped as academically deficient, this student is more likely to fixate on and ruminate about the question of whether they "belong" intellectually in that environment. At the same time, they are also likely to start closely monitoring their behavior to identify and suppress any actions that they feel could be seen as academically non-normative in that environment and, thus, as confirming the idea that people with that identity do not "belong" intellectually. Critically, these attentional fixations—indicative of being-cognition disfluency—utilize a person's working memory capacity, which is the same ability to focus attention on goal-relevant tasks while inhibiting task-irrelevant information that is needed to excel on complex academic tasks. As a result, experiencing social identity threat can result in poorer performance on academic assignments and tests (for review, see Schmader et al., 2008).

Supporting this perspective, research has documented the emergence of intrusive negative thoughts, increased working memory load, and hindered task performance among women experiencing social identity threat (as a result of reminding them about stereotypes about gender differences in math abilities) versus among women not experiencing threat and among men. This research has shown that women not experiencing threat and men experienced similarly low levels of intrusive negative thoughts and working memory load while waiting to complete a math task—indicative of being-cognition fluency—and demonstrated similar performance on the task. By contrast, women who were first reminded of stereotypes about gender differences in math abilities (i.e., low self-concept fit between their female identity and

the STEM context) experienced a much greater level of intrusive negative thoughts about the expected test, greater working memory load (i.e., being-cognition disfluency), and, as a result, ultimately performed worse on the math task (Beilock et al., 2007; Cadinu et al., 2005; Schmader & Johns, 2003). Relatable evidence has also been documented among Black, Latinx, and low SES students when they are reminded of stereotypes about race- and SES-based differences in academic abilities (Tine & Gotlieb, 2013).

In addition, the fixation on identifying and suppressing non-normative academic behaviors suggests that these students may approach academic experiences in that environment with a primary desire to avoid appearing incompetent—known as a performance-avoidance goal (Urdan & Kaplan, 2020). Compared to approaching academic experiences with a primary goal of learning and developing one's abilities (a mastery goal), students pursuing performance-avoidance goals are more likely to be chronically anxious while in the academic environment because of the constant fear of and vigilance to appearing incompetent—potentially indicative of being-cognition disfluency. As a result, they are less likely to seek help or to persist on a task or in a subject when they experience difficulty or failure—because, to them, this would be a sign of incompetence or of a lack of inherent ability—and engage in more shallow learning.

Supporting this possibility, every day for two to three weeks, my colleagues and I (Browman et al., 2025) tracked how connected university students felt to their most valued identities while on campus ("Today at [school name], how much did you feel that you were in touch with [their most valued identities, identified using a pre-testing survey]"), as well as their feelings of mental burnout (e.g., "Today at [school name], I felt mentally exhausted") and their level of concern about their academic abilities (e.g., "Right now, I feel that I have less ability than others at [school name]"). We found that on days when students experienced a lower (versus higher) sense of connectedness to their valued identities (i.e., lower self-concept fit), they reported stronger feelings of mental burnout—indicative of being-cognition disfluency—and stronger concerns about their academic abilities (see also Hall et al., 2015 for relatable results among working professionals in STEM).

One additional source of evidence of the impact of being-cognition fluency on academic outcomes comes from research on bicultural identity integration. Bicultural identity integration is defined as the extent to which individuals who have been exposed to and internalized two or more cultures feel that their distinct cultural identities are congruent, harmonious, and compatible, versus incongruent, contradictory, and incompatible (Benet-Martínez et al., 2002). Because middle-class norms are predominant at Western universities (Stephens et al., 2012), students who come from middle-class backgrounds are more likely to experience a sense of integration between their home- and university-based cultural identities—that is, a sense of self-concept fit—than their working-class peers (Herrmann & Varnum, 2018). And critically, working-class students who reported a greater (versus weaker) sense of integration between their home- and university-based cultural identities reported lower acculturative stress—or how cognitively salient and stressful the mismatches

between these identities were to them while on campus (i.e., being-cognition fluency)—and earned better grades.

Resource Fit and Need-Cognition Fluency

Resource Fit as an Element of Belonging in School

Resource fit is another factor that has generally not appeared in quantitative psychological research that has directly examined the concept of belonging. Again, however, qualitative examinations of what students say affect their sense of belonging at school demonstrate the importance of the degree to which they feel that their institution provides them with sufficient financial, nutritional, and physical and mental health and safety resources to meet their needs. For example, in Matthews and colleagues' (2021) work discussed above, another element that Black and Latinx students felt contributed to their sense of belonging in math was their "teacher's consciousness of individual students'… emotions, physical wellbeing, and resource needs" and whether "the teacher is supportive of students' emotional and psychological health" (p. 8). This aligns with Edwards' (2021) model of school safety for Black students, which argues that "Black students feel physically safe when they are not psychologically, emotionally, or physiologically burdened by the threat of bodily harm, and feel confident that they can rely on school to help meet their essential needs" (p. 267), and that they "feel social–emotionally safe when they feel free to explore and express their genuine thoughts and feelings via a range of emotion without fear of judgment or risk of exclusion" (p. 265). Thus, these findings emphasize the importance of tangible safety-related resources, sufficient to enable students to spend their time and mental effort on their schoolwork, to their sense of belonging at school.

Also related to physical safety, as many as 26% of female-identifying students report experiencing sexual assault during their time at college (Association of American Universities, 2017). Critically, in their above-described study of how university students defined belonging in school, Fernández and colleagues (2023) found that "female students within the group also mentioned experiences of sexual assault and harassment, and the lack of support received by university in these situations. These experiences resulted in a lack of trust in relation to the university, creating distance from the university as an organisation and in turn, leading to feelings that they did not belong" (p. 690).

G. M. Bettencourt's (2021) and Baker and Sgoutas-Emch's (2014) qualitative work with working-class university students identified the impact of another tangible resource on their sense of belonging: sufficient financial resources. For example, G. M. Bettencourt (2021) noted that "the fluid nature of social class and academic billing cycles meant that participants constantly thought about future expenses, subsequently backgrounding belonging to more basic needs in times of financial strife. For example, one participant was unsure if she could continue at [her university] the subsequent year [due to financial constraints], which nullified the sense of belonging she achieved by questioning her physical presence on campus" (p. 776). Another

participant stated, "When I was struggling so hard to make my payments for the first couple of years, I was very doubtful that I should even be on campus. Do I have the resources to attend this fancy university? Maybe I should have gone to community college. It definitely made it harder to feel like this was where I was supposed to be" (p. 760). Baker and Sgoutas-Emch's (2014) participants reported similar experiences—for example, "I have to work just to pay the basic bills so I always feel working took away from either my study time or being able to get involved in different things, and so I always got stressed out" (p. 120). In other words, when students lack sufficient financial resources to be able to spend their time and mental efforts on school activities, this can lead them to feel concerned about whether they truly belong in that academic environment.

Students have also identified food security as important to their sense of belonging in their school environment. In the USA, approximately half of college students and 8.8% of children do not have access to enough food, and these trends are much more pronounced among Black, Latinx, and low-income Americans and in single-mother households (Broton & Goldrick-Rab, 2018; U.S. Department of Agriculture, 2022). And critically, research has found that the perception that their school was not concerned with addressing this need reduces the sense of belonging at that institution among students affected by food insecurity (Gahan et al., 2022). For example, Watson and colleagues (2017) summarized one of the findings of their qualitative study of food insecure students as follows: "Students discussed key areas in which the university was not addressing their needs: inadequate financial aid allocations, unaffordable housing costs, inflexible meal plans, high food costs on campus, and lack of opportunities to learn life skills, including financial and food literacy. Many students did not believe the university would address these needs, which negatively affected their sense of belonging at the university" (p. 136).

A final factor I will discuss that can contribute to students' sense of resource fit is the school's physical environment and spatial arrangement. If a student is unable to access elements of their school life or environment as seamlessly as other students due to how that environment is physically arranged, that student may come to feel that they do not belong in that environment. Such experiences may be especially salient for students with physical disabilities, as Foy (2019) describes in their qualitative study of factors that contribute to a sense of belonging among such university students. For example, they describe how one student, Sophie, was not able to participate in many elements of her university's Orientation Day—one of the first formal social events students experience upon arriving at university—because "the institution does not consider students with physical challenges when planning activities for Orientation Day." In other words, as Foy (2019) summarizes, "Sophie has academic access to the college, as her grades have earned her placement and presence in the business program. Yet, Sophie does not have full access to college-wide activities because they are designed for the 'able-bodied' student. The institution therefore allows for presence, but has neglected to plan for full participation in college-wide activities for students with physical challenges" (p. 84). Relatedly, she describes how "another obstacle for all students in this study is the segregated space in which they write tests. While extended time and a quiet place to write tests may be necessary academic accommodations to reduce disability-related barriers…

[a participant] articulated: '…it really resonated with me that I'm not part of everybody else's group… because, I mean, I do have to leave the classroom to do tests'" (p. 85).

Taken together, then, research supports the idea that students, including those from a number of systematically marginalized groups, are more likely to feel like they belong at their school when they feel that their institution provides them with sufficient financial, nutritional, health, and safety resources and access. These findings therefore suggest the importance of schools working to comprehensively understand and address their students' needs in each of these areas. One promising example of institutions directly addressing these challenges is the use of predictive analytics to identify and intervene when students may be at risk of dropping out for financial reasons. For example, Georgia State University (2024) found that over 1000 lower SES students were dropping out each year after falling below a 3.0 GPA, as this caused them to lose a state-provided scholarship that financially enabled them to attend college. In response, they created a predictive analytic system that tracks students' academic metrics on a daily basis and automatically contacts scholarship students if the trend of their grades suggests that they are at risk of losing their scholarship. These students are then provided with personalized academic coaching to help them maintain their scholarship, and if they ultimately lose their scholarship, they are provided with both academic coaching and financial support for up to one year to help them regain their scholarships. Related examples include the University of Texas at Austin's University Leadership Network Scholarship (University Innovation Alliance, 2022) and the University of Michigan's High Achieving Involved Leader Scholarship (Dynarski et al., 2021).

From the perspective of the present model, the critical elements of these programs are not only that they help address students' financial needs, but that students are contacted about and provided with these resources automatically, without them needing to use their mental, emotional, and temporal bandwidth to find out about these programs and overcome cultural stigmas and administrative burdens associated with applying to them. By contrast, many prominent institutional approaches to addressing deficiencies in students' nutritional, mental health, and physical safety needs (e.g., establishing campus food pantries, counseling services, and Title IX reporting systems) place those mental, emotional, and temporal burdens on the students in need, which has been shown to reduce their use (Gaddis et al., 2018; Idehai et al., 2024; Sable et al., 2006). It would therefore be beneficial for research-practice partnerships to develop and test similarly responsive methods of predicting and meeting students' idiosyncratic nutritional, health, and safety needs.

