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Special Education Teacher Burnout: A Factor Analysis

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ABSTRACT

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The poor retention of special education teachers negatively impacts student academic outcomes. Special education teachers commonly cite burnout as a primary reason for leaving the field; however, there is a deficit of literature available to validate claims concerning special education teachers and their level of burnout. This study analyzed the psychometric properties of the Maslach Burnout Inventory: Educators' Survey using a sample of 349 special education teachers from schools across the nation (201 resource room special education teachers and 148 self-contained special education teachers). The Maslach Burnout Inventory: Educators' Survey measures three factors (e.g., subscales) emotional exhaustion, depersonalization, and personal accomplishment. A confirmatory factor analysis, an exploratory factor analysis, and a multigroup measurement invariance confirmatory factor analysis were conducted. The results showed measurement invariance between the two groups of teachers. During the exploratory factor analysis, a significant fourth factor, collaborative stress, emerged. These findings suggest the current factor structure of the Maslach Burnout Inventory: Educators' Inventory needs to be modified when measuring burnout among special education teachers. This includes the need to further explore how collaboration stress relates to special education teachers and how to implement formative collaboration practices to retain special education teachers.

Keywords: special education teachers, retention, burnout, Maslach Burnout Inventory-Educators' Survey, validity, measurement invariance

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CHAPTER 1

Introduction

A growing shortage of special education teachers threatens the quality of the education that students with disabilities receive. In the United States, 49 states have reported shortages of special education teachers (National Coalition on Personnel Shortages in Special Education and Related Services, 2015). Special education shortages have existed in the United States at least since 1975, when the Individuals with Disabilities Education Act (IDEA) was passed. Many districts are forced to hire unqualified special education teachers due to attrition and therefore are forced to redirect the already limited resources towards recruitment and onboarding rather than long-term district initiatives (McLeskey & Billingsley, 2008). Not only are districts faced with replacing special education teachers who leave; this turnover negatively impacts student achievement as it reduces the overall efficacy of the teachers and diminishes the collaborative relationships of the teachers who remain (Ronfeldt et al., 2013).

According to the Centers for Disease Control and Prevention (CDC), one in four U.S. adults have a disability that impacts their major life activities. Coleen Boyle, director of CDC's National Center of Birth Defects and Developmental Disabilities, summarized that at some point in every person's life, they will either have a disability or know someone else who has one (Okora et al., 2018). Another data report from the CDC's National Health Interview Survey found that during 2014–2016, the prevalence of children aged 3–17 years who had ever been diagnosed with a developmental disability increased from 5.76% to 6.99% (about 1%)—this includes diagnosed autism spectrum disorder (ASD), intellectual disability (ID), and other developmental delays (Zablotsky et al., 2017).

The number of special education teachers has dropped by more than 17% over the past decade. For the 2015–16 school year, there was one special education teacher for every 17 students with disabilities, which is higher than the overall student–teacher ratio. The national average student–teacher ratio has held steady at about 1:16 for the past decade (Samuels & Harwin, 2018).

Past Literature

An Education Resources Information Center (ERIC) search for publications on the Maslach Burnout Inventory: Educators' Survey (MBI-ES) and special education teachers identified only four peer-reviewed journal articles. A mixed-methods study was conducted using both qualitative and multi-level regression at the teacher–school administrative level. The variables of interest included using the MBI-ES to measure perceived collaboration and support from general education teachers. Independent variables included teacher socio-demographic characteristics, teacher training and professional background, the use of inclusive teaching practices, and school context. The results of the study indicate that when an educator perceives that there is limited support, their level of emotional exhaustion (EE) increases (Langher et al., 2017).

Zabel and Zabel (2001) conducted a correlation and a cross-sectional quantitative study of 301 special education teachers in Kansas. Their variables of interest included using the MBI-ES to analyze delivery model, settings, and teacher demographics. They found that general education teaching experience was correlated with professional accomplishment. Special education teachers with a master's degree reported higher personal accomplishment (PA) than those who held only a bachelor's degree.

Williams and Dikes (2015) led a quantitative study examining the MBI-ES relative to 10 different demographic variables. Surveying 65 special education teachers from the Alabama public school system, they found an association between all of the demographic variables and burnout. The number of years of teaching experience and caseload number were found to be positively correlated with burnout—as the number of years a teacher teaches increased, so too did stress. Results of the study indicate that 15 or fewer is a manageable number of cases. The authors suggest that administrators should watch for signs of stress among veteran teachers as well as ensure there is an equitable distribution of cases (in terms of number and difficulty) among special education teachers.

An additional mixed-methods study was spearheaded, to better understand issues associated with burnout among rural special education teachers. This study included 64 survey responses (using the MBI-ES) and 12 focus group interviews. Teachers in the study noted a lack of clarity in their roles, noted that they had to assume too many roles, experienced EE, and felt a lack of accomplishment. Good working relationships with colleagues and administrators, building relationships with students, and a high level of self-advocacy were noted as being helpful in terms of maintaining mental health and work–life balance (Garwood et al., 2018).

Brunsting et al. (2014) published a literature review to update knowledge regarding burnout by reviewing all empirical studies examining one or more components of burnout delineated by Maslach and Jackson (1981) associated with special education teachers in the United States. Their search identified a total of 23 articles meeting the inclusion criteria published between 1979 to 2013. In their findings, they reported evidence supporting the relationship between burnout and student age, student special education category, student special education composition, and the service model/setting. Based on the reviewed studies, they

recommend that special education teachers (a) be aware of the risks of burnout to their career, their health, and their students; (b) continue developing their classroom management skills and confidence in using them; (c) identify role conflict and ambiguity and problem-solve to alleviate issues; (d) seek support from colleagues and administrators; and (e) engage in self-care techniques to manage stress. They encourage pre-service and in-service teachers to continue to increase their confidence in and knowledge about classroom management techniques, as the majority of current teacher preparation programs do not include courses on classroom management (Oliver & Reschley, 2010). The authors concluded, due to the impact of burnout on teacher attrition, teacher health, and student outcomes, it is critical for researchers to provide both a better understanding of the process by which special education teachers come to experience burnout and more interventions to alleviate burnout based on the challenges that teachers experience.

Statement of the Problem

There is a current deficit of evidence available to validate claims concerning special education teachers and their level of burnout. The MBI-ES has been used consistently in other educational fields, and significant research has been conducted in regard to teacher burnout; however, none of the existing research specifically analyzes the psychometric properties of using the MBI-ES to measure the burnout rate of special education teachers. The intent of this study is to analyze self-reported special education teacher data using a previously validated educational burnout inventory (e.g., MBI-ES). To expand on the existing research, the current study is designed to analyze the relationship between teachers in the field of special education and burnout.

The results of this study may be valuable to school districts, school sites, teachers, individuals working in the field of special education, and university induction programs. At the school district level, understanding special education teacher burnout may help to alleviate high teacher turnover and retain qualified special education teachers, which could create a fiscal benefit for the district. At the school site level, administrators could develop a better understanding of the needs of all of their teachers and help to create better school cultures. With regard to the teachers themselves, this study aims to increasing awareness of the factors (i.e., variables that are not directly observable but inferred) associated with burnout. Finally, the field of special education and university induction programs may benefit from focusing future research on how to help prevent special education teachers from experiencing burnout.

Statement of Purpose

The purpose of this study is to determine how burnout is perceived by special education teachers using the MBI-ES. This study also analyzes the psychometric properties of the MBI-ES to determine whether the current factor structure is appropriate when applied to special education teachers.

Research Questions

This study addresses the following research questions:

1. Does the current factor structure of the MBI-ES apply to special education teachers—is the MBI-ES an appropriate measure to use when examining burnout among special education teachers? If not, do special education teachers require a different factor structure when using the MBI-ES?
2. Is there significant difference in the MBI-ES results between resource room special education teachers and self-contained special education teachers?

CHAPTER 2

Review of Literature

Teacher Retention and Attrition

Teacher turnover has long been a concern in special education because it leads to instability in the teaching force and, due to the difficulty of finding qualified replacement teachers, jeopardizes the quality of teaching. The openings of so many entry level teaching positions every year poses several problems: (a) the annual recruitment and placement of entering teachers is time-consuming and costly, (b) the teachers hired to replace those who have left often are not as qualified in terms of teaching experience (Garcia & Weiss, 2019), and (c) the induction of entering teachers tends to be disruptive to instructional programs until the new teachers are assimilated as fully functioning members of school staffs (Boe et al. 1997).

Currently, 13.2% of special education teachers leave the profession each year (Plash & Piotrowski, 2006). Teacher attrition in special education has left many jobs vacant, to subsequently be filled by uncertified teachers. In a study by Bergert and Burnette (2001), 98% of school districts reported shortages; 33,000 special education positions had been filled by teachers not fully certified, and 4,000 positions remained vacant. Due to the overwhelming shortages of special education teachers throughout the United States, “children with learning disabilities and other disabilities across the nation are being taught by individuals without training, let alone certification” (Disability Policy Newsbreak, 2002, p. 62). The high turnover rate has a negative effect on students as well as school districts (Vittek, 2015). Equitable opportunities for students with disabilities to learn are threatened, as special education teacher shortages and teacher attrition rates persist (Billingsley & Bettini, 2019).

