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REVIEW ARTICLE

Student Engagement: Current State of the Construct, Conceptual Refinement, and Future Research Directions

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Abstract

Notwithstanding its crucial role in facilitating desired outcomes of schooling, educational psychology researchers have recognized the conceptual haziness of student engagement as a multidimensional construct. With the main purpose of refining its conceptual definition, this paper aims to attain the following four goals. First, we seek to highlight theoretical, conceptual, and operational concerns about the student engagement construct, and synthesize these concerns into four related areas: overgeneralization, jingle-jangle fallacies, object ambiguity, and under-theorization. Second, we conduct a comprehensive review of prevailing perspectives on student engagement and critically examine their strengths and limitations. Building upon such extant models, third, we offer the Dual Component Framework of Student Engagement, which differentiates learning engagement from school engagement, and articulates the conceptual definition and scope, as well as the objects and dimensions, of the two engagement constructs. Lastly, we underscore the theoretical, research, and applied implications of the proposed framework in advancing the field of student engagement.

Keywords Student engagement · Learning engagement · School engagement · Learning activities · School community

In recent years, the construct of student engagement has gained substantial attention in education research, policy, and practice (Fredricks et al., 2016a). This is perhaps due to its reported associations with desired scholastic and non-scholastic outcomes, such as academic achievement (Reyes et al., 2012), school completion (Archambault et al., 2009), and physical and psychological well-being (Steele and Fullagar, 2009). Considering the myriad benefits of student engagement, many academic journals like *Educational Psychologist* (2015, volume 50, issue 1), *Learning and Instruction* (2016, volume 43), and *School Psychology*

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International (2017, volume 38, issue 2) have dedicated a special issue to discuss this topic of interest. Further, two handbooks—the *Handbook of Research on Student Engagement* (Christenson et al., 2012) and *Handbook of Student Engagement Interventions* (Fredricks et al., 2019)—have also been published to showcase a range of student engagement research and practices in the literature.

Despite the growing amount of research generated, many scholars have raised their concerns about the conceptual haziness of the construct (Appleton et al., 2008; Azevedo, 2015; Reschly and Christenson, 2012). The problem of conceptual haziness can be further dissected into four different but inter-related issues, namely overgeneralization, jingle-jangle fallacies, object ambiguity, and under-theorization. First, *overgeneralization* describes how student engagement has become a catch-all concept that encompasses any variable that affects student school success. These variables may include future aspirations and goals (Appleton et al., 2006), school and classroom conduct (Wang et al., 2019b), school belongingness (Finn and Zimmer, 2012), and self-regulation (Greene, 2015), to name a few. Such broad characterization of student engagement is concerning because the field would run "the risk of explaining almost everything related to students' experiences in school, and as a result not really explaining anything at all" (Fredricks et al., 2016a, p. 2).

Second, *jingle-jangle fallacies* refer to the erroneous assumption that a label holds a single meaning when in fact it is used to describe different phenomena (jingle fallacy), or that different labels hold different meanings when in fact they are used to describe a similar phenomenon (jangle fallacy; Reschly and Christenson, 2012). In the case of student engagement, the term has been interpreted as students' motivation to learn (National Research Council and Institute of Medicine, 2004), state of flow (i.e., concentration, interest, and enjoyment; Shernoff et al., 2017), or school connectedness (Jimerson et al., 2003), each of which has a notably different meaning. On the other hand, labels like student involvement (Reed et al., 2002) and academic engagement (Skinner et al., 2009) are arguably synonymous with certain dimensions of student engagement that are adopted in the field. The jingle-jangle fallacies that are prevalent in the student engagement literature thus represent a lack of consistency in the construct terminology and definition.

Third, *object ambiguity* refers to the lack of specification on the object or focus of engagement. Student engagement researchers often failed to define the object which students are engaged in, and for those who did, there was little consensus on what this object is. For example, the object of student engagement has been identified as school and school-related activities (Appleton et al., 2008), course of study (Handelsman et al., 2005), and learning activities (Reeve and Tseng, 2011). Depending on the object(s) that the students are engaged in, the meaning of student engagement could vary drastically.

Lastly, *under-theorization* represents the inadequate theoretical discourse about the meaning and nature of student engagement. Boekaerts (2016) noted that, to date, there is not a theory that directly addresses the core meaning of engagement, and student engagement researchers tend to borrow concepts from different motivation theories in their investigations. There is one shortcoming for such a practice, that is, borrowing concepts from other theories poses the danger of conceptual overlap between student engagement and other different but related constructs. For example, student engagement is generally regarded as an outcome of student motivation (Appleton et al., 2008; Martin, 2007). Yet, perhaps due to a lack of an engagement theory and the over-reliance on theories of motivation, researchers tend to use motivational concepts like perceived value of school or learning (e.g., Wang et al., 2016) as

indicators of engagement. This has resulted in much confusion about the motivation-engagement distinction in the literature and, consequently, slowed down the field's progress.

In view of the theoretical-conceptual concerns, the present paper aims to critically examine the models of student engagement existing in the literature, and to put forth a student engagement framework that would help address the aforementioned issues. As an overview, this paper comprises five main sections. The first section seeks to review various perspectives on student engagement in the literature. This gives us some insights on how student engagement has been conceptualized over the years. Informed by this review, the second section outlines our views on the current state of the construct by identifying its strengths and inherent limitations. For the purpose of proposing conceptual refinement, it also introduces the Dual Component Framework of Student Engagement that regards learning engagement and school engagement as two separate but related constructs. The third and fourth sections clarify the conceptual definitions and boundaries as well as the object and dimensions of the learning engagement and school engagement constructs. Lastly, the fifth section consolidates the key ideas presented in this paper and discusses their theoretical, research, and practical implications in advancing the field of student engagement.

Review of Student Engagement Perspectives

The term "engagement" has been widely used by students, teachers, parents, researchers, and education professionals, both in layman language and in scholarly discourses since its inception in the academic literature in the 1980s. On the surface, its meaning seems intuitive and straightforward. However, upon closer inspection, one would realize that there are myriad interpretations of the construct. To illustrate this diversity and to gain more illuminating insights into the nature of the construct, in the following, we review prevailing perspectives and models of student engagement in the education research literature (see Table 1).

Participation Model

Gary Natriello was one of the first few scholars who provided a formal definition of the student engagement construct (see Mosher and MacGowan, 1985). According to Natriello (1984, p. 14), engagement "exists when students are participating in the activities offered as part of the school program." The phenomenon, however, was mainly studied through the lens of disengagement, which manifests in the forms of absenteeism (i.e., unexcused absence), apathy (i.e., a low level of effort), and delinquency (e.g., cheating, stealing). Natriello (1984) asserted that various factors, such as students' origin, learning environment, and school policy, could influence engagement, which in turn has an impact on students' academic performances and social behaviors (e.g., disrupting classroom activities). Although Natriello's view of student engagement as a purely behavioral variable, consisting of school participation and conduct, was conceptually narrow, it has opened the door for further discussions in the education community.

Participation-Identification Model

Finn (1989) subsequently proposed the participation-identification model, which expanded the behavioral view of engagement by adding an affective component to the construct. The model

Table 1 Summary of student engagement perspectives

Source(s)	Affective	Behavioral	Cognitive	Others
Participation Model (Natriello, 1984)	Nil	1. Absenteeism 2. Apathy 3. Delinquency	Nil	Nil
Participation-Identification Model (Finn, 1989)	1. Sense of school belonging 2. Valuing of school	1. Participation in school activities	Nil	Nil
Motivational Perspective on Engagement and Disaffection (Connell and Wellborn, 1991; Skinner et al., 2009)	1. Energized emotional states (e.g., enthusiasm)	1. Effort 2. Attention 3. Persistence	Nil	*Behavioral disaffection* 1. Lack of effort 2. Withdrawal from learning activities *Emotional disaffection* 1. Enervation 2. Alienation 3. Pressure
Flow Theory (Csikszentmihalyi, 1990; Shernoff et al., 2003)	1. Enjoyment 2. Interest	Nil	1. Concentration/ absorption	Nil
Schoolwork Engagement Perspective (Salmela-Aro and Upadaya, 2012)	1. Vigor/energy	1. Absorption	1. Dedication	Nil
PACM Model (Furlong et al., 2003)	1. Bonding, belonging, attachment	1. Participation in school activities	1. Identification, membership	Nil
The Motivation and Engagement Wheel (Martin, 2007)	Nil	1. Persistence 2. Planning 3. Task management	Nil	*Maladaptive engagement* 1. Self-handicapping 2. Disengagement
School Engagement Meta-Concept (Fredricks et al., 2004)	1. Emotional reactions to teachers, classmates, academics and school	1. Positive conduct 2. Effort 3. Persistence 4. Concentration 5. Attention 6. Involvement in curricular and extracurricular activities	1. Psychological investment in learning (e.g., self-regulation)	Nil
Lam et al.'s Three-Dimensional Framework (Lam et al., 2014)	1. Feelings about learning 2. Feelings about school	1. Effort and persistence in schoolwork 2. Participation in extracurricular activities	1. Cognitive strategies	Nil
	1. Emotions during	1. Observable behaviors (e.g.,		Nil