Resource Fit Produces Need-Cognition Fluency, with Implications for Academic Outcomes

Similar to how experiencing self-concept fit produces an experience of being-cognition fluency, I propose that when a student feels that their academic environment provides them with sufficient financial, nutritional, and physical and mental health and safety resources to meet their needs in these domains, they should experience a sense of fluency that has positive implications for their academic outcomes. As

discussed previously, by "sufficient to meet their needs," I mean that during the time that they are meant to be engaged in schoolwork or school activities—both during their scheduled school hours, and when it is assumed that they will be able to devote sufficient time to studying or completing assigned homework or activities outside of scheduled school hours—they do not have to spend excessive resources (e.g., time, mental effort) tending to their financial, nutritional, health, and safety needs. As a result, the student will be able to more fully, fluidly, and frictionlessly devote their time and mental energy to their schoolwork, which I refer to as *need-cognition fluency*.

Evidence for this claim comes from research on the psychological effects of experiencing scarcity. Shah and colleagues (2012) explain this phenomenon:

> When money is abundant, basic expenses (e.g., groceries, rent) are handled easily as they arise… rarely requiring attention and hardly lingering on the mind. But when money is scarce… these problems feel bigger and capture our attention… [And] just as expenses capture the attention of the poor, researchers have found that people who are hungry and thirsty focus more on food- and drink-related cues. Likewise, the busy (facing time scarcity) respond to deadlines with greater focus on the task at hand. Across many contexts, we see a similar psychology. People focus on problems where scarcity is most salient (p. 682).

In other words, when a student feels that their immediate financial, nutritional, health, safety, or other resource needs are not being met in their school environment, they are likely to narrow their focus, efforts, mental resources, and time use to addressing those needs, while ignoring future demands on their resources (e.g., homework, class, exams, etc.).

Supporting this view, researchers presented financially richer and poorer individuals with a series of scenarios designed to activate either major financial concerns (e.g., "Your car is having some trouble and requires $1500 to be fixed") or minor ones ("…requires $150 to be fixed"), before having them complete state measures of cognitive capacity. While higher and lower SES participants demonstrated similar levels of state cognitive capacity when financial concerns were minor, lower SES individuals demonstrated significantly lower levels of state cognitive capacity than their higher SES counterparts when financial concerns were major (Mani et al., 2013). Subsequent studies then demonstrated that this drop in state cognitive capacity is indeed due to them focusing their resources solely on the domain affected by scarcity, in line with the experience of need-cognition disfluency. For example, when presented with scenarios in which cost was only one of many elements (e.g., celebrating a friend's birthday), financially poorer (versus richer) individuals were significantly more likely to focus on and to have trouble suppressing thoughts about the financial elements of the scenario (e.g., how much it will cost), while ignoring important non-financial elements of the scenario (e.g., the joy of being with good friends; Shah et al., 2018). Similar performance decrements and fixation on a single current task element or need (at the expense of other task elements and future needs) have emerged when examining scarcity of non-financial resources, like time and opportunities (Shah et al., 2012).

Research has also demonstrated specific implications of resource fit and non-fit at school for academic outcomes. Destin and Svoboda (2018) found that being reminded of the high cost of university impaired state levels of cognitive capacity (i.e., created need-cognition disfluency) among university students who were explicitly motivated by a desire for a financially stable future—as is the case for many students from low SES backgrounds (Browman et al., 2019). By contrast, Browman and Destin (2016) found that when low SES university students were experimentally exposed to cues suggesting their university's commitment to meeting (versus passive ignoring of) their financial needs, they identified more strongly as high achievers and expected to earn higher grades.

Research has similarly found that experiencing food insecurity negatively affects academic performance not only because of the biological effects of insufficient food, but also because food insecure students must engage in trade-offs between putting time and effort into getting food and putting time and effort into their academic work (Meza et al., 2019)—suggestive, again, of need-cognition disfluency. As one of Meza and colleagues' interview participants noted, "It's two parts of my life. One is the basic needs, like eating and wearing clothes. Another is pursuing academic success and jobs. If I put more of my time and energy on pursuing food, it will keep me from focusing on the education" (p. 1719). These trends are echoed by Watson and colleagues' (2017) food insecure college students—for example, "Food is always on my mind like, 'What am I going to eat? Do I have enough money? Maybe I should just skip a meal today so I can have enough food for dinner.' Yeah, it's always on my mind" (p. 133). As a result, research has shown that when institutions provide food insecure students with greater access to food during the academic year (e.g., via meal voucher programs or food scholarships), this can have positive effects on both their sense of belonging on campus (Goldrick-Rab et al., 2020) and on their academic outcomes (e.g., increased credit completion and higher graduation rates; Broton et al., 2023).

With regard to physical safety, Trawalter and colleagues (2022) used swipe card access data to examine how the rape and murder of a female community college student affected female (relative to male) faculty and staff's use of campus facilities. They found that the event led to a general decrease (compared to their prior behavior) in women's likelihood of swiping into university facilities, as well as a specific decline in the latest hour that female STEM faculty and staff swiped into their labs. This suggests that when women felt that their physical safety needs were not being met at their institutions, rather than being able to continue their work as usual, they felt compelled to use that time and effort to modify their usual behaviors in order to keep themselves safe—in line with the hypothesized experience of need-cognition disfluency.

In addition, in line with Foy's (2019) previously discussed distinction between having permission to access to physical spaces and being able to fully participate in those physical spaces, Trawalter and colleagues (2021) examined the relationship between public space use and feelings of belonging among lower and higher SES university students. They found that compared to their higher SES counterparts, lower SES students were less likely to use public spaces on their campus. Most critically, this gap in public space use drove the gap in belonging on campus between lower and higher SES students, with the gap disappearing when students were

randomly assigned to visit an iconic public space on campus. Similarly, Parsons and colleagues (2021) examined academic performance over the first year at university among a sample of students with and without disabilities who were matched on pre-university academic performance. They found that students with disabilities earned significantly lower grades and were more likely to fail courses in their first year than their peers without disabilities, and this effect was driven by the students with disabilities who lost academic accommodations (e.g., preferential seating, adaptive software, memory aids) in the transition from high school. Those who did not lose such accommodations did not show a similar decline in their grades. This provides evidence for the present hypotheses, as students who lost accommodations were likely deprived of the ability to participate fluidly in their new academic environment. As a result, they likely had to spend time and mental effort tending to their accessibility needs, versus focusing that time and effort on their academic work.

Finally, the concept of need-cognition fluency and the supporting findings described above align with Wladis and colleagues' (2024) recent model of "time and body capital"—"the quantity and quality of time [and 'energy or effort'] that a student has available for their studies" (p. 4–5)—as sources of educational inequities. Specifically, they argue that time capital is unequally distributed throughout the student population of a school, with Black, Latinx, low SES, and female-identifying students being much more likely to have fewer available study hours, but also that those hours are lower quality (e.g., only having time to study late at night), more fragmented (e.g., having only 1 hour at a time), and more inflexible (e.g., not being able to choose their study hours). These disparities are due to work, familial, scholarship-maintenance, and administrative burdens that are less likely to be experienced by their White, higher SES, and male-identifying peers. Such burdens also require substantial physical and psychological energy, thereby resulting in an unequal distribution of body capital between students from systematically marginalized and non-marginalized groups. Taken together, these mean that students from systematically marginalized groups are more likely to have less time and mental energy to devote to their schoolwork, thereby contributing to the maintenance or even exacerbation of inequities in educational outcomes.

Goal Fit and Motivational Fluency

Goal Fit as an Element of Belonging in School

As the above quantitative evidence suggests, social, self-concept, and resource fit and non-fit are experiences that students research participants are commonly asked to report on explicitly (though not typically in quantitative research directly examining belonging). The same has largely not been true of goal fit and non-fit (but see Aday et al., 2024). Instead, evidence that goal fit is an important element of students' sense of belonging in school has predominantly emerged from studies where researchers either measure or manipulate whether the goal preferences of the environment matches the participants' own goal preferences, before examining their feelings of belonging and performance outcomes in that environment.

One such example is research on goal congruity theory. This theory proposes that people are motivated to enter and engage in roles and domains that they believe will enable them to make progress towards goals that they personally value (Diekman et al., 2020). Two such goals that have been extensively studied are the desire to experience agency and self-promotion in one's life (agentic goals), and the desire to collaborate and form close relationships with others (communal goals). Because in many societies men have traditionally occupied leadership roles and women caretaking roles, men and women are often differentially socialized to enter and engage with roles and domains that help them fulfill, respectively, agentic goals and communal goals. And critically, researchers have found that both men and women typically see careers in STEM as not affording communal goals. Thus, because of the incongruity between their personal goals and these affordances (i.e., goal non-fit), many women may experience a weaker sense of belonging in STEM than men (Allen et al., 2021a). Indeed, demonstrating this phenomenon that they dubbed "role-based belonging," Belanger and colleagues (2020) randomly assigned students majoring in STEM disciplines to read about a STEM lab group where the lab director was either described as running their lab in a communally-oriented manner (i.e., "He meets some of his graduate students and research assistants in the lab and consults with them about the procedures") or in an independently-oriented manner (i.e., "He looks up relevant past research to consult about the procedures"). Female (but not male) students anticipated greater belonging in the goal fit-promoting communally-oriented lab than in the goal non-fit-promoting independently-oriented lab. Similar relationships between perceived communal affordances in STEM and belonging have also emerged for other cultural groups that tend to value communal goals, such as Black, Latinx, Native American, and first-generation college students (Allen et al., 2021a; Bonilla et al., 2023; Smith et al., 2014).

Another source of evidence for the effect of goal fit on students' sense of belonging comes from research on regulatory focus and regulatory fit theories. Regulatory *focus* theory distinguishes between two broad types of motivations that determine how people represent and pursue their goals (Higgins, 1997). The first is a promotion motivation, under which people view their goals as opportunities, and thus are motivated by the prospect of making gains and advancing from their current standing. The second is a prevention motivation, under which people view their goals as responsibilities, and thus are motivated to uphold their current standing and avoid losses. Similar to goal congruity theory, then, regulatory *fit* theory proposes that when a person experiences a match between their personal motivations for pursuing a goal and the manner in which they are able to pursue a valued goal in a given environment (i.e., the motivational preferences or affordances of the environment), they will experience a feeling of fit, "rightness," or belonging in pursuing that goal in that environment (Higgins, 2000). This experience should increase their motivational optimism and intensity, and, ultimately, their performance in that environment.

While regulatory fit theory has largely been applied to topics in marketing, communication, and attitude change (Cesario et al., 2008), my own research (Browman, 2025) has used this framework to explore students' experiences of goal fit and non-fit in academic environments. First, we content-coded the mission statements of 600 American colleges and universities, and found that these materials typically

described incentive structures that favored or afforded individuals who use promotion-focused strategies in their academic pursuits over those who use prevention-focused strategies. In subsequent lab and field studies, we then found that students who approached academics with a stronger prevention motivation—that is, those whose personal motivational orientations were less aligned with the typical university's motivational affordances (goal non-fit)—reported a weaker sense of belonging at their school than those who approached academics with a stronger promotion motivation.