Special education teachers have been expressing concerns over high burnout and attrition rates in special education even before the current national teacher shortage. In early 2000, 98% of school districts across the country were reporting a shortage of qualified special education teachers (Bergert & Brunette, 2001; Boyer & Gillespie, 2000). This issue was acknowledged again in June 2017, when the U.S. Department of Education and Office of Postsecondary Education announced that 46 states were drastically short of special education teachers (Robinson et al., 2019).

Perhaps the most reliable predictor of teacher attrition, historically, has been age, with higher rates of attrition reported for both younger teachers and older teachers (Darling-Hammond & Sclan, 1996). This pattern has been observed for both special education teachers and general education teachers based on state data (Billingsley, 1993; Brownell & Smith, 1992). Previous studies have reported that one out of four special education teachers leave their teaching position each year (McLeskey & Billingsley, 2008; Thornton et al., 2007). Half of special education teachers quit within the first five years of teaching (Billingsley, 2004b; Miller et al., 1999). Special education teachers are also 2.5 times more likely to leave the classroom after their first year of teaching than other beginning teachers (McLeskey & Billingsley, 2008; Brownell & Smith, 1992). The majority of research on attrition identifies burnout as the leading predictor of special education teachers leaving the profession (Emery & Vendenberg, 2010; Mastropieri, 2001; Shen et al., 2015). The literature suggests that if special education teachers stay in the field for five years or more, they are more likely to remain in the field even longer. Tye and O'Brien (2002) report, "The longer one has held a position, the less likely one is to see leaving it as a plausible option. This is why a teacher who remains in the classroom past the initial years is less likely to leave the profession with every additional year" (p. 26).

Creating a qualified, diverse, and stable teaching force is a critical challenge in special education today (Billingsley, 2002). Although it is widely acknowledged that highly qualified teachers significantly increase student achievement (Darling-Hammond & Youngs, 2002), finding, cultivating, and retaining good special education teachers has been a long-standing problem in special education. Due to teacher shortages, many uncertified teachers are hired to work with students with disabilities. The estimated annual attrition rate for special education teachers is between 9% and 10%, as compared to 6% among general education teachers (Billingsley & Bettini, 2019). Approximately 30% of beginning special education teachers, with three or less years of experience, are not certified in special education. The impact of hiring uncertified special education teachers comes at the cost of the students with disabilities. These students, which require the greatest assistance, lose critical learning opportunities as a result of these uncertified new teachers' struggles (Billingsley, 2002). Teacher retention is important not only because of the difficulty of finding replacements but also because of the impact on instruction for students with disabilities (Billingsley, 2004a). The ongoing burnout among special education teachers is an important liability from a legal point of view as well, given the obligation to provide appropriate educational services to students with disabilities (Fore et al., 2002).

Teacher Burnout

People spend a large proportion of their life at work and some of the rest of their time thinking about work. Therefore, work has a profound impact on a person's entire life. Satisfaction in the workplace has a great influence on not only one's working life but also life satisfaction in a general sense (Bozgeyikli, 2018).

Teachers leverage various strategies to deal with both the positive and negative emotions that come as a result of their work. Working conditions play an impactful role in their emotional responses and coping strategies, for example, stress management, emotional regulation, and so on (Sutton & Wheatley, 2003). In descriptive studies, researchers have reported that 13% to 27% of special education teachers identified stress and/or burnout as a contributing factor to attrition (Berry et al., 2011; Billingsley, 2007; Hagaman & Casey, 2018; Kaff, 2004). There is a range of factors associated with the onset of teacher burnout, including lack of administrative support (Skaalvik & Skaalvik, 2007), excessive paperwork (Billingsley, 2004b), challenging student behaviors (Hastings & Brown, 2002), role overload (Adera & Bullock, 2010), and expectation–reality mismatch, which occurs when the pre-service expectation of teaching does not align with the reality of what the teacher experiences in the classroom (Zabel et al., 1984). Unfortunately, these are all factors that many special education teachers face daily, putting them at increased risk of burnout. Many special education teachers do not feel they enjoy the support of their principals, and they may lack the resources needed to manage or alleviate their overload of responsibilities (Kaff, 2004). In addition, special education teachers often spend time performing non-instructional tasks (Vannest & Hagan-Burke, 2010).

Maslach Burnout

Although to varying degrees and frequency, the majority of teachers go through periods of frustration with their jobs and experience negatives emotions associated with their profession. Teachers experience burnout when the stress they encounter is greater than their resources and ability to cope adequately, this leads to exhaustion, cynicism, and an overwhelming lack of fulfillment with their work (Hakanen et al., 2006; Maslach et al., 2001). Although stress and dissatisfaction are highly correlated with teacher burnout (Martin et al., 2012), Maslach (2003)

differentiates between stress and dissatisfaction from burnout, which is composed of three components: emotional exhaustion (EE), cynicism (i.e., depersonalization; DP), and lack of personal accomplishment (PA). Stress must be decoupled from burnout as individuals all respond differently to stress – some accel when they are in stressful situations, others experience indifference, and for some it eventually leads to burnout (Farber, 2000). Burnout is the result of prolonged exposure to job-related stress and interferes with the ability to experience meaning through one's work (Emery & Vandenberg, 2010). Job satisfaction and burnout must also be evaluated as separate constructs, an individual may be dissatisfied with various aspect of their job (e.g., hours, compensation, colleague support) and not experience EE, DP, or lack of PA (Farber, 2000).

Special education literature has traditionally focused on stress and burnout in terms of attrition (Billingsley, 2004b; Gersten et al., 2001). However, attrition may be the least worrisome cause of burnout. The results of recent studies reveal special education teachers to be at high risk of burnout, as their working conditions align with many factors associated with burnout. Special education teachers must fulfill many roles including, but not limited to, case manager, co-teacher, and providing individual instruction. This demands an intense amount of mental and physical energy. This ongoing exertion of mental and physical energy can lead to elevated job-induced stresses and adversely affect their health, well-being, motivation, job performance, and impact students' progress (Ansley et al., 2016; Maslach, 2003; Shen et al., 2015). With burnout rates increasing, teachers' preparation and classroom involvement diminishes while at the same time their student criticism increases. This results in students' negative perceptions of their teachers and may impact the students' motivation and overall self-efficacy in the classroom (Shen et al., 2015). Wisniewski and Gargiulo (1997) identified that special education teachers

who experience persistent stresses see a decrease in the positive reinforcement they deliver, their instructional focus, and in their classroom management. As a result, the greater the duration and intensity of stress experienced by the teacher, the lower their efficacy as a teacher (Kaff, 2004; Nichols et al., 2008; Paquette & Rieg, 2016). Students of disengaged or exhausted special education teachers see higher levels of disruption, have a harder time achieving their goals set in their individualized education plan (IEP), and experience greater social and emotional struggles—all of which lead to poorer academic development (Jennings & Greenberg, 2009). The effect of teacher burnout is far-reaching, as it impacts more than the teacher (Brunsting et al., 2014).

In education, the most widely used definition and measurement of burnout are provided by Maslach and Jackson (1981), who define burnout using three components: EE, DP, and PA. Using these factors, Maslach et al. (1996) developed the MBI-ES to measure the level of burnout experienced by general education teachers. Previous studies using the MBI-ES (1986) have found that teachers who feel low levels of PA as well as high levels of EE and DP are more likely to experience burnout and, ultimately, leave the teaching profession (Brunsting et al., 2014; Williams & Dikes, 2015). Teachers experience EE when they feel inadequate in coping with the stress and demands of the job; EE can cause teachers to experience physical deterioration, overburden, low energy, and physical and mental fatigue (Maslach & Jackson, 1981; Maslach et al., 1996). However, DP can cause teachers to feel detached from their jobs and to experience social distancing, and a generally negative attitude towards others and their work. This can cause professional and personal relationships to suffer and lead teachers to become disconnected from students in the classroom. Teachers experiencing high levels of DP display cold and distant attitudes towards students and have difficulties maintaining positive feelings

toward them. Furthermore, Maslach et al. (1996) define a lack of PA in terms of feelings of being incompetent and unsuccessful: teachers feeling unqualified, ineffective, and hopeless. Individuals typically enter education because they want to make an impact on young minds. However, when teachers feel they are not contributing to their students' growth, their feelings of PA declines.

Special Education Assignment

Special education certification is typically comprehensive, encompassing grades K to 12, and there has been a clear trend since 2000 towards noncategorical licensure (Sindelar et al., 2019), which allows districts flexibility in assigning special education teachers to teach students with varied disabilities. Initial licensure requirements vary, with some states requiring stand-alone special education licensure, while others only require a general education licensure (Blanton et al., 2017). Currently, there are 10 different *Praxis* exams relating to special education teachers.