Table 1 (continued)

Source(s)	Affective	Behavioral	Cognitive	Others
Ben-Eliyahu et al.'s Three-Dimensional Framework (Ben-Eliyahu et al., 2018)	activity (e.g., bored, tried, happy)	talking to teachers or peers about learning materials)	1. Thinking about the learning activity 2. Attending and focusing on the task	
Four-Factor Taxonomy (Appleton et al., 2006)	1. Belonging 2. Identification with school 3. School membership * *referred to as psychological engagement*	1. Attendance 2. Classroom participation 3. Extracurricular participation 4. Extra credit options	1. Self-regulation 2. Relevance of school to future aspirations 3. Value of learning 4. Strategizing	*Academic engagement* 1. Time on task 2. Credit hours toward graduation 3. Homework completion
Model with Agentic Engagement (Reeve and Tseng, 2011) Elaboration-based learning strategies 2. Metacognitive self-regulation strategies	1. Enjoyment 2. Interest 3. Curiosity 4. Fun *Agentic engagement* 1. Students' constructive contribution into the flow of the instruction they receive	1. On-task attention 2. Lesson involvement 3. Effort	1.	
Model with Social Engagement (Fredricks et al., 2016b)	1. Enjoyment 2. Enthusiasm 3. Interest 4. Value of learning	1. Persistence 2. Effort 3. Paying attention 4. Participation 5. Completing homework 6. Doing extra work	1. Shallow and deep strategy	*Social engagement* 1. Social-affective (e.g., caring about others' ideas) 2. Social-cognitive (e.g., building on others' ideas)

was first introduced to explain the issue of school dropout, and it highlighted two engagement variables that are pivotal to the dropout process: *identification* and *participation*. Identification refers to students' affective engagement (Finn, 1989; Finn and Zimmer, 2012), and it reflects students' sense of belonging and valuing of school. Participation, on the other hand, refers to students' behavioral involvement in school and classroom activities, which, according to Finn, 1989; Finn et al., 1991), operates in four levels. Students who exhibit level 1 participation simply comply with the basic requirements of schooling (e.g., attending classes), whereas level 2 participation is characterized by enthusiasm and initiative in academic tasks. Level 3 participation occurs beyond the formal classroom and represents students' engagement in extracurricular activities. Lastly, a level 4 participation involves goal setting, decision-making, and the undertaking of leadership roles.

Finn's (1989) participation-identification model offers a developmental perspective to student engagement and the dropout process. Specifically, Finn theorized that students' participation (or non-participation) in school and classroom activities would lead to successful

(or unsuccessful) performance outcomes. Over time, students' achievements would influence their identification with school, which in turn affect their participation, hence forming a cyclic relationship. Finn's engagement model has gained empirical support since its conception, as both school participation and school identification were consistently shown to be associated with higher academic achievement and lower school dropout (Finn and Cox, 1992; Voelkl, 1997). In fact, identification with school was found to have an indirect effect on academic achievement and attainment (i.e., graduation or dropout) through students' behavioral engagement in school (Finn and Zimmer, 2012).

Self-System Model of Motivational Development

While Finn's (1989) participation-identification model was rooted in dropout prevention and intervention, Connell, Skinner, and colleagues developed the Self-System Model of Motivational Development (SSMMD; Connell and Wellborn, 1991; Skinner et al., 2009) to examine student engagement from a motivational perspective. Grounded in self-determination theory (Ryan and Deci, 2017), the SSMMD asserts that school and classroom contexts determine the extent to which students' basic psychological needs for competence, autonomy, and relatedness are met. Fulfillment of such needs would lead to an adaptive pattern of actions known as engagement, whereas the thwarting of these needs would result in a maladaptive pattern of actions known as disaffection (Skinner et al., 2008). Furthermore, both engagement and disaffection are hypothesized to be mediators in the relationships between students' perceived needs satisfaction (or frustration) and outcomes like skill and knowledge acquisition.

In the SSMMD, engagement is defined as the quality of students' participation in classroom activities, as it is "the outward manifestation of a motivated student" (Skinner et al., 2009, p. 494). Recognizing that both engagement and disaffection (i.e., disengagement) could manifest in both behavioral and emotional forms, Skinner et al. (2009) proposed four types of engagement components: (1) behavioral engagement, which represents students' on-task academic behaviors and class participation, and it includes indicators like attention, effort exertion, and persistence; (2) behavioral disaffection, which represents students' lack of effort and withdrawal from learning activities; (3) emotional engagement, which represents students' energized emotional states (e.g., interest, enjoyment); (4) emotional disaffection, which represents emotions related to enervation (e.g., boredom), alienation (e.g., frustration), and pressure (e.g., anxiety).

The four-factor structure was empirically supported by factor analytic results (Skinner et al., 2009). Furthermore, research that employed the SSMMD has also demonstrated how engagement played a key role in mediating the pathway between motivationally relevant aspects of self (e.g., sense of autonomy) and context (e.g., teacher support) and school success, with both engagement and disaffection making unique contributions in predicting students' academic achievement (González and Paoloni, 2014; King and McInerney, 2019; Skinner et al., 2008). Overall, the SSMMD advances the literature by demonstrating that engagement and disengagement are both multidimensional and distinct from one another.

Flow Theory

Flow represents an intrinsically motivated state of total absorption (Csikszentmihalyi, 1990; Nakamura and Csikszentmihalyi, 2014). Also referred to as a state of optimal experience, the phenomenology of flow is experientially characterized by deep concentration, high sense of

self-control, merging of activity and awareness, distortion in time perception (i.e., a feeling that time passes faster than normal), immersion in the present moment, and intrinsic enjoyment. To achieve the state of flow, a balance between perceived challenge of the activity (environment) and the perceived skills of the individual (person) is required. This is because the challenge-skill balance enables a person to feel optimally stimulated and confident, as opposed to feeling bored (i.e., low challenge and high skill) or anxious (i.e., high challenge and low skill) in an activity. Apart from the challenge-skill balance, it is also necessary for the person to have, or for the task to afford, clear proximal goals and immediate feedback on task progress. With a clear goal and awareness of task progress, a person will be able to monitor, maintain, and regulate his or her motivation effectively during task engagement.

The state of flow is typically examined in leisure, work, and well-being studies. Nevertheless, it has also been applied in academic contexts as an engagement construct (Shernoff et al., 2017; Steele and Fullagar, 2009). Boekaerts (2016, p. 80) suggested that flow should be viewed as a special form of student engagement, "for engagement refers to all types of student interactions with the learning material and its context and not exclusively to a state of deep absorption that is intrinsically enjoyable." Unlike the previous conceptions of engagement, flow is regarded as a *dynamic* state that encompasses students' affective (e.g., enjoyment) and cognitive (e.g., absorption) experience in learning (Shernoff et al., 2017). Thus, flow researchers often encourage the use of in-the-moment measures (e.g., experience sampling method) to capture students' flow experiences. By analyzing students' moment-to-moment engagement, studies have revealed that students' state of flow fluctuated significantly between lessons, and that the variations were associated with situational factors like the subject domain, as well as students' perceived challenge, relevance, and autonomy of the classroom activity (Shernoff et al., 2003, 2017; Shernoff and Anderson, 2014).

Schoolwork Engagement Perspective

Another perspective relevant to student engagement is schoolwork engagement, which is derived from the concept of work engagement in occupational psychology (Schaufeli et al., 2002b). It is defined as an enduring state of work-related fulfillment that is characterized by energy, dedication, and absorption (Salmela-Aro and Upadaya, 2012). Energy refers to feelings of vigor during school-related tasks. Dedication represents a positive cognitive attitude and sense of significance toward schoolwork. Lastly, absorption describes experiences of full attention and concentration while working. These three characteristics can be viewed as emotional, cognitive, and behavioral dimensions of engagement. As such, the schoolwork engagement construct has moved beyond the typical one- or two-dimensional framework, and considered how a person feels, behaves, and thinks when he or she is engaged. Notably, both schoolwork engagement and flow are conceptually similar to one another. However, they differ in that flow depicts short-term peak experiences, whereas work engagement represents a pervasive and persistent state of mind (Schaufeli et al., 2002a), thus illustrating the notion that engagement could operate in different timescale.

Research on schoolwork engagement has shown that students who were energetic, dedicated, and absorbed in their schoolwork tend to perform well in achievement tests, experience high life satisfaction, and exhibit fewer depressive symptoms (Upadyaya and Salmela-Aro, 2013). Given its roots in occupational psychology, researchers have also adapted the demands-resources model to examine the association between schoolwork engagement and burnout (Salmela-Aro et al., 2016). Interestingly, while engagement and burnout were found to be

negatively correlated, latent profile analysis revealed that students could exhibit elevated levels of engagement and burnout simultaneously, suggesting that engagement could lead to burnout when maintained over long periods of time.