A final source of evidence that I will discuss comes from research on cultural mismatch theory (Stephens et al., 2012). This theory proposes that because of the populations that such institutions were originally created to serve (Justice, 2023), the American university culture generally reflects norms of independence that are more common among middle-class families—that is, being oriented towards one's self and to act in accordance with one's own preferences. At the same time, these institutions tend to exclude cultural norms of interdependence that are more common among working-class families—that is, being oriented towards others and towards adjusting the self to fit the requirements of the context. One consequence of this, as Stephens and colleagues (2012) have shown in their research with university administrators, is that universities tend to expect their students to pursue independence-focused educational goals (e.g., "learn to be a leader," "learn to work independently"), rather than more interdependence-focused goals (e.g., "learning to work together with others," "learn to listen to others"). This mismatch between working-class students' culturally-shaped academic goals and those afforded by the university (i.e., goal non-fit) is argued to have consequences for these students' sense of belonging at school. Specifically, as Stephens and colleagues (2012) explain, "when universities emphasize that students should 'chart their own course' or 'become independent thinkers'… such statements are not neutral but instead signal that particular middle-class ways of being a student are valued in university settings and, conversely, that other ways of being a student do not belong there" (p. 1194).

Prior research therefore supports the idea that students, including those from a number of systematically marginalized groups, are more likely to feel like they belong at their school when they feel that their classroom's or school's structures and norms support and afford their personal goals and values. While there has historically been much less of a focus on helping students develop and maintain a sense of goal fit at school (versus social, self-concept, and resource fit), this research does suggest three steps that are crucial if teachers and institutions hope to promote this type of fit in their students. First, teachers and institutions should be made aware that different students may approach the same school tasks or their education in general with very different goals and motivations in mind (e.g., agency versus communion, independence versus interdependence, promotion versus prevention; Browman et al., 2017; Diekman et al., 2020; Stephens et al., 2012). Second, teachers and institutions should examine whether the defaults in place in their academic tasks or environments privilege one type of motivation or goal (e.g., agency, independence, and promotion; Browman, 2025; Diekman et al., 2020; Stephens et al., 2012). If so, third, teachers and institutions should work to alter these tasks and environments so that they afford students' diverse academic motivation and goals (e.g.,

Belanger et al., 2020; Dittmann et al., 2020). It would therefore be beneficial for future research-practice partnerships to work to develop and test specific methods for reliably achieving such outcomes in real academic settings.

Goal Fit Produces Motivational Fluency, with Implications for Academic Outcomes

As discussed previously, the SAFE model proposes that when a student feels that their academic environment's structures and norms support and afford their personal goals and values (i.e., goal fit), the actions that they perform in that environment should feel autonomous and self-determined to the student. This experience of *motivational fluency* is hypothesized to be important because, as self-determination theory posits, feeling autonomous is a primary driver of self-sustaining forms of interest, engagement, and motivation that typically lead to stronger performance outcomes (Ryan & Deci, 2000).

Evidence for these claims come from the same lines of research on goal congruity theory, regulatory fit theory, and cultural mismatch theory described above. For example, female students' perceptions that STEM fields, tasks, and labs afforded communal goals positively predicted their levels of STEM interest and their behavioral persistence on STEM tasks—indicative of the experience of motivational fluency (Allen et al., 2021a; Belanger et al., 2020; Diekman et al., 2010). Smith and colleagues (2014) reported similar findings among Native American students: the more they favored communal goals (which they did not feel were afforded by STEM), the less intrinsically motivated and willing to persist they felt in STEM.

Similarly, because regulatory fit entails a feeling of "rightness" about one's goal pursuit efforts, regulatory fit theory proposes that individuals in these circumstances (i.e., those experiencing goal fit) should also find tasks related to their goal pursuit efforts more engaging (e.g., Freitas & Higgins, 2002). Indeed, my own research has found that university students with stronger promotion motivation towards academics—the type of motivation most afforded by universities on average—reported greater academic engagement—suggestive of motivational fluency—and earned higher grades compared to students with stronger prevention motivation towards academics (Browman, 2025).

Finally, as discussed, first-generation college students are primarily motivated to pursue higher education to fulfill interdependent goals. As a result, they are more likely than their continuing-generation counterparts to experience academic tasks assigned in the default, independently-oriented university environment as uncomfortable and unnatural to them—that is, as not self-determined—which undermines their academic performance (Dittmann et al., 2020; Stephens et al., 2012). By contrast, experiencing their university as affording more interdependent goals—either naturally (e.g., having opportunities to work collaboratively with others) or as a result of experimental manipulation (e.g., framing the university as having "a tradition of learning through community")—causally improved these students' comfort (i.e., motivational fluency) with academic tasks in that environment, as well as their performance on those tasks.

Summary

Taken together, a wealth of qualitative research from both within and beyond psychology supports the idea that when a student states or indicates on a questionnaire measure that "I [don't] belong at my school," social fit—the degree to which teachers and other students at their school generally accept, value, and include people with their identities, goals, and needs *socially*—is a necessary part, but not the sufficient whole, of that experience. Rather, when we examine what influences diverse groups of students' sense of belonging in school, they indicate that other important elements of that experience are the perceptions that their environment affords opportunities to (a) remain connected to valued identities (self-concept fit), (b) pursue their personal goals and values (goal fit), and (c) meet their basic financial, nutritional, health, and safety needs (resource fit). Furthermore, existing psychological research also supports the contention that when an academic environment naturally supports students' self-concept, goal, and resource needs in these ways, they are likely to feel relatively unaware of themselves (being-cognition fluency) and their financial, nutritional, health, and safety needs (need-cognition fluency) in that environment, and that the actions that they perform there are autonomous and self-determined (motivational fluency). Such experiences have been shown to free up cognitive capacities required to perform well on complex academic tasks and to make their goal pursuit efforts feel "right," which both have positive implications for their academic experiences and outcomes.

Distinctions and Interconnections Between the Different Types of Fit

In line with the SAFE model (Schmader & Sedikides, 2018), the present model proposes that the four types of fit and fluency discussed are distinct psychological factors that provide unique contributions to students' experiences of belonging at school. As a result, the presence or absence of one type of fit in a student's academic environment is not necessarily diagnostic of the presence or absence of the other three types of fit in that environment. As an illustrative example, Schmader and Sedikides (2018) describe how "a conservative graduate student in a liberal academic environment might not experience subtle or explicit hostility from others (high social fit) but still might sense a mismatch of his values and core interests (low goal fit and self-concept fit)" (p. 233–234). As another example, Jack (2014, 2016, 2019) distinguished the university experiences of lower SES Black students who previously attended elite boarding, day, and preparatory high schools (the "privileged poor") from those of lower SES Black students who had attended their local, segregated, less well resourced high schools (the "doubly disadvantaged"). This work found that because the privileged poor acquired university-relevant cultural capital from their elite high schools, they experienced much more positive relationships with peers and professors (higher social fit) than their doubly disadvantaged peers. However, because both groups of students were more financially disadvantaged than the average student at their university, the privileged poor and

the doubly disadvantaged both experienced financial and food insecurity on campus (low resource fit).

Furthermore, research that has quantitatively measured these various forms of fit has found that they cluster separately from one another. For example, Aday and colleagues (2024) created explicit measures of self-concept, goal, and social fit and confirmed their distinctiveness using factor analyses. Similarly, Jansen and colleagues (2014) proposed a conceptual model of the construct of "inclusion," which they argued "is a hierarchical two-dimensional concept consisting of perceptions of belonging and authenticity." Critically, however, their measure of "authenticity" aligned with what the present model would classify as self-concept fit (e.g., "This group allows me to be who I am" and "This group allows me to present myself the way I am"), and in line with the present arguments regarding how belonging is typically measured in psychology, their measure of "belonging" assessed what the present model would classify as social fit (e.g., "This group treats me as an insider" and "This group likes me"). And further supporting the present model, these researchers found that these two constructs clustered separately from each other, and that each—both individually and in interaction with the other—contributed significantly to a number of important outcomes (e.g., mood, work satisfaction, performance).

While social, self-concept, goal, and resource fit are therefore both conceptually and practically distinct, it seems likely that many of them may regularly co-occur and influence one another, as conveyed by the arrows connecting the four fit boxes in Fig. 1. For example, in the studies discussed in the preceding paragraph, both Aday and colleagues (2024) and Jansen and colleagues (2014) noted strong correlations between their various fit-relevant measures, despite them clustering separately. And as a practical example, because colleges and universities were created to serve (and for a long time explicitly excluded those who were not) the children of middle- and upper-class White families, the social, self-concept, goal, and resource (e.g., financial, food, safety) norms and needs of this group have long been the defaults of the university world (Justice, 2023; Stephens et al., 2012). As a result, students whose backgrounds match this default are more likely to naturally experience all four types of fit on campus, because theirs are the norms and needs that the environment is already arranged to meet. By contrast, the less a student's background matches this default (e.g., those from groups that have historically been underrepresented in or even excluded from higher education), the less likely it is that the university will be naturally arranged to meet their basic financial, food, and safety needs (low resource fit), to support their connections to their valued identities (low self-concept fit), to allow them to engage in social behaviors without needing to navigate others' expectations or social constraints (low social fit), and to allow them to pursue their goals in their culturally preferred ways (low goal fit). Covarrubias (2024, p. 11) illustrates these dynamic in discussing how for many low-income, first-generation, and undocumented college students of color, "acceptance [in college] is contingent upon assimilating into dominant culture… and 'a separation from communities of the past,'" which is likely to produce experiences of self-concept non-fit. At the same time, despite their attempts at assimilation, "as students recognized they did not have the same fortunate circumstances as their affluent, White, and US-born peers, they viewed their college experience through the lens of responsibility. Students felt

responsible to take advantage of available opportunities, to not fail, to pay back the sacrifices their families made, and to give back to the community as a way to support similar others who were possibly not as 'lucky'" (p. 13). As discussed previously, such communal goals and prevention motivations typically do not align with those afforded by the American university culture, and therefore should result in experiences of goal non-fit. For a more extensive discussion of the distinctions and interconnections between the different types of fit, see work by Schmader and Sedikides (2018) and Aday and Schmader (2019).

Person–Environment Fit and Metacognitive Fluency Produce the Phenomenological Experience of Belonging

As shown in Fig. 1, the final element of the present model is the proposition that the extent to which a student experiences the four discussed types of fit and fluency in their school environment should determine whether or not they experience a sense of belonging in that environment. In other words, I propose that students' experiences of fit and fluency is what is being captured when students complete general questionnaire items or make general statements that "I belong at school."

