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REVIEW ARTICLE

Teacher Enthusiasm: Reviewing and Redefining a Complex Construct

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Abstract The last review on teacher enthusiasm was 45 years ago, and teacher enthusiasm remains a compelling yet complex variable in the educational context. Since Rosenshine's (School Review 78:499–514, 1970) review, the conceptualizations, definitions, methodology, and results have only become more scattered, and several related constructs have emerged that may or may not be synonymous with teacher enthusiasm. In this review, we delve into the past four decades of teacher enthusiasm research to provide a potential starting point for a new, consolidated direction in teacher enthusiasm research based on a proposed, holistic definition of enthusiasm which brings together research from the past and can fuel research for the future. We begin by reviewing definitions of teacher enthusiasm and related constructs and, thereafter, put forward a new and integrative definition of teacher enthusiasm that combines the two most prevalent conceptualizations of the construct, namely experienced enjoyment and expressive behavior. Bearing our proposed definition in mind, we go on to present numerous measures that assess teacher enthusiasm, detail research evidence related to its correlates, and finally derive several research implications that, when considered in future research, promise to advance the field.

Keywords Teacher enthusiasm · Enthusiastic teaching · Experienced enthusiasm · Displayed enthusiasm · Review

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Teacher enthusiasm has captured the attention of researchers, teachers, and laypersons for the better part of the last century and for a good reason: Enthusiasm has consequences for both students and teachers. Enthusiastic teachers not only motivate, inspire, and excite students (Frenzel et al. 2009a; Keller et al. 2014; Kunter et al. 2013; Patrick et al. 2000; see also Brophy 2000; Brophy and Good 1986; Shuell 1996), but they also promote learning and student achievement (e.g., Brigham et al. 1992; Kunter et al. 2013; see also Keller et al. 2013). Enthusiastic teachers also appear to be happier and healthier (Kunter et al. 2008, 2011, 2013), and teachers, in general, appear to believe that being enthusiastic makes them more effective (Sutton 2005). As Oliver Wendell Holmes, Sr. said, "It's faith in something and enthusiasm for something that makes a life worth living."

Forty-Five Years Later: Does Teacher Enthusiasm Deserve Another Review?

The last review on teacher enthusiasm, published in 1970 (Rosenshine 1970), focused predominantly on research that equated teacher enthusiasm with instructional behavior. At that time and for many years thereafter, teacher enthusiasm was firmly grounded within research following the process-product paradigm and was regarded as outwardly displayed (nonverbal) teacher expressiveness and as an effective teaching strategy (e.g., Brophy and Good 1986; Collins 1978; Murray 1983). Unfortunately, the lack of a clear definition and the stagnation of the conceptualization of teacher enthusiasm in this early literature resulted in a failure of this concept to keep pace with developments in educational research and a failure to become integrated into newer approaches in the field. Only just recently has research in teacher enthusiasm broadened its focus from considering teacher enthusiasm solely in terms of expressed behavior to also considering teachers' experienced enthusiasm as an affective and motivational factor (Kunter et al. 2008).

There are several burning reasons that we believe it is time for another look at what has been going on the last 45 years in the field of teacher enthusiasm. First, research in this area since Rosenshine's review in 1970 has anything but decreased, but the conceptualizations, definitions, methodology, and results have only become more scattered. Second, several related constructs have emerged that may or may not be synonymous with enthusiasm; however, no endeavor has yet been undertaken to potentially merge or concretely differentiate these flowering research areas from one another. Third, educational research is not only concerned with student outcomes but has slowly begun to discover the importance of teachers themselves within the profession—their motivation, their emotions, and their well-being matter. Recent research in teacher enthusiasm mirrors this trend in focusing on teachers, and a fresh look at the cumulative research in this area is necessary to further research and interventions targeted at supporting teachers and the profession. Finally, this review is necessary because it serves as the potential starting point for a new, consolidated direction in teacher enthusiasm research based on a holistic definition of enthusiasm which we hope can bring together research from the past and fuel research for the future.

This review begins by delving into the theoretical and conceptual basis of our proposed definition of teacher enthusiasm first by reviewing literature that has proffered enthusiasm as either a behavioral or affective construct and then by attempting to differentiate enthusiasm from related constructs and finally unfolding our proposed definition. Thereafter, we highlight research instruments that have been used to assess teacher enthusiasm in previous research. Next, we detail the available empirical evidence on the correlates of enthusiasm and link it to teachers' personal and professional lives, teaching effectiveness, instructional quality, and

student outcomes. Finally, based on our new proposed definition of teacher enthusiasm and the summarized empirical evidence, we draw implications for future research.

Method

Literature Search

The literature that we draw on for the conceptualization, measures, and correlates of teacher enthusiasm stems from a comprehensive search of major education databases: EBSCO Academic Search Premier, ERIC, and PsychInfo. To identify relevant literature based on paper titles and abstracts, the following key terms were utilized using the connector OR: teacher enthusiasm, enthusiastic teaching, instructor enthusiasm, enthusiasm for teaching, and professional enthusiasm. Furthermore, our search was restricted to English-speaking, peer-reviewed journals published after 1970 (the year of the last review on enthusiasm provided by Rosenshine). The initial database search yielded 120 references.

Inclusion and Exclusion Criteria

We applied two major selection criteria to identify sources relevant to this review. First, selected studies are needed to be scientific investigations (e.g., we excluded teaching guides). Second, teacher enthusiasm had to be addressed explicitly within the article and had to be clearly defined, conceptualized, and/or operationalized. Thus, studies in which, for example, teacher enthusiasm was identified as a potentially confounding variable, but not assessed within the study itself, were excluded from the review. After applying these selection criteria, 37 references were retained. Cross-referencing within these 37 references for other sources not identified in the initial database search yielded an additional 26 references that included books, book chapters, and reviews. In total, the literature search yielded 63 articles and book chapters.

Defining Teacher Enthusiasm

Beginning this review with a definition of teacher enthusiasm is where we encountered the first and largest hurdle because there is no agreed-upon definition of teacher enthusiasm. Instead, researchers have employed different conceptualizations of teacher enthusiasm, which we organized into two categories: displayed or experienced enthusiasm (see Table 1). When reviewing the literature, it is important to keep in mind that we do not favor one approach over the other; both are valid in their own respect. In fact, as we will argue later on, experienced and displayed enthusiasms are not mutually exclusive but may be two complementary elements of one overall concept of teacher enthusiasm.

Displayed Enthusiasm

Two major camps exist within the literature conceptualizing enthusiasm as displayed behaviors. One considers displayed enthusiasm to be nonverbal expressiveness, and the other more generally considers enthusiasm to be a component of instructional behavior. Below, we examine definitions of enthusiasm from both perspectives.

Table 1 Conceptualizations of teacher enthusiasm and related constructs

Conceptualizations	Definition/key elements	Exemplary references	Related constructs
Displayed enthusiasm:			
Instructional behavior	Stimulating, energetic and motivating teaching style, use of humor	Brophy and Good (1986); Murray (1983, 2007); Rosenshine (1970); Walberg and Paik (2000)	
Nonverbal expressiveness	Demonstrative gestures, vivid facial expression	Collins (1978); Murray (1983, 2007)	Immediacy (Richmond et al. 2003)
Experienced enthusiasm:			
Teacher (affective) characteristic	Habitual, recurring teaching-related enjoyment and excitement	Kunter et al. (2008, 2013)	Enjoyment (Frenzel et al. 2009a); passion (Carbonneau et al. 2008)

Teacher Enthusiasm as Nonverbal Expressiveness Collins (1978) proffered the idea of enthusiasm as a culmination of expressive nonverbal behaviors and defined teacher enthusiasm based on eight indicators. According to her operationalization, an enthusiastic teacher employs a lively, energetic, and exuberant teaching style, which is objectively identifiable as the frequent and intense use of (1) vocal animation, (2) wide-opened eyes and eye contact, (3) demonstrative gestures, (4) body movements, (5) meaningful and significant facial expression, (6) a descriptive selection of words, (7) acceptance of students' ideas and feelings, and (8) an overall high level of energy. Following in Collins' footsteps, several further studies also conceptualized teacher enthusiasm as nonverbal behaviors of expressiveness (e.g., Bettencourt et al. 1983; McKinney et al. 1984b; Patrick et al. 2000; Payne and Manning 1986; Perry 1985; Schmidt and McCutcheon 1994).