PACM Model

Furlong et al.' (2003) Participation-Attachment-Commitment-Membership (PACM) model offers an alternative three-dimensional approach to the study of student engagement. Building on to the participation-identification model (Finn, 1989) and research in school bonding, attachment, and belongingness (e.g., Goodenow, 1993), Furlong et al. (2003) delineated three separate engagement components. The behavioral component encompasses students' participation in classroom, extracurricular, and school environment. The affective component describes students' emotional response—bonding, attachment, belonging—toward school, teachers, and peers. Lastly, the cognitive component reflects students' identification with school. The PACM model considers student engagement as a continuum that follows a Participation (P), Attachment (A), Commitment (C), and Membership (M) progression (Furlong et al., 2003). To elaborate, the model suggests that Participation in school activities facilitates the formation of interpersonal Attachments with people in the school. This would then result in students developing a sense of personal Commitment to the school community, and ultimately incorporating school Membership as part of their self-identity.

The PACM model provides us with a developmental perspective of engagement. Furthermore, beyond mere behavioral participation and compliance, the PACM model also emphasizes the role of social relationships and self-identity in the engagement construct. Its account on the interplay between individual student characteristics and school environment has enabled practitioners to develop school-based interventions that promote positive experience in school (Griffiths et al., 2009).

The Motivation and Engagement Wheel

Motivation and engagement studies have often been criticized for their limited applied utility, and for being diverse and fragmented. To address these criticisms, Martin (2007) has synthesized seminal motivation and engagement perspectives in the educational psychology literature and introduced the Motivation and Engagement Wheel. Motivation is defined as the inclination, energy, and drive toward learning, working, and achieving (Liem and Martin, 2012), and engagement represents the behaviors that are aligned with such inclination, energy, and drive. The Motivation and Engagement Wheel covers 11 first-order factors that can be subsumed into four higher-order motivation/engagement factors (Martin, 2007). These four higher-order factors (and their respective first-order factors) are as follows: adaptive motivation (self-efficacy, school valuing, mastery orientation), adaptive engagement (persistence, planning, task management), maladaptive motivation (anxiety, failure avoidance, uncertain control), and maladaptive engagement (self-handicapping, disengagement). The proposed factor structure was validated across various educational levels, activity domains, and curricular subjects (see Liem and Martin, 2012 for a review).

Aside from the factor structure, Martin et al. (2017) reported that the motivation and engagement factors were also distinguishable by their strength of association with different antecedent (e.g., personality) and outcome variables (e.g., school well-being), and that they formed a cyclic relationship with one another (i.e., motivation factors predicted engagement,

which in turn affected later motivation). Although Martin's (2007) Wheel defines engagement solely on behavioral terms, it has helped to clarify the distinction between motivation and engagement and to organize various motivation and engagement perspectives into a coherent and parsimonious framework.

Other Multidimensional Approaches to Engagement

The early 2000s witnessed an emergence of consensus about the nature of student engagement. This is the time when researchers began to recognize it as a meta-construct that is both multifaceted and malleable. This movement can be largely attributed to the seminal paper by Fredricks et al. (2004) who called for richer characterizations of the phenomenon. In their paper, student engagement (also labeled as *school engagement*) was described as students' commitment to, or investment in, school and school activities, and as comprising three different but related forms of engagement: behavioral, emotional, and cognitive. Behavioral engagement embodies the notion of participation, and it includes students' positive conduct, effort, persistence, concentration, attention, and involvement in curricular and extracurricular activities. Emotional engagement refers to students' affective responses in classroom, and to teachers and schools. Finally, cognitive engagement reflects psychological investment in learning, and is associated with self-regulation and use of learning strategies.

The tripartite framework has been embraced and adopted by many researchers, though they do not necessarily agree on what each dimension denotes. For instance, Lam et al. (2014) viewed affective engagement as students' feelings about school and learning, behavioral engagement as effort and persistence in schoolwork and participation in extracurricular activities, and cognitive engagement as the use of cognitive strategies for learning. Ben-Eliyahu et al. (2018), on the other hand, adopted a narrower position and defined affective, behavioral, and cognitive engagement respectively as emotions, observable behaviors, and thinking and focusing during learning activities. It is important to note that other researchers have built on Fredricks et al.'s (2004) seminal work and advanced the engagement concept in various ways, as follows:

Four-Factor Taxonomy Appleton et al. (2006) have proposed a four-factor taxonomy that comprises academic, behavioral, psychological, and cognitive engagement subtypes. Academic engagement refers to students' effort in academic tasks (e.g., time on tasks), whereas behavioral engagement indicates general participation in school activities (e.g., attendance, voluntary involvement in classroom and extracurricular activities). Psychological engagement parallels with Fredricks et al.'s (2004) notion of emotional engagement, and involves relationships with one's peers, teachers, and school. Lastly, cognitive engagement describes students' self-regulation and perceived relevance and value of school and learning in relation to their goals and aspirations. The Student Engagement Instrument (SEI; Appleton et al., 2006) was developed to measure psychological and cognitive engagement, and it has been applied and validated in elementary, middle, and high school and college samples (see Waldrop et al., 2019). Note that the SEI does not measure academic and behavioral engagement as such information are readily observable, whereas psychological and cognitive engagement would require students' subjective self-report (Appleton et al., 2006).

Agentic Engagement Reeve and Tseng (2011) expanded Fredricks et al.'s (2004) three-dimensional framework by adding a fourth engagement component, namely agentic

engagement. Unlike Fredricks et al. (2004), who focused on engagement in school and school activities, Reeve and Tseng (2011) defined student engagement as students' active behavioral (i.e., attention, effort, and persistence), emotional (i.e., energized emotional states), and cognitive (i.e., use of sophisticated learning strategies) involvement in learning activities that occur mostly in classroom settings. Moreover, they argued that the existing dimensions of student engagement do not adequately capture students' intentionality in the learning process. Thus, the concept of agentic engagement, which illustrates students' constructive and proactive contribution to their learning condition (e.g., asking questions, expressing preferences), was introduced. Reeve (2013) reported that not only did students' agentic engagement encouraged teachers to engage in more autonomy-supportive teaching, it also significantly predicted academic achievement, even after controlling for affective, behavioral, and cognitive engagement. The findings thus demonstrate the incremental validity of the new engagement construct.

Social Engagement Based on teachers' and students' qualitative accounts on the phenomenology of student engagement, Fredricks and colleagues (Fredricks et al., 2016b) have recently proposed the addition of a social engagement dimension to the existing three-factor framework, which consists of both social-affective (e.g., caring about others' ideas) and social-cognitive (e.g., building on others' ideas) indicators (see also Wang et al., 2019b for social engagement at the school level; e.g., enjoy spending time with peers at school). While the social dimension is relatively new, early data suggested that that social engagement was positively correlated with the other engagement dimensions, and it made unique contributions to student outcomes like academic achievement (Wang et al., 2016, 2019b). This conceptualization represents a move beyond individual learning as it considers the importance of social interaction, collaboration, and help-seeking efforts in the learning and schooling process.

To sum up, this section has shown that the construct of student engagement has come a long way, as it gradually evolved from a mere description of school participation (Natriello, 1984) to a multidimensional construct that details how students feel, behave, and think (Fredricks et al., 2004). To advance the field of student engagement, some conceptual models have sought to broaden the construct by characterizing the behavioral, psychological, social, and academic aspects of students' schooling experience (e.g., Appleton et al., 2006). Yet, others have sought to refine it by narrowing its scope (e.g., focusing on students' engaged experience during learning tasks; Ben-Eliyahu et al., 2018; Shernoff et al., 2017) and distinguishing engagement from related concepts like motivation and disengagement (Martin, 2007; Skinner et al., 2009). Overall, the review demonstrates the theoretical diversity and complexity of student engagement.

Limitations of Prevailing Student Engagement Perspectives

Although the myriad conceptualizations of student engagement in the literature show the vibrant status of the field, they also suggest that student engagement research is currently fragmented as opposed to synthesized (Boekaerts, 2016). The meaning of student engagement remains ambiguous, and education researchers continue to differ on what qualifies to be indicators of the construct. As shown in Table 1, affective engagement has been variedly described as school belongingness and student-teacher relationship (Appleton et al., 2006;

Finn and Zimmer, 2012) or as students' interest and enjoyment during learning activities (Reeve and Tseng, 2011; Skinner et al., 2009). Students' effort in academic work, an aspect of behavioral engagement, was argued to have considerable conceptual and practical overlaps with cognitive engagement (Eccles, 2016), and alongside this confusion lies another ongoing debate on whether self-regulated learning should be subsumed under (or divorced from) the cognitive engagement dimension (Boekaerts, 2016; Lam et al., 2014). In addition to this diversity of perspectives, as described earlier, other researchers have proposed the inclusion of other dimensions, such as agentic engagement (Reeve and Tseng, 2011) and social engagement (Fredricks et al., 2016b), to enrich the meta-construct.