Special education instruction takes many forms in K-12 schools – some teachers work with students with only a single disability identified, while other special education teachers are responsible for students with varying identified disabilities in cross-categorical programs (Gehrke & McCoy, 2007). Additionally, the teaching assignments of special education teachers differ as a result of the differing service delivery models adopted by their schools or districts. For example, some schools have special education teachers work mainly in inclusive settings and co-teach with general education teachers (Scruggs et al., 2007). Others employ a push-in model (resource rooms), where teachers provide small group instruction to both general education and special education students, and others combine varying levels the models (Kaff, 2004; Mitchell et al., 2012). A minority of special education teachers work in self-contained classrooms or

special schools. These teachers deliver instruction to a small group of students with substantial learning and/or behavioral needs and cover all content areas (Bettini et al., 2019). Finally, special education teachers may serve as itinerant teachers who serve students in multiple schools (Edgar & Rosa-Lugo, 2007).

Special education teachers face varying instructional demands as a result of the differing needs of their students and the goals and services included in their IEPs. While some special education teachers are focused on a single content area, others are required to teach multiple content areas. This is often coupled with the responsibility for both general education curriculum and foundational skill development (McLaughlin, 2010). Special education law requires that both programs and services must be provided to qualifying students as a result of their educational needs as opposed to their disability category. Frequently, this results in heterogeneous student groupings. In order to attract and retain qualified teachers into the field of special education, there must be an explicit understanding of the conditions of special education classrooms (Nichols & Sosnowsky, 2002). Banks and Necco (1990) suggest that the type of student disability and service delivery model may contribute to accelerated burnout.

The research findings on the relationship between burnout and service model are inconclusive. Multiple studies have investigated the relationship between teacher burnout and the special education category of the students being taught. Levels of stress vary among teachers responsible for students with diverse needs and disabilities within classroom settings (Crane & Iwanicki, 1986; Zabel & Zabel, 1982). Researchers have documented teacher frustrations due to the diversity of student populations in the classroom (Billingsley, 1993; Billingsley & Cross, 1992; Zabel & Zabel, 1982). Cross-categorical classrooms can include any or all disabilities identified under IDEA, including a strong representation of students with emotional disturbances

(ED; Nichols & Sosnowsky, 2002). Teachers who teach in self-contained classrooms with multiple disabilities experience a greater risk of attrition than those who teach in more homogenous classrooms, teaching one category or subject. Teachers in self-contained classrooms often experience professional isolation and as a result of the diverse needs of the students in their classroom find it difficult to maximize student learning (Brownell & Smith, 1992; Crane & Iwaniscki, 1986; Zabel et al., 1984). Cross-categorical settings often force special education teachers to question their ability to provide satisfactory instruction as the wide range of students' educational and behavioral needs is often overwhelming. This often reduces the teachers' feelings of PA and increases role ambiguity and conflict. In another study, the proportion of students with ED in a classroom was found to be correlated with special education teacher burnout in self-contained classrooms serving students with varying special education needs (Nichols & Sosnowsky, 2002). Banks and Necco (1990) found special education teachers of students with ED experienced higher burnout than those of students with intellectual disabilities (ID). With regard to teaching students with ID, teachers of students with moderate ID experienced lower burnout than general education teachers and teachers of students with mild ID (Beck & Gargiulo, 1983). Coman et al. (2013) conducted a study with a sample of 53 special education teachers of preschool students with ASD, finding that the number of students with ASD in a teacher's classroom correlated with burnout and that the number of typically developing students correlated inversely with burnout. In addition, Irvin et al. (2013) reported that the ratio of adults in the classroom to students with ASD correlated with an increase in burnout, meaning the more adults present in a classroom, the higher the level of teacher burnout. In contrast, Banks and Necco (1990) have found teaching in resource rooms to correlate

significantly with burnout. These findings suggest that the impact of service model on burnout may be moderated by other factors (Brunsting et al., 2014).

Support

At the heart of the special education teacher shortage is poor job design and unrealistic expectations placed upon special education teachers. Inadequate preparation programs for special educators are a major contributor to poor teacher retention. Researchers have found that many special education teachers are unprepared for the overwhelmingly diverse responsibilities required to be successful as a special education teacher. Some experts believe that this overwhelming responsibility leads to early burnout and the disillusionment of special education teachers, while others suggest that it results from special education teachers lack of leadership qualities which would enable them to cope with the demands of the job. Additionally, other experts suggest that special education teachers must develop leadership skills to aid them in becoming effective advocates for the field of education (Payne, 2005). A 2000 report by the Council for Exceptional Children (CEC) has suggested that many new special education teachers are finding that they have been prepared for jobs that no longer exist and that they are not equipped for the jobs they face (McLeskey et al., 2004). As districts move towards greater inclusion of students with learning disabilities (LDs) in their schools (McLeskey et al., 1999), some special education teachers struggle with changing roles and lack of support for their new and often increased responsibilities (Billingsley, 2004a). Studies examining an array of educational working conditions, generally find that special education teachers are more likely to leave, or to intend to leave, when they experience greater requirements and weaker social supports (Conley & You, 2017; Gilmour & Wehby, 2019).

Understanding what the first years of teaching are like for beginning teachers is important when attempting to provide the necessary supports. The beginning teaching period has been described as one of shock and survival. Beginning special education teachers often have unrealistic expectations (Billingsley & Tomchin, 1992; Kilgore & Griffin, 1998), struggle with how to apply what they have learned in their preparation programs (Whitaker, 2000), desire to be viewed as competent (Billingsley & Tomchin, 1992), and are reluctant to seek help (Whitaker, 2000). New and inexperienced special education teachers are required to command a multitude of responsibilities (e.g., instruction, resources, time management, bureaucratic responsibilities) while collaborating with school administrators, general educators, and parents, all of whom often do not fully comprehend their role and the extent of their efforts (Boyer & Lee, 2001; Carter & Scruggs, 2001). Most special education teachers have mentors, but mentors may not be available in the same school or teach in the same area (Billingsley et al., 2004).

Collaboration

A teacher's perceived level of school support directly impacts their job satisfaction (Mastropieri, 2001; Prather-Jones, 2011). The principal plays a critical role in new teacher induction programs by ensuring they feel supported. This, in conjunction with helping these new teachers navigate and understand the school culture, are critical components to improving teacher retention. If a teacher (regardless of tenure or experience) perceives lackluster administrative support in their evaluations, professional development opportunities, and so on, it often results in them leaving their position as an educator. Teachers also have a strong desire to contribute in determining their working conditions and to be supplied sufficient resources to meet the requirements of their role (Certo & Fox, 2002; Inman & Marlow, 2004). Kaff (2004) found that a lack of support from administration is the most frequently referenced factor in

teachers feeling unsupported by their school environment and experiencing higher levels of burnout. Such a lack of support can include administrators who do not provide sufficient support when teachers are confronted with challenging student behaviors, service delivery, paperwork, and lack of knowledge of and experience in special education. Special education teachers who enjoy more support from their administrators have been found to be less stressed and more committed to their classrooms and schools and to report higher levels of job satisfaction (Bettini et al., 2015; Billingsley & Cross, 1992).

When schools and principals create shared goals, values, and professional growth opportunities it results in a collaborative environment where all school staff support and learn from one another (Singh & Billingsley, 1998). When principals and peer teachers provide support to special education teachers many of the impediments experienced in the classroom by special educators to employ research-based practices are removed or dramatically reduced (Gersten et al., 2001). One of the greatest factors in ensuring special education teachers have both high levels of job satisfaction and retention is by having work conditions that are both positive and supportive for these teachers. Central office administrators and principals play key roles in helping teachers succeed, which results in improved student learning (Glickman, 2002).

Special education teachers may experience frustration and be more likely to leave when their positions require more than they can reasonably provide due to their complex responsibilities (Bettini et al., 2017). Kaff (2004) found that 48% of special educators that had plans to leave their current job felt that they had too many demands on them which interfered with their ability to serve students. Special education teachers are required to coordinate with administrators at their home schools, at the district level, both general and special education colleagues, paraprofessionals, related service providers (e.g., speech-language pathologists,

occupational therapists), and their students' parents in order to effectively meet the needs of their students (Billingsley et al., 2019). Several studies have found a high correlation in the ratings that special educators gave on supported they felt from other professionals and their intention of continuing in their job (Berry et al., 2011; Kraff, 2004). Administrators' support of an inclusive culture where there is a high level of collaboration between special and general educators lead to a highly positive work environment. This coupled with administrators ensuring that special educators have the appropriate resources lead more effective work and higher special educator retention (Billingsley et al., 2019). Collegial support improves teachers' learning, provides emotional support to manage the demands of their role, and aids teachers' ability to navigate their school's culture (Grossman & Thompson, 2004). Some experts believe that support from colleagues is of even greater importance for special education teachers as peer collaboration is critical in coordinating services and ensuring their students are positively included in general education (Bettini et al., 2019). When special education teachers experience poor collegial support, they are required to expend even greater energy to build these relationships because they are a critical component to the success of their students. This lack of collaboration is a commonly identified issue by special educators and results in feelings of disconnection from school environment and feeling lack of support (Andrews & Brown, 2015). Special education teachers often experience feelings of isolation from their school colleagues simply due to minimal opportunities to interact (Gersten et al., 2001). Hamama et al. (2013) found that colleague support is a significant link between stress and positive affect. Greater job satisfaction and retention is found in special education teachers when they feel supported by their general education peers and opportunities for collaboration are readily available (Stempien & Loeb,

2002). Griffin et al. (2009) and Jones et al. (2013) extended prior studies by examining whether collegial support is more important for special educators than their general education peers.