Supporting this contention, in their research on the SAFE model, Aday and colleagues (2024) had university students complete direct measures of social fit (e.g., "Other students at [university name] do not judge me for being myself"), self-concept fit (e.g., "Just being at [university name] suits the way I see myself"), and goal fit (e.g., "I feel that [university name] is a place that allows me to realize my own goals"), as well as an "undifferentiated [i.e., non-specific and general] measure of belonging" (e.g., "I feel like I belong at [university name]"). In line with the present model, they found that each type of fit made unique, positive contributions to students' general feelings of belonging at school. This led them to conclude that "research on belonging might be enhanced by distinguishing fit stemming from social acceptance [i.e., social fit] from fit stemming from passive cues to the default self [i.e., self-concept fit] or from active engagement with valued goals [i.e., goal fit]" (p. 14). However, these findings are correlational in nature and thus cannot definitively determine the causal direction of the relationship between—and thus the order in which one experiences—these various phenomena. Future research should therefore seek to further test the nature of these interrelations, as very little research to date has measured the various proposed types of fit and fluency and a general sense of belonging.

Implications and Future Directions

I believe that shifting the field's conception of how students experience belonging from a narrow focus on social connections to include the multiple forms of fit outlined in the present model will provide a more fruitful future for research, in both theoretical and practical ways.

Theoretical Implications and Future Directions

Educational and social psychology research have predominantly focused on three categories of psychological factors—all discussed above—that are hypothesized to affect outcomes among students from systematically marginalized groups: social identity threat experiences at school (Schmader et al., 2008; Steele et al., 2002), culturally and identity-based goal mismatch experiences at school (Diekman et al., 2020; Stephens et al., 2012), and belonging uncertainty or lack of social belonging at school (Gray et al., 2018; Walton & Cohen, 2007). Notably, because they are hypothesized to influence students via distinct psychological mechanisms, researchers have largely studied these three factors separately. An important theoretical implication of the present model, then, is that it joins and extends the SAFE model in agreeing that each of these factors, as well as one other—the scarcity of resources needed to fulfill basic financial, nutritional, health, and safety needs (Mani et al., 2013; Shah et al., 2012; Wladis et al., 2024)—*distally* influence academic experiences and outcomes via distinct but ultimately related psychological mechanisms. Those mechanisms are being-cognition disfluency in the case of social identity threat experiences (self-concept non-fit), motivational disfluency in the case of goal mismatch experiences (goal non-fit), interpersonal disfluency in the case of belonging uncertainty or lack of social belonging at school, and need-cognition disfluency in the case of financial, nutritional, health, and safety resource scarcity (resource non-fit). Thus, the present model is novel in that it attempts to theoretically unify these generally separate areas of research by proposing that all four factors *proximally* contribute to academic disparities via the same mechanism: a sense of not belonging at school, which is brought on by one or more of these more distal disfluency experiences.

The present model also aligns with other contemporary perspectives on what elements are necessary for experiences of belonging to occur. In summarizing decades of research on belonging, K.-A. Allen, Kearn, and colleagues (2021b) have proposed that four components must be present a person to experience belonging. Specifically, they must (a) possess the *motivation* or fundamental need to belong, (b) be provided with *opportunities* to belong, (c) possess the *competencies* or skills needed to produce experiences of belonging, and (d) possess the cognitive feedback mechanisms needed to *perceive* and respond to the presence and absence of the experience of belonging. Notably, their original descriptions framed these components in terms of the antecedents and consequences of social fit, with motivation, opportunities, competencies, and perceptions described, respectively, as the "need to connect with others," "the availability of groups, people, places, times, and spaces that enable… opportunities to connect," "having a set of skills and abilities needed to connect… [and] relate with others," and "a person's subjective feelings and cognitions concerning… whether they belong or fit in with those around them" (Allen et al., 2021b, pp. 92–94). However, these components should also be relevant to self-concept fit, goal fit, resource fit, and their associated experiences of fluency. For example, as discussed, self-concept fit, goal fit, resource fit are assumed to emerge as a result of the school environment providing *opportunities* for students' valued identities, goals, and basic financial, nutritional, health, and safety needs to be supported and validated.

And just as people have cognitive feedback mechanisms for perceiving a lack of social connection (i.e., interpersonal disfluency; Leary, 2012), the present model and associated evidence suggest that people also have such mechanisms for perceiving that one's valued social identities being underrepresented, stereotyped as inferior, or otherwise devalued (i.e., being-cognition disfluency; e.g., Schmader et al., 2008), that their immediate financial, nutritional, health, safety, or other resource needs not being met (i.e., need-cognition disfluency; e.g., Shah et al., 2018), and that their personal goals and values not being supported or valued (i.e., motivational disfluency; e.g., Diekman et al., 2020). The present model therefore aligns with K.-A. Allen, Kearn, and colleagues' regarding the importance of these components, while also suggesting that motivations, opportunities, competencies, and perceptions of certain non-social factors are also critical to students' experiences of belonging.

The present arguments also have important implications for how students' experiences of belonging in school are conceptualized and, consequently, assessed. As discussed, psychological theory and research on belonging in school has focused primarily on social fit, with its evidence base coming largely from the use of quantitative measures that were often created by and validated on small, non-representative groups of researchers and participants, and without opportunities for other groups that are represented in the student population to challenge either the broader qualitative definition or the specific quantitative factor structure of belonging (Gray et al., 2018). However, as the qualitative research discussed in this article demonstrates, when more representative groups of students are asked what belonging means to them, different definitions—which align with self-concept, goal, and resource fit—emerge. This suggests that belonging in school likely does not have the same, entirely socially-based meaning to all students, and it is therefore unlikely that existing measures of belonging fully capture the extent to which all students feel like they belong at school. "Reimaging" belonging from a researcher-defined, top-down construct that is then imposed on various groups of students, to a bottom-up understanding that is based on what diverse groups of students say belonging actually means to them (DeCuir-Gunby & Schutz, 2014; Matthews & López, 2020) could lead to the development of definitions and measures of belonging in school that will better capture the totality of students' experiences when they state that they do or do not "belong at my school." An important avenue for future research, then, will be the development of methods for assessing students' sense of belonging in a more comprehensive way—one that accounts not only for their experiences of social fit, but also self-concept fit, goal fit, and resource fit.

To that end, SAFE model researchers recently created and validated novel direct measures of the three types of fit posited by the original model (Aday et al., 2024). However, as with many of the measures described previously in this article, the original pool of items used to create these measures appears to have been generated by a small number of the associated researchers, and then paired down and validated using predominantly White and Asian samples, without opportunities for members of other groups to contribute to item development or final item selection. Future research should therefore seek to validate or extend the novel SAFE model measures with more representative samples.

In addition, as discussed previously, experiences akin to goal fit and non-fit (e.g., goal congruity, regulatory fit, cultural mismatch) have historically not been directly measured, but indirectly inferred from participants' responses to matches and mismatches between a person's natural or experimentally-induced motivational preferences and the natural or experimentally-manipulated motivational affordances of a specific goal pursuit environment (e.g., Browman, 2025; Belanger et al., 2020; Diekman et al., 2010; Stephens et al., 2012). In addition, research on metamotivation suggests that people may not always have an explicit awareness of—and may therefore not be able to accurately identify and report about—the motivational demands or affordances of a given environment or task (Hubley et al., 2023; Murayama et al., 2016; Scholer & Miele, 2016). Further research is therefore needed to determine whether the SAFE model's (or other forthcoming) novel measure of goal fit can capture the specific kinds of goal fit and non-fit experiences that have been shown to be consequential for students' academic outcomes (e.g., goal congruity, regulatory fit, cultural mismatch).

Furthermore, because resource fit was not an original dimension of the SAFE model, no such direct measures have been designed. While other sources provide some potential candidates (e.g., Northern et al.'s [2010] measure of student financial stress; Trawalter et al.'s [2022] measure of perceived safety on campus; U.S. Department of Agriculture's [2023] measures of food security), future research seeking to design measures of belonging that fully align with the present model should beginning with qualitative interviews with representative samples to ensure that the resulting instrument centers students as the experts on their own identities, goal, and needs (DeCuir-Gunby & Schutz, 2014; Matthews & López, 2020).

As with state authenticity (see Footnote 3), and in line with K.-A. Allen, Kearn, and colleagues' (2021b) "perceptions" component described above, another assumption implicit in the present model is that there is a metacognitive prerequisite for these four types of fit to contribute to students' sense of belonging at school. Specifically, the student must have developed understandings of what their social fit needs, self-concept fit needs, goal fit needs, and resource fit needs are, or must at least be sensitive to when these needs are not met for them. Sensitivities to some of these factors are likely present from a very young age. For example, newborns are sensitive to hunger (McNally et al., 2016), and preschool children are sensitive to physical danger and social exclusion (Hill et al., 2000; Hwang & Markson, 2020). This suggests that social fit and resource fit might influence students' sense of belonging even in the very early years of schooling. By contrast, research suggests that understandings of their identities and goals likely do not crystallize until adolescence or early adulthood (Crone & Dahl, 2012; Harter, 2012). This suggests that self-concept fit and goal fit might not influence students' sense of belonging at school until middle or high school. Future research should therefore examine which age groups the present model of student belonging may and may not be applicable to, and thus at what ages each type of fit begins to impact students' sense of belonging at school.

Finally, this work suggests potential extensions to—and open questions about—previous research on the concept of state authenticity. As discussed, the present model draws heavily from the SAFE model of state authenticity (Schmader & Sedikides, 2018), which proposes the existence of three types of person–environment fit, which each facilitate a distinct experience of fluency required for a person

to feel "in alignment with one's true or genuine self" in that environment (Sedikides et al., 2017, p. 521). However, the present work suggests that these three types of fit and fluency, plus one additional type of each, also capture what students themselves say leads them to experience a sense of belonging at school. This raises important questions about the nature of state authenticity and its relation to the construct of belonging. Does state authenticity emerge more fully when self-concept fit, goal fit, social fit, *and resource fit* are afforded by an environment? Might our understanding of students' responses to general measures of belonging (e.g., "I feel like I belong at school") "be enhanced by distinguishing fit stemming from social acceptance [i.e., social fit] from fit stemming from passive cues to the default self [i.e., self-concept fit] or from active engagement with valued goals [i.e., goal fit]" or from having their basic financial, nutritional, health, and safety needs met (i.e., resource fit), as proponents of the SAFE model have proposed (Aday et al., 2024, p. 14)? And what can such analyses teach us about the similarities and differences between experiences of state authenticity and experiences of belonging (for related theorizing, see Covarrubias, 2024)? For example, some prior research has found that people's sense of state authenticity (e.g., "I felt like I could not be the 'real me'") is more strongly related to their responses on general, non-specific measures of belonging (e.g., "I felt like I didn't belong") than to measures of social connectedness specifically (e.g., "Others did things to reject me"; Slepian & Jacoby-Senghor, 2021). Future empirical examination of these questions will be essential for improving our understanding of the nature of the relationship between these constructs.