Fredrick and colleagues (Fredricks et al., 2004) forewarned this issue, cautioning that the construct was "theoretically messy" (p. 84), and this remains a pressing concern after more than a decade of research (Appleton et al., 2008; Azevedo, 2015; Reschly and Christenson, 2012). Part of the reason for this messiness is that engagement is a multilevel construct that can be studied in different nested environments (e.g., school, classroom) and time scales (e.g., moment-to-moment, lesson-to-lesson; Wang et al., 2019a). As such, the conceptualization and measurement of engagement tend to vary depending on the context of the study.

The fact that engagement is a multilevel construct, however, could not fully explain the theoretically differing points of view within the field of student engagement. From our standpoint, the problem is largely due to differential interpretations of the meaning of engagement. To illustrate, motivation, like engagement, is a multilevel construct that can be investigated and measured at a school, classroom, or activity level. At each level, the core meaning of motivation—one's desire or state of wanting (Baumeister, 2016)—does not change, nor do the indicators of motivation. Researchers who subscribe to the expectancy-value theory, for example, might examine students' school motivation by measuring their perceived values of school as a desire to participate in school activities, or students' task motivation by measuring their perceived task values as a desire to work on a task (Tonks et al., 2018). Regardless of the context of the studies, the meaning of motivation and its corresponding indicators remain constant. This however is not the case with engagement.

Based on the review of student engagement perspectives, there seems to be two broad camps of interpretations. On one hand, student engagement is construed as students' active involvement in learning activities (i.e., learning engagement). On the other hand, student engagement is also understood as students' interpersonal involvement in the school community (i.e., school engagement). While the two interpretations of student engagement encompass elements of participation in school-related activities, they differ in their historical and theoretical roots, object of engagement, and most importantly, in the core meaning of the term engagement.

The SSMMD (Connell and Wellborn, 1991), flow theory (Csikszentmihalyi, 1990), schoolwork engagement perspective (Salmela-Aro and Upadaya, 2012), and Ben-Eliyahu et al.'s (2018) three-dimensional framework are clear examples of learning engagement models, as they examine the extent to which students are enthusiastic, productive, and focused in learning activities. In these learning engagement models, the term engagement reflects students' mental state that is characterized by psychological—affective, conative, and cognitive—phenomena like interest, vigor, and absorption. Contrastingly, the participation model (Natriello, 1984), participation-identification model (Finn, 1989), and PACM model (Furlong et al., 2003) are examples of school engagement models, as they examine the extent to which students are physically and psychologically part of the school community. Here, the term engagement relates to such concepts as school connectedness, attachment, bonding, and membership.

Fredricks et al.'s (2004) school engagement meta-concept and subsequent models like Appleton et al.'s (2006) four-factor taxonomy and Lam et al.'s (2014) three-dimensional framework incorporate both learning and school engagement elements. These mixed models view student engagement as students' active participation in school-related learning and social activities (Christenson et al., 2012), and permit academic, relational, or even motivational and contextual variables like self-regulation, student-teacher relationships, and school valuing to be included in the construct. This is because these indicators represent "goodness-of-fit between the student, the learning environment and factors that influence the fit" (Appleton et al., 2006, p. 429). Fredricks et al.'s (2004) seminal paper has helped advance the field of student engagement by synthesizing various lines of engagement research and collapsing involvement in learning and involvement in school community into a single meta-concept. While the meta-concept gives us a comprehensive perspective of students' academic and social engagement in school, it does not discern the conceptual similarities and differences of the two meanings of engagement.

In view of the aforementioned dichotomy of learning and school engagement, this paper proposes the *Dual Component Framework of Student Engagement*, which considers learning engagement and school engagement as two separate constructs under the umbrella of student engagement (see Fig. 1). In other words, student engagement is conceived as a meta-construct consisting of learning engagement and school engagement components. This dual-component perspective coincides with Saks' (2019) multidimensional model of employee engagement, which defines employee engagement as the extent to which a person is psychologically present in their role as an employee. The model recognizes that employee engagement consists of a work and social component, and distinguishes job engagement (i.e., involvement in work role) from organization engagement (i.e., involvement in one's role as a member of an organization).

In a similar vein, student engagement is broadly defined here as *students' commitment to their role as a student*. Learning engagement corresponds to students' work role (i.e., studying or learning) and it represents students' active interaction with learning activities. School engagement, on the other hand, corresponds to students' role as a member of a school, and it represents students' state of connection with the school community that includes its people (e.g., teachers, peers) and activities (e.g., class or extracurricular activities). Recognizing this dichotomy is crucial in addressing the issue of jingle-jangle fallacies. Although they fall under the umbrella of student engagement, learning engagement and school engagement are not semantically synonymous and should be conceptually differentiated. To illustrate their difference, learning engagement in classroom context is concerned with how students, feel, behave, and think during classroom learning activities (e.g., working on classwork), whereas school engagement in the same classroom context is concerned with students' attachment to their teachers and classmates, cooperative classroom behaviors, and identification with the class. The former relates to learning experience and the latter relates to social connectedness.

Aside from jingle-jangle fallacies, the Dual Component Framework of Student Engagement also addresses the issue of object ambiguity by offering researchers a useful conceptual means to define their focused areas of engagement. As demonstrated in Fig. 1, learning engagement researchers are encouraged to specify the subject domain of the learning activities, which can be academic (e.g., Math, English) or non-academic (e.g., chess) in nature. They may also specify the type of learning activities (e.g., classroom lessons, homework) to further distinguish the learning engagement construct (e.g., Math homework engagement, Science lesson engagement). Similarly, school engagement researchers are also encouraged to specify the

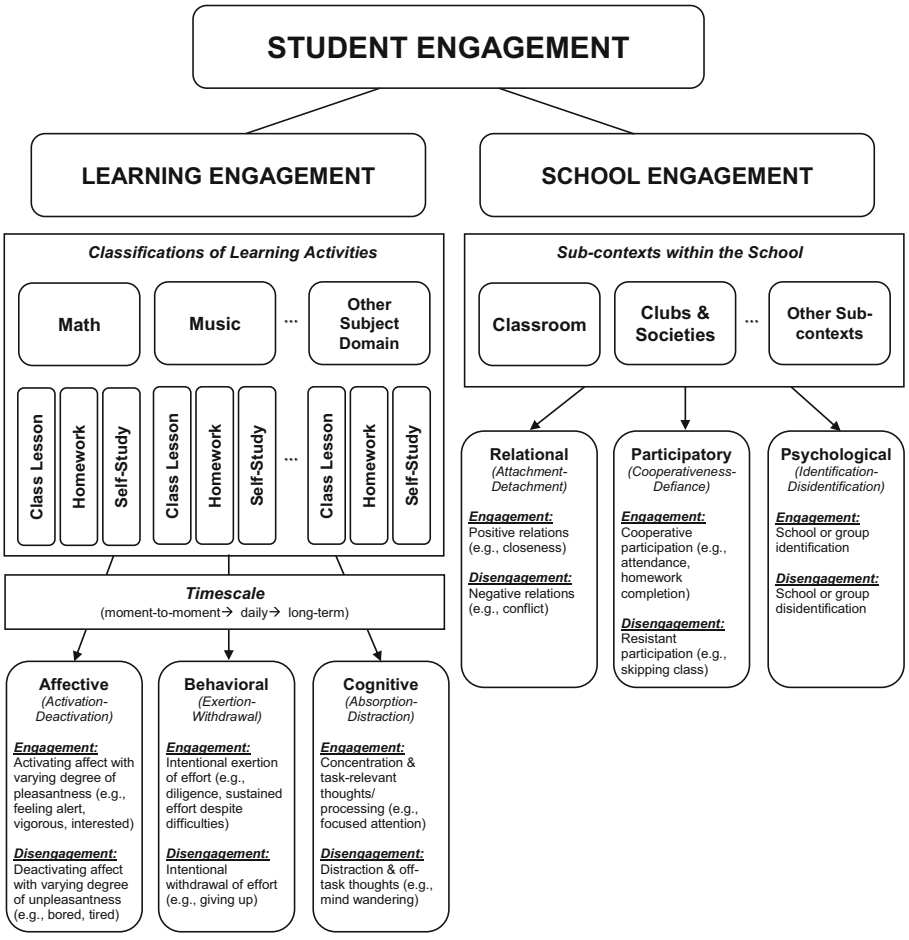

Fig. 1 Dual Component Framework of Student Engagement

sub-context of interest within the larger school context, such as examining student engagement in classroom context (e.g., class identification) or engagement in extracurricular context (e.g., club identification). This perspective hence helps to instill conceptual and operational nuances in the analysis of the student engagement meta-construct.