Leko and Smith (2010) proposed the following measures for administrators wishing to retain special education teachers: (a) thinking carefully about school climate, (b) investing in induction, (c) assigning mentors, (d) providing professional development, and (e) assigning reasonable roles and responsibilities. It is critical that first year special education teachers experience an induction program that provides the support and guidance that these new teachers require in their assignment and teaches them how to manage the stress of their new job. The responsibility of constructing such programs falls on administrators.

Paperwork and Resources

Special education teachers identify a lack of resources as another factor that leads to higher levels of burnout. The resources lacking include classroom materials, curricula, assistive technology, planning time, and professional development opportunities (Gersten et al., 2001; Mastropieri, 2001; Stempien & Loeb, 2002). Gersten et al. (2001) found that teachers who are provided opportunities to learn on the job are less likely to leave the field. Many special education teachers report insufficient opportunities for professional development and when available much of the training provided is not applicable for special education. In order to help minimize classroom issues and better prepare special education teachers, professional development must align with program goals and introduce new evidence-based strategies (Brownell et al., 2004; Shen et al., 2015; Wisniewski & Gargiulo, 1997).

Paperwork (e.g., writing IEP documents, completing forms in compliance with IDEA, etc.) is a key responsibility that often takes time from special education teachers' instructional responsibilities. Prior reviews have suggested that non-teaching responsibilities are burdensome

to teachers, interfere with instruction, and may contribute to attrition (Billingsley, 2004a). Qualitative studies summarize special education teachers' perspectives on paperwork, indicating that paperwork (a) is overwhelming and contributes to a difficult workload (DeMik, 2008; Kaff, 2004); (b) involves varied types of tasks, such as long IEP forms; (c) is redundant, requiring them to maintain multiple sets of records (DeMik, 2008); and (d) interferes with time to teach (DeMik, 2008; Hagaman & Casey, 2018). Special education teachers enter the profession to work with exceptional students; however, excessive paperwork restricts their ability to perform what they view as their role (Gersten et al., 2001; Miller et al., 1999). Special education teachers report that paperwork and other administrative duties interfere with teaching (Carlson et al., 2004).

Special education teachers are often required to exert energy and complete work greater than that of their general education peers and for no additional compensation (Thornton et al., 2007). This added responsibility hinders the teacher's ability to properly teach their class (Kaff, 2004; White & Mason, 2006). Kaff (2004) analyzed the results of 341 questionnaires and found that classroom instruction is no longer the primary responsibility of special education teachers. However, special educators' main driver in their choosing the field and remaining in it is their desire to teach and help improve the lives of their students. When they are stripped of this role, they experience less job satisfaction and are more likely to ultimately leave the field.

Past Studies on Special Education Teacher Burnout

Boe et al. (1997) surveyed 4,798 regular and special education public teachers in a national study. The data collected tracked teacher transfers across schools, school districts, state boundaries, public and private sectors, teaching specializations, and out of the teaching profession. The results indicate that the attrition rate of 20% for special education teachers was

higher than for general education teachers. In addition, more special education teachers (8%) than general education teachers (6%) left public teaching altogether. The authors identified a combination of teacher characteristic variables relevant to hiring decisions and a combination of school variables relevant to employment conditions as a guideline for improving teacher retention. They suggested that school districts hire experienced teachers, ages 35 to 55, who have dependent children over the age of five, place these teachers in full-time assignments for which they are fully certified, and pay them higher salaries.

Fore et al. (2002) offered some recommendations for reducing burnout in special education teachers and increasing retention rates. Some of their suggestions include (a) smaller class sizes and smaller caseloads, (b) more support and interaction from colleagues, (c) having administrators and special education coordinators within the same school, and (d) observing other special education teachers for professional development purposes. Special education roles need to be carefully defined to reduce bureaucratic requirements and ensure that teachers have the resources needed to do their work.

Billingsley (2004a) focused on four work-related factors that are important to special education teacher retention: (a) responsive induction programs, (b) deliberate role design, (c) positive work conditions and supports, and (d) professional development opportunities. In summary, qualified entry-level special education teachers are a valuable resource. The cultivation of these teachers is critical in helping them become educators that have special education expertise while also ensuring they can leverage that expertise within the context of their schools. Making schools hospitable, providing experienced and well-trained mentors, and monitoring that these teachers do not receive unreasonable workloads is imperative if these new teachers are to prosper and ultimately help their students achieve academic success. Billingsley

concluded that teachers who feel stressed, overburdened, and unsupported have less energy for new learning, supporting others, and trying new approaches to teaching.

Nance and Calabrese (2009) conducted a qualitative multiple case study to identify the reasons current or former tenured special education teachers remain in or leave their special education teaching positions. Data were collected from 40 current and former tenured special education teachers through focus groups, semi-structured interviews, and a review of appropriate documents. Four findings emerged: (a) current tenured special education teachers want to be listened to and have their needs considered; (b) current tenured special education teachers feel overwhelmed by the workload related to state assessments; (c) current and former tenured special education teachers believe that legally-required changes affect them in practice; and (d) current and former tenured special education teachers perceive that time requirements for administrative tasks reduce time for student services.

Billingsley and Bettini (2019) synthesized 30 studies published between 2002 and 2017, examining factors associated with special educator attrition and retention, including (a) teacher preparation and qualifications, (b) school characteristics, (c) working conditions, and (d) teacher demographic and nonwork factors. The most consistent finding regarding teacher preparation and qualifications was that special education teachers with less experience were more likely to leave the profession, according to a literature review (Billingsley, 2004b). The authors suggest that future research should address how specific characteristics of mentorship and professional development relate to attrition and intervention research.

In addition to the literature review by Billingsley and Bettini (2019), an earlier literature review was conducted by Vittek (2015). This review focused on the following aspects of teacher attrition and retention in special education: (a) definition of attrition and retention,

(b) characteristics of teachers who remain in their jobs and those who leave the field, (c) job satisfaction, (d) administrative support, (e) induction programs, and (f) mentoring. The question asked was as follows: What variables lead to special educator attrition and retention? The review concluded that future research should focus on the four areas that researchers have found to promote teacher retention: (a) job satisfaction, (b) induction programs, (c) mentoring, and (d) administrative support. Consideration should be given to providing special education teachers with more support and opportunities to grow professionally. When more support is provided for these teachers, the number of special education teachers remaining in the field will likely increase the gap between the number of special education teachers and the number of openings in the field will begin to decline.

CHAPTER 3

Method

Procedures

Online surveys were distributed during the 2019–2020 school year. The Qualtrics survey system was selected to distribute the surveys because it is able to maintain the confidentiality of the participants. Following approval from the Institutional Review Board (IRB) at Brigham Young University (Appendix A), the online surveys were distributed. To answer the research questions and reach a nationwide convenience sample, special education teachers were targeted through social media groups. Each group had over 25,000 members, and group administrators were free to share the survey with anyone they deemed appropriate. A snowball sampling technique was used to obtain as many participants as possible; however, limitations with regard to external generalizability may occur with this method (Coleman, 1958). Participants opened a link asking them to complete an anonymous survey about burnout and how it relates to their special education teaching assignment. Participants were required to consent to the study before initiating. The consent outlined the purpose of the study and safeguards, including the fact that each participant's identity would remain completely anonymous. Teachers were permitted to abandon the survey at any point, in which case their responses would not be analyzed. All surveys were disturbed and collected by February 2020, prior to the start of the Covid-19 pandemic.

Participants

A total of 349 responses were returned; 58% (n = 201) were from resource room special education teachers (e.g., mild/moderate or high-incidence) and 42% (n = 148) were from self-contained (e.g., severe or low-incidence) special education teachers. If a teacher taught students

with ED, they were instructed to identify as either resource room or self-contained based on their students' least restrictive environment (LRE) and how much time their students spend fully included in a general education classroom. Table 1 displays the average of some of the participant data.