Very similar to Collins' conceptualization, but emerging from a different line of research in teaching effectiveness, Murray's investigation (1983; see also, 1991, 2007) offers one of the most enlightening insights into the behavioral components of enthusiastic teaching. In this study, teachers who had been previously evaluated as high-, medium- , and low-quality college teachers were assessed by trained observers on the basis of a 60-item teacher-behavior inventory. An exploratory factor analysis of the behavior items yielded nine interpretable factors, one of which was labeled "enthusiasm". The behavioral indicators associated with this factor included the following: (1) uses humor, (2) speaks expressively or emphatically, (3) shows facial expressions, (4) moves about while lecturing, (5) reads lecture verbatim from notes (negative factor loading), (6) shows energy and excitement, (7) smiles or laughs, (8) gestures with hands and arms, (9) shows strong interest in subject (negative factor loading),[1] (10) avoids eye contact with students (negative factor loading), and (11) speaks softly (negative factor loading).

In sum, several research traditions in the field of teacher enthusiasm reduce the construct to displayed enthusiasm in terms of nonverbal expressiveness. However, Rosenshine (1970)

[1] Showing interest was associated negatively with the overall factor of teacher enthusiasm. The author does not provide any explanations about why that might be the case. However, this item was endorsed the most by students in the high-rated teacher performance group and the lowest by students in the low-rated group. A negative relation of showing interest with overall enthusiastic teaching is contra intuitive and in direct conflict with the findings of Feldman (2007) and Kunter et al. (2008).

cautioned that although enthusiastic teaching was, to a large extent, determined by nonverbal expressiveness, these behaviors might not be exhaustive when it came to enthusiastic teaching. Similarly, Locke and Woods (1982) warned that when reducing teacher enthusiasm to "counted smiles and numbered gestures […] something of the whole is lost and validity suffers accordingly" (p. 7). Despite the fact that there are several research groups adhering to this conceptualization and producing intriguing findings, other researchers have deemed it necessary to extend beyond teacher enthusiasm as nonverbal expressiveness and also consider enthusiasm as instructional behavior and as an effective teaching strategy.

Teacher Enthusiasm as Instructional Behavior Rosenshine (1970) lists research studies that not only include nonverbal expressiveness but also other relevant teacher behaviors such as verbal interaction between students and teacher, the types of questions that a teacher asked (varying between factual questions and asking for interpretation and opinion), and regular praise and encouragement. Similarly, other research studies conceptualize teacher enthusiasm as instructional behavior that is lively and engaging (Madsen et al. 1989; see also Kunter et al. 2008; Patrick et al. 2000). In this literature, teaching enthusiasm is associated with teaching behaviors that include effective modes of information delivery (Brophy and Good 1986), direct teaching (Walberg and Paik 2000) or "instructional technique" (Wang et al. 1993, p. 262). In his review, Rosenshine (1970) found enthusiastic teaching to relate to a teaching style described by keywords such as relaxation, mobility, expressiveness, stimulating, and energy or as the opposite of a monotonous and dull teaching style.

In teaching effectiveness research—an area of research typically situated within higher education—questions concerning what constitutes an effective teacher, what factors influence course quality, and how these factors produce desired student outcomes serve as the starting point for research. In some investigations, enthusiasm is considered an element of effectiveness (e.g., Feldman 2007; Jackson et al. 1999; Marsh 2007; Murray 2007), and in others, it is not (Seidel and Shavelson 2007). Within the former body of research, enthusiasm is generally related to visible and perceivable teacher behaviors as judged from the students' perspective.

In an investigation of teaching effectiveness by Jackson and colleagues (1999), teacher enthusiasm emerged as part of teachers' rapport with students. It was defined as the teacher's ability to create an atmosphere conducive to learning, to encourage students to express their opinions, and to engage them in the content area. Similarly, the enthusiasm dimension that emerged (post hoc) in the effectiveness instrument developed by Marsh (1982a, b, 1994) included teachers being dynamic and energetic and enhancing their presentation with humor. However, it is important to note that within this research, indicators of behavioral enthusiasm are based on post hoc analyses and are not guided and selected using an underlying definition of enthusiasm. As such, any emerging conceptualization of enthusiasm is limited to the set of behaviors initially included in the evaluation and subsequent factor analyses.

In sum, a strong research line supported by a vast body of teaching effectiveness research considers enthusiasm as instructional behavior and one factor of effective teaching and of course quality. However, while teacher enthusiasm in this body of research is usually understood as a set of behaviors conveying energy and excitement, it has yet to be determined which specific behaviors actually serve to convey that impression and whether or how these behaviors differ from nonverbal expressiveness. Based on our literature review, we think it likely that any differences in the conceptualization of displayed enthusiasm emerge because of different research methodologies: Research studies conceptualizing enthusiasm as nonverbal expressiveness (with the exception of Murray 1983) were grounded in an experimental

paradigm, often based on training teachers to engage in specific behaviors, whereas the studies emerging from teaching effectiveness research were concerned with large-scale assessments and comparisons of course quality and thus utilized a more generalized notion of displayed teacher enthusiasm. Although we believe that it is possible that displayed enthusiasm goes beyond nonverbal behaviors of expressiveness, there is no known evidence that empirically supports this idea.

Teacher Immediacy Beyond research that explicitly explores enthusiasm as a behavioral variable, one similar construct exists that has yet to be deliberately connected to or differentiated from displayed teacher enthusiasm, namely teacher immediacy. Immediacy generally refers to nonverbal behaviors of physical or psychological closeness between communicating people (see, for example, McCroskey et al. 1995). Although the operationalization of immediacy (including behaviors such as use of gestures, facial expression, eye contact, or tone of voice; Richmond et al. 2003) appears to overlap significantly with the operationalization of nonverbally expressed teacher enthusiasm (Collins 1978; see above), these two research traditions exist almost completely in isolation of one another. Babad (2007) explains this by highlighting the different functions of immediacy and enthusiasm in the classroom: "Enthusiasm would seem to emphasize instructors' expressive style in teaching their subject matter, whereas immediacy would seem to center on instructor-student-interaction and closeness" (p. 223). In this way, it appears that while the theoretical function of enthusiasm and immediacy diverge—enthusiasm builds a relationship to the subject matter, and immediacy builds a relationship to a person—the means of assessing the two is virtually indistinguishable.

Experienced Enthusiasm

Deviating from behavioral conceptualizations of teacher enthusiasm, Kunter and colleagues (Kunter et al. 2008; see also subsequent publications by Decker et al. 2015; Hachfeld et al. 2015; Kunter et al. 2011, 2013; Richter et al. 2013) supply a reconceptualization of teacher enthusiasm as experienced enthusiasm. Transcending earlier descriptions such as "energy" (Rosenshine 1970, p. 499) and "positive affect" (Locke and Woods 1982, p. 3), Kunter et al. (2008) define teacher enthusiasm in terms of its affective component which "reflects the degree of enjoyment, excitement, and pleasure that teachers typically experience in their professional activities" (Kunter et al. 2008, p. 470). They interpret the term enthusiasm almost synonymously with enjoyment and relate it to the affective—not cognitive—components of interest (see Krapp 2007). These authors also theoretically and empirically differentiate two forms of experienced enthusiasm, namely topic-related enthusiasm in which teachers can be excited about the subject that they teach and activity-related enthusiasm in which teachers are excited about teaching itself (e.g., interacting with students); both need not necessarily co-occur within the individual (Kunter et al. 2008, 2011). Furthermore and using our terminology of experienced and displayed enthusiasms, the theoretical considerations and empirical evidence of Kunter and colleagues (Kunter et al. 2008) as well as Frenzel and colleagues (Frenzel et al. 2009a) suggest that experienced enthusiasm may motivate teacher behaviors and thus should serve as an antecedent of displayed enthusiasm.

