

EXAMINING TEACHER EFFICACY AND SENSE OF
RESPONSIBILITY IN RELATION TO BURNOUT IN
ALTERNATIVELY CERTIFIED TEACHERS

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Abstract:

Scope and Method of Study: The purpose of this study was to explore potential differences in teacher sense of efficacy (TSE), teacher sense of responsibility (TSR) and burnout between alternatively and traditionally certified teachers. A second aim of the study was to determine if TSE and TSR predicted burnout for alternatively certified teachers when holding constant variables known to impact burnout (i.e. gender, years of teaching experience, education level, and perceived support). Hierarchical regression analyses were run in order to determine if certification type contributed to the explained variance for TSE, TSR and burnout. Additional analyses were conducted to determine if TSE and TSR significantly predicted burnout. A final set of analyses were run to determine predictive weight for the three factors of TSE and the four factors of TSR on burnout.

Findings and Conclusions: Regression analyses revealed no significant changes in explained variance for TSE, TSR or burnout when certification type was added to the model. Analyses also revealed that TSE was a significant predictor of burnout for alternatively certified teachers. TSE for student engagement significantly negatively predicted burnout. TSR was also a significant negative predictor of burnout, though the explained variance was low. TSR for student motivation significantly negatively predicted burnout. Additionally, perceived support was a significant negative predictor of burnout. By examining the relationship of certification on TSE, TSR and burnout, and of TSE and TSR on burnout, this study contributes insights for ways in which teacher beliefs may protect against burnout, especially for alternatively certified teachers.

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CHAPTER I

INTRODUCTION TO THE STUDY

Teaching is emotional work (Hargreaves, 1998; Hargreaves 2000) marked by challenging student misbehaviors (Chang & Davis, 2009) and value conflicts (Skaalvik & Skaalvik, 2015). For example, in a qualitative exploration of sources of teacher stress, Skaalvik and Skaalvik (2015) found that value conflicts and lack of autonomy are common sources of stress for teachers, regardless of age or career stage. Specifically, seventeen of the thirty-four respondents in their study were concerned that the educational goals of the school were not compatible with their own values and beliefs. Teachers are also tasked with developing student relationships, despite student misbehaviors, which can sometimes be perceived as a challenge (Chang & Davis, 2009). These challenges and stressors, serve to illustrate a point made best by Hargreaves (2001): “teaching activates, colors, and expresses the feelings and actions of teachers” (p. 1057).

The emotional challenges of such work have been linked to teacher burnout (Maslach, Schaufeli, & Leiter, 2001). Research indicates that teacher burnout is linked to teacher attrition, or the departure of teachers from their teaching jobs (Chang, 2009; Skaalvik & Skaalvik, 2011). A 2017 report from the Learning Policy Institute found that 90% of open teaching positions in the United States are created by teachers who leave the

profession. Two-thirds of those teachers leave for reasons other than retirement, such as dissatisfaction with teaching. Additionally, the report found that teacher attrition in the United States is about twice as high as in high-achieving places such as Finland and Ontario, Canada. Oklahoma, the state in which this study will take place, is ranked 6th highest in teacher turnover for the United States of America (Carver-Thomas & Darling-Hammond, 2017).

Teachers are departing from their teaching jobs at rates higher than teacher education programs are graduating traditionally certified teachers. In addition to the high attrition rates cited above, the U.S. Department of Education reported that enrollment in teacher education programs had decreased from 719,081 in 2008-09 to 465,536 in 2013-14 (Aragon, 2016). The Education Commission maintains that current “teacher shortages” do not constitute a national “crisis” when long-term trends, such as projected growth and the cyclical nature of teacher production, are taken into consideration. However, the commission does maintain that teacher shortages are of concern in schools with certain characteristics: urban, rural, high-poverty, high-minority and low-achieving (Aragon, 2016). This assertion is consistent with the National Center for Education Statistics (Goldring, Taie, & Riddles, 2014) report which indicates that the highest number of teachers leaving the profession came from “city” or “rural” schools and from schools with 75% or more students participating in free or reduced lunch programs (high-poverty). These “high-poverty, high-minority and low-achieving” positions are often filled by alternatively certified teachers (DeMonte, 2015).