Table 1

Descriptive Statistics for Participants

Variable	N	Average
State	50	6.71 responses/state
Age	349	40.79 yrs old
Years Taught	349	7.6 yrs teaching
Grade Taught	349	Primary Elementary (1^{st}-3^{rd} grade)

All settings were considered; 89% (*n* = 310) of participants represented public schools, 7% (*n* = 23) charter schools, and 4% (*n* = 16) private schools (part-day special education, full-day special education, hospital behavior unit, homebound, etc.). Responses represented 48 states (all but Maine and Wyoming), Washington D.C., and various U.S. territories. The average number of respondents per states were 6.71, at the highest range California returned 26 responses.

Of the participants, 19% (*n* = 67) had taken a break at some point in their special education teaching career. With regard to moving schools or switching location/assignment, 33% (*n* = 115) of the special education teachers had stayed in the same assignment for their entire special education teaching career, and 67% (*n* = 234) had changed assignments at least once.

Furthermore, 7% (*n* = 25) of respondents were between the ages of 18 and 25 years old; 14% (*n* = 49) were between 26 and 30 years old; 17% (*n* = 58) were between 31 and 35 years old; 25% (*n* = 88) were between 36 and 42 years old; 20% (*n* = 70) were between 43 and 50

years old; and 17% (n = 59) were 51 years or older. By splitting the ages into groups, as opposed to continuous data, there is a chance of losing information and potentially having lower statistical power for future predictor variable analyses.

Of the respondents, 98% (n = 341) were females and 97% (n = 340) had a special education license/certificate/endorsement. The number of years taught was broken into seven brackets to help account for any non-linear relationships between years taught and burnout (teachers tend to leave within the first five years of teaching). Of the respondents, 8% (n = 27) were first-year special teachers; 16% (n = 55) were in their 2nd or 3rd year teaching special education; 17% (n = 58) were in their 4th or 5th year; 12% (n = 42) were in their 6th or 7th year; 10% (n = 34) were in their 8th to 10th year; 13% (n = 45) were in their 11th to 15th year; and 24% (n = 88) had been teaching special education for longer than 15 years.

School factors varied across participants. Of the participants surveyed, 6% (n = 21) were teaching early childhood; 5% (n = 16) were teaching half-day kindergarten; 28% (n = 97) were teaching full-day kindergarten; 22% (n = 76) were teaching primary elementary (grades 1–3); 20% (n = 70) were teaching intermediate elementary (grades 4–6); 16% (n = 57) currently were teaching junior high/middle school; and 3% (n = 12) currently were teaching at the high school level. No participants who completed the survey were currently teaching in a transition assignment (ages 18–21).

Measure

The survey consisted of the 22 items from the MBI-ES (1986). The Maslach Burnout Inventory (MBI) is an introspective psychological inventory used to measure occupational burnout. The original MBI was published in 1981 and was constructed by Christina Maslach and Susan E. Jackson with the goal of assessing an individual's experience of burnout. The educators

survey version was designed for teachers, administrators, other staff members, and volunteers working in any educational setting. The MBI-ES is the most widely used instrument for measuring burnout among general education teachers (Emery & Vandenberg, 2010; Maslach et al., 1996). The 22-question inventory uses a seven-point Likert scale that consists of three sub-scales: EE, DP, and PA.

The EE sub-scale measures feelings of being emotionally exhausted, or overextended, by one's work. The survey includes nine items measuring EE. Higher EE scores indicate larger experienced burnout. The DP sub-scale measures depersonalization, unfeeling, or impersonal responses towards the recipients of one's service, care, treatment, or instruction. The survey includes five items that measure DP. Higher DP scores indicate lager experienced burnout. The PA sub-scale measures feelings of personal accomplishment, competence, and successful achievement in one's work with people. The survey includes eight items measuring PA. Lower PA scores indicate larger experienced burnout.

The Likert scale ranges from 0 to 6, where 0 = *never,* 1 = *a few times a year,* 2 = *once a month,* 3 = *a few times a month*, 4 = *once a week*, 5 = *a few times a week*, and 6 = *every day* (Maslach et al., 1996). The MBI takes 10–15 minutes to complete and can be administered to individuals or groups. Reliability and validity of the MBI-ES have been established in two previous studies. Factor analysis studies by Iwanicki and Schwab (1981) and Gold (1984) supported the MBI-ES three-factor structure. Regarding reliability, Iwanicki and Schwab (1981) reported Cronbach's alpha estimates of 0.90 for EE, 0.76 for DP, and 0.76 for PA, while Gold (1984) reported estimates of 0.88 for EE, 0.74 for DP, and 0.72 for PA. Time periods of a few weeks, three months, and one year were used for test-retest reliability. Males tend to score higher than females in the DP scale, which is consistent in other helping professions.

Research Design

This study adopted quantitative analysis, more specifically multivariate, to appropriately address each research question. Quantitative techniques are more suitable than other research methods for analyzing larger sample sizes. Multivariate analysis allows for multiple variables to be analyzed and taken into account simultaneously. In this case, multivariate statistics were used to analyze various factors that may contribute to feelings of burnout among special education teachers. Specifically, the study makes use of structural equation modeling (SEM), a multivariate statistical analysis technique used to analyze the structural relationship between observable variables and constructs. This study used a combination of confirmatory factor analysis (CFA), exploratory factor analysis (EFA), and measured for multigroup measurement invariance.

To obtain adequate results, a minimum sample size of 200 and/or a five-to-one ratio of participants to variables is recommended (Wolf et al., 2013). The total number of complete responses received was 349, and, since the 22-item inventory was split across two groups (self-contained and resource room special education teachers), a minimum of 110 complete responses was preferred for each group.

Several assumptions had to be met to continue with the SEM analysis. All linear, independence, normality, equality of variance, and multicollinearity assumptions were met. Prior to analysis, IBM SPSS Statistics for Windows, Version 24.0 was used to check the data set for any assumptions using bivariate correlations, curve estimation, and scatter plots. In addition, it was determined that this data set contained no censored data by analyzing the distribution of the histograms, as well as the nature of the items on the inventory, from "*never"* to "*daily*." Total variable missing data were less than 5% (0.01%; $n = 6$).; therefore, it was concluded that data were missing at random (MAR), and missing data were ignored and recoded as -999 in the data.

Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is a form of factor analysis most commonly used in the social sciences to test whether measures of a construct (factor) are consistent with a researcher's understanding of the nature of that construct. Multiple observed variables are associated with a construct, which cannot be measured. The objective of a CFA is to determine whether the data fit a hypothesized model. This hypothesized model is based on theory and/or previous analytic research. The researcher uses knowledge of a theory, empirical research, or both to hypothesize the relationship pattern and then tests the hypothesis statistically (Suhr, 2006). In CFA, if an unacceptable model fit is found, an EFA can be performed.

Exploratory Factor Analysis (EFA)

An exploratory factor analysis (EFA) is a statistical method used to uncover the underlying factor structure of a relatively large set of variables without imposing any preconceived structure on the outcome (Child, 1990). This technique should be used when the researcher has no prior hypothesis concerning factors or constructs among observed variables. The procedures involved in EFA are more accurate when each factor is represented by multiple observed variables in the analysis.

In general, EFA assumes that any indicator may be associated with any factor. The goals of an EFA are to determine the number of underlying factors or constructs for a set of measured variables and to define the content or meaning of the factors (e.g., latent constructs). An oblique rotation should be used when conducting an EFA to allow for inter-factor correlations to be given in the output. By default, Mplus provides a geomin rotated solution which is an oblique type rotation.

One criterion that can be used when analyzing an EFA and determining the number of factors to extract is Cattell's (1966) scree test. On a scree plot, there is a point below where factors explain relatively little variance and above where they explain substantially more, this usually appears as an "elbow" on the scree plot. The portion beyond the elbow corresponds to the scree (Suhr, 2006**)**. Cattell's (1966) guidelines call for retaining factors above the elbow and rejecting those below. According to the Kaiser Criterion, Eigenvalues are a good criterion for determining a factor. If an eigenvalue is greater than one, then it should be considered as a factor, and if eigenvalues are less than one, they should not be considered as a factor (Kaiser, 1958).

Multigroup Measurement Invariance

Measurement invariance indicates that the same construct is being measured across some specified groups. Measurement invariance can be used to study whether a given construct is interpreted in a conceptually similar manner by respondents representing different groups (e.g., burnout across self-contained special education teachers and resource room special education teachers; Chen, 2007). It is recommended that researchers use the difference between the CFI of two specified models to investigate measurement invariance.

Measurement invariance can be categorized according to three hierarchical levels: (a) configural equivalence, where the factor structure is the same across groups in a multigroup CFA; (b) metric equivalence, where the factor loadings are similar across groups; and (c) scalar equivalence, where the means are also equivalent across groups (Meredith, 1993).

Data Analysis

For this study, CFAs and EFAs were analyzed using the following guidelines proposed by Worthington and Whittaker (2006): (a) delete items with factor loadings that are less than |.32| and cross-load with less than |.15| difference; (b) if items have factor loadings greater than |.32|

and any-cross loadings are greater than |.15|, they can all be kept; and (c) if items have factor loadings less than |.32| and any cross-loadings are less than |.15|, you should consider deleting them.