The approach of Kunter et al. to considering the affective component of teacher enthusiasm is relatively new but has since been applied in a number of investigations (Decker et al. 2015; Hachfeld et al. 2015; Keller et al. 2014; Kunter et al. 2011; Richter et al. 2013). However, the

concrete conceptualization of experienced enthusiasm and, more importantly, its differentiation from similar constructs are still undetermined. We have identified three related constructs—enjoyment, intrinsic value, and passion—that may to varying degrees and on a conceptual level be related to and overlap with experienced enthusiasm.

Teacher Enjoyment Over the last 15 years, teacher emotions have come to be recognized as important variables that not only influence teachers' well-being but also teaching processes and student outcomes (see Sutton and Wheatley 2003). Emotions can be described as multidimensional constructs that include a core affective component (the "feeling" itself) in addition to cognitive (e.g., emotion-specific thoughts), behavioral (e.g., approach toward an object), physiological (e.g., heart rate), and expressive components (Pekrun 2006; Scherer 1984).

Teacher enjoyment is one emotion that appears to play a large role in both teachers' and students' lives. For example, Frenzel and colleagues (Frenzel et al. 2009a) found that teachers' enjoyment is transmitted to students via their enthusiastic teaching behaviors. This conceptualization and, even more so, this operationalization of teacher enjoyment closely parallel that of Kunter and colleagues' concept of experienced enthusiasm (e.g., 2008; 2011) in that it captures the excitement, positive affect, and highly activating arousal associated with enthusiasm. In fact, the overlap between the two constructs appears so large that a clear distinction between the two is difficult to make (see Frenzel 2014). Although enthusiasm clearly encompasses more than enjoyment because it also includes behavioral elements, the affective component of enthusiasm might be adequately described by the discrete positive emotion enjoyment.

Intrinsic Value Experienced enthusiasm and enjoyment also emerge within expectancy-value theory in relation to an individuals' intrinsic value and thus can be seen within the broader scope of teacher motivation. In expectancy-value theory, the interaction of teachers' perceived competence and the perceived value of their goals influence instructional behaviors and, thus, student outcomes. One prominent expectancy-value model (Eccles and Wigfield 2002) includes, among several different kinds of values, intrinsic value, that is, "the enjoyment one gains from doing the task" (Wigfield 1994, p. 52). Within this perspective, experienced enthusiasm could relate to the intrinsic value of teachers' goals inasmuch as it coincides with positive affective experiences during teaching but, at the same time, may be distinguished from intrinsic value in that experienced enthusiasm lacks the cognitive-evaluative component. Similarities and overlap of experienced enthusiasm and intrinsic value need to be determined in future research.

Teacher Passion One could describe enthusiasm in layman's terms as being "on fire" and passionate about an object or an activity. In educational research, passion has been regarded as a mixture of positive emotions and commitment toward a subjectively valuable target. Vallerand et al. (2003) defined passion as a "strong inclination toward an activity that people like, that they find important, and in which they invest time and energy" (p. 757). To measure teaching passion, Carbonneau et al. (2008) ask teachers about their perceived value, love, and time commitment to the profession. Within this research, Vallerand and colleagues (Vallerand et al. 2003) have identified two different forms of passion, namely harmonious and obsessive passion. Of these two, harmonious passion has been related to positive affective experiences during and after an activity.

Even though the conceptualizations of (harmonious) passion and experienced enthusiasm suggest that the two might be related, this relationship has not yet been empirically supported. Carbonneau and colleagues (2008)—referring to displayed enthusiasm—hypothesized that enthusiasm as a "visible sign of passion" (p. 983) is perceived by students and thus influences their behavior. However, whether passion actually manifests itself in enthusiastic behaviors and how these two concepts—enthusiasm and passion—are theoretically and empirically related or are distinct needs to be investigated.

Redefining Teacher Enthusiasm

Thus far, we have attempted to highlight the contemporary relevance of teacher enthusiasm and to identify patterns in the literature that enable us to organize the current conceptualizations and seemingly disparate constructs into meaningful categories. Beyond this, however, we suggest that for teacher enthusiasm research to make headway, an updated definition of the construct is necessary. In particular, we believe that adhering to two separate conceptualizations of enthusiasm—displayed and experienced enthusiasms—insufficiently captures the breadth and depth of the construct and possibly stifles productivity in this field. We address several issues that arise because of this dualistic approach to enthusiasm, which we believe highlight the necessity of a new era in the conceptualization and investigation of this construct.

The Shortcomings of a Dualistic Approach to Enthusiasm

We consider both behavioral and affective approaches to teacher enthusiasm to be equally valid because both have been shown to be relevant factors with regard to desirable student outcomes and teachers' professional lives; nonetheless, both have their drawbacks. First, a purely behavioral approach to the examination of teacher enthusiasm not only falls short of tapping into the full complexity of this concept, but also brings with it empirical difficulties and ambiguities that have yet to be rectified. This problematic is evident in studies that aim to train teachers and conceptualize the construct solely in terms of nonverbal expressiveness (Bettencourt et al. 1983; Brigham et al. 1992; Collins 1978; McKinney et al. 1984b). At the methodological level, these training studies have been criticized as lacking ecological validity (Babad 2005, 2007). Further, training individuals to express excitement when they do not necessarily experience it resembles emotional labor (e.g., Morris and Feldman 1996; Philipp and Schüpbach 2010), which itself has detrimental consequences for individuals. At the conceptual level, Locke and Woods (1982), as mentioned earlier, warned that something of the whole in teacher enthusiasm is lost when the construct is reduced to nonverbal expressiveness. Moreover, important issues such as contextualization or intraindividual variability of expressiveness have not been addressed within displayed enthusiasm research.

Second, if enthusiasm is considered solely as displayed behavior, then it leaves open to question what forces are behind enthusiastic behavior, which factors motivate differences in instructional behaviors, and why teachers differ in their expressive behaviors. Bettencourt and colleagues (1983) specifically spoke of "internal processes in enthusiastic behavior [which] need to be conceptualized, measured, and correlated with the external indicators already identified" (p. 448). Similarly, Locke and Woods (1982) proposed considering multiple elements within the concept of enthusiasm, including the teacher's affective experiences and

their teaching behaviors. In addressing only the outwardly visible behaviors associated with enthusiasm, possible driving forces of the behavior remain hidden. Furthermore, if these precipitating factors are not understood and adequately addressed, any efforts to foster or train displayed teacher enthusiasm are liable to pitfalls because one important piece of the puzzle is missing.

Third, addressing the call of Bettencourt et al. (1983) to acknowledge the affective component of enthusiasm, Kunter and colleagues (2008) defined enthusiasm as an affective-motivational teacher factor but excluded its behavioral components, and thus, their conceptualization of enthusiasm remains disconnected with the literature on displayed enthusiasm. As a result, we know next to nothing about how experienced and displayed enthusiasms interrelate, if they always co-occur within the individual or whether the transformation of experienced to displayed enthusiasm happens automatically and deliberately or is moderated by other external factors.

Fourth, solely defining and operationalizing enthusiasm as an affective experience also makes it difficult to disentangle from teacher enjoyment (see also Frenzel 2014). Finally, a purely affective approach to the study of teacher enthusiasm, for instance, focusing solely on the enjoyment inherent in teacher enthusiasm, excludes a key component particular to enthusiasm, that is, the communication of one's enjoyment to others.

Toward a Holistic Definition of Teacher Enthusiasm

We contend that the uniqueness of teacher enthusiasm is best encapsulated when the two approaches are integrated as complementary elements into one integrative definition. We propose that affective experiences and behavioral expressions of enthusiasm represent two facets of one construct with the caveat that, although the two facets are related, they do not always co-occur in the individual. We further propose that a complete definition of enthusiasm includes both what teachers feel and express and that neglecting either component inadequately qualifies as enthusiasm.