According to the Oklahoma State Department of Education (2016), Oklahoma Public Schools may meet the criteria for concern listed above. Oklahoma schools qualify

as high-poverty with 62.37% of students enrolled in public school in Oklahoma participating in free and reduced lunch program (high-poverty). Fifty percent of students enrolled in public school in Oklahoma belong to a racial or ethnic minority group and approximately 7% of students are English Language Learners (high minority). Less than half of fourth and eighth grade students who completed the national achievement tests scored proficient or advanced in math (37% and 23% respectively) or reading (33% and 29%) (Oklahoma State Department of Education, 2016). These school-level, organizational factors may lead to increased burnout and dissatisfaction (Chang, 2009), which, as discussed above, is a significant cause of teacher attrition in the United States (Carver-Thomas & Darling-Hammond, 2017). These characteristics may explain why the Oklahoma State Department of Education recently confirmed that 112,344 students (16% of total students) in Oklahoma are currently being taught by someone who has yet to be certified, in comparison to 62,000 students last year.

For the purposes of this study, alternative certification is defined as a teacher who enters the profession through an approved alternative pathway (described below) rather than the traditional pathway of receiving a bachelor's degree in education. The total number of emergency certified teachers (a type of alternative certification) for the 2018-2019 school year was 2,153 ("State Approves Record Number of Emergency Teachers," 2018); a significant increase from the 32 emergency certified teachers that were hired across the state of Oklahoma in 2012. It should be noted that this trend is not Oklahoma specific; nationwide twenty percent of teachers entering the work force today are alternatively certified (DeMonte, 2015). This may be of concern because the predicted turnover rate for teachers certified through alternative pathways is higher than the

predicted turnover rate for traditionally certified (Carver-Thomas & Darling-Hammond, 2017).

There are three pathways toward K-12 alternative certification in the state of Oklahoma. First, is the Oklahoma Alternative Placement Program for Teacher Certification. Teachers certified through this pathway must hold a Baccalaureate degree or equivalent and demonstrate competency in their certification area (e.g. major or minor in certification area). The second alternative certification pathway is Troops to Teachers, which was established to assist transitioning service members and veterans in beginning new teaching careers in public, charter and Bureau of Indian Affairs schools. Third, is the Career Development Program, which is the path for teaching paraprofessionals (teaching assistants) to acquire a teaching certificate. Additionally, a teacher can become alternatively certified through the emergency certification process, which occurs at the request of the school district administrator (Buttress, personal communication, August 29, 2018; “Teacher certification paths”). An example of this emergency certification could be an administrator who has an open position in their building and hires an individual with a bachelor’s degree but no teaching experience to fill that position immediately.

It is worth noting that educators in the state of Oklahoma recently participated in a “teacher walkout.” Oklahoma teachers described themselves as bolstered by the community support they saw over the course of their nine-day walkout. They did not receive all that was asked for from state legislators, but they did receive some additional funding and a pay raise. Some teachers mentioned that they had mixed emotions about the walkout coming to an end, as their fight for education was not over (Reilly, 2018).

Additionally, lack of administrative support for participation from some school districts led teachers to relocate ('Lack of support' leads to school district resignations, 2018), this is one reason that perception of administrative support is included as a demographic question for this dissertation. The walkout occurred in April 2018 and data collection for this study in January 2019. Therefore, the Oklahoma state teacher walkout is an important contextual component to consider in this study.

Public school teachers are increasingly participating in networked teacher activism (Krutka, Asino, & Haselwood, 2018). The Oklahoma State teacher walk-outs provide one example of activism. Teachers worked en masse to advocate for change throughout the state. This context of discord, combined with the growing number of alternatively certified educators in the state, creates an optimal environment to study possible predictors of burnout and potential differences in alternatively and traditionally certified educators.