Conceptualizing Learning Engagement

Upon divorcing school engagement from learning engagement, the current and next section aim to address the issues of overgeneralization and under-theorization (see Introduction) by detailing how the Dual Component Framework of Student Engagement conceptualizes the two engagement constructs. Starting off with learning engagement, the following subsections are organized to (1) offer a precise conceptual definition of learning engagement; (2) specify the focus or object of engagement; and (3) discuss the dimensions of learning engagement and their theoretical foundation. Before delving into the theoretical discourse, however, it is important to note that the term learning engagement is favored over other similar terms, such

as academic engagement, because it suggests that the construct is pertinent to all types of learning activities. It implies that learning engagement is relevant to learning that occurs beyond the classroom context, and to the learning of academic (e.g., Mathematics) and non-academic (e.g., chess) subject domains.

Construct Definition

Defining Learning Engagement In this paper, learning engagement refers to *students' psychological state of activity that affords them to feel activated, exert effort, and be absorbed during learning activities*. Activation, effort exertion, and absorption represent the notion of affective, behavioral, and cognitive engagement, respectively (see dimensionality section below for further discussion). Traditionally, engagement and disengagement were assumed as lying on two ends of the same continuum. However, recent evidence suggests that disengagement does not simply reflect an absence of engagement; rather, engagement and disengagement are two distinct processes that are associated with unique antecedents and student outcomes (Jang et al., 2016; Skinner et al., 2009; Wang et al., 2019b). For example, it is possible for a student to exhibit low levels of affective engagement in class (e.g., does not feel interested) without signs of affective disengagement (e.g., feeling bored). In view of these new findings, the dual component framework distinguishes learning engagement from learning disengagement, which refers to *students' psychological state of inactivity that leads them to feel deactivated, withdraw effort, and be distracted during learning activities*. Engagement and disengagement are thus regarded as two distinct phenomenologically opposing processes.

Conceptual Features Learning engagement embodies four conceptual features. First, learning engagement is conceptualized as a *malleable* state that is responsive to variations in a student's characteristics (e.g., motivation) and in characteristics of the activity (e.g., authentic work; Wang et al., 2019a). Second, learning engagement is a *multilevel* construct that operates in different levels of learning activity contexts and across varying time scales. Researchers could measure a student's moment-to-moment or overall engagement in a specific learning activity (e.g., 2-h Math lesson), or long-term engagement in a broad category of activity (e.g., Math lessons in general). It is presumed that the relationship between specific levels of engagement and general levels of engagement are hierarchical. In other words, moment-to-moment engagement informs one's perception on his or her overall engagement of the learning activity, which in turn affects long-term engagement. Third, learning engagement is a *psychological* phenomenon that describe a person's affective, conative, and cognitive experiences in learning. Finally, in alignment with the current consensus in the field (e.g., Fredricks et al., 2004), learning engagement is seen as a *multidimensional* construct, consisting of at least three dimensions—affective, behavioral, and cognitive. We will elaborate on each of the dimension later in this section.

Motivation and Self-regulation To ensure conceptual clarity, it is essential to not only define learning engagement (what it is), but also to contrast it with related concepts like motivation and self-regulation (what it is not). We define motivation as the psychological state of wanting (Baumeister, 2016), or "any force that energizes and directs behavior" (Reeve, 2012, p. 150). Indicators of motivation include affective-cognitive factors and processes that operate before an activity (e.g., needs, beliefs, values, and goals; see Schunk et al., 2014), and energize and direct a person's behavior to engage in the activity. On the contrary, indicators of learning

engagement include psychological processes that describe how a person feel (i.e., activation), behave (i.e., effort exertion), and think (i.e., absorption) during an activity. Learning engagement is therefore fueled by motivation that precedes it and is elicited when a student participates in a learning activity. In other words, engagement can be viewed as a state of motivated action.

Self-regulation depicts one's volitional control over their motivation, emotion, cognition, behavior, and environment for successful goal attainment, and involves the use of metacognitive (i.e., planning, monitoring, regulating) and other self-regulatory strategies (e.g., emotional regulation; Pintrich, 1999). While self-regulation is often seen as an aspect of cognitive engagement (e.g., Greene, 2015), we view them as two distinct constructs due to one key difference: learning engagement is concerned with students' direct experience with the learning activities, whereas self-regulation focuses on students' awareness and control over certain aspects of self (e.g., cognition) in relation to the learning activities. The use of self-regulatory strategies requires a shift of attention from the task at hand to one's behavior or internal state (e.g., monitoring what one is doing or thinking; Reed et al., 2002). The shift in attention, even for a short duration, indicates that one has exited the state of engagement and is no longer absorbed in the task. This temporary break of immersion would nevertheless enable a person to identify ways to recreate the engaged experience, and subsequently engender deeper engagement (Reed et al., 2002). Thus, rather than being an indicator of cognitive engagement, self-regulation is viewed here as a volitional construct that stimulates the psychological state of engagement.

The interplay among motivation, self-regulation, and engagement was illustrated in a recent longitudinal study (Wang et al., 2021), which examined adolescents' long-term and day-to-day engagement (i.e., attention, effort, persistence), motivation (i.e., situational interest), metacognition, and self-control in mathematics learning. Through a series of regression and moderation analyses, it was revealed that metacognition interacted with interest and self-control to shape students' learning engagement in math. Specifically, metacognitive skills and interest seemed to work together in a compensatory manner, such that students with low interest could maintain high levels of engagement if they have strong metacognitive skills, and *vice versa*. The same compensatory effects were also found in metacognition and self-control. These findings suggest that both motivation and self-regulation are important pathways to students' learning engagement.

Object of Engagement

There is surprisingly a dearth of discourse on the object of engagement in the student engagement literature. Neglecting this crucial aspect of student engagement has important ramifications, as it undermines the conceptual clarity of the construct, and generates inconsistencies in its measurement. In this paper, the object of learning engagement is identified as the *learning activities* that students participate in. Learning is defined as "an enduring change in behavior, or in the capacity to behave in a given fashion" (Schunk, 1991, p. 2). Learning activities, by extension, include any tasks, actions, or experiences—in-class practice, group discussions, lecture, homework, self-readings etc.—that lead to such changes.

Subject Domain of Learning Activities It is important for learning engagement researchers to be mindful about the subject domain of learning activities. Past studies have consistently

demonstrated that while the factor structure of motivation and engagement-related constructs are invariant across subject domains, they often differ in their mean levels. Green et al. (2007), for instance, revealed that the correlations among students' perceived task value (motivation) and persistence (engagement) in English, Mathematics, and Science were only of moderate effect size. Similarly, Pöysä et al. (2018) found out that students' self-reported engagement fluctuated from one lesson to another, and the within-student variations in lesson engagement were largely explained by the school subjects. These results suggest that motivation and engagement variables are often subject specific, and thus researchers are encouraged to study learning engagement from a subject-specific lens.

Type of Learning Activities Aside from subject domain, learning engagement researchers should also be concerned about the type of the learning activities. There are many ways to categorize learning activities. Herein, we suggest that one could categorize activities based on the context of learning (see Fig. 1). For example, class/lesson engagement involves teacher-designed learning activities that occur in classroom settings; homework engagement involves teacher-assigned learning activities to be completed at home; and self-study engagement involves student-initiated learning activities that are done in their own time.

The current framework maintains that learning activities are not homogenous, and that students' engagement level could differ according to the type of learning activity. This assumption is supported by Luo et al. (2011), who reported that students' class engagement (i.e., students' attentiveness in class) and homework engagement (i.e., students' effort in doing their homework) were only moderately correlated (r = .66). In another study, Trautwein et al. (2006) found out that 8th and 9th graders tended to attach less value and invest a lower amount of effort in homework than in classwork. These results suggest that engagement in different types of learning activities could vary, and it is not always advisable to lump all learning activities into single category. Hence, to examine learning engagement, researchers are encouraged to define the type of learning activity at the outset of their study to determine the type of learning activity engagement construct to be focused on in their investigations.

Dimensionality

Fredricks et al. (2004) have prompted scholars to adopt a multidimensional view of student engagement, and examine engagement in its affective, behavioral, and cognitive dimensions. While the ABC (affect-behavior-cognition) model of student engagement only began to gain traction in recent years, the tripartite classification of psychological constructs has a much longer history in the field of psychology. For the past 200 years, psychologists have regarded affection, cognition, and conation as either the fundamental faculties of the mind or basic classification of mental activities (see Hilgard, 1980). All psychological phenomena involve aspects of a person's feelings, intellect, and act of willing (i.e., conation). As the present review conceptualizes learning engagement as a psychological phenomenon, it follows the familiar trilogy, and defines engagement and disengagement via three dimensions—affective, behavioral (conative), and cognitive.