All SEM models were analyzed using the following fit indices and their respective cut-offs; (a) the root mean square error of approximation (RMSEA), (b) the Tucker-Lewis index (TLI), (c) the comparative fit index (CFI), (d) the standardized root mean square residual (SRMR), and (e) the Akaike information criterion (AIC).

The root mean square error of approximation (RMSEA) is an absolute measure of fit based on the non-centrality parameter. Values should be as small as possible, with perfect fit indicated by an index of zero. Values higher than 0.05 indicate a good fit, values between 0.05 and 0.08 indicate an acceptable fit, and values between 0.08 and 0.10 indicate a poor fit (Browne & Cudeck, 1993).

The TLI, an incremental fit index, has a penalty for adding parameters. A value between 0.90 and 0.95 is considered marginal, above 0.95 is considered good, and below 0.90 is considered to indicate a poorly fitting model (Hu & Bentler, 1999). Both the TLI and CFI depend on average size of the correlations in the data—if the average correlation between variables is not high, then the TLI will not be very high.

The comparative fit index (CFI) is an incremental measure directly based on the no-centrality measure. Values range from 0 to 1, with a perfect fit indicated by 1. Cut-off values are similar to those in the TLI—a value between 0.90 and 0.95 is considered marginal, above 0.95 is considered good, and below 0.90 is considered to be a poorly fitting model (Hu & Bentler, 1999).

The standardized root mean square residual (SRMR) is an absolute measure of fit. It is defined as the standardized difference between the observed correlation and the predicted correlation. The SRMR is an absolute measure of fit; therefore, a value of zero is a perfect fit. A value less than 0.08 is generally considered a good fit (Hu & Bentler, 1999).

The Akaike information criterion (AIC) is a measure of misfit. Lower values indicate a better fit, and so the model with the lowest AIC is the best-fitting model. The AIC is only used to compare models and not to judge whether a model fits the data well.

The above guidelines are intended as aides for interpretation of a value that lies on a continuous scale and not as absolute threshold (MacCallum et al., 1996). To compare models to test for measurement invariance (configural, metric, and scalar), Chen's (2007) guidelines were used. These guidelines stipulate that the CFI should change by less than or equal to -0.005 or -0.010 to show measurement invariance.

All models in this study were conducted using Mplus, Version 7. For this study, the Mplus estimator MLR was used for the CFA and EFA, and the ML estimator was used for the multigroup measurement invariance. The MLR estimator is used to estimate the maximum likelihood estimation with robust standard errors. The ML estimator is the default estimator for many model types in Mplus.

CHAPTER 4

Results

This chapter presents the statistical results of the study. The chapter opens by discussing the background of the study and offering a description of the sample. Thereafter, the results of the data analysis are presented. The chapter concludes with the results of the analysis.

Background

The purpose of this study is to investigate the differences in the experience of teacher burnout according to special education teacher assignment (resource room or self-contained). Additionally, the research analyzes the current psychometric properties of the MBI-ES to determine whether the current factor structure is appropriate to use when looking at special education teacher burnout. Chapter 4 provides a description of the sample and a summary of the results.

Description of the Sample

Special education teachers from across the nation constituted the sample for this study, which consisted of 349 special education teachers (201 resource room teachers and 148 self-contained special education teachers). Teachers were recruited during winter 2020 by means of convenience sampling and snowball sampling.

Previous Factor Structure Confirmatory Factor Analysis (CFA)

Since the MBI-ES is a widely used measure of burnout, a CFA was first conducted across all participants to test the factor structure surrounding the instrument. The fit statistics for the original three-factor MBI-ES were RMSEA = 0.084 (poor fit), CFI = 0.829 (poor fit), and TLI = 0.808 (poor fit). According to the fit statistics the original CFA factor structure hypothesis for the MBI-ES did not yield good fit statistics when applied to the special education teachers in the

sample data set. An EFA was then conducted to determine whether a better fitting model could be found from the sample.

Exploratory Factor Analysis (EFA)

The original factor structure hypothesis for the MBI-ES is a three-factor model (EE, DP, and PA). Up to five factors were analyzed for potential fit using an EFA. The criteria used for considering the final factor structure were a scree plot (Figure 1**)** and the corresponding fit statistics (Table 2).

Figure 1

Scree Plot for MBI-ES EFA

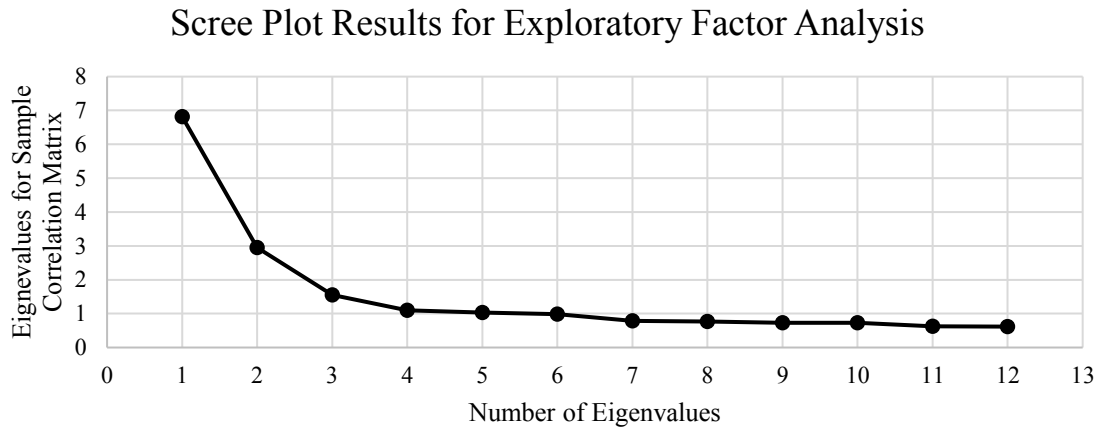

Table 2

Fit Statistics for Exploratory Factor Analysis

Model	RMSEA	CFI	TLI
1-Factor	0.118	0.651	0.614
2-Factors	0.091	0.815	0.773
3-Factors	0.076	0.886	0.843
4-Factors	**0.060**	**0.937**	**0.902**
5-Factors	0.065	0.934	0.884

According to Figure 1, the three-factor model fits slightly better than the four-factor model; however, all first four eigenvalues were above one—the fourth eigenvalue was (1.09). According to the fit statistics, the four-factor model fit better; RMSEA = 0.060 (acceptable fit), CFI = 0.937 (marginal fit), and TLI = 0.902 (marginal fit) (Table 2). After comparing factor loadings on both the three-factor and the four-factor models, it was determined to move forward in the analysis using the four-factor model.

The original factor loadings for the four-factor model (Table 3) suggested the deletion of three items: item 12 (cross-loading onto factor 1 and factor 2 with less than |.15| difference), item 15 (poor fit across all factors), and item 22 (poor fit across all factors). When the three specific items were examined more closely, the theory supported their deletion. Two of the items discussed feelings of blame associated with students and problems centering around students (e.g., "*I don't care what happens to students…*" and "*I feel students blame…*"; DP attributes). Due to the nature of special education work, however, the normal assumption would be that teachers do not blame their students**.** The other item focused on teachers' energy levels—this item cross-loaded highly (> |.32|) onto two different factors with the same absolute value (one positive and one negative). Following the recommendation of Worthington and Whittaker (2006), this item was deleted in further analyses.

Four-Factor Confirmatory Factor Analysis (CFA)

After drafting the four-factor model, a higher order (HO) CFA was conducted to confirm whether a HO factor would have better fit. Table 4 presents the AIC for both the four-factor model and the HO model. The four-factor model was kept because of the greater CFI fit (CFI = 0.930) and also due to the lower AIC (ΔAIC = -1.603). The lower the AIC (measure of misfit), the better-fitting the model (only when comparing across models).