Practical Implications and Future Directions

In terms of practical benefits, the proposed model may improve researchers' and educators' understanding of and ability to intervene on educational disparities, in several ways. As discussed, promoting and maintaining students' sense of belonging in school has become a focal academic concern, especially with regard to students from systematically marginalized groups. To effectively address this goal, it is critical that researchers and educators who are working to design belonging-focused instructional practices, academic environments, and interventions are beginning their work with a definition of "belonging" that has both meaning to the students in question, and a body of research connecting the various elements of that definition to relevant psychological and academic outcomes. The present model does so, providing an expansive definition of how students' experiences of belonging that both reflects the voices of students from systematically marginalized groups, and that is grounded in education-relevant psychological theory (i.e., the SAFE model) and research (i.e., on social identity threat, cultural mismatch/goal incongruity, scarcity, social belonging, and state authenticity effects). Supporting this view, the examples highlighted in this article demonstrate that teachers and institutions can improve their students' feelings of belonging by leveraging techniques that can enhance their experiences of social, self-concept, goal, and resource fit at school. By contrast, if efforts to enhance these students' sense of belonging at school begin with the assumption that only the social elements of their school experiences are sufficient,

this will likely limit the extent to which such efforts will address the various components that contribute to students' comprehensive sense of belonging. This may help explain why existing indices of belonging do not always strongly—or even positively—predict important academic outcomes (for review, see Fong et al., 2024).

Another important benefit of conceptualizing students' experiences of belonging as including their sense that they can think and act in line with their valued identities, goals, and needs is that this perspective acknowledges that such experiences are dynamic and may change as either the student or the environment changes. For example, as discussed previously, a person must currently feel that they have a clear understanding of their true nature in order to determine whether they are currently able to think and act in alignment with who they truly are. Thus, as younger students begin to develop an initial understanding of their identities, goals, and need, or as older students' change with their experiences (Harter, 2012; Slotter & Emery, 2017), it should be expected that their sense of belonging will become and remain unclear until they are able to reestablish a clear understanding of who they are in each of these respects. In addition, a person must also feel that they have a clear understanding of their school environment in order to determine whether they are currently able to experience social, self-concept, goal, and resource fit in that setting. Thus, if their school environment changes, even if the changes are active efforts to improve students' senses of fit and belonging, positive effects might not be immediately evident because students will need to develop a new understanding of the ways in which they can and cannot comfortably think and act in that environment.

Finally, the SAFE model and my proposed extensions also provide a framework for understanding the specific *positive* psychological affordances academic environments often provide to students from historically *included* backgrounds. Specifically, the SAFE model argues that "when situations and environments are constructed or created with a certain kind of person as the default… one's identity," and the associated goals, needs, and social interaction styles, "does not need to be monitored, evaluated, managed, or verified to the same degree as if one has lower or devalued status" (Schmader & Sedikides, 2018, pp. 236–237). As a result, "the lack of identity awareness also means that those who are advantaged have difficulty recognizing that devalued identities create invisible barriers and disfluencies" (Aday & Schmader, 2019, p. 5). In other words, historically advantaged and disadvantaged students' distinct cognitive, motivational, and interpersonal experiences at school are not only consequential for their own academic outcomes. Rather, these distinct experiences may also result in an "asymmetry of awareness" (Aday & Schmader, 2019), whereby historically advantaged students' experiences of fluency, "rightness," and psychological unawareness in their school environment makes it easy for them to overlook or even downplay the idea that same environment might be experienced by others (i.e., students from systematically marginalized groups) as disfluent, psychologically threatening, or even overtly biased. Future work that seeks to increase awareness among advantaged group members of the structural inequities that exist in the environments and broader societies that they inhabit would benefit from an appreciation of roles of the four proposed forms of fluency in maintaining unawareness. This represents a further example of how a shift to this more expansive, student-centered

understanding of belonging, coupled with the psychological mechanisms posited by the SAFE model, could provide the foundation for an especially generative future for research on belonging in school.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s10648-025-10009-3.

Acknowledgements I would like to thank Ahana Nagarkatti, Nicole Pimentel, and Julia Biamonte for their assistance with the coding process.

Declarations

Conflict of Interest The author declares no competing interests.

References

Aday, A., & Schmader, T. (2019). Seeking authenticity in diverse contexts: How identities and environments constrain "free" choice. *Social and Personality Psychology Compass, 13*(6), e12450. https://doi.org/10.1111/spc3.12450

Aday, A., Guo, Y., Mehta, S., Chen, S., Hall, W., Götz, F. M., Sedikides, C., & Schmader, T. (2024). The SAFE model: State authenticity as a function of three types of fit. *Personality and Social Psychology Bulletin*, 01461672231223597. https://doi.org/10.1177/01461672231223597

Allen, J. M., Brown, E. R., Ginther, A., Graham, J. E., Mercurio, D., & Smith, J. L. (2021a). Nevertheless, she persisted (in science research): Enhancing women students' science research motivation and belonging through communal goals. *Social Psychology of Education, 24*(4), 939–964. https://doi.org/10.1007/s11218-021-09639-6

Allen, K.-A., Kern, M. L., Rozek, C. S., McInerney, D. M., & Slavich, G. M. (2021b). Belonging: A review of conceptual issues, an integrative framework, and directions for future research. *Australian Journal of Psychology*, 87–102. https://doi.org/10.1080/00049530.2021.1883409

Allen, K.-A., Slaten, C. D., Arslan, G., Roffey, S., Craig, H., & Vella-Brodrick, D. A. (2021c). School belonging: The importance of student and teacher relationships. In M. L. Kern & M. L. Wehmeyer (Eds.), *The Palgrave Handbook of Positive Education* (pp. 525–550). Palgrave Macmillan.

Allen, K.-A., Gray, D. L., Baumeister, R. F., & Leary, M. R. (2022). The need to belong: A deep dive into the origins, implications, and future of a foundational construct. *Educational Psychology Review*. https://doi.org/10.1007/s10648-021-09633-6

Association of American Universities. (2017). *Report on the AAU campus climate survey on sexual assault and misconduct*. Westat. https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Campus-Safety/Revised%20Aggregate%20report%20%20and%20appendices%201-7_(01-16-2020_FINAL).pdf

Baker, M. A., & Sgoutas-Emch, S. A. (2014). Evidence-based strategic planning: Using mixed methods and the social ecological model to target student financial stress. *College Student Affairs Journal, 32*(1), 113–128.

Baumeister, R. F. (2019). Stalking the true self through the jungles of authenticity: Problems, contradictions, inconsistencies, disturbing findings—and a possible way forward. *Review of General Psychology, 23*(1), 143–154. https://doi.org/10.1177/1089268019829472

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Beilock, S. L., Rydell, R. J., & McConnell, A. R. (2007). Stereotype threat and working memory: Mechanisms, alleviation, and spillover. *Journal of Experimental Psychology: General, 136*(2), 256–276. https://doi.org/10.1037/0096-3445.136.2.256

Belanger, A. L., Joshi, M. P., Fuesting, M. A., Weisgram, E. S., Claypool, H. M., & Diekman, A. B. (2020). Putting belonging in context: Communal affordances signal belonging in STEM. *Personality and Social Psychology Bulletin, 46*(8), 1186–1204. https://doi.org/10.1177/0146167219897181

Benet-Martínez, V., Leu, J., Lee, F., & Morris, M. W. (2002). Negotiating biculturalism: Cultural frame switching in biculturals with oppositional versus compatible cultural identities. *Journal of Cross-Cultural Psychology, 33*(5), 492–516. https://doi.org/10.1177/0022022102033005005

Bettencourt, G. M. (2021). "I belong because it wasn't made for me": Understanding working-class students' sense of belonging on campus. *The Journal of Higher Education, 92*(5), 760–783. https://doi.org/10.1080/00221546.2021.1872288

Bonilla, A., Schultz, P. W., Woodcock, A., & Hernandez, P. R. (2023). Diversifying STEM: Communal goal mismatch predicts student intentions. *Social Psychology of Education, 26*(2), 293–308. https://doi.org/10.1007/s11218-022-09750-2

Broton, K. M., & Goldrick-Rab, S. (2018). Going without: An exploration of food and housing insecurity among undergraduates. *Educational Researcher, 47*(2), 121–133. https://doi.org/10.3102/0013189X17741303

Broton, K. M., Mohebali, M., & Goldrick-Rab, S. (2023). Meal vouchers matter for academic attainment: A community college field experiment. *Educational Researcher, 52*(3), 155–163. https://doi.org/10.3102/0013189X231153131

Browman, A. S. (2025). *University students' sensitivity to their school's motivational affordances: The consequences for fit, motivation, and achievement*. [Manuscript in preparation]. Department of Psychology, College of the Holy Cross.

Browman, A. S., & Destin, M. (2016). The effects of a warm or chilly climate toward socioeconomic diversity on academic motivation and self-concept. *Personality and Social Psychology Bulletin, 42*(2), 172–187. https://doi.org/10.1177/0146167215619379

Browman, A. S., Destin, M., & Molden, D. C. (2017). Identity-specific motivation: How distinct identities direct self-regulation across distinct situations. *Journal of Personality and Social Psychology, 113*(6), 835–857. https://doi.org/10.1037/pspa0000095

Browman, A. S., Destin, M., Kearney, M. S., & Levine, P. B. (2019). How economic inequality shapes mobility expectations and behaviour in disadvantaged youth. *Nature Human Behaviour, 3*(3), 214–220. https://doi.org/10.1038/s41562-018-0523-0

Browman, A. S., Miele, D. B., Walton, G. M., & Dweck, C. S. (2025). *Contraction and expansion of the working self-concept under threat and self-affirmation: Evidence from daily diary studies*. [Manuscript in preparation]. Department of Psychology, College of the Holy Cross.