Research indicates that alternatively certified educators believe themselves to be less prepared on a variety of factors (e.g. understanding learners and developing instructional leadership) than their traditionally certified counterparts (Darling-Hammond, Chung, & Frelow, 2002). Houston, Marshall, and McDavid (1993) found that alternatively certified teachers experienced greater problems in all measured areas than their traditionally certified counterparts, with six of those areas being statistically significant: student motivation, managing of teacher time, amount of paperwork, school administration, lack of personal time and grading students. Miller, Brownell, and Smith (1999) state that "insufficient certification" is one the strongest predictors of intent to leave the profession for special education teachers.

Certification type (e.g. alternative certification) is not the only factor, which may influence teacher burnout. In a review of burnout literature, Chang (2009) identified three categories of factors influencing burnout: individual, organizational, and transactional. Individual factors answer the question “who gets burned out” by examining such variables as personality, gender, age, and years of experience. Organizational factors answer the question “what causes burnout?” These factors may include: class size, work demands, school SES/culture, and teacher preparation. Chang (2009) asserts that research in the field is moving away from these individual and organizational factors. The theoretical perspective of research in education has shifted toward social constructivism (Chang, 2009) As a result, more studies are exploring teacher burnout as an interaction between organizational and individual factors (Chang, 2009). Using the theoretical framework of Lazarus and Folkman (1984), Chang (2009) labels these as *transactional factors*. These transactional factors answer the question “who gets burned out in which situations?” Examples of these factors include: teacher attributions or judgments of student misbehaviors, norms of student-teacher interactions, and teacher efficacy. This latter factor has drawn attention from researchers because prior research findings suggest that self-efficacy is a protective factor against burnout (Aloe, Amo, & Shanahan, 2014). Teachers who reported higher levels of self-efficacy reported lower levels of burnout (Betoret, 2006).

A second transactional factor that may influence burnout is teacher sense of responsibility. Whereas research regarding teacher sense of efficacy and burnout is well established, research examining the relationship between teacher sense of responsibility and burnout is scarce. This may be, in part, because educational research has faced

critical challenges regarding the meaning and the measurement of teacher responsibility (Lauermann & Karabenick, 2013). While teacher sense of responsibility and teacher sense of efficacy do not differ significantly on the “relationships to students” factor, Lauermann (2013) maintains that the two constructs are empirically distinguishable. Teachers’ Sense of Responsibility (TSR) is an empirically separate construct from Teachers’ Sense of Efficacy because “I can” (TSE) may not necessarily relate to “I should” (TSR). Teachers may choose not to engage in behaviors for which they do not feel responsible, even if they feel a high sense of efficacy (Silverman, 2010). While some teacher outcomes associated with TSR have been examined, there is a gap in the literature regarding the relationship between TSR and teacher burnout.

This study will seek to address the current gap in the literature by examining teacher sense of efficacy and teacher sense of responsibility as they predict burnout for alternatively certified teachers. A second aim of the study will be to determine if there are differences between alternatively and traditionally certified teachers in teacher sense of efficacy, teacher sense of responsibility, and burnout. In order to address the current gaps in the literature, it may be beneficial to understand how this dissertation will conceptualize the constructs of interest.

Teacher Sense of Efficacy

Teacher Sense of Efficacy (TSE) is a teacher’s judgment about his or her own “capabilities to bring about desired outcomes of student engagement and learning” (Tschannen-Moran & Hoy, 2001, p. 783) or teacher’s answer to the question “Can I do it?” (Fives & Buehl, 2016). Tschannen-Moran and Hoy (2001) attempted to reconcile some assessment difficulties of the construct through their creation of the Ohio State

Teacher Efficacy Scale (OSTES). The OSTES attempts to capture a broad range of teaching tasks with three subscales: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. The subscales contribute to the applicability of the OSTES considering efficacy is both context and subject matter specific (Tschannen-Moran & Hoy, 2001). This conceptualization of teacher sense of efficacy has been associated with several positive teacher outcomes and will be used as the operational definition and conceptualization of TSE throughout this dissertation.