For our proposed definition, affective experiences as one component of teacher enthusiasm entail the recurring, positive emotional experiences that come with teaching, that is, the enjoyment or excitement that teachers feel when they teach. These affective experiences may also include intrinsic value (Coan and Gottman 2007) and passion (Vallerand et al. 2003); however, it is up to future research to inform us how these factors relate to, or can be distinguished from, positive affective experiences of teacher enthusiasm. Furthermore, in our proposed definition, behavioral expression as the second component of teacher enthusiasm includes both verbal and nonverbal behaviors such as facial expressions, illustrative and emphasizing gestures, moving about the classroom, varied intonation while talking, eye contact with students (Babad 2007; Collins 1978; Richmond et al. 2003), and possibly even showing a sense of humor (Murray 2007; cf. Dresel et al. 2014, for a discrimination of enthusiasm from humor). In sum, we define teacher enthusiasm as the *conjoined occurrence of positive affective experiences, that is, teaching-related enjoyment, and the behavioral expression of these experiences, that is (mostly nonverbal), behaviors of expressiveness*.

We further proffer that conceptualizations and operationalizations that limit themselves to either the felt or expressive components of enthusiasm should use the corresponding terminology and refer to it as either experienced or displayed enthusiasm. Specifically, research exclusively addressing the affective component of teacher enthusiasm could use the terminology "enjoyment," "excitement," "passion," or "subject interest," and research addressing the behavioral component of enthusiasm could use terminology such as "expressiveness" and

"charismatic teaching." We believe that this strategy would streamline numerous seemingly disparate lines of research and also make it easier to organize and interpret findings and understand underlying mechanisms when distinguishing experienced from displayed teacher enthusiasm.

Our definition transcends earlier approaches to enthusiasm in that it combines the two components not as two opposing definitions of enthusiasm, but rather as two complementary elements of one overarching concept of enthusiasm. The definition considers affective experiences and behavioral expression as interrelated yet distinct phenomena within teachers, which allows for investigations into their interdependency and co-occurrence. As such, a strength of this definition is that it relates to both research lines on experienced and displayed teacher enthusiasms and treats them as equally valid. This enables future research to draw on previous assumptions and empirical findings from both research lines. However, it is important to stress that this integrative definition is at the moment essentially a suggestion. Construct validity of this integrative definition of teacher enthusiasm as well as of its elements needs to be determined empirically in future research. In order to facilitate researchers to address this construct validity or other issues in teacher enthusiasm, we next provide an overview of the present research instruments that have served to assess displayed as well as experienced teacher enthusiasm over the last several decades.

Measuring Teacher Enthusiasm

Overall, the available literature contains relatively few empirically sound instruments to assess teacher enthusiasm. Although this is likely in part due to the nebulous definition of teacher enthusiasm, the lack of instrument quality in some studies is still troublesome (e.g., non-validated, single-item measures of enthusiasm). In this section, we describe those instruments that are based on an underlying definition of enthusiasm; single-item measures are not included. Instruments are listed in Table 2 with respect to displayed and experienced teacher enthusiasms.

Measuring Displayed Teacher Enthusiasm

Low-Inference Instruments Collins (1976, 1978) was the first researcher to provide a sound and reliable measurement of displayed teacher enthusiasm. Her aim was to train teachers to be enthusiastic and then subsequently have trained observers evaluate their performances. She developed an observational instrument based on eight nonverbal behavioral indicators of enthusiasm that she identified as (1) vocal animation, (2) wide-opened eyes and eye contact, (3) demonstrative gestures, (4) body movements, (5) meaningful and significant facial expression, (6) a descriptive selection of words, (7) acceptance of students' ideas and feelings, and (8) an overall high level of energy; these behaviors are ranked on a five-point scale from (1) *low* to (5) *high*. The descriptions of the indicators and anchors are given in Table 3.

Several other studies have since employed Collins' rating system, either using the identical instrument (Bettencourt et al. 1983; Brigham et al. 1992; McKinney et al. 1983, 1984a; Streeter 1986) or a slightly adapted instrument that better fits the respective study purposes (Burts et al. 1985; Natof and Romanczyk 2009; Patrick et al. 2000). Although not all of these studies report interrater agreement, the ones that have done so often vary based on the

Table 2 Overview of instruments for assessing displayed and experienced teacher enthusiasms

	Displayed enthusiasm			Experienced enthusiasm	Context
	Low inference		High inference		
Source	Observer ratings	Student perception	Student perception	Teacher self-report	
Collins (1976, 1978)	x				Elementary schools[b]
Feldman (2007)			x[a]		Higher education
Frenzel et al. (2009a, b)			x		Secondary schools
Kunter et al. (2008)			x	x	Secondary schools
Marsh and Ware (1982)			x[a]		Higher education
Marsh(SEEQ; 1982a)			x[a]		Higher education
Marsh (IDEA; 1994);			x[a]		Higher education
Murray (1983)		x[a]			Higher education
Patrick et al. (2000)			x		Secondary schools
Wheeless et al. (2011)			x		Higher education

[a] The instruments denoted here were originally not developed for assessing teacher enthusiasm; rather, their respective items emerged post hoc as a factor labeled "teacher enthusiasm" in multifaceted evaluation instruments of teacher/teaching effectiveness.

[b] In subsequent studies utilizing Collins' instrument or a variant thereof, the school context varied between elementary (McKinney et al. 1984a) and secondary schools (McKinney and Larkins 1982), higher education (B. C. Patrick et al. 2000) as well as special education classrooms (Natof and Romanczyk 2009).

respective indicators (e.g., 0.43–0.96 in Bettencourt et al. 1983 or 0.84–0.97 in Carlisle and Phillips 1984) but are generally acceptable (0.89–1.00 in Burts et al. 1985; 0.91 in Carlisle and Phillips 1984; 0.90 in Collins 1978). Brigham et al. (1992) also reported good reliability for Collins' eight indicators of nonverbal displayed teacher enthusiasm (Cronbach's $\alpha = 0.92/0.96$), providing evidence for internal consistency.

Murray's (1983) instrument comprises largely low-inference behavioral indicators of enthusiastic teaching (e.g., moves about while lecturing, gestures with hands and arms). His aim was to develop an instrument for students to use to evaluate their teachers and enthusiasm emerged post hoc as one factor. With the exception of the two categories "uses humor" and "shows strong interest in subject," all of the items operationalize displayed teacher enthusiasm as nonverbal expressive behavior.

In a cross-validation study conducted by Patrick et al. (2000), teachers who were rated by observers as highly expressive (based on Collins' low-inference indicators) were also perceived by students as highly enthusiastic; this student perception instrument, however, relied on high-inference perception (see below) rather than utilizing, for example, Murray's (1983) low-inference behaviors. Thus, it is unknown whether the two perspectives—observers and students—actually converge when assessing displayed teacher enthusiasm by means of low-inference indicators. It may in fact be the case that students perceive teachers' enthusiastic behaviors differently than outside observers do, especially because they know their teachers more intimately than any "outsider" and can, for example, judge a small outburst in a usually reserved teacher accordingly.