Affective Dimension Affective engagement is defined as *the extent to which students feel activated during learning activities*. Drawing from research on the affect circumplex (see Yik et al., 2011) and on academic emotions (Linnenbrink, 2007; Pekrun, 2006), it includes

activating affect of varying *positive valence*, such as feelings of vigor, interest, and alertness (Salmela-Aro and Upadaya, 2012; Skinner et al., 2009). Conversely, affective disengagement is defined as *the extent to which students feel deactivated during learning activities*. It includes *deactivating affect* of varying *negative valence*, such as tiredness and boredom. Researchers and practitioners could assess affective engagement via students' self-reports on their affective experience during learning activities (e.g., "When we work on something in this class, I feel interested"), as opposed to their affective perception about the activity (e.g., "I think that this activity is interesting"; Reeve et al., 2020; Yik et al., 2011). Beyond self-reports, affective engagement could also be assessed using process measures like facial expression of emotions during a task (see Azevedo, 2015).

In the student engagement literature, affective engagement was commonly assessed through discrete emotions like enjoyment in academic work (e.g., Reeve and Tseng, 2011). Enjoyment is a positive and activating emotion that arises during an activity (Pekrun, 2006) and it is often associated with the concept of intrinsic motivation (Ryan and Deci, 2017) and flow (Csikszentmihalyi, 1990). However, research has shown that it is possible for students to experience high degree of engagement (i.e., concentration, alert, active), yet a low degree of enjoyment, in schoolwork (Delle Fave and Bassi, 2000). Since one does not necessarily have to experience enjoyment to be engaged, we propose to use a more encompassing construct, namely activating or deactivating affect that ranges from low valence (e.g., feeling alert/tired) to high valence (e.g., enjoyment/boredom). Studies on the role of affect in education is scarce. Nonetheless, existing research seems to suggest that activating and deactivating affects consistently predicted students' effort, persistence, and use of cognitive strategies, whereas the results for valence (i.e., sad-happy) were more mixed (Linnenbrink, 2007; Reeve et al., 2015).

Behavioral Dimension The dual component framework defines behavioral engagement as *the extent to which students intentionally exert effort during learning activities*. Based on the force-based account of effort (Massin, 2017), it involves the *intentional* use of *physical or mental force* to reach a learning goal (e.g., work hard to do well in class). Conversely, behavioral disengagement is defined as *the extent to which students intentionally withdraw effort and give up during learning activities*. To attain an objective assessment of behavioral engagement, researchers could administer surveys on effort and persistence to multiple sources (e.g., students, teachers; Skinner et al., 2009), use observational measures on students' on-task behaviors or engaged time (e.g., Shapiro, 2000), or process measures like eye tracking methods to assess attentional effort (Azevedo, 2015).

The idea that behavioral engagement represents effort and persistence, and behavioral disengagement represents the lack of effort and the process of giving up, was indeed adopted by many other student engagement researchers (e.g., Jang et al., 2016; Reeve and Tseng, 2011; Skinner et al., 2009). However, it is important to point out that there is a debate on whether these indicators should be categorized as behavioral or cognitive engagement (see Eccles, 2016). This is because effort and persistence in learning contexts are often more mental than physical in nature. On this issue, we are inclined to categorize effort and persistence in the behavioral dimension as they are conceptually aligned with conation, one of the three faculties of the mind. Conation is characterized by intentional or volitional acts, or "the ability to focus and maintain persistent effort in order to achieve maximal production in performance of a task" (Reitan and Wolfson, 2000, p. 444). From this perspective, behavioral engagement reflects not just observable behaviors, but also the *conative* manifestation of learning engagement.

Cognitive Dimension The present paper defines cognitive engagement as *the extent to which students are absorbed during learning activities*. Drawing from research in the cognitive science (e.g., Ashinoff and Abu-Akel, 2021), it is characterized by (a) an *increase in concentration and task-relevant thoughts or processing* and (b) a *decrease in awareness of unrelated external stimuli.* Conversely, cognitive disengagement is defined *as the extent to which students are distracted during learning activities*, and it is characterized by mind-wandering and off-task thoughts (Chi et al., 2018; Wammes et al., 2018). Researchers and practitioners could assess cognitive engagement via self-reports of absorption (e.g., Salmela-Aro and Upadaya, 2012), observational measures on the way students approach certain learning activities (e.g., Chi et al., 2018), or process measures like think aloud protocol for the analysis of task-relevant thoughts (Azevedo, 2015).

Cognitive engagement, being the third and most recent addition to the tripartite model of student engagement, is commonly conceived as students' motivation orientation toward learning (Appleton et al., 2008; Li and Lerner, 2013), or use of self-regulatory and deep learning strategies (Greene, 2015). In the earlier section, we have pointed out how motivation and self-regulation are distinct from engagement. As for learning strategies, Greene (2015) maintained that the use of deep and surface learning strategies reflects deep and shallow cognitive engagement, respectively. However, Ben-Eliyahu et al. (2018) recently argued that though students who employ deep strategies are engaged, an engaged student does not necessarily need to utilize deep cognitive strategies since the effectiveness of strategy use varies according to the type of activity, level of expertise of the learner, and outcome of interest (Dinsmore, 2017). Aligned with Ben-Eliyahu et al.'s (2018) assessment, we suggest that cognitive engagement should reflect general cognitive processes like absorption and focus less on the specific type of strategies that students use during learning.

Cognitive-Behavioral Distinction Noticeably, the cognitive and behavioral dimensions are highly alike; thus, it is crucial to conceptually distinguish the two dimensions to avoid confusion. Both cognitive and behavioral engagement are similar as they involve the attentional process, where we direct our state of consciousness toward a stimulus (Cohen, 2014). However, behavioral engagement relates more to the "directing" aspect of attention or the intentional use of attentional effort, whereas cognitive engagement relates to a "state of consciousness" (i.e., awareness of task-relevant or task-irrelevant thoughts). Similarly, recent studies have shown that there are two types of mind-wandering experience—intentional and unintentional. Intentional mind-wandering during learning activities often arises due to a lack of motivation, whereas unintentional mind-wandering are often the product of external factors like task difficulty (Wammes et al., 2018). From our point of view, both intentional and unintentional mind-wandering are signs of cognitive disengagement as they indicate that students are no longer thinking about the learning activity. Intentional mind-wandering, however, also partially indicates behavioral disengagement, since it shows that students have withdrawn their attention or effort volitionally (i.e., conation). As for unintentional mind-wandering, a student could have put in effort to attend to the learning activity (behavioral engagement), yet experience mind-wandering (cognitive disengagement) despite their best intentions.

Other Dimensions In the previous section, we noted that some researchers have put forth other engagement dimensions, namely agentic engagement (Reeve and Tseng, 2011) and social engagement (Fredricks et al., 2016b). These dimensions recognize learning as a social

process (see learning theories like social constructivism; Ertmer and Newby, 2013) and examine engagement at the social-affective (e.g., caring about others' ideas), social-behavioral (e.g., class discussion), and social-cognitive (e.g., building on others' ideas) levels. While we concur with these new conceptions, the current learning engagement framework did not explicitly include a social component as many of these processes are dependent on various student (e.g., individual differences like introversion), activity (e.g., individual *vs.* group work), and cultural (e.g., cultural dimensions like power distance) factors (Caspi et al., 2006; Tweed and Lehman, 2002). As such, there is a need to interpret these processes with caution, and more research is required on how learning engagement is expressed in different social and non-social learning contexts.

In summary, we have proposed that (1) learning engagement/disengagement represents the state of activity/inactivity during learning activities; (2) learning engagement is a psychological phenomenon that is malleable and multidimensional, and that operates in different levels of activity contexts and across varying time scales; (3) learning activities are the main focus or object of learning engagement and they could be further differentiated by its subject domain and type; (4) activation, effort exertion, and absorption represent, respectively, the affective, behavioral, and cognitive dimensions of learning engagement; and (5) deactivation, effort withdrawal, and distraction represent, respectively, the affective, behavioral, and cognitive dimensions of learning disengagement, a set of processes that is distinct from learning engagement.

Conceptualizing School Engagement

Moving on to school engagement, this section seeks to (1) offer a precise conceptual definition of school engagement, (2) specify the focus or object of engagement, and (3) discuss the dimensions of school engagement and their theoretical foundation. It is important to point out that the term school engagement is often used interchangeably with other labels, such as school bonding, attachment, belongingness, and connectedness, in the literature (Jimerson et al., 2003). It has also been used by researchers like Fredricks et al. (2004) to describe a broad range of schooling experiences that are academic and/or social in nature. However, following Furlong et al.'s (2003) recommendation, we are using school engagement here as "the universal term for what researchers have clearly identified as a multidimensional social relationship construct" (p. 110).

Construct Definition

Defining School Engagement In this paper, school engagement refers to *students' state of connection with the school community*. It is characterized by relational attachment to people within the school, cooperative participation in activities organized by the school, and psychological identification as a member of the school (Furlong et al., 2003). These three characteristics correspond to the notion of relational, participatory, and psychological engagement, respectively (see Dimensionality section for further discussion). Correspondingly, school disengagement refers to *the state of alienation that reflects students' sense of disconnection from the school community*, characterized by relational detachment, resistant participation, and psychological disidentification.

