An investigation of African American and European American students' perception of teaching behavior

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ABSTRACT

Teaching behaviors are associated with a range of student academic and mental health outcomes. Substantial academic, school disciplinary, and mental health disparities across African American and European American students suggest that diverse students may view and interpret teaching behaviors differently. The Teaching Behavior Questionnaire measures students' perceptions of teaching behaviors. The purpose of the current study was to examine the scale's factor structure among European American high school students using exploratory factor analysis and, subsequently, cross-validate using confirmatory factor analysis based on African American student data. Results supported reconceptualizing the scale according to a three-factor model in both groups. Implications related to the interpretation and use of scores are discussed.

1. Introduction

Children and youth spend a significant amount of their time in classroom settings (Bureau of Labor Statistics, 2014) interacting with other students and teachers; therefore, investigating the influence teachers have on student outcomes is of vital importance. However, in order to do this, researchers need an instrument to assess students' perceptions of teaching behaviors. Teaching behaviors represent the ways in which teachers approach, interact, and engage with students (Pössel et al., 2013). Teaching behaviors can be conceptualized as multidimensional, with four empirically identified domains: instructional, organizational, socio-emotional, and negative teaching behavior (Pianta & Hamre, 2009; Pössel et al., 2013). Instructional teaching behavior occurs when teachers deliver instruction to students, provide feedback, and focus on higher-level thinking. Organizational teaching behavior encompasses the way in which teachers engage students, promote productivity, and manage students' behavior. Socio-emotional teaching behavior refers to the emotional connection of the teacher-student relationship and the degree of warmth, responsiveness, and support received from teachers (Allen et al., 2013; Pianta, LaParo, & Hamre, 2008). Lastly, negative teaching behavior includes unpleasant and counterproductive behaviors by teachers that are perceived as threatening or punishing by students (Pössel et al., 2013).

Such behaviors have been found to be associated with a range of students' academic (Allen et al., 2013; Hamre & Pianta, 2005) and mental health outcomes, including affect (Cauley, Pössel, Winkeljohn Black, & Hooper, 2017; Pössel et al., 2013) and psychopathology (i.e., depression; Pittard, Pössel, & Smith, 2015). The substantial academic (National Assessment of Educational Progress [NAEP], 2009, 2013), school disciplinary (Shirley & Cornell, 2012), and mental health (Gore & Aseltine, 2003; Miller & Taylor, 2012; Saluja et al., 2004) outcome disparities across African American (AA) and European American (EA) students combined with findings that these diverse groups respond to teachers' beliefs differently (Ferguson, 2003) as well as the possibility that students' interpret teachers' behaviors differently points to the need for continued research on students' perspectives of teaching behaviors. However,

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there is limited availability of psychometrically sound student-report measures to operationalize their perceptions of teaching behaviors. In response, the present study sought to examine and compare the factor structure of an existing measure among AA and EA students.

The Teaching Behavior Questionnaire (TBQ; Pössel et al., 2013) is a recently developed measure of teaching behaviors based on students' perspectives. The instrument was developed to address a gap in the literature regarding the availability of student-reported measures of teaching behaviors. Although classroom observation is considered the gold standard for assessing teacher-student interactions and teaching behaviors (Douglas, 2009), such methods require a trained external rater and extensive time and money (Achenbach, McConaughy, & Howell, 1987). Further, classroom observations aimed at measuring the quantity of teaching behaviors, as opposed to quality, vary widely within teachers (Pianta & Hamre, 2009). This suggests that multiple time points of observations may be necessary in order to capture teachers' typical behaviors (Croninger & Valli, 2009). With regards to teacher-reports of teaching behaviors, researchers noted that a self-rating bias may occur due to lack of insight or impression management (Douglas, 2009), and a number of studies note that student-reports of teaching behavior are more valid than reports from other sources, such as teachers (Eccles et al., 1993; Pössel et al., 2013; Wubbels & Levy, 1991). Further, a number of scholars have called for greater inclusion of students' perceptions in educational research (Howard, 2001; Waxman & Huang, 1997). In sum, there are numerous potential limitations of assessing teaching behaviors using classroom observation and teacher-report ratings, which points to the need for an alternative method.