Table 3 Indicators and their descriptions for displayed teacher enthusiasm

Indicator		Description of Anchors
Vocal delivery	Low	Monotone voice, minimum vocal inflection, little variations in speech, drones on and on and on, poor articulation.
	Medium	Pleasant variations of pitch, volume, and speed, good articulation.
	High	Great and sudden changes from rapid excited speech to a whisper. Varied lilting, uplifting intonation. Many changes in tone, pitch.
Eyes	Low	Looked dull or bored. Seldom opened eyes wide or raised eyebrows.
	Medium	Appeared interested. Some changes to lighting up, shining opening wide.
	High	Characterized as dancing, snapping, shining, lighting up frequently opening wide, eyebrows raised.
Gestures	Low	Seldom moved arms out or outstretched toward person or object. Never used sweeping movement, kept arms at side or folded across body, appeared rigid.
	Medium	Often pointed with hand, using total arm. Occasionally used sweeping motion using body, head, arms, hands, and face. Steady pace of gesturing is maintained.
	High	Quick and demonstrative movements of body, head, arms, hands, and face, i.e., sweeping motions, clapping hands, head nodding rapidly.
Movements	Low	Seldom moved from one spot or movement mainly from a sitting position to a standing position.
	Medium	Moved freely, slowly, and steadily.
	High	Large body movements, swung around, walked rapidly, unchanged pace, unpredictable, energetic.
Facial expression	Low	Appeared deadpan, does not denote feeling or frowned most of the time. Little smiling or a 1-s lips upturned. Lips closed.
	Medium	Agreeable, smile frequently and longer plus at a regular rate. Looked pleased, happy, sad when obviously called for.
	High	Appeared vibrant, demonstrative, showed surprise, awe, sadness, joy, thoughtfulness, excitement. Total smile—mouth opened wide, quick, and sudden changes in expression.
Word selection	Low	Mostly nouns, few descriptors/adjectives.
	Medium	Some descriptors/adjectives or repetition of the same ones.
	High	High descriptive, many adjectives, great variety.
Acceptance of ideas and feelings	Low	Little indication of acceptance or encouragement, may ignore student's feelings or ideas.
	Medium	Accepts ideas and feelings, praises or clarifies, some variations in response but frequently repeats same ones.
	High	Quick and ready to accept, praise, encourage or clarify, many variations in response. Vigorous nodding of head when agreeing.
Overall energy	Low	Lethargic, appeared inactive, dull, or sluggish.
	Medium	Some variations from high to low in appearing energetic, demonstrative but mostly an even level is maintained.
	High	Exuberant. Maintained high degree of energy and vitality, highly demonstrative, great, and sudden changes in voice, tone, pitch; eye, head, arm, and body movements.

As given by Collins (1976, p. 41)

High-Inference Instruments A seemingly straightforward way of assessing displayed teacher enthusiasm is via students' perception. Although the validity of students' perceptions can be questionable, some research studies on instructional quality have demonstrated that students' aggregated perceptions of instruction provide a reliable measure of classroom processes (see, for instance, Kunter and Baumert 2006; Lüdtke et al. 2006). There are quite a few studies that use students' perceptions of teacher enthusiasm (see Table 2), and they all include high-inferential items (i.e., no specific behavioral indicators) of teachers' instructional behavior. Table 4 shows several of these instruments.

All instruments listed in Table 4, with the exception of Murray (1983), require interpretative effort on the students' part, for example, what does my teacher's behavior tell me about his internal processes? One disadvantage with such items is that the actual teacher behavior observed by the students is unknown to the researcher. Furthermore, some items in the high-inference instruments seem to refer to teachers' internal processes, that is, their experienced enthusiasm (e.g., "The instructor seems to enjoy teaching" in Feldman 2007, or "Our teacher really seems to take pleasure in teaching" in Frenzel et al. 2009a; see also Table 4). It appears as if students' perceptions are utilized to infer a teacher's experienced enthusiasm (i.e., their enjoyment), yet in order for students to perceive this, teachers' experienced enthusiasm needs to be visibly displayed somehow. It can be hypothesized that the concrete behaviors that form students' general perception are, to a large extent, determined by teachers' nonverbal expressiveness; this is underscored in the cross-validation study of Patrick et al. (2000) showing that students' general perceptions of their teachers relate to trained observers' ratings of teacher expressiveness. However, future research should corroborate this from the students' perceptive, clarifying which teacher behaviors lead students to rate their teacher as "being enthusiastic about teaching" (item no. 1 of SEEQ). Nonetheless, the advantage of instruments that assess general perceptions of teacher enthusiasm is that they move beyond low-inference expressive behaviors like "counted smiles and numbered gestures" (Locke and Woods 1982, p. 7) to allow for a more complex picture of displayed enthusiasm.

Another noteworthy characteristic of the available instruments assessing perceived teacher enthusiasm is the ambiguity concerning whether enthusiasm refers to the subject taught or to the teaching. Some items refer to the subject (e.g., "enthusiastic about the subject"; Marsh and Ware 1982) while others refer to teaching (e.g., "seems to enjoy teaching"; Feldman 2007). The instruments developed by Feldman (2007) and Kunter et al. (2008) include both enthusiasm about the subject and the teaching process, yet both report a one-dimensional factor for student-perceived teacher enthusiasm, suggesting that this distinction - at least on the behavioral level - is solely theoretical. At present, we do not promote one alternative over the other; future research will need to examine this further and determine if and how the two differ and if they produce divergent teacher and/or student outcomes.

It is also important to note that some of the enthusiasm instruments in use today were not developed to specifically assess teacher enthusiasm but rather emerged post hoc from multi-faceted teaching effectiveness instruments in which they formed a subordinate enthusiasm factor (Feldman 2007; Marsh 1982a, 1994; Marsh and Ware 1982; Murray 1983). These instruments go beyond perceivers identifying and evaluating enthusiastic teacher behavior and tap into the supposed outcomes of teacher enthusiasm such as holding the students' interest (Marsh 1982a) or making learning enjoyable (Marsh and Ware 1982). As mentioned earlier, items that arise post hoc may lack content validity because they are not necessarily based on an underlying definition of enthusiasm and are thus restricted to the set of behaviors initially included in the evaluation and subsequent factor analyses. Thus, it has yet to be determined whether such items are suitable for assessing teacher enthusiasm.

Table 4 Instruments and respective items for assessing displayed teacher enthusiasm via students' perception

Instrument	Scale specifics	Item wording
Feldman (2007)	Not reported	• The instructor shows interest and enthusiasm in the subject. • The instructor seems to enjoy teaching. • The teacher communicates a genuine desire to teach students. • The instructor never showed boredom for teaching this class. • The instructor shows energy and excitement.
Frenzel et al. (2009a)	Four items, five-point rating scale from (1) *strongly disagree* to (5) *strongly agree*; $\alpha = 0.85$	• Our teacher teaches with enthusiasm. • Our teacher is humorous during teaching. • Our teacher tries to get students excited about the subject of mathematics. • Our teacher really seems to take pleasure in teaching.
Kunter et al. (2008)	Three items, four-point rating scale from (1) *strongly disagree* to (4) *strongly agree*	• Our teacher seems to really enjoy teaching. • Our teacher is an enthusiastic teacher. • Our teacher is enthusiastic about his/her subject.
Marsh and Ware (1982)	Three items; five-point rating scale	• Was enthusiastic about the subject • Has a good sense of humor • Made learning enjoyable
Marsh (SEEQ; 1982a)	Four items, five-point rating scale from (1) *very poor* to (5) *very good*. Item description: "As a description of this course/instructor, this statement is…."	• Instructor was enthusiastic about teaching the course. • Instructor was dynamic and energetic in conducting the course. • Instructor enhanced presentation with the use of humor. • Instructor's style of presentation held your interest during class.
Marsh (IDEA; 1994)	Three items, five-point rating scale from (1) *hardly ever* to (5) *almost always*. Item description: "Describe the frequency of your instructor's teaching procedures."	• Enthusiastic about the subject • Spoke with expressiveness • Dry and dull presentations (R)
Murray (1983)	11 items, five-point rating scale rating frequency of occurrence from (1) *almost never* to (5) *almost always*	• Uses humor • Speaks expressively or emphatically • Shows facial expressions • Moves about while lecturing • Reads lecture verbatim from notes (R) • Shows energy and excitement • Smiles or laughs • Gestures with hands and arms • Shows strong interest in subject

Table 4 (continued)

Instrument	Scale specifics	Item wording
		• Avoids eye contact with students (R) • Speaks softly (R)
Patrick et al. (2000)	Four items, seven-point rating scale from (1) *strongly disagree* to (7) *strongly agree*; $\alpha = 0.93$	• The teacher just lights up the room when he/she teaches. • The teacher is a bit dull (R). • The teacher has a contagious energy about him/her. • The teacher is full of dynamic energy when he/she teaches.
Wheeless et al. (2011); also refer to Berlo et al. (1969)	Five items; semantic differential scales and bipolar adjectives; $\alpha = 0.70$	• Aggressive/meek • Emphatic/hesitant • Bold/timid • Active/passive • Energetic/tired