Conceptual Features School engagement embodies four conceptual features. First, school engagement is conceptualized as a *malleable* construct that is influenced by students' personal characteristics (e.g., social skills) and features of the school environment (e.g., teacher support; Allen et al., 2018). Second, school engagement is a *multilevel* construct that operates in different levels of the school contexts. Researchers could measure a student's engagement in school, or engagement in sub-contexts within the school, such as a class or an extracurricular club. Third, school engagement is a *relational* phenomenon that is tied to a social group or context (Li, 2011). As such, school engagement indicators should include social, psychological, or behavioral variables that depict students' relationship with the school. Finally, in alignment with the current consensus of the field (e.g., Fredricks et al., 2004), school engagement is conceived as a *multidimensional* construct, consisting of at least three dimensions—relational, participatory, and psychological. We will elaborate on each of the dimension later in this section.

School Climate and Motivation School engagement should be distinguished from school climate, which describes the physical (e.g., school size) and social-emotional (e.g., perceived safety) attributes of the school (Cohen et al., 2009). School climate and school engagement are similar such that they concern student-school relationship. However, there is one important distinction: school climate examines the physical and social-emotional quality of the school and how the school engages the students, whereas school engagement examines students' perceived connection with the school and how the students themselves are engaged with the school community.

School engagement should also be distinguished from motivation. As discussed in the previous section, motivation involves needs, beliefs, values, and goals that energize and direct behaviors (Reeve, 2012; Schunk et al., 2014). There are two issues that surround the motivation-engagement distinction in the school engagement literature. First, many researchers tend to view motivation variables like school valuing and educational goals as indicators of school engagement (e.g., Finn, 1989). This is because it signals whether students' school-related beliefs, values, and goals are aligned with those encouraged by the school, and illustrates their goodness-of-fit with the school environment. However, we argue that school motivation is distinct from school engagement as the former does not directly convey students' connection with the school community. We can observe this difference through the case of home-schooled students. Like their schooling counterparts, home-schooled students could hold their own educational goals or beliefs about the utility of attending a school, without attending one. Contrastingly, the construct of school engagement is not relevant to home-schooled students since they are not affiliated to a school and are therefore unable to form a relationship with it.

Second, while student engagement researchers agree that motivation precedes engagement (e.g., Appleton et al., 2008), studies have shown that different indicators of school engagement relate to school motivation differently. Evidence suggests that teacher-student relationship and school belongingness shape students' school motivation, which in turn predicts school participation (Hughes and Chen, 2011; Zumbrunn et al., 2014). These findings raise questions on the motivation-engagement association. To address the problem, it is important to first recognize that there are two different types of school motivation—learning motivation and social motivation. Learning motivation involves students' beliefs, values, and goals relating to learning activities (e.g., goal of mastering a task). Social motivation involves students' beliefs, values, and goals relating to social competence and relationships in school (e.g., goal of

developing interpersonal skills; see Wentzel, 1999). On this note, we propose that *social motivation is likely to precede school engagement, whereas learning motivation is likely to precede learning engagement.* Indeed, research has shown that social motivation predicted school engagement indicators like quality of social relationships, school belongingness, and prosocial behaviors in classroom (Liem, 2016; Mouratidis and Sideridis, 2009; Wentzel et al., 2018). Since school engagement is a relational construct that operate on the social plane, we should consider the social facet in the motivation-engagement discourse—this however is beyond the scope of the current paper.

Object of Engagement

As its name implies, the object of school engagement is the *school community* where students belong. School is a place of learning. It is defined as an organization consisting of a collective of individuals (e.g., students, teachers) who engage in school-related (social, work, and learning) activities. Based on this definition, private or public education institutions ranging from primary schools to universities are considered as schools.

Researchers often study the school engagement construct at the school level. However, like any other social organizations, a school consists of various sub-contexts or groups in which students could interact with. Rather than the whole school, students are likely to feel that they belong to a specific community within the school. One prominent example is the classroom. For students who are engaged in the classroom context, they might feel attached to their classmates and teacher(s), participate cooperatively in classroom activities by following the class rules and regulations, and identify strongly as a member of the class. Beyond the classroom, students also engage in other sub-contexts like extracurricular clubs, student government, or other interest groups. These sub-contexts provide opportunities for students to interact with other school peers and personnel outside of their daily classes. Students tend to engage and identify with multiple sub-contexts within a school, each contributing to their perception about the school and overall sense of belonging (Knifsend et al., 2017; Martinez et al., 2016).

Dimensionality

School engagement is often described as a multidimensional construct that consists of emotional, behavioral, and cognitive dimensions (Fredricks et al., 2004; Furlong et al., 2003). While the multidimensional view is well accepted in the field, we argue that the labeling of the dimensions could create some confusion about the meaning of the construct. On one hand, emotional, behavioral, and cognitive engagement within the learning engagement construct hold a different meaning from those within the school engagement construct, and the use of overlapping terms could worsen the issue of jingle fallacy in the literature. On the other hand, some school engagement indicators do not clearly fall under one of the three dimensions. School identification, for example, is both affective and cognitive in nature, and this resulted in discrepancies on how it was categorized by researchers (Finn and Zimmer, 2012; Furlong et al., 2003). In view of the situation, we propose renaming emotional, behavioral, and cognitive dimensions to relational, participatory, and psychological, respectively.

Relational dimension Relational engagement is defined as *the extent to which students are emotionally attached with and friendly toward people in the school community*, such as teachers, peers, and other school personnel. Relational engagement is characterized by *closeness*, the degree of warmth and relatedness between individuals (Pianta, 2001; Shulman and Laursen, 2002). Conversely, relational disengagement is defined as *the extent to which students are emotionally detached from and antagonistic toward people in the school*. It is characterized by *conflict*, the degree of negativity and discord between individuals. Researchers could assess relational engagement via student-teacher relationship surveys (e.g., Pianta, 2001), or via context-oriented measures like social network or discourse analysis (Sinatra et al., 2015).

Students' emotional reactions toward teachers and peers are often regarded as the emotional component of student engagement (Appleton et al., 2006; Fredricks et al., 2004; Furlong et al., 2003). However, perhaps due to the differing meanings of engagement posited in extant perspectives as reviewed earlier, many student engagement researchers also regarded relationships as contextual factors that predict engagement (e.g., Lam et al., 2014). With the distinction of school engagement and learning engagement, it is now clear that both groups of researchers are referring to different types of engagement—the former on state of connection with the school community and the latter on state of activity in learning.

Participatory Dimension The dual component framework defines participatory engagement as *the extent to which students comply with the school rules and expectations and participate cooperatively in school-related activities* (Ladd et al., 2000; Ladd and Dinella, 2009). *Cooperative participation* is characterized by external indicators like attendance, responding promptly to teachers' request, and using school materials responsibly. Conversely, participatory disengagement is defined as *the extent to which students are defiant, reject school rules and expectations, and actively resist school-related activities*. *Resistant participation* is characterized by external indicators like absenteeism and defiant acts. Participatory engagement could be assessed via student or teacher surveys of cooperative-resistant participation (e.g., Ladd et al., 2000), observational measures of classroom or school behaviors, or objective school records (e.g., attendance and disciplinary records, extracurricular participation).

Literature on behavioral engagement in school has generally identified two types of student participation (Finn et al., 1991; Ladd et al., 2000). The first type is cooperative participation, which is how we define participatory engagement, whereas the second type is independent participation, which refers to students' tendency to take initiative in school and class activities. According to Ladd et al. (2000), the two types of participation differ such that cooperative participation is an aspect of social responsibility and it reflects student social goals. On the other hand, independent participation is an aspect of self-directness and autonomy and it reflects students' learning goals. From this perspective, we suggest that cooperative participation should be regarded as a component of school engagement as it is socially motivated and portrays students' social role. As for independent participation, it should be regarded as a component of learning engagement as it reflects students' state of activity in learning. Indeed, the concept of independent participation is aligned with agentic engagement (Reeve, 2013) described earlier.

Psychological Dimension The present paper defines psychological engagement as *the extent to which students identify with their school* (Goodenow, 1993). It concerns one's *psychological membership*, that is, *perceived cognitive and emotional significance of a group*

membership (see Lee et al., 2017). Students who psychologically identify with a school community would define themselves as member of the school develop a sense of belonging, and feel proud and happy to be a part of the school. Conversely, psychological disengagement is defined as *the extent to which students' disidentify from their school*, which involves the active separation or distancing of one's sense of self from the group membership (Kreiner and Ashforth, 2004). Students who are psychologically disengaged from the school would oppose defining themselves as members of the school and feel averse or embarrassed to be part of the school community. Researchers could assess students' psychological engagement via student survey of their school identification (e.g., Lee et al., 2017), or via discourse analysis to understand their group identity (Sinatra et al., 2015).

Psychological engagement is related to but distinct from relational engagement. While psychological engagement examines students' emotional and cognitive connection with a group, relational engagement examines students' emotional attachment to individuals within the group. It is also important to note that the current conception of psychological engagement is different from the school identification variable in Finn's (1989) participation-identification model. The identification component of the participation-identification model is predominantly affective in nature, and it encompasses both students' feelings of belongingness and perceived value of the school (Finn and Zimmer, 2012). On the contrary, our definition of identification considers both affective and cognitive processes. Moreover, rather than students' perceived value of school, which is seen as a motivation variable, we focus on students' perceived significance of being a member of the school.