Table 3

Factor Loadings for the 4-Factor EFA Model (Item Fit Statistics)

Item	Factor 1	Factor 2	Factor 3	Factor 4
1	**0.739***	-0.012	0.016	0.044
2	**0.848***	0.006	-0.017	-0.034
3	**0.833***	-0.071	-0.015	-0.072
4	0.157	**0.503***	0.079	-0.007
5	-0.126	**-0.336***	0.175*	0.071
6	0.022	-0.033	**0.888***	-0.038
7	0.008	**0.515***	0.084	-0.021
8	**0.805***	-0.098*	0.039	0.045
9	-0.071	**0.563***	-0.070	0.007
10	0.027	0.020	0.141	**0.730***
11	0.022	-0.065	-0.032	**0.892***
12	-0.358*	0.354*	-0.036	0.040
13	**0.762***	0.042	0.003	0.118
14	**0.598***	0.074	-0.010	0.120
15	-0.146*	-0.348	0.289*	0.082
16	0.066	0.045	**0.779***	0.033
17	-0.067	**0.683***	-0.040	0.047
18	-0.130*	**0.636***	0.073	0.000
19	-0.053	**0.617***	-0.013	-0.034
20	**0.617***	0.002	0.145	0.186*
21	0.073	**0.552***	0.011	-0.021
22	0.132	-0.076	0.008	0.096

* $p < .05$

Table 4

Fit Statistics for the 4-Factor and Higher-Order Models

Model	RMSEA	CFI	TLI	AIC
4-Factor	**0.061**	**0.930**	**0.918**	**21387.282**
HO	0.060	0.921	0.918	21388.885

To test configural invariance a multigroup CFA with two groups (resource room special education teachers and self-contained special education teachers) was conducted, which still resulted in good fit indices (Table 5). The resource room teachers still had majority fit (two out of three acceptable fit indices); RMSEA = 0.070 (acceptable fit), CFI = 0.909 (marginal fit), and TLI = 0.893 (poor fit); however, because the TLI score was a poor fit value, SRMR was included to confirm fit (SRMR = 0.058—acceptable fit). Table 6 illustrates the final four-factor model. The four-factor model proved to be a good solution to use for both resource room special education teachers and self-contained special education teachers.

Table 5

CFA Across Groups

Group	RMSEA	CFI	TLI	SRMR
Resource Room	0.070	0.909	0.893	0.058
Self-Contained	0.068	0.923	0.909	0.069

To confirm the final four-factor model, an inter-factor correlation matrix was analyzed (Table 7). Discriminant validity is the extent to which factors are distinct and uncorrelated (i.e., the extent to which the constructs are truly distinct from one another and should lead to different results even if they are measured by the same method), the constructs should relate more strongly

to their own factor than to another factor; in this study, the four factors (EE, DP, PA, and CS) should theoretically measure four separate constructs. Inter-factor correlations should not exceed |.85| to demonstrate the presence of discriminant validity (Voorhees et al., 2016).

Table 6

Final 4-Factor Model Results (Standardized)

Factor/Item	Estimate	S.E.	P-Value
Emotional Exhaustion			
Item 1	0.768	0.035	0.000*
Item 2	0.806	0.023	0.000*
Item 3	0.789	0.025	0.000*
Item 8	0.878	0.022	0.000*
Item 13	0.822	0.021	0.000*
Item 14	0.640	0.042	0.000*
Item 20	0.807	0.022	0.000*
Personal Accomplishment			
Item 4	0.426	0.069	0.000*
Item 5	-0.315	0.052	0.000*
Item 7	0.502	0.054	0.000*
Item 9	0.613	0.054	0.000*
Item 17	0.666	0.054	0.000*
Item 18	0.674	0.046	0.000*
Item 19	0.673	0.047	0.000*
Item 21	0.521	0.054	0.000*
Collaborative Stress			
Item 6	0.833	0.031	0.000*
Item 16	0.871	0.037	0.000*
Depersonalization			
Item 10	0.848	0.035	0.000*
Item 11	0.852	0.037	0.000*

*$p < .05$

Table 7

Correlation Matrix for the Latent Variables (Standardized)

Variable	1	2	3	4
1. Emotional Exhaustion	—			
2. Personal Accomplishment	-0.327	—		
3. Collaborative Stress	0.546	-0.148	—	
4. Depersonalization	0.607	-0.329	0.497	—

Multigroup Measurement Invariance

Once configural invariance was confirmed, metric invariance was evaluated by comparing the configural invariance model, where the factors were freely estimated for each group, with the fit of the metric model where the factor loadings were constrained to be equal across groups. These added constraints did not result in a loss of model fit; in fact, the metric invariance fit indices increased in both RMSEA (ΔRMSEA = -0.001) and TLI (ΔTLI = -0.005) (Table 8). Metric invariance was supported in the analysis.

Table 8

Multigroup Measurement Invariance

Level of Invariance	RMSEA	CFI	TLI	Δ CFI
Configural	0.070	0.920	0.906	----
Metric	0.069	0.920	0.911	0
Scalar	0.067	0.920	0.915	0

Finally, scalar invariance was examined by comparing the metric invariance model, where the factor loadings were constrained, with a model where both factor loadings and intercepts were constrained to be equal across groups. Again, not only did the scalar invariance

model have good fit but the fit indices for both the RMSEA (ΔRMSEA = -0.002) and TLI (ΔTLI = -0.004) increased (Table 8). Scalar invariance was supported in the analysis.

Summary

This study utilized CFAs, EFAs, and multigroup measurement invariance to explore whether or not resource room teachers and self-contained special education teachers experienced the same level of burnout as measured by the MBI-ES and whether the MBI-ES is an appropriate instrument with which to measure special education teacher burnout (comparing the psychometric properties and proposed factor structure). The initial results of this study indicate that there was no interaction when comparing special education teaching assignment in regard to their burnout scores; in fact, measurement invariance increased as more constraints were imposed (the constraints applied in the scaler invariance model were retained). However, the findings suggest the current three-factor structure of the MBI-ES (i.e., the three-factor, 22-item model) is not the most appropriate factor structure to use when measuring burnout among special education teachers. Instead, a modified four-factor structure of the MBI-ES (i.e., a four-factor, 19-item model) may yield better results. These finding are further discussed in Chapter 5.

CHAPTER 5

Discussion

This chapter discusses the results presented in Chapter 4 in further detail. The chapter starts with the findings for each research question from the data analysis in the previous chapter. Thereafter, the results are discussed, followed by the identification of the limitations of this research and implications of the findings. Finally, a conclusion is offered.

Findings

In this study, the primary research questions focused on whether or not there is a difference between special education teacher assignments when measuring burnout using the MBI-ES and whether the current MBI-ES factor structure is appropriate to use when measuring burnout among special education teachers. The results of the analysis suggest that teacher assignment does not influence the experience of burnout on the three subscales of the MBI-ES. With regard to using the MBI-ES to measure special education teacher burnout, the analysis suggests a more appropriate four-factor structure with better fit statistics.

Does the Current Factor Structure of the MBI-ES Apply to Special Education Teachers—Is the MBI-ES an Appropriate Measure to Use When Examining Burnout Among Special Education Teachers?

For this current sample, the hypothesized factor structure of the MBI-ES in current literature does not hold true when used to measure burnout across special education teachers. An EFA needed to be conducted to evaluate whether the MBI-ES's factor structure can be modified to fit special education teachers.

Do Special Education Teachers Require a Different Factor Structure When Using the MBI-ES?

Yes, after the EFA, the statistics suggest a four-factor model to be a better fit than the original three-factor model. To confirm these statistics, existing theory was then taken into consideration and the items were analyzed. After lining up the items with their respective factors, the original three factors (EE, DP, and PA) were still present; however, the fourth factor had two items strongly loading onto it. These were the only items on the inventory which contained the language "*working with people….”* Collaborative Stress (CS) is the fourth factor—higher scores of CS (perceived collaboration) would indicate higher rates of burnout.

Is There a Difference Between Resource Room Special Education Teachers and Self-Contained Special Education Teachers When it Comes to Measuring Burnout?

No, there is no difference between resource room special education teachers and self-contained special education teachers when it comes to measuring burnout using the four-factor model of the MBI-ES. A multigroup CFA was used to examine whether the measurement model with four factors held constant simultaneously across special education teaching setting (i.e., configural invariance) and showed good model fit. The results presented in Table 6, show that all fit indices indicate a good model fit across special education teaching assignment. Factor loadings were then constrained to be equal across groups (i.e., metric invariance). Again, good model fit was found, indicating that the items have the same meaning across groups. Finally, the multigroup CFA model was further constrained when intercepts were defined to be equal across groups (i.e., scalar invariance). Notably, the fit indices increased each time, despite the imposed constraint on all factor loadings. These examinations provide evidence for measurement

invariance across special education teaching setting in all important parts of the measurement model.

Collaborative Stress

"Collaboration" is included in many mission statements and school district board goals. It is too often assumed that collaboration is easy and natural. Special education teachers are expected to not only collaborate with each other (an already a difficult task) but also with parents, administrators, direct service providers and so on—making an already difficult task even harder (Friend, 2000). Effective collaboration requires effort, diligence and most of all collaboration is a skill that requires training. Collaboration is not engaging in similar activities in close proximity, but instead is an 'interactive process brings people together from diverse experiences and expertise to solve mutually defined problems' (Idol et al., 1995, pg. 329). Friend and Cook (1996) identify several factors for successful collaboration. These factors include, clarity, mutual goals, shared responsibility in decision-making, shared resources and accountability, and valuing of personal interactions (Robinson & Buly, 2007).

Collaboration has long characterized special education. The Council for Exceptional Children (CEC, 2009) summarized that in the field of special education collaboration is even more difficult, involving an even broader network of partners (e.g., parents, teachers, service providers, and outside community agencies). Special education teachers often find themselves in the center of this web and are viewed as experts by all parties. As a result of this, special education teachers are pulled into groups' collaborative circles because as they are responsible for, and the experts in, teaching these individuals with special needs.