Teacher Sense of Responsibility

Teacher Sense of Responsibility as conceptualized by Lauermann (2013) is defined as “a sense of internal obligation and commitment to produce or prevent designated outcomes, or that these outcomes should have been produced or prevented” (p. 13). This sense of internal obligation occurs within the domains of student motivation, student achievement, relationships with students, and teaching. Lauermann and Karabenick (2011) frame their conceptualization through the use of a six component model developed by Lenk (1992): (a) who is responsible; (b) for what; (c) in view of whom; (d) under the judgment of whom; (e) in relation to what criteria; (f) within what realm of responsibility and action? They maintain that this model captures the essential elements of teacher responsibility (Lauermann & Karabenick, 2011). Using this conceptual model, Lauermann and Karabenick (2013) created a scale to measure their operational definition of teacher sense of responsibility. Particular focus was given to target of responsibility, specificity, authenticity, time frame, and valence.

Burnout

Maslach's conceptualization of burnout will be used throughout this study. Maslach et al. (2001) define burnout as, "an erosion of engagement, that what started out as important, meaningful and challenging work becomes unpleasant, unfulfilling and meaningless" (p. 416). Specifically, Maslach's conception of burnout has three components: emotional exhaustion, depersonalization, and reduced personal efficacy (Maslach et al., 2001). Emotional exhaustion is defined as "feelings of being overextended and exhausted by one's work" (Maslach, Jackson, & Leiter, 1996, p. 194). Depersonalization refers to an "unfeeling and impersonal response towards recipients of one's service, care, treatment of instruction" (Maslach et al., 1996, p. 194). Reduced personal efficacy, or reduced personal accomplishment, is characterized by feelings of incompetence and failure in one's work with people (Maslach et al., 1996).

Statement of the Problem and Purpose of the Study

Alternatively certified teachers are a growing population of the teacher work force; a work force that faces teacher burnout. This population may present differences in burnout and preceding factors, such as teacher sense of efficacy and teacher sense of responsibility when compared to their traditionally certified peers. Once burnout, TSE, and TSR in alternatively certified teachers are better understood, then researchers can work toward identifying ways to decrease burnout (e.g. promoting TSE and TSR). Identification of ways to decrease burnout in alternatively certified teachers may help curb teacher attrition so that they remain in the teaching profession. The first step towards this goal is to understand some of the additional factors that may influence burnout (e.g. teacher sense of efficacy and teacher sense of responsibility). Thus the current study will

investigate teacher burnout in relation to teacher sense of efficacy and teacher sense of responsibility, and will determine if there are differences in these constructs for alternatively certified teachers when compared to their traditionally certified peers.

Significance of the Study

The practical implications of this study include the possibility of curbing teacher attrition by identifying factors that may contribute to burnout (i.e. teacher sense of efficacy and teacher sense of responsibility). Identifying these factors may give administrators and teacher educators an idea for which factors to foster (if any) and how much those factors may protect against burnout. Additionally, this study will contribute to a gap in the literature for alternatively certified teachers, which, as described above, are a growing population in the state of Oklahoma. Finally, determining if there are differences in the explored constructs for traditionally certified versus alternatively certified teachers may give administrators and teacher educators a better sense of direction for fostering efficacy and responsibility. For example, if there are differences in teacher sense of efficacy then the deficit group may need more explicit instruction on how to develop their sense of “I can.” Additionally, if there are difference in teacher sense of responsibility then stakeholders may not want to spend as much effort developing that internal sense of responsibility in the higher group, when that effort can be spent elsewhere.

Research Questions

1a. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy when holding constant variables known to affect TSE (i.e. gender, years of experience, education level, and perceived support)?

1b. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility when holding constant variables known to affect TSR (i.e. gender, years of experience, education level, and perceived support)?

1c. Are there differences between traditionally certified teachers and alternatively certified teachers on burnout when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

2a. Does teacher sense of efficacy predict burnout for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

2b. Does teacher sense of efficacy for (a) student engagement, (b) instructional strategies and, (c) classroom management predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

3a. Does teacher sense of responsibility predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

3b. Does teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

Definition of Terms

Burnout “A psychological syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who work with other people in some capacity” (Maslach et al., 1996, p. 192).