Cadinu, M., Maass, A., Rosabianca, A., & Kiesner, J. (2005). Why do women underperform under stereotype threat?: Evidence for the role of negative thinking. *Psychological Science, 16*(7), 572–578. https://doi.org/10.1111/j.0956-7976.2005.01577.x

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology, 70*(1), 141–156. https://doi.org/10.1037/0022-3514.70.1.141

Cesario, J., Higgins, E. T., & Scholer, A. A. (2008). Regulatory fit and persuasion: Basic principles and remaining questions. *Social and Personality Psychology Compass, 2*(1), 444–463. https://doi.org/10.1111/j.1751-9004.2007.00055.x

Cheung, H. Y., & Hui, S. K. F. (2003). Mainland immigrant and Hong Kong local students' psychological sense of school membership. *Asia Pacific Education Review, 4*(1), 67–74. https://doi.org/10.1007/BF03025553

Covarrubias, R. (2024). On being accepted: Interrogating how university cultural scripts shape personal and political facets of belonging. *Educational Psychology Review, 36*(4), 136. https://doi.org/10.1007/s10648-024-09970-2

Crone, E. A., & Dahl, R. E. (2012). Understanding adolescence as a period of social–affective engagement and goal flexibility. *Nature Reviews Neuroscience, 13*(9), 636–650. https://doi.org/10.1038/nrn3313

Day, J. K., Goldberg, A. E., Toomey, R. B., & Beemyn, G. (2022). Associations between trans-inclusive resources and feelings of inclusion in campus LGBTQ+ groups: Differences for trans students of color. *Psychology of Sexual Orientation and Gender Diversity*. https://doi.org/10.1037/sgd0000616

DeCuir-Gunby, J. T., & Schutz, P. A. (2014). Researching race within educational psychology contexts. *Educational Psychologist, 49*(4), 244–260. https://doi.org/10.1080/00461520.2014.957828

Destin, M., & Svoboda, R. C. (2018). Costs on the mind: The influence of the financial burden of college on academic performance and cognitive functioning. *Research in Higher Education, 59*(3), 302–324. https://doi.org/10.1007/s11162-017-9469-8

Diekman, A. B., Brown, E. R., Johnston, A. M., & Clark, E. K. (2010). Seeking congruity between goals and roles: A new look at why women opt out of science, technology, engineering, and mathematics careers. *Psychological Science, 21*(8), 1051–1057. https://doi.org/10.1177/0956797610377342

Diekman, A. B., Joshi, M. P., & Benson-Greenwald, T. M. (2020). Goal congruity theory: Navigating the social structure to fulfill goals. *Advances in Experimental Social Psychology, 62*, 189–244. https://doi.org/10.1016/bs.aesp.2020.04.003

Dittmann, A. G., Stephens, N. M., & Townsend, S. S. M. (2020). Achievement is not class-neutral: Working together benefits people from working-class contexts. *Journal of Personality and Social Psychology*. http://dx.doi.org.proxy.bc.edu/https://doi.org/10.1037/pspa0000194

Dynarski, S., Libassi, C. J., Michelmore, K., & Owen, S. (2021). Closing the gap: The effect of reducing complexity and uncertainty in college pricing on the choices of low-income students. *American Economic Review, 111*(6), 1721–1756. https://doi.org/10.1257/aer.20200451

Edwards, E. C. (2021). Centering race to move towards an intersectional ecological framework for defining school safety for black students. *School Psychology Review, 50*(2–3), 254–273. https://doi.org/10.1080/2372966X.2021.1930580

English, T., & Chen, S. (2011). Self-concept consistency and culture: The differential impact of two forms of consistency. *Personality and Social Psychology Bulletin, 37*(6), 838–849. https://doi.org/10.1177/0146167211400621

Faircloth, B. S. (2009). Making the most of adolescence: Harnessing the search for identity to understand classroom belonging. *Journal of Adolescent Research, 24*(3), 321–348. https://doi.org/10.1177/0743558409334248

Fernández, D. P., Ryan, M. K., & Begeny, C. T. (2023). Recognizing the diversity in how students define belonging: Evidence of differing conceptualizations, including as a function of students' gender and socioeconomic background. *Social Psychology of Education, 26*(3), 673–708. https://doi.org/10.1007/s11218-023-09761-7

Fong, C. J., Adelugba, S. F., Garza, M., Pinto, G. L., Gonzales, C., Zarei, P., & Rozek, C. S. (2024). A scoping review of the associations between sense of belonging and academic outcomes in postsecondary education. *Educational Psychology Review, 36*(4), 138. https://doi.org/10.1007/s10648-024-09974-y

Foy, P. (2019). *Post-secondary students with disabilities share stories of belonging* [University of Calgary]. https://prism.ucalgary.ca/server/api/core/bitstreams/6d1e0414-b7e2-440c-898c-99021f92e9cf/content

Freeman, T. M., Anderman, L. H., & Jensen, J. M. (2007). Sense of belonging in college freshmen at the classroom and campus levels. *The Journal of Experimental Education, 75*(3), 203–220. https://doi.org/10.3200/JEXE.75.3.203-220

Freitas, A. L., & Higgins, E. T. (2002). Enjoying goal-directed action: The role of regulatory fit. *Psychological Science, 13*(1), 1–6. https://doi.org/10.1111/1467-9280.00401

Gaddis, S. M., Ramirez, D., & Hernandez, E. L. (2018). Contextualizing public stigma: Endorsed mental health treatment stigma on college and university campuses. *Social Science & Medicine, 197*, 183–191. https://doi.org/10.1016/j.socscimed.2017.11.029

Gahan, E., Farooqui, S., & Leung, C. W. (2022). "You feel out of place": A PhotoVoice study of the impact of food insecurity on college students. *Health Equity, 6*(1), 595–602. https://doi.org/10.1089/heq.2022.0067

Gan, M., & Chen, S. (2017). Being your actual or ideal self? What it means to feel authentic in a relationship. *Personality and Social Psychology Bulletin, 43*(4), 465–478. https://doi.org/10.1177/0146167216688211

Georgia State University. (2024). *Keep HOPE alive*. Student Success Programs. https://web.archive.org/web/20240327191538/https://success.gsu.edu/initiatives/keep-hope-alive/

Goldrick-Rab, S., Hernandez, D., Coca, V., Williams, T., & Richardson, B. (2020). *Houston food scholarship program report*. Hope Center for College, Community, and Justice.

Good, C., Rattan, A., & Dweck, C. S. (2012). Why do women opt out? Sense of belonging and women's representation in mathematics. *Journal of Personality and Social Psychology, 102*(4), 700–717. https://doi.org/10.1037/a0026659

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*(1), 79–90. https://doi.org/10.1002/1520-6807(199301)30:1%3c79::AID-PITS2310300113%3e3.0.CO;2-X

Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education, 62*(1), 60–71. https://doi.org/10.1080/00220973.1993.9943831

Graham, S. (1992). "Most of the subjects were White and middle class": Trends in published research on African Americans in selected APA journals, 1970–1989. *American Psychologist, 47*(5), 629.

Gray, D. L., Ali, J. N., McElveen, T. L., & Sealy, M. (2022). The cultural significance of "we-ness": Motivationally influential practices rooted in a scholarly agenda on black education. *Educational Psychology Review*. https://doi.org/10.1007/s10648-022-09708-y

Gray, D. L., Hope, E. C., & Matthews, J. S. (2018). Black and belonging at school: A case for interpersonal, instructional, and institutional opportunity structures. *Educational Psychologist, 53*(2), 97–113. https://doi.org/10.1080/00461520.2017.1421466

Hagborg, W. J. (1994). An exploration of school membership among middle- and high-school students. *Journal of Psychoeducational Assessment, 12*(4), 312–323. https://doi.org/10.1177/073428299401200401

Hall, W. M., Schmader, T., & Croft, E. (2015). Engineering exchanges: Daily social identity threat predicts burnout among female engineers. *Social Psychological and Personality Science, 6*(5), 528–534. https://doi.org/10.1177/1948550615572637

Harter, S. (2012). Emerging self-processes during childhood and adolescence. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 680–715). The Guilford Press.

Herrmann, S. D., & Varnum, M. E. W. (2018). Integrated social class identities improve academic performance, well-being, and workplace satisfaction. *Journal of Cross-Cultural Psychology*, 002202211876110. https://doi.org/10.1177/0022022118761107

Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52*(12), 1280–1300. https://doi.org/10.1037/0003-066X.52.12.1280

Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist, 55*(11), 1217–1230. https://doi.org/10.1037/0003-066X.55.11.1217

Hill, R., Lewis, V., & Dunbar, G. (2000). Young children's concepts of danger. *British Journal of Developmental Psychology, 18*(1), 103–119. https://doi.org/10.1348/026151000165607

Hubley, C., Edwards, J., Miele, D. B., & Scholer, A. A. (2023). Metamotivational beliefs about intrinsic and extrinsic motivation. *Journal of Personality and Social Psychology, No Pagination Specified-No Pagination Specified.* https://doi.org/10.1037/pspa0000362

Hwang, H. G., & Markson, L. (2020). The development of social exclusion detection in early childhood: Awareness of social exclusion does not always align with social preferences. *Journal of Cognition and Development : Official Journal of the Cognitive Development Society, 21*(2), 166–190. https://doi.org/10.1080/15248372.2019.1706521

Idehai, O. V., Mbaya, P., Chung, T., & Bhurosy, T. (2024). A systematic review of factors associated with student use of campus food pantries: Implications for addressing barriers and facilitating use. *BMC Public Health, 24*(1), 97. https://doi.org/10.1186/s12889-023-17583-7

Jack, A. A. (2014). Culture shock revisited: The social and cultural contingencies to class marginality. *Sociological Forum, 29*(2), 453–475. https://doi.org/10.1111/socf.12092

Jack, A. A. (2016). (No) harm in asking: Class, acquired cultural capital, and academic engagement at an elite university. *Sociology of Education, 89*(1), 1–19. https://doi.org/10.1177/0038040715614913

Jack, A. A. (2019). The privileged poor: How elite colleges are failing disadvantaged students. *Harvard University Press*. https://doi.org/10.4159/9780674239647

Jansen, W. S., Otten, S., van der Zee, K. I., & Jans, L. (2014). Inclusion: Conceptualization and measurement. *European Journal of Social Psychology, 44*(4), 370–385. https://doi.org/10.1002/ejsp.2011

Jongman-Sereno, K. P., & Leary, M. R. (2019). The enigma of being yourself: A critical examination of the concept of authenticity. *Review of General Psychology, 23*(1), 133–142. https://doi.org/10.1037/gpr0000157

Justice, B. (2023). Schooling as a White good. *History of Education Quarterly, 63*(2), 154–178. https://doi.org/10.1017/heq.2023.7

Kernis, M. H., spsampsps Goldman, B. M. (2006). A multicomponent conceptualization of authenticity: Theory and research. In *Advances in Experimental Social Psychology* (Vol. 38, pp. 283–357). Elsevier. https://doi.org/10.1016/S0065-2601(06)38006-9

Knekta, E., Chatzikyriakidou, K., & McCartney, M. (2020). Evaluation of a questionnaire measuring university students' sense of belonging to and involvement in a biology department. *CBE—Life Sciences Education*, *19*(3), ar27. https://doi.org/10.1187/cbe.19-09-0166

Knoll, M., Meyer, B., Kroemer, N. B., & Schröder-Abé, M. (2015). It takes two to be yourself: An integrated model of authenticity, its measurement, and its relationship to work-related variables. *Journal of Individual Differences, 36*(1), 38–53. https://doi.org/10.1027/1614-0001/a000153

Leary, M. R. (2012). Sociometer Theory. In P. A. M. Van Lange, E. T. Higgins, spsampsps A. W. Kruglanski (Eds.), *Handbook of Theories of Social Psychology* (Vol. 2, pp. 141–159). SAGE Publications Ltd. https://www.torrossa.com/en/resources/an/5017495

Lenton, A. P., Bruder, M., Slabu, L., & Sedikides, C. (2013). How does "being real" feel? The experience of state authenticity. *Journal of Personality, 81*(3), 276–289. https://doi.org/10.1111/j.1467-6494.2012.00805.x

López, F., Rivas-Drake, D., Serrano, E., & Delcid, G. (2025). The role of asset-based pedagogy in promoting belonging and ethnic-racial identity among Latine students. *Educational Psychology Review, 37*(1), 16. https://doi.org/10.1007/s10648-025-09992-4

Lu, A. (2023, February 13). *Everyone is talking about 'belonging,' but what does it really mean?* The Chronicle of Higher Education. https://www.chronicle.com/article/everyone-is-talking-about-belonging

Maghsoodi, A. H., Ruedas-Gracia, N., & Jiang, G. (2023). Measuring college belongingness: Structure and measurement of the Sense of Social Fit Scale. *Journal of Counseling Psychology, No Pagination Specified-No Pagination Specified.* https://doi.org/10.1037/cou0000668

Mahar, A. L., Cobigo, V., & Stuart, H. (2014). Comments on measuring belonging as a service outcome. *Journal on Developmental Disabilities, 20*(2), 20–33.

Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science, 341*(6149), 976–980. https://doi.org/10.1126/science.1238041

Marchel, C., & Owens, S. (2007). Qualitative research in psychology: Could William James get a job? *History of Psychology, 10*(4), 301–324. https://doi.org/10.1037/1093-4510.10.4.301

Maslow, A. H. (1961). Peak experiences as acute identity experiences. *The American Journal of Psychoanalysis, 21*(2), 254–262. https://doi.org/10.1007/BF01873126

Matthews, J. S., Gray, D. L., Lachaud, Q., McElveen, T. L., Chen, X.-Y., Victor, T., Okai, E., Boomhower, K., Wu, J., & Cha, E. (2021). Belonging-centered instruction: An observational approach toward establishing inclusive mathematics classrooms. *PsyArXiv*. https://doi.org/10.31219/osf.io/n7bv2

Matthews, J. S., & López, F. (2020). Race-reimaging educational psychology research: Investigating constructs through the lens of race and culture. *Contemporary Educational Psychology, 61*, 101878. https://doi.org/10.1016/j.cedpsych.2020.101878

McCarthey, S. J., & Moje, E. B. (2002). Identity matters. *Reading Research Quarterly, 37*(2), 228–238. https://doi.org/10.1598/RRQ.37.2.6

McNally, J., Hugh-Jones, S., Caton, S., Vereijken, C., Weenen, H., & Hetherington, M. (2016). Communicating hunger and satiation in the first 2 years of life: A systematic review. *Maternal & Child Nutrition, 12*(2), 205–228. https://doi.org/10.1111/mcn.12230

Meza, A., Altman, E., Martinez, S., & Leung, C. W. (2019). "It's a feeling that one is not worth food": A qualitative study exploring the psychosocial experience and academic consequences of food insecurity among college students. *Journal of the Academy of Nutrition and Dietetics, 119*(10), 1713-1721.e1. https://doi.org/10.1016/j.jand.2018.09.006

Moje, E. B. (2000). "To be part of the story": The literacy practices of Gangsta adolescents. *Teachers College Record, 102*(3), 651–690.

Muraki, E. J., Atay, E. J., Chadwick, L., Van Der Wijk, G., Mori, C. M., Murry, A. T., & Exner-Cortens, D. (2024). Affinity and allyship groups to advance inclusion in postsecondary institutions:

A systematic scoping review. *Journal of Diversity in Higher Education*. https://doi.org/10.1037/dhe0000543

Murayama, K., Kitagami, S., Tanaka, A., & Raw, J. A. L. (2016). People's naiveté about how extrinsic rewards influence intrinsic motivation. *Motivation Science, 2*(3), 138–142. https://doi.org/10.1037/mot0000040

Northern, J. J., O'Brien, W. H., & Goetz, P. W. (2010). The development, evaluation, and validation of a financial stress scale for undergraduate students. *Journal of College Student Development, 51*(1), 79–92.

O'Farrell, S. L., & Morrison, G. M. (2003). A factor analysis exploring school bonding and related constructs among upper elementary students. *The California School Psychologist, 8*(1), 53–72. https://doi.org/10.1007/BF03340896

OECD. (2018). *Sense of belonging at school*. https://www.oecd-ilibrary.org/sites/d69dc209-en/index.html?itemId=/content/component/d69dc209-en

Parsons, J., McColl, M. A., Martin, A. K., & Rynard, D. W. (2021). Accommodations and academic performance: First-year university students with disabilities. *Canadian Journal of Higher Education / Revue Canadienne d'enseignement Supérieur*, *51*(1), 41–56. https://doi.org/10.47678/cjhe.vi0.188985

Rivera, G. N., Christy, A. G., Kim, J., Vess, M., Hicks, J. A., & Schlegel, R. J. (2019). Understanding the relationship between perceived authenticity and well-being. *Review of General Psychology, 23*(1), 113–126. https://doi.org/10.1037/gpr0000161

Roberts, L. D., & Povee, K. (2014). A brief measure of attitudes towards qualitative research in psychology. *Australian Journal of Psychology, 66*(4), 249–256. https://doi.org/10.1111/ajpy.12059

Roberts, S. O., & Mortenson, E. (2023). Challenging the white = neutral framework in psychology. *Perspectives on Psychological Science, 18*(3), 597–606. https://doi.org/10.1177/17456916221077117

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 11.

Sable, M. R., Danis, F., Mauzy, D. L., & Gallagher, S. K. (2006). Barriers to reporting sexual assault for women and men: Perspectives of college students. *Journal of American College Health, 55*(3), 157–162. https://doi.org/10.3200/JACH.55.3.157-162

Schlegel, R. J., & Hicks, J. A. (2011). The true self and psychological health: Emerging evidence and future directions. *Social and Personality Psychology Compass, 5*(12), 989–1003. https://doi.org/10.1111/j.1751-9004.2011.00401.x

Schlegel, R. J., Hicks, J. A., Arndt, J., & King, L. A. (2009). Thine own self: True self-concept accessibility and meaning in life. *Journal of Personality and Social Psychology, 96*(2), 473–490. https://doi.org/10.1037/a0014060

Schmader, T. (2010). Stereotype threat deconstructed. *Current Directions in Psychological Science, 19*(1), 14–18. https://doi.org/10.1177/0963721409359292

Schmader, T., & Johns, M. (2003). Converging evidence that stereotype threat reduces working memory capacity. *Journal of Personality and Social Psychology, 85*(3), 440–452. https://doi.org/10.1037/0022-3514.85.3.440

Schmader, T., Johns, M., & Forbes, C. (2008). An integrated process model of stereotype threat effects on performance. *Psychological Review, 115*(2), 336–356. https://doi.org/10.1037/0033-295X.115.2.336

Schmader, T., & Sedikides, C. (2018). State authenticity as fit to environment: The implications of social identity for fit, authenticity, and self-segregation. *Personality and Social Psychology Review, 22*(3), 228–259. https://doi.org/10.1177/1088868317734080

Scholer, A. A., & Miele, D. B. (2016). The role of metamotivation in creating task-motivation fit. *Motivation Science, 2*(3), 171–197. https://doi.org/10.1037/mot0000043

Sedikides, C., Lenton, A. P., Slabu, L., & Thomaes, S. (2019). Sketching the contours of state authenticity. *Review of General Psychology, 23*(1), 73–88. https://doi.org/10.1037/gpr0000156

Sedikides, C., Slabu, L., Lenton, A., & Thomaes, S. (2017). State authenticity. *Current Directions in Psychological Science, 26*(6), 521–525. https://doi.org/10.1177/0963721417713296

Shah, A. K., Mullainathan, S., & Shafir, E. (2012). Some consequences of having too little. *Science, 338*(6107), 682–685. https://doi.org/10.1126/science.1222426

Shah, A. K., Zhao, J., Mullainathan, S., & Shafir, E. (2018). Money in the mental lives of the poor. *Social Cognition, 36*(1), 4–19. https://doi.org/10.1521/soco.2018.36.1.4

Sheldon, K. M., & Bettencourt, B. A. (2002). Psychological need-satisfaction and subjective well-being within social groups. *British Journal of Social Psychology, 41*(1), 25–38. https://doi.org/10.1348/014466602165036

Sheldon, K. M., & Hilpert, J. C. (2012). The balanced measure of psychological needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion, 36*(4), 439–451. https://doi.org/10.1007/s11031-012-9279-4

Shelton, J. N., Richeson, J. A., & Salvatore, J. (2005). Expecting to be the target of prejudice: Implications for interethnic interactions. *Personality and Social Psychology Bulletin, 31*(9), 1189–1202. https://doi.org/10.1177/0146167205274894

Slepian, M. L., & Jacoby-Senghor, D. S. (2021). Identity threats in everyday life: Distinguishing belonging from inclusion. *Social Psychological and Personality Science, 12*(3), 392–406. https://doi.org/10.1177/1948550619895008

Slotter, E. B., spsampsps Emery, L. F. (2017). Self-concept clarity and social role transitions. In J. Lodi-Smith spsampsps K. G. DeMarree (Eds.), *Self-concept clarity: Perspectives on assessment, research, and applications* (pp. 85–106). Springer International Publishing. https://doi.org/10.1007/978-3-319-71547-6_5

Smith, J. L., Cech, E., Metz, A., Huntoon, M., & Moyer, C. (2014). Giving back or giving up: Native American student experiences in science and engineering. *Cultural Diversity and Ethnic Minority Psychology, 20*(3), 413–429. https://doi.org/10.1037/a0036945

Steele, C. M., Spencer, S. J., spsampsps Aronson, J. (2002). Contending with group image: The psychology of stereotype and social identity threat. In *Advances in Experimental Social Psychology* (Vol. 34, pp. 379–440). https://doi.org/10.1016/S0065-2601(02)80009-0

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology, 102*(6), 1178–1197. https://doi.org/10.1037/a0027143

Tine, M., & Gotlieb, R. (2013). Gender-, race-, and income-based stereotype threat: The effects of multiple stigmatized aspects of identity on math performance and working memory function. *Social Psychology of Education, 16*(3), 353–376. https://doi.org/10.1007/s11218-013-9224-8

Townsend, S. S. M., Stephens, N. M., & Hamedani, M. G. (2021). Difference-education improves first-generation students' grades throughout college and increases comfort with social group difference. *Personality and Social Psychology Bulletin*, 0146167220982909. https://doi.org/10.1177/0146167220982909

Townsend, S. S. M., Stephens, N. M., Smallets, S., & Hamedani, M. G. (2019). Empowerment through difference: An online difference-education intervention closes the social class achievement gap. *Personality and Social Psychology Bulletin, 45*(7), 1068–1083. https://doi.org/10.1177/0146167218804548