(R) reverse scored

Even though it remains unclear what being "enthusiastic about teaching" actually means, this lack of clarity does not prevent students from making reliable judgments. High-inference global scales of perceived teacher enthusiasm generally achieve good reliability in terms of internal consistency (e.g., Cronbach's alpha = 0.93 in Murray 1983). The intraclass correlation (ICC [2]; Bliese 2000; Lüdtke et al. 2006) gives information on the reliability of student ratings on the class level. In studies where ICCs were reported, class-level reliability for students' ratings of teacher enthusiasm was good, as well (ICC [2] = 0.91 in Frenzel et al. 2009a; ICC [2] = 0.74 in Kunter et al. 2008). Frenzel et al. (2009a, b) and Kunter et al. (2008) have shown substantial correlations between teachers' experiences of enjoyment and students' perceptions of teachers' displayed enthusiasm. Additionally, and as mentioned above, Patrick and colleagues (2000) cross-validated student-perceived teacher enthusiasm with observer ratings of teachers' nonverbal expressiveness. Other than that, we know of no cross-validations utilizing different perspectives and different approaches to teacher enthusiasm.

Measuring Experienced Teacher Enthusiasm: Teacher Self-Report

Only recently have researchers begun to ask teachers about their own experiences of enthusiasm. This commenced with Kunter and colleagues' (2011; 2013; 2008) reconceptualization of enthusiasm as an affective variable. Kunter's instrument was first subjected to empirical testing in Kunter et al. (2008) and then expanded and further examined in subsequent studies (Decker et al. 2015; Hachfeld et al. 2015; Kunter et al. 2011, 2013; Richter et al. 2013). The items of the expanded instrument are listed in Table 5 (Kunter et al. 2011). The items distinguish between teachers' experienced enthusiasm for their subject and the teaching itself, the latter referring to teaching as an activity and enthusiasm for the interaction with students. Kunter and colleagues (2008; 2011) found that subject specificity and teaching specificity can

be adequately distinguished as two separate factors of experienced enthusiasm and correlate from a moderate to large extent ($r = 0.36$–0.69). Internal consistency of each scale was high (Cronbach's $\alpha = 0.81$ for subject enthusiasm and $\alpha = 0.85$ for teaching enthusiasm).

Additionally, Kunter et al. subjected their instrument to thorough statistical scrutiny in several studies and validated it against other teacher variables such as teacher efficacy, burnout, and job satisfaction. Cross-validation with students' perceptions revealed significant relations between students' perceptions of displayed teacher enthusiasm and teachers' self-reported experienced enthusiasm (subject-specific enthusiasm: $r \approx 0.10$ [ns]–0.17; teaching-specific enthusiasm: $r \approx 0.35$—0.50). Curiously, the distinction between teaching- and subject-related *experienced* enthusiasms in Kunter et al. (2008) is not present in their instrument assessing displayed enthusiasm as perceived by students. As mentioned above, this student perception instrument includes items alluding to teaching and the subject (see Table 4), but the authors report a unidimensional factor. In any case, because the Kunter et al. experienced enthusiasm instruments so closely resemble the Frenzel et al. (2009a) teacher enjoyment instrument, it will be the job of future research to distinguish between the two.

In sum, we conclude that the ambiguity present in the conceptualization of teacher enthusiasm is mirrored in the instruments intended to assess it. In general, displayed enthusiasm is assessed via low- and high-inferential observation and student perception instruments, and experienced enthusiasm is assessed via teachers' self-reports. It remains unclear whether displayed enthusiasm can be assessed, for example, utilizing teachers' self-reports and, conversely, whether, for example, students can report on their teachers' internally experienced enthusiasm (see items by Feldman 2007, or Kunter et al. 2008, in Table 4). The latter gives rise to highly interesting issues such as when teachers' experienced enthusiasm does not—for whatever reason—translate into behavior and remains hidden. In this case, students should not be able to perceive it, and consequently, assessing teachers' experienced enthusiasm via students' perception should lead to false conclusions. We believe that differentiating between displayed and experienced enthusiasms at the conceptual level in future research would also clarify and help developing or validating instruments for assessing these different aspects of enthusiasm.

Table 5 Items for assessing experienced teacher enthusiasm via teacher self-report

Dimension	Item wording
Teaching (Cronbach's $\alpha = 0.69$–0.90)	• I teach with great enthusiasm. • I really enjoy teaching. • I always enjoy teaching students new things. • I enjoy interacting with students. • It is a pleasure to teach.
Subject (Cronbach's $\alpha = 0.69$–0.86)	• Even now, I am still enthusiastic about my subject. • I find my subject exciting and try to convey my enthusiasm to the students. • Engaging in my subject is one of my favorite activities. • I engage in my subject because I enjoy it. • Because engaging in my subject is fun, I would not want to give it up.

Source: Kunter et al. (2008, 2011). In the studies included in Kunter et al. (2011) and in Kunter et al. (2008), the rating scales for the items differed (four-point scale from (1) *disagree strongly* to (4) *agree strongly* and five-point scale from (1) *not at all true* to (5) *completely true*)

Correlates of Teacher Enthusiasm

Our review thus far has shed light on the existing definitions of teacher enthusiasm and instruments that are used to measure the construct. We now turn to the fruit of this groundwork in enthusiasm research and detail the relationships between teacher enthusiasm and key variables in education. We present our findings with regard to four areas that emerged based on our literature search, namely teachers' lives, the broader school context, classroom teaching, and student outcomes.

Teachers' Lives

Only a few studies have looked at and reported relationships between enthusiasm and teachers' professional and personal lives. A look into teacher emotion literature reveals that teachers believe that the teaching profession requires teachers to be enthusiastic and to present positive emotion images to their students (Sutton 2004).[2] Kunter and colleagues claim that teacher enthusiasm is a part of teachers' overall professional competence that determines high-quality teaching and fosters student learning and motivation (Kunter 2013; Kunter et al. 2013). Experienced enthusiasm as an affective-motivational factor on the teachers side was found to positively correlate with constructivist beliefs and multicultural beliefs about teaching immigrant children (Hachfeld et al. 2015), to beginning teachers' ability to reflect their own teaching and teaching practices (Decker et al. 2015) as well as to teachers' self-efficacy beliefs (Kunter et al. 2011). Enthusiasm also related to teacher health and well-being. For instance, in several studies, Kunter and colleagues (2008; 2011; 2013) found that teachers who experience higher levels of enthusiasm also report higher levels of job and life satisfaction and lower levels of emotional exhaustion. We can assume that enthusiasm and overall health and well-being of teachers go hand in hand, even though the causality is not yet clarified and probably the relationship is reciprocal.

In sum, teacher enthusiasm seems to be set within a larger frame of cognitive (beliefs), motivational (self-efficacy), and affective and health-related (emotional exhaustion) teacher factors. The reciprocity and interdependency between all these factors are largely unexplored, as is how they co-dependently develop and vary on a daily basis and across teachers' career span. Moreover, the studies listed above are all based on experienced rather than displayed enthusiasm. However, assuming this distinction to be valid in teacher enthusiasm, it would be interesting in future research to consider what factors relating to teachers' professional and personal lives allow or prevent them from transforming their experienced enthusiasm into externally visible behaviors.

School Context

Teachers are embedded within an overarching organizational system in their schools, and it is to be expected that contextual conditions within the school influence teachers' enthusiasm. There is, however, limited evidence linking specifics of the school structure to teacher

[2] At this point, it should be stressed that emotions and enthusiasm being part of teachers' identity and the belief of upholding a positive emotion image seem to be grounded within Western Europe and North American Cultures. In fact, all the teacher enthusiasm literature taken as a basis for this review is set in western countries. For information on the question how emotions may be grounded within the respective cultures, we refer to the works of Zembylas (e.g., 2003).

enthusiasm. Cobb and Foeller (1992) reported findings that positively link teachers' enthusiasm with teaching autonomy. In the same study, the authors also showed a positive relationship between teacher enthusiasm and cooperation and support from colleagues. In a similar vein, Richter et al. (2013) evidenced that beginning teachers' enthusiasm correlates positively with quality mentoring.