In summary, we have proposed that (1) school engagement/disengagement refers to the state of connection/alienation between the student and the school community; (2) school engagement is a relational phenomenon that is malleable and multidimensional, and that operates in different levels of school social contexts; (3) school community is the main focus or object of school engagement and they could be further characterized by the sub-contexts or groups within the school; (4) attachment, cooperativeness, and identification represent, respectively, the relational, participatory, and psychological dimensions of school engagement; and (5) detachment, defiance, and disidentification represent, respectively, the relational, participatory, and psychological dimensions of school disengagement, a set of processes that is distinct from school engagement.

Implications and Future Directions

Student engagement is a significant contributor of learning and school success. However, as we reviewed above, research on this topic of interest has been impeded by various conceptual, theoretical, methodological, measurement, and analytical issues (Azevedo, 2015). To address these problems and advance the field of student engagement, we have proposed the Dual Component Framework of Student Engagement. This section highlights the theoretical, research, and applied implications of the ideas introduced in the framework.

Theoretical and Research Implications

Learning Engagement and School Engagement Many students, teachers, education researchers, and policymakers assume that the term student engagement holds a single meaning

when in fact it is used to describe different phenomena (jingle fallacy; Reschly and Christenson, 2012). Recognizing that student engagement could either refer to one's mental state during learning activities or degree of connection with a school community, the Dual Component Framework of Student Engagement differentiates two distinct (but related) student engagement constructs: learning engagement and school engagement. This dichotomy helps to explain the inconsistent conceptualization and operationalization of student engagement and organize extant student engagement research. For instance, student engagement studies that employed flow theory tend to focus on students' learning engagement (e.g., Shernoff et al., 2017), whereas research on participation-identification model tend to focus on students' school engagement (e.g., Finn and Zimmer, 2012). The two lines of student engagement research thus did not necessarily examine the phenomenon at the same level of conceptual abstraction.

Upon differentiating learning engagement and school engagement, the next step would be to explore the inter-relationship between the two constructs. Moving forward, future research could seek to answer the following questions: Are learning engagement and school engagement empirically distinguishable? How are they related to one another, and to students' learning and social motivation in school? Are learning and school engagement associated with different (or similar) sets of antecedents and outcomes? These are questions worthy of further investigations.

Student Engagement and Identity In reference to Saks (2019), the Dual Component Framework of Student Engagement also indicates that learning engagement and school engagement reflect students' commitment in their work and social role, respectively. This emphasis on roles suggests that student identity and student engagement are conceptually related to one another. Indeed, research has shown that the way individuals define themselves as a student had an impact on their engagement in student-related activities (Faircloth, 2012). Therefore, future studies could further explore how different aspects of student identity (e.g., personalized and socialized meanings attached to the identity) or various types of identities (e.g., ethnic identity) are related to learning engagement and school engagement. For example, what kinds of personal identities (e.g., defining oneself as a hardworking student) would have an impact on learning engagement? If a student identifies strongly as a member of a school (i.e., psychological engagement) yet perceive the school to be a place for low-ability students (i.e., socialized meaning attached to the group identity), would psychological engagement, in this scenario, lead to low academic self-concept and negatively affect learning? Could a student's ethnic or gender identity influence his or her engagement through motivation (see identity-based motivation; Oyserman, 2013)?

Multidimensionality According to the Dual Component Framework of Student Engagement, (1) engagement and disengagement are distinguishable, and (2) both learning engagement/disengagement and school engagement/disengagement are multidimensional constructs. Learning engagement consists of affective, behavioral, and cognitive dimensions. Likewise, school engagement consists of relational, participatory, and psychological dimensions. The three-dimensional models proposed here prompt future research to address the following research questions: Can the proposed indicators of learning engagement and school engagement produce a three-factor solution (via factor analysis) as hypothesized? Are engagement and disengagement empirically distinguishable? What are the inter-correlations among the dimensions, and do the dimensions constitute a higher-order factor?

Object of Engagement As stated earlier, learning engagement focuses on students' psychological state during learning activities, which can be categorized in terms of its subject domains (e.g., Mathematics, Science) and types (e.g., class lesson, homework). Since different types of learning activity engagement constructs, such as Mathematics lesson engagement or homework engagement, are rarely examined jointly within the same investigation, future research can explore the following issues: Is the proposed three-dimensional structure of the learning engagement construct invariant across engagement in different subject domains and types of learning activities? How are different types of learning activity engagement related to one another? Are they related to different sets of antecedents, and do they each contribute uniquely or differently to outcomes like achievement? Similarly, school engagement focuses on students' connection with the school community, which consists of sub-contexts like classroom and extracurricular groups. Since extant literature rarely examines students' engagement in these sub-contexts, future research needs to explore the same questions raised for learning engagement. Addressing these research questions, we believe, is also worth undertaking and has the potential to advance the field further.

Applied Implications

From the dual-component perspective, a student could either be academically or socially disengaged, or both. It is therefore crucial to assess the needs of the students and identify if the problem that the students are facing warrant an intervention that targets learning engagement or school engagement.

Learning Engagement Interventions Learning engagement is a malleable state that is responsive to students' characteristics or characteristics of the learning activity (Wang et al., 2019a). Therefore, one way to promote learning engagement is to enhance students' learning motivation (Lazowski and Hulleman, 2016) and their self-regulation skills (Cleary and Zimmerman, 2004). Alternatively, interventions could also promote learning engagement via design of the learning activities.

For example, to elicit affective engagement, teachers may present unusual, surprising or novel information or ideas to elicit interest, allow students to engage in authentic tasks (Marks, 2000), and incorporate hands-on or interactive elements in the learning activities (Keller, 2009; Reeve et al., 2015). To promote behavioral engagement, teachers may provide more structure in learning activities by giving clear guidelines and expectations, ensuring optimal challenge, and providing positive competence feedback; these strategies would give students perceptions of control and competence, thus enabling them to be more effortful and persistent (Hospel and Galand, 2016; Skinner and Belmont, 1993). Finally, to enhance cognitive engagement, teachers may employ open-ended tasks that require students to generate multiple representations and solutions, give students the opportunity to work on ill-defined problems or explore complex problems that they have yet learnt the solutions (e.g., problem-based learning), encourage students to clarify their thinking or to reason and make justification during a lesson via teacher questioning, or connect students' intuitive or formal ideas of a concept (Fitzgerald and Palincsar, 2019; Shin and Kim, 2019). These practices, which are largely constructivist in nature, can help to foster students' curiosity and need for cognition, induce knowledge gaps, and compel students to think creatively and deeply during learning activities as opposed to passively accepting information.

School Engagement Interventions School engagement is a malleable construct that is influenced by students' personal characteristics or features of the school environment (Allen et al., 2018). As school engagement concerns students' connection with the school social context, one way to promote school engagement is to help enhance students' own social and emotional competences (SECs)—self-awareness, self-management, social awareness, relationship skills, and responsible decision making—through social-emotional learning (SEL) approaches (see Durlak et al., 2011). Equipping students with the necessary SECs would enable them to maneuver effectively in social spaces within the school.

Aside from students' SECs, education practitioners could also enhance school engagement via environmental-organizational change as school engagement is intimately associated with the school climate (Yang et al., 2018). The recently published *Handbook of Student Engagement Interventions* (Fredricks et al., 2019) has outlined an array of strategies for such changes. Some examples include mentorship programs that help students establish trusting relationships with adults in school, interventions that encourage participation in after-class activities in school, and those that seek to prevent bullying in schools by targeting peer support and changing norm and attitude toward bullying. These interventions have one thing in common; that is, they help to cultivate a friendly and supportive environment for students to belong to, and to develop socially as an effective member of the school.

Conclusion

This paper has examined various extant perspectives on student engagement in the literature. Based on this comprehensive review, we propose the Dual Component Framework of Student Engagement, which divides student engagement into two distinct components—learning engagement and school engagement—to improve the conceptual clarity of the construct. We also elaborated on how learning engagement and school engagement are conceptualized under the framework. Although the dual-component perspective was systematically developed and theoretically underpinned, empirical testing is needed. As Jaccard and Jacoby (2010, p. 26) accurately pointed out, "[r]egardless of how detailed, formally explicit, or elegant they may be, by themselves, conceptual systems (such as theories, models, and hypotheses) are not scientific, only prescientific." We therefore hope that this paper could act as a timely stimulus that instigates more research on the nature of student engagement and more theoretical discourses about this meta-construct.

Code Availability Not applicable.

Data Availability Not applicable.

Declarations

Ethics Approval This is a review paper; therefore, no ethical approval is required.

Consent to Participate Not applicable.

Consent for Publication Not applicable.

Competing Interests The authors declare no competing interests.

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