Teacher Sense of Responsibility “A sense of internal obligation and commitment to produce or prevent designated outcomes” (Lauermann & Karabenick, 2011, p. 127); “teachers’ willingness to assume personal responsibility for negative educational outcomes that they should have prevented” (Lauermann & Karabenick, 2013, p. 15).

Teacher Sense of Efficacy “A judgment of his or her (the teacher’s) capabilities to bring about desired outcome of student engagement and learning” (Tschannen-Moran & Hoy, 2001, p. 783).

Alternatively Certified Teacher A teacher who enters the profession through one of the pathways approved by the Oklahoma State Department of Education: Oklahoma Alternative Placement Program for Teacher Certification, Troops to Teachers, Career Development Program or the emergency certification process which occurs at the request of the school district administrator. Alternative certification and emergency certification are often used interchangeably, but alternative certification will be used throughout this study and is meant to encompass emergency certified teachers within the larger umbrella of alternative certification.

Overview

In Chapter Two, I present a theoretical framework and a review of the relevant literature focusing on four distinct areas of research: alternative certification, teacher sense of efficacy, teacher sense of responsibility, and burnout. In addition, I examine the

relationship among these variables and offer a rationale for my research questions and hypotheses. In Chapter Three, I present the method used to examine the research questions with a recap of my research questions, description of the sample of the study, the specific measures used and the procedure followed for data collection and analysis. Chapter Four presents the results of my analyses. Chapter Five provides a summary of findings, implications, limitations, and future directions for research.

CHAPTER II

LITERATURE REVIEW

The purpose of this study is to examine potential differences in teacher sense of efficacy, teacher sense of responsibility, and burnout between traditional and alternatively certified teachers and to determine whether teacher sense of efficacy and teacher sense of responsibility are predictors of burnout for alternatively certified teachers. There is a lack of conclusive research regarding the growing population of alternatively certified teachers, especially with regard to teacher sense of efficacy, teacher sense of responsibility, and burnout. Drawing from the literature on alternatively certified teachers, teacher sense of efficacy, teacher sense of responsibility, and burnout, this chapter provides an overview of relevant theories, associated teacher outcomes and previous research related to each construct.

Alternative Certification

For the purposes of this study, alternative certification refers to a teacher who enters the profession through one of the pathways approved by the Oklahoma State Department of Education: Oklahoma Alternative Placement Program for Teacher

Certification, Troops to Teachers, Career Development Program, or the emergency certification process which occurs at the request of the school district administrator. The number of emergency certified teachers entering the teacher work-force in Oklahoma is growing exponentially (from 32 emergency teachers in 2012 to 2,153 in 2018) (“State Approves Record Number of Emergency Teachers”, 2018). This trend is not specific to Oklahoma; twenty percent of teachers entering the work force today are alternatively certified (DeMonte, 2015). The growing number of alternatively certified teachers has led to an increase in research regarding this population.

One body of literature focuses on student outcomes, for example, student achievement. There are mixed results as to whether alternatively certified teachers provide a detriment or a benefit to their student’s academic achievement (Jang & Horn, 2017). Goldhaber and Brewer (2000) found that math and science students with emergency certified teachers do no worse in terms of academic achievement than their peers with teachers who hold traditional certificates. In fact, they found that in mathematics courses, teachers having a Bachelor’s degree in education was a detriment for student achievement, when compared to an emergency certified teacher who held a bachelor’s in the content area.

A second body of literature focuses on teacher outcomes. Darling-Hammond et al. (2002) found that traditionally certified teachers had higher instructional knowledge, sense of efficacy, and confidence when compared to their alternatively certified peers. This could indicate why alternatively certified teachers are more likely to leave the teaching profession (Redding & Smith, 2016). Despite this growing body of literature, proponents of alternative certification say that the process may encourage talent from

other fields and content areas (Pazyura, 2015). Proponents also indicate that alternative certification models may provide a more critical-skills-focused, intensive teacher training than traditional certification programs (Pazyura, 2015). Due to the lack of conclusive research regarding this growing population of educators, alternatively certified teachers are the focus of this study.