Even more so than school structure, classroom conditions appear to be key factors when it comes to nourishing or hindering teachers' enthusiasm. Findings from Stenlund (1995), drawn from an interview study with teachers about the sources of their (experienced) enthusiasm, revealed that teachers feel enthusiastic when their students are motivated and show personal growth. Quantitative findings from a set of cross-sectional studies by Kunter and colleagues (2011) that examined classroom contextual factors and their relation to enthusiasm corroborate Stenlund (1995) finding. Specifically, teachers reported greater enthusiasm in highly achieving, highly motivated, and well-behaved classes; class size and enthusiasm were unrelated.

Overall, these findings suggest that teacher enthusiasm is contextualized; that is, it depends on the specific class and students that a teacher teaches. However, once again, the research studies highlighted in this section rely on experienced enthusiasm; not much is known about how contextual conditions in the school and the classroom relate to displayed enthusiasm. Future research will have to clarify how enthusiasm as conceptualized here, namely the conjoined occurrence of positive affective experiences and the behavioral expression of these experiences, is shaped by the school and classroom environments.

Quality of Instruction

High-quality instruction should provide students with learning opportunities and foster their learning and achievement. Further, classroom experiences should be pleasant for students (see, for example, detrimental effects of students' anxiety; Zeidner 2007) and instruction should promote students' sustained motivation, such as interest, because it determines future learning efforts and guides academic and vocational choices (Eccles and Wigfield 2002). It is along that last vein of motivationally supportive teaching that teacher enthusiasm comes into play. Teacher enthusiasm is part of supportive classroom environments (Patrick et al. 2003; Turner et al. 2002) and considered a determining factor in teaching behaviors (Caruso 1982). Kunter and colleagues found teachers' experienced enthusiasm to predict aspects of instructional quality, namely learning support and classroom management (Kunter et al. 2013).

In teaching effectiveness research (Jackson et al. 1999; Marsh 1982a, b, 1994; Marsh and Ware 1982; Meier and Feldhusen 1979; Moulding 2010; Murray 1983; Perry 1985; Shannon 1998; Ware and Williams 1975, 1977; Williams and Ware 1976, 1977; Wyckoff 1973), teacher enthusiasm is often connected to overall course quality,[3] and in a study by Feldman (2007), teacher enthusiasm was moderately related to overall perceived quality of teaching. Furthermore, Murray (1983) found that enthusiasm was the only one of his nine teaching dimensions that could distinguish between high- and medium-rated teachers (based on overall evaluations of teaching), indicating that enthusiasm is what separates average from outstanding teachers.

[3] Within that context, much published research is available on the famous Doctor Fox effect, that is, the effect that enthusiastic instructors (usually named expressiveness within that body of research) can "seduce" their students into favorable course evaluations although the course/lecture was devoid of any content. We will not address this body of research in detail within the present review, but refer to a recently published article on that topic (Peer and Babad 2014).

In general, enthusiasm is considered an element of exemplary teachers (Gentry et al. 2011; Witcher and Onwuegbuzie 1999) and, in terms of their professional identity and activities, describes their interest, engagement, and passion (Day 2004; Long and Hoy 2006; Lynn 2002; Metcalfe and Game 2006). Students themselves require their teachers not only to be knowledgeable, but also to be enthusiastic: In a student ranking of important characteristics of effective teachers, Feldman (1988) found enthusiasm to be highly important (ranked 5th out of 22 characteristics). Similarly, in a cross-cultural interview study conducted with pre-service teachers, Witcher and Onwuegbuzie (1999) found teacher enthusiasm to be the second most important teacher characteristic.

The abovementioned research evidence draws on a mixture of studies based on conceptualizations as either experienced or displayed teacher enthusiasm. It seems that experienced enthusiasm is adequately considered as a prerequisite for effective teaching, while displayed enthusiasm seems to be an element of high-quality teaching and, thus, interrelated with other teacher behaviors and instructional features. Thus, it seems that the conjoined occurrence of positive affective experiences and the behavioral expression of these experiences would naturally bring about high quality in teachers and teaching.

Student Outcomes

A large number of studies investigating teacher enthusiasm have examined the effect of enthusiasm on student outcomes, in particular, its effects on student motivation, affect, and achievement. The few qualitative studies conducted in this respect suggest that teacher enthusiasm facilitates students' motivation in general (Weaver and Cottrell 1988) and students' mastery orientation and low avoidance in mathematics in particular (Turner et al. 2002). Quantitative studies examining the effects of enthusiasm on student outcomes are more plentiful and have employed various methodological approaches, ranging from experimental studies (e.g., Bettencourt et al. 1983; Brigham et al. 1992; McKinney et al. 1983) to correlational (Evertson et al. 1980; Frenzel et al. 2009a; Kunter et al. 2011, 2013; Patrick et al. 2000; Wheeless et al. 2011) and longitudinal designs (Frenzel et al. 2010),

In sum, these studies unambiguously show positive relations to students' level of interest and intrinsic motivation (Brigham et al. 1992; Frenzel et al. 2010; Keller et al. 2014; Kim and Schallert 2014; Patrick et al. 2000; Streeter 1986; Wheeless et al. 2011), student involvement (Brigham et al. 1992) and students' levels of enjoyment (Frenzel et al. 2009a; Kunter et al. 2011, 2013).

Studies focusing on the effects of teacher enthusiasm on student achievement, however, are not as unambiguous. Several studies report positive effects (Brigham et al. 1992; Carlisle and Phillips 1984; Evertson et al. 1980; Frenzel et al. 2010; Kunter et al. 2011, 2013), whereas some experimental studies, including manipulations or trainings of teachers' displayed enthusiasm, have found no significant effects on student achievement (Bettencourt et al. 1983; Burts et al. 1985; McKinney et al. 1983, 1984a, b). One study reported a negative effect of experimentally manipulated displayed enthusiasm on achievement (Larkins and McKinney 1982). The studies conducted by McKinney, Burts, Larkins, and colleagues employed a unique experimental design in which students were assigned to either a low, medium, or highly enthusiastic teacher condition. Although no overall effect of enthusiasm on achievement was found, students in the medium enthusiastic-teacher condition had the highest achievement scores, indicating that the relation between enthusiasm and student achievement might not be strictly linear.

Glancing back at Rosenshine (1970) review and his subsequent book section (Rosenshine 1971) in which he reported vast empirical support for positive effects of enthusiasm on student achievement, the overall picture today is not as convincing as one could have hope for 45 years later. The studies by Kunter and colleagues (Kunter et al. 2011, 2013) relying on experienced enthusiasm and the study by Frenzel and colleagues (Frenzel et al. 2010) relying on displayed enthusiasm applied rigorous methodology and sophisticated statistical analyses and suggest that there might be a positive relation between teacher enthusiasm and student achievement; however, research evidence for displayed enthusiasm is not as conclusive.

Altogether, a survey of the available studies on students' motivational, affective, and achievement outcomes lets us conclude that teacher enthusiasm has positive effects. However, some of the findings call for further clarification especially with regard to possible moderators (specifically, students' age) and mediators that influence the relationship between enthusiasm and student outcomes and the direction of these effects.

Potential Moderator: Students' Age The abovementioned studies include populations covering a broad range of ages, from kindergarten and elementary school children (Burts et al. 1985; McKinney et al. 1983) to secondary school children (e.g., Brigham et al. 1992; Kunter et al. 2013), up to investigations with college students (e.g., McKinney et al. 1984b). That age could moderate the enthusiasm-achievement relation has been hypothesized by McKinney and colleagues (1983), who suggested that "high-enthusiasm behaviors will overstimulate young children and create problems in classroom management" (p. 249). To clarify this, comparative investigations would be needed to untangle the possibly differential effects of teacher enthusiasm on students' achievement as a function of students' age.