Given the limitations of classroom observation and teacher-report ratings of teaching behavior, it appears as though student-report is the most practical method for assessing teaching behaviors. In addition to practicality, researchers propose that student-reports of teaching behavior are preferable over classroom observation or teacher-reports, as students' perceptions are critical for understanding and predicting student outcomes (Eccles et al., 1993; Wubbels & Levy, 1991). In other words, the ways in which students perceive and understand their teachers' behaviors may be more meaningful than teacher-report or classroom observation when examining the association between teaching behavior and student outcomes. Specifically, Pössel et al. (2013) found that student-report of teaching behavior was a better indicator of students' positive and negative affect compared to teacher-report and classroom observation of teaching behavior. Despite this support for the use of student-report measures, it is important to note that one limitation of self-report measures is that common method variance may occur (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Nevertheless, the positive findings regarding the use of student-reports of teaching behavior support the need for a tool that allows researchers and school personnel to reliably and validly assess students' perceptions of their teachers' behaviors.

While the TBQ was developed and validated based on data obtained across diverse grade levels and students, Pössel et al. (2013) reported that additional research is needed to examine the scale's factor structure across different racial and ethnic subgroups. Previous research on the substantial academic (NAEP, 2009, 2013), school disciplinary (Shirley & Cornell, 2012), and mental health (Gore & Aseltine, 2003; Miller & Taylor, 2012; Saluja et al., 2004) disparities across student subgroups suggests that diverse students may view and interpret teaching behavior differently, supporting the need for continued research into the scale's underlying factor structure. To address this issue, the current study examined and compared the scale's factor structure among AA and EA high school students in order to determine whether there are similarities or differences between AA and EA students' perception of teaching behaviors.

1.1. Teaching behavior and academic and mental health outcomes

Considering students spend a significant amount of time under teachers' supervision (Bureau of Labor Statistics, 2014) and the importance of school in general and of teachers in particular on student outcomes, it is crucial to identify specific things teachers can do to promote positive outcomes in their students. Research demonstrates an association between classroom observation of teaching behavior and academic achievement (Allen et al., 2013; Cholewa, Amatea, West-Olatunji, & Wright, 2012; Howard, 2001; Pianta, Belsky, Vandergrift, Houts, & Morrison, 2008; Pressley, Raphael, Gallagher, & DiBella, 2004). Specifically, previous empirical findings demonstrate that both AA and EA students who receive positive instructional (Allen et al., 2013; Pianta et al., 2008; Pressley et al., 2004), organizational (Allen et al., 2013; Cholewa et al., 2012), and socio-emotional (Howard, 2001; Pianta et al., 2008; Pressley et al., 2004) teaching behaviors have higher levels of academic achievement. However, we are not aware of any studies that have examined the association between students' perceptions of teaching behavior and academic outcomes. This may, in part, be due to the previous lack of availability of student-reported measures of teaching behaviors (Pössel et al., 2013). In conclusion, previous studies have demonstrated the important role teachers have in AA and EA students' academic achievement; however, the association between students' perceptions of teaching behaviors and academic outcomes has been left out. This is concerning given the importance of considering students' perceptions (Eccles et al., 1993; Pössel et al., 2013; Wubbels & Levy, 1991).

In addition to academic outcomes, a growing body of literature has found an association between students' perceptions of teaching behavior and depression (Pittard et al., 2015; Pössel & Smith, 2017) and positive and negative affect (Burton & Pössel, 2017; Cauley et al., 2017; Pössel et al., 2013). Specifically, in a sample of middle school students', Burton and Pössel found that socio-emotional and negative teaching behavior were positively associated with negative affect, while none of the teaching behaviors were associated with positive affect (2017). However in a sample of high school students from private Catholic schools, Pittard et al. (2015) found that only negative teaching behavior was associated with depressive symptoms. Finally, Pössel and Smith (2017) asked college freshman to complete the TBQ for one teacher they had during previous schooling that they perceived to be either most similar to them or least similar to them. Results found that all four types of teaching behavior were associated with depressive symptoms for the most similar teacher, whereas none of the associations were significant for the least similar teacher. However, a majority of participants in these studies identified as EA and results were not separated by race, calling into question the