Trawalter, S., Doleac, J., Palmer, L., Hoffman, K., & Carter-Sowell, A. (2022). Women's safety concerns and academia: How safety concerns can create opportunity gaps. *Social Psychological and Personality Science, 13*(2), 403–415. https://doi.org/10.1177/19485506211035924

Trawalter, S., Hoffman, K., & Palmer, L. (2021). Out of place: Socioeconomic status, use of public space, and belonging in higher education. *Journal of Personality and Social Psychology, 120*(1), 131–144. https://doi.org/10.1037/pspi0000248

U.S. Department of Agriculture. (2022). *Food security in the U.S.* Economic Research Service. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/

U.S. Department of Agriculture. (2023). *USDA food security survey modules*. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/survey-tools/#six

University Innovation Alliance. (2022). *Collaborative project goal: Predictive analytics*. https://web.archive.org/web/20221025065345/https://theuia.org/sites/default/files/2020-08/UIA_predictive_onepagers.pdf

Urdan, T., & Kaplan, A. (2020). The origins, evolution, and future directions of achievement goal theory. *Contemporary Educational Psychology, 61*, 101862. https://doi.org/10.1016/j.cedpsych.2020.101862

Wallace, T. L., Ye, F., & Chhuon, V. (2012). Subdimensions of adolescent belonging in high school. *Applied Developmental Science, 16*(3), 122–139. https://doi.org/10.1080/10888691.2012.695256

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology, 92*(1), 82–96. https://doi.org/10.1037/0022-3514.92.1.82

Watson, T., Malan, H., Glik, D., & Martinez, S. (2017). College students identify university support for basic needs and life skills as key ingredient in addressing food insecurity on campus. *California Agriculture, 71*(3), 130–138.

Williams, K. D. (2009). Ostracism: A temporal need-threat model. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 41, pp. 275–314). Academic Press. https://doi.org/10.1016/S0065-2601(08)00406-1

Wladis, C., Fay, M. P., & Hachey, A. C. (2024). The holistic capital model: Time and body capital as sources of inequity. *AERA Open, 10*, 23328584241255624. https://doi.org/10.1177/23328584241255626

Ye, F., & Wallace, T. L. (2014). Psychological sense of school membership scale: Method effects associated with negatively worded items. *Journal of Psychoeducational Assessment, 32*(3), 202–215. https://doi.org/10.1177/0734282913504816

You, S., Ritchey, K. M., Furlong, M. J., Shochet, I., & Boman, P. (2011). Examination of the latent structure of the psychological sense of school membership scale. *Journal of Psychoeducational Assessment, 29*(3), 225–237. https://doi.org/10.1177/073428291037996

Appendix

Complete Content Coding Procedures

Each of the 70 items taken from the 8 prominent quantitative measures of belonging was categorized by the author and three research assistants as measuring either social fit, self-concept fit, goal fit, resource fit, or general, non-specific feelings of fit, using the following instructions: "For each questionnaire item, choose the 1 category that best describes it." In line with the definitions provided in Figure 1, an item was categorized as measuring social fit if it "Assesses the degree to which a student feels that teachers or other students at their school *socially* accept, value, and include them and others with their identities, goals, and needs." An item was categorized as assessing self-concept fit if it "Assesses the degree to which a student feels that their academic environment and those in it naturally support their ability to enact their most valued identities, without arousing a sense of friction or threat." An item was categorized as measuring goal fit if it "Assesses the degree to which a student feels that their academic environment's structures and norms support their personal goals and values." An item was categorized as measuring resource fit if it "Assesses the degree to which a students feels that academic institution provides them with sufficient financial, nutritional, and physical and mental health and safety resources (so that during the time that they are meant to be engaged in schoolwork, they do not have to spend excessive time or mental effort tending to their financial, nutritional, and physical and mental health and safety needs)." Finally, an item was categorized as measuring "general/non-specific fit" if it "Only assesses the degree to which a student feels that they 'belong' or are 'included' in a very general sense, not whether they feel socially included by others, that are supported in enacting their most valued identities, that their personal goals and values are supported, or that their financial, nutritional, and physical and mental health

and safety needs are supported." Final codings were determined based on the majority's judgment, and ties were resolved via discussion. See Table S1 for coders' individual responses to each item.

Table S1. Popular Measures of Belonging, Individual Codes Selected by Each Coders, and Final Codes

Item	General/non-specific fit	Social fit	Self-concept fit	Goal fit	Resource fit
Psychological Sense of School Membership Scale (Goodenow, 1993)					
1) I feel like a real part of [school name].	A, RA1, RA3	RA2			
2) People here notice when I'm good at something.		A, RA1, RA2		RA3	
3) It is hard for people like me to be accepted here. (R)		RA1	A, RA2, RA3		
4) Other students in this school take my opinions seriously.		A, RA2, RA3	RA1		
5) Most teachers at [school name] are interested in me.	RA3	A, RA1, RA2			
6) Sometimes I feel as if I don't belong here. (R)	A, RA1, RA2, RA3				
7) There's at least one teacher or other adult in this school I can talk to if I have a problem.		A			RA1, RA2, RA3
8) People at this school are friendly to me.	RA2	A, RA1, RA3			
9) Teachers here are not interested in people like me. (R)		A, RA1, RA2, RA3			
10) I am included in lots of activities at [school name].	A	RA1, RA2, RA3			
11) I am treated with as much respect as other students.	RA2	A, RA1, RA3			
12) I feel very different from most other students here. (R)	A, RA2	RA1, RA3			
13) I can really be myself at this school.	RA1, RA2		A, RA3		
14) The teachers here respect me.	RA2	A, RA1, RA3			
15) People here know I can do good work.		A		RA1, RA2, RA3	
16) I wish I were in a different school. (R)	A, RA1, RA3			RA2	

17) I feel proud of belonging to [school name].	A, RA1, RA2, RA3				
18) Other students here like me the way I am.		A, RA1, RA2, RA3			
Sense of Social Fit Scale (Walton & Cohen, 2007)					
1) People at [school name] accept me.	RA3	A, RA1, RA2			
2) I feel like an outsider at [school name]. (R)	A, RA1, RA2	RA3			
3) Other people understand more than I do about what is going on at [school name]. (R)	A, RA1, RA2, RA3				
4) I think in the same way as do people who do well at [school name].	A, RA2, RA3			RA1	
5) It is a mystery to me how [school name] works. (R)	A			RA1, RA2, RA3	
6) I feel alienated from [school name]. (R)	A, RA2	RA3			RA1
7) I fit in well at [school name].	A	RA1,RA2, RA3			
8) I am similar to the kind of people who succeed at [school name].			RA1	A, RA2, RA3	
9) I know what kind of people [school name] professors are.	A, RA1, RA2, RA3				
10) I get along well with people at [school name].		A, RA1, RA2, RA3			
11) I belong at [school name].	A, RA1, RA3	RA2			
12) I know how to do well at [school name].				A, RA1, RA2 RA3	
13) I do not know what I would need to do to make a [school name] professor like me. (R)		A, RA1, RA3			RA2
14) I feel comfortable at [school name].	A, RA2, RA3				RA1
15) People at [school name] like me.		A, RA1, RA2, RA3			
16) If I wanted to, I could potentially do very well at [school name].			RA2	A, RA1, RA3	

17) People at [school name] are a lot like me.		RA1, RA3	A, RA2		
Belonging Uncertainty Scale (Walton & Cohen, 2007)					
1) Sometimes I feel that I belong at [school name], and sometimes I feel that I don't belong.	A, RA1, RA2 RA3				
2) When something bad happens, I feel that maybe I don't belong at [school name].	A, RA1, RA2 RA3				
3) When something good happens, I feel that I really belong at [school name].	A, RA1, RA2 RA3				
Membership & Acceptance subscales of the Math Sense of Belonging Scale (Good et al., 2012): "When I am in [a math setting / school name]…"					
1) I feel that I belong to the [math / school name] community.	A, RA1, RA2 RA3				
2) I consider myself a member of [the math world / school name].	A, RA1, RA2 RA3				
3) I feel like I am part of the [math / school name] community.	A, RA2 RA3	RA1			
4) I feel a connection with the [math / school name] community.	A, RA2 RA3	RA1			
5) I feel accepted.		A, RA1, RA2 RA3			
6) I feel respected.		A, RA1, RA2 RA3			
7) I feel valued.		A, RA1, RA2 RA3			
8) I feel appreciated.		A, RA1, RA2 RA3			
9) I feel disregarded. (R)		A, RA1, RA2 RA3			
10) I feel neglected. (R)		A, RA2 RA3	RA1		
11) I feel excluded. (R)		A, RA1, RA2 RA3			
12) I feel insignificant. (R)	A, RA1, RA2 RA3				
Programme for International Student Assessment's (PISA) Students' Sense of Belonging Scale (OECD, 2018b)					

1) I feel like an outsider at school. (R)	A, RA2	RA1, RA3			
2) I make friends easily at school.		A, RA1, RA2, RA3			
3) I feel like I belong at school.	A, RA1	RA2, RA3			
4) I feel awkward and out of place in my school. (R)	A, RA2	RA1, RA3			
5) Other students seem to like me.		A, RA1, RA3	RA2		
6) I feel lonely at school. (R)		A, RA2, RA3			RA1
Belonging subscale of the Need Satisfaction Index (Williams, 2009)					
1) I felt "disconnected." (R)	A, RA2	RA3			RA1
2) I felt rejected. (R)	RA2	A, RA1, RA3			
3) I felt like an outsider. (R)	A, RA1, RA2	RA3			
4) I felt I belonged to the group.	A, RA2	RA1, RA3			
5) I felt the other players interacted with me a lot.	RA2	A, RA1, RA3			
Relatedness subscale of the Balanced Measure of Psychological Needs Scale (Sheldon & Hilpert, 2012)					
1) I felt a sense of contact with people who care for me, and whom I care for.		A, RA1, RA2, RA3			
2) I was lonely. (R)		A, RA1, RA2, RA3			
3) I felt close and connected with other people who are important to me.		A, RA1, RA2, RA3			
4) I felt unappreciated by one or more important people. (R)		A, RA1, RA2, RA3			
5) I felt a strong sense of intimacy with the people I spent time with.		A, RA1, RA2, RA3			
6) I had disagreements or conflicts with people I usually get along with. (R)		A, RA1, RA2 RA3			

Group Inclusion subscale of Sheldon & B. A. Bettencourt's (2002) Need-Satisfaction measure					
1) To what extent do you feel included in this group?	RA1	A, RA2, RA3			
2) To what extent do you feel well integrated into this group?	A, RA1	RA2, RA3			
3) To what extent do you feel a sense of belongingness with this group?	A, RA1, RA2, RA3				
Total for final codes (out of 70 items)	28	33	3	5	1

Note. R = reverse-scored; A = author's initial code; RA1-RA3 = research assistant 1, 2, and 3's initial codes; highlighted cells = final code following discussion.