Potential Mediators Two mechanisms have been proposed that begin to explain why or how teacher enthusiasm influences students' motivation and affect, namely value induction and emotional contagion (Frenzel et al. 2009a; Kunter et al. 2008). Value induction—a term borrowed from Pekrun's control-value theory of emotions (Pekrun 2006)—draws on Bandura's social-cognitive learning theory (Bandura 2001). The basic premise is that enthusiastic teachers serve as role models for their students, who in turn begin to imitate their teachers' attitudes, likings, and values. This is similar to what Patrick et al. (2000) called "interpersonal cues" (p. 219), that is, hints that allow students to deduce the teacher's enjoyment and value and consequently experience enjoyment and value themselves. Another relevant process that is more closely related to the felt and displayed components of enthusiasm is that of emotional contagion (Hatfield et al. 1993). In this process, emotions and affective states are transmitted from one person to another. Evidence that this process is also relevant for teaching contexts was provided by Mottet and Beebe (2002), Becker and colleagues (Becker et al. 2014), and Frenzel et al. (2009a) who examined the effects of teacher enjoyment—the affective component of our proffered definition of enthusiasm—on student enjoyment. Indeed, further effort is needed to detail the effects of different elements of enthusiasm (affective vs. behavioral component) and their differential or additive function on students' motivation and affective outcomes.

The effect of teacher enthusiasm on student achievement is purportedly indirect and functions either by (a) increasing students' attention or (b) increasing students' motivation. For instance, it is possible that nonverbal (enthusiastic) behaviors arouse and maintain a listeners' attention (Babad 2007). Bettencourt et al. (1983) and Brigham et al. (1992) reported increased levels of students' on-task behavior in a high teacher-enthusiasm condition

(however, no effect on time-on-task found by Carlisle and Phillips 1984), and Kunter et al. (2011) found a negative relationship between teachers' enthusiasm and disruptive student behavior. Within research on the closely related topic of teacher immediacy (Christophel 1990; Richmond et al. 1987), similar indirect effects have also found statistical support.

The indirect effect of teacher enthusiasm on achievement explained by students' motivation and affect has not been explicitly investigated in enthusiasm research but is supported in immediacy research (e.g., Rodríguez et al. 1996). Given, however, the strong effects of enthusiasm on students' motivation and plenty of evidence that motivation is beneficial for student learning, this mediation seems likely and is certainly worth testing in the future.

Reciprocal Effects of Teacher Enthusiasm and Student Outcomes Although some experimental studies in the field of teacher enthusiasm have provided causal evidence of the effects of teacher enthusiasm on student outcomes (e.g., Bettencourt et al. 1983; Brigham et al. 1992; Patrick et al. 2000), it is as likely that teacher enthusiasm and student outcomes reciprocally influence each other. That is, not only does teacher enthusiasm positively affect students, but also the level of student achievement and motivation likely impacts teachers' enthusiasm as well (see Keller et al. 2013; Patrick et al. 2000). In a correlational study drawing on three different teacher and student samples, Kunter et al. (2011) showed that classroom achievement and student motivational level related to teachers' experienced enthusiasm and the interview study by Stenlund (1995) in which teachers reported being more or less enthusiastic depending upon whether their students were learning and making progress. Outside teacher enthusiasm research, and from a theoretical perspective, the model developed by Frenzel and colleagues about antecedents and effects of teacher emotions (Frenzel 2014; Frenzel et al. 2009b) also may be valid for teacher enthusiasm in that environmental conditions, such as students' behavior, achievement level, or motivation, can give rise to teachers' enthusiasm. However, the possibly complex interplay of student behavior and learning and how this interplay relates to experiential or behavioral components of enthusiasm has not been explicitly addressed in enthusiasm research.

In sum, a large body of research studies has addressed the issue to what extent teacher enthusiasm influences or relates to a number of student outcomes which we systematized here with regard to students' motivation, affect, and achievement. Overall, the empirical evidence lets us conclude that enthusiasm has positive effects on student outcomes, whereas, specifically, the effect on students' achievement and facilitating mechanisms (that is, potential mediators) needs further clarification. The studies listed within this section draw on either a conceptualization of enthusiasm as experienced or displayed enthusiasm. Once again, and similar to our reasoning with regard to how enthusiasm relates to teaching (see above), it is our belief that a distinction between experienced and displayed enthusiasms and adhering to our proffered redefinition of teacher enthusiasm as the conjoined occurrence of positive affective experiences and the behavioral expression thereof could clarify causality and underlying mechanisms. An interesting question in that respect was raised by Locke and Woods (1982) who contended that in order to influence student outcomes, teacher enthusiasm would need to be perceived as such by students. In our language, this would mean that only when experienced enthusiasm (enjoyment) is displayed behaviorally (nonverbal expressiveness) that students can profit from it. Or, in other words: Only when positive affective experiences and displayed enthusiasm coincide (which is in fact our definition of a holistic enthusiasm) would students benefit with regard to their motivation, affect, and achievement-related outcomes. Whether that is indeed the case needs to be clarified in future research.

Implications for Future Research

It is clear that teacher enthusiasm research has many questions yet to answer. For instance, we still need more information about the role of enthusiasm in teachers' professional lives, how it translates into teaching behaviors, and how it relates to overall instructional quality. Further, a systematic investigation including potentially confounding variables, such as teachers' self-efficacy or professional knowledge, is warranted because it would quantify the unique influence of teacher enthusiasm on teaching quality. Also, as mentioned above, investigations focusing on the mechanisms linking teacher enthusiasm and student outcomes need to be conducted.

Research is also needed to clarify the relationships between teacher enthusiasm and related constructs such as immediacy, intrinsic value, teacher enjoyment, and passion. We propose that these research traditions could benefit by acknowledging the other. For instance, because of the overlap in instruments assessing displayed teacher enthusiasm and immediacy, it is probably safe to transfer some of the results and assumptions from immediacy research to teacher enthusiasm (see two meta-analyses regarding the effects of immediacy on student outcomes; Harris and Rosenthal 2005; Witt et al. 2004). Enthusiasm researchers could also profit from the well-established and cross-validated scales that have been developed for assessing teacher immediacy behaviors (Richmond et al. 2003).

Our hope is that the literature reviewed herein and our proffered holistic definition of enthusiasm fuel future research that aims to develop and cross-validate instruments based on the integrative definition of enthusiasm. Another highly relevant issue that has received rather little attention in enthusiasm research is how to foster teachers' enthusiasm. Based on the proposed integrative definition, fostering enthusiasm would require attending to both displayed and experienced enthusiasms. Training individuals only in the nonverbal expression of enthusiasm (as a number of studies did in the past; e.g., Bettencourt et al. 1983; Collins 1978; Patrick et al. 2000) without paying heed to teachers' experienced enthusiasm might risk teacher well-being in the case that acting enthusiastic remains just that—an act, without the concurrence of enjoyment considered (resembling emotional labor; see Morris and Feldman 1996). Future research should consider the question whether increasing behaviors of expressiveness is an adequate means of raising teachers' overall enthusiasm or if it can have detrimental effects on teachers, for example, in terms of emotional labor.

Conclusion

The last 45 years of research on teacher enthusiasm show us better than ever that the field is diverse, the conceptualizations of enthusiasm are ambiguous, and our knowledge about the antecedents and effects of teacher enthusiasm is scattered. In this review, we summarized approaches and findings from research on teacher enthusiasm and proposed an integrative definition of teacher enthusiasm as the conjoined occurrence of enjoyment and behavioral expression. While this new conceptualization of teacher enthusiasm is based on previous approaches to enthusiasm, it also transcends them to include both as complementary elements within one overarching concept of enthusiasm. This allows for the transfer of previous assumptions and findings on enthusiasm yet also serves to potentially bring together a diverse research field. We hope that this review and our proffered holistic definition of teacher enthusiasm create a common basis upon which future studies can draw and systematically investigate an important construct in the educational field.

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