There are challenges involved in collaboration between general education and special education teachers, who have historically worked as separate units and operate from very

different models, standards, and belief structures. Traditionally, special and general education have distinct cultures. The two fields have viewed the world of education from different perspectives, which stem from different legislative and experiential backgrounds (Robinson & Buly, 2007). It is common to see infrequent and inadequate communication between general education and special education teachers causing added difficulties for both parties (Haynes & Jenkins, 1986). Additionally, special education teachers lack familiarity with the general education curriculum (Pugach & Johnson, 1989), and general education teachers' lack inclusion strategies to employ (Baker & Zigmond, 1990). Shay Schumm et al. (1994) determined that general education teachers consistently do not make accommodations for students with disabilities without personal knowledge, skills, and confidence to do so. Billingsley and Tomchin (1992) maintained that the challenges novice special education teachers encounter are in part due to inadequate preparation. What collaboration looks like between special education and general education has not been successfully taught in most teacher education programs (Robinson & Buly, 2007). Carlson et al. (2004) found that only 53% of special education teachers and 29% of general education teachers recalled having coursework focused on collaboration, and White and Mason (2006) note that 54% of beginning special education teachers needed assistance in collaborating with general education teachers. Conderman and Stephens (2000) reported that inexperienced special education teachers were more challenged by collaborating with their general education colleagues, parents, and paraprofessionals than they were with paperwork or other administrative tasks.

As discussed, effective collaboration is learned skill and among both special education and general education teachers that is best learned through modeling and coaching (Hoffman & Jenkins, 2002). Teacher modeling is most effective through teacher preparation programs. New

teachers should attain a minimally acceptable level of proficiency in effective collaboration prior to becoming an inservice teacher, as collaboration skills are assumed once they enter the field (Villa et al., 1996). Albeit important, the learning of coursework on inclusion, collaboration, or educating students with disabilities is limited without an opportunity for preservice teachers to practice these learned skills in authentic settings. This is why field-based experiences are considered the most important part of a teacher induction program. This is validated by the fact that preservice teachers in induction programs rate field-based experiences as the most valued aspect (Guyton & McIntyre, 1990). Teacher induction programs have long been accused of a *do as we say, not as we do* attitude toward teaching instructional and behavioral techniques, and collaboration strategies, for inclusive classrooms (Greene & Isaacs, 1998; Kluth & Straut, 2003).

Suggestions to help teacher education programs build better collaboration skills not only in special education teachers but in general education teachers as well include: (a) integrated programs with other disciplines, such as elementary education, school psychology, or specific content areas (Griffin & Pugach, 2007; Miller & Stayton, 2006); (b) classes designed to teach collaboration skills (Arthaud et al., 2007; McKenzie, 2009); (c) co-teaching during practice or student teaching (Kamens, 2007; McHatton & Daniel, 2008; Van Laarhoven et al., 2006); and (d) modeling co-teaching in higher education classrooms (Miller & Stayton, 2006; Waters & Burncoff, 2007***).***

Limitations

This study is limited in its scope due to limitations in terms of the sampled population, the validity-reliability of the new factor structure discovered for the MBI-ES, equivalency of groups, and the possible limitation with regard to external generalizability imposed by snowball sampling.

Even though this study used inferential statistics and the data analyzed met all assumptions (e.g., linearity, independence, normality, equality of variance, and multicollinearity), the findings of this study should not be generalized to a population larger than the sample considered in this research. While the number of participants was sufficient to conduct the study, it may be the case that a more diverse sample would have produced different results. Furthermore, because of the sampling method used, participants who were experiencing higher levels of burnout might have not elected to participate in the study, which would have added to their workload; conversely, participants with extreme burnout might have been more likely to participate in the study to seek solutions for their burnout. Also, operational definitions of "resource room" and "self-contained" were not included in the questionnaire, which could have created confusion for participants when they were asked to choose a special education teaching assignment setting.

This study primarily focused on the psychometric properties of the MBI-ES; future research should analyze variables related to the cut-off values for each of the new four factors using the demographic information collected and multiple regression. In this study, caseload was not included in the demographic questionnaire, which makes it impossible to determine whether caseload was a factor in levels of burnout among participants (resident state was collected). Other demographic limitations included gender, certification, and grade taught. Only two participants in the sample were male; while the majority of special education teachers are in fact female, the number of male participants was not representative of the profession as a whole.

Only three participants in the study were teaching special education without an active special education license/endorsement/certification. This does not match current literature and could possibly be due to the convenience sampling approach. Future studies should consider

recruiting participants through districts and special education departments for a more accurate representation of how many teachers are certified to teach special education.

No transition special education teachers were represented in this study, which makes it impossible to analyze the burnout levels of transition teachers and compare them to special education teachers of other grades. Typically, the curriculum used by a transition teacher is significantly different from that used in other grades, being consolidated into the domains of postsecondary education/training, employment, and independent living/community participation. Only self-contained special education teachers work with transition. There are no common core state standards (CCSS) with which to align students' goals.

Implications for Future Research

While significant results were found in this study, additional research questions must be explored to expand the literature. A similar study measuring the effect of burnout among special education teachers (e.g., CFA) using a four-factor model should be conducted with a more diverse sample to cross-validate the results of the current study. This sample should be recruited systematically—preferably not through a convenience sample in which participants are limited to teachers who both possess social media accounts and are active on them. If the new sample does fit the modified four-factor model, then a similar study might be used to measure burnout among other direct services providers who are assumed to collaborate within their field (e.g., speech-language pathologists, occupational therapists, school psychologists, etc.).

Since the original factor structure of the MBI-ES was modified from three to four factors with the deletion of three items, the DP and the CS factors were left with only two indicators per factor. Wang and Wang (2019) suggested that, for model identification, at least three indicators per factor are needed in a one-factor CFA model. For a multifactor CFA model, in which each

indicator loads on only one factor, the measurement error terms are not correlated, and all factors are allowed to correlate with each other; in this case, the model can be identified with two indicators per factor. However, a minimum of three indicators per factor is usually required even in a multifactor CFA model (Velicer & Fava, 1998), and it has been recommended to use four indicators per factor (Costner & Schoenbert, 1973). Even though two indicators are acceptable, if the modified MBI-ES is to be used for future research, additional DP and CS items should be created and analyzed.

As mentioned above, this study primarily focuses on the psychometric properties of the MBI-ES. Future research should analyze variables related to the cut-off values for each of the new four factors using the demographic information collected (predictor variables) combined with multiple regression.

Conclusion

Teacher burnout continues to be an ongoing problem in the field of special education. The importance of finding solutions to this issue is evident in the vast amount of past and current literature on the topic. The results of this study add to the current literature. Although this study was not able to identify a difference between special education teacher assignment (between resource room special education teachers and self-contained special education teachers), the analysis conducted in this study does demonstrate that collaborative stress is a significant factor to consider when looking at burnout among special education teachers. Formative assessment throughout the school year instead of a summative teacher exit-slip survey might remedy some relief from burnout, as well encouraging collaborative efforts to be reciprocated.

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APPENDIX

Institutional Review Board Approval Letter

Memorandum

To: Ross Larsen
Department: BYU - EDUC - Instructional Psychology & Technology
From: Sandee Aina, MPA, HRPP Manager
Wayne Larsen, MAcc, IRB Administrator
Bob Ridge, PhD, IRB Chair
Date: January 15, 2020
IRB#: IRB2019-382
Title: Special Education Teacher Efficacy and Burnout Factor Analysis: A Study Within Special Education

Brigham Young University's IRB has approved the research study referenced in the subject heading as exempt level, Category 2. :
This category does not require an annual continuing review. Each year near the anniversary of the approval date, you will receive an email reminding you of your obligations as a researcher and to check on the status of the study. You will receive this email each year until you close the study.

The study is approved as of 01/15/2020. Please reference your assigned IRB identification number in any correspondence with the IRB.

Continued approval is conditional upon your compliance with the following requirements:

1. A copy of the approved informed consent statement can be found in iRIS. No other consent statement should be used. Each research subject must be provided with a copy or a way to access the consent statement.
2. Any modifications to the approved protocol must be submitted, reviewed, and approved by the IRB before modifications are incorporated in the study.
3. All recruiting tools must be submitted and approved by the IRB prior to use.
4. Instructions to access approved documents, submit modfications, report adverse events, can be found on the IRB website, iRIS guide: http://orca.byu.edu/irb/iRIS/story_html5.html
5. All non-serious unanticipated problems should be reported to the IRB within 2 weeks of the first awareness of the problem by the PI. Prompt reporting is important, as unanticipated problems often require some modification of study procedures, protocols, and/or informed consent processes. Such modifications require the review and approval of the IRB. Please refer to the IRB website for more information.