Social Cognitive Theory

The theoretical perspective adopted for this dissertation is Social Cognitive Theory. The theory proposes three factors that interact to explain human behavior and beliefs (Bandura, 1978). This triad is composed of behavior, external or environmental factors, and cognitive or other internal events (Bandura, 1978). Each component has a reciprocal relationship with the other, meaning that all components affect all others (Bandura, 1978). For example, a teacher's sense of efficacy and outcome expectations may influence how they behave or interact with students, and the environmental effects (e.g. student's response to the teacher's behavior) created by those actions may further alter their expectations (e.g. teacher sense of efficacy or teacher sense of responsibility). Additionally, the influence of each component of the triad is contextual (Bandura, 1978). The influence of each varies for different people under different circumstances (e.g. burnout and certification type).

Social Cognitive Theory adopts an agentic perspective of human change and development (Bandura, 2005). This means that humans are self-reflective, self-regulatory, and proactive (Bandura, 2005). They are active contributors to the circumstances they find themselves in, not just products of those circumstances (Bandura, 2005). For example, teacher's exercise agency over their sense of "I should" (TSR) based

on the contexts they find themselves in as part of their self-regulatory and self-reflective proactive process. In addition to agency over beliefs, humans may work to alter their behaviors through this process of self-influence (Bandura, 1992). It is worth noting that most human behavior is determined by many interacting factors, and therefore people are contributors rather than determiners of what happens to them (Bandura, 1997). In general, this theory postulates that humans are active participants in their environment and a constant reciprocal interaction between behavior, environment and beliefs creates the context for human development (Bandura, 1978, 2005).

Self-Efficacy

One self-regulative agent that formulates the basis of human agency is self-efficacy (Bandura, 1997). Bandura (1982) defined self-efficacy as “judgments about how well one can execute courses of action required to deal with prospective situations” (p. 122). If one does not believe they have the capability to complete a task and produce results, then they will not attempt to make things happen (Bandura, 1997). Bandura (1982) states that capability to complete a task is only as good as the execution that accompanies it. Therefore, these judgments about how well one can execute a task (self-efficacy) are not fixed and rely on the organization and integration of cognitive, social, and behavioral skills (Bandura, 1982).

There are four processes affected by self-efficacy that regulate human functioning: cognitive processes, motivational processes, affective processes, and selection processes (Bandura, 1992). Human behavior is often characterized by forethought and involves cognitive personal goal setting (Bandura, 1992). This goal setting can be affected by self-appraisal of ability to complete a task (self-efficacy)

(Bandura, 1992). Motivational processes can also be affected as cognitive processes lead humans to anticipate likely outcomes and plan courses of action accordingly (Bandura, 1992). Affective processes are affected as self-efficacy can impact appraisals of events and emotional reactions to them. Finally, selection processes indicate that humans have control over their life path by choosing and creating their environments (Bandura, 1992). Self-efficacy judgments can influence these environmental choices and actions (Bandura, 1992). As self-efficacy can influence multiple aspects of human functioning, it is necessary to explore the sources of self-efficacy.

According to Bandura (1997), self-efficacy beliefs are constructed from four major sources of information:

enactive mastery experiences that serve as indicators of capability; vicarious experiences that alter efficacy beliefs through transmission of competencies and comparison with the attainments of others; verbal persuasion and allied types of social influences that one possesses certain capabilities; and physiological and affective states from which people partly judge their capableness, strength, and vulnerability to dysfunction (p. 79).

Due to the fact that actual successes build the most evident belief in one's capabilities, enactive mastery experiences are the most influential of these sources of efficacy (Bandura, 1997). However, people do not rely solely on these enactive experiences, and self-efficacy beliefs are partly developed through the vicarious experiences of models (Bandura, 1997). Verbal persuasion, modeling, and physical and emotional reactions to situations can also be sources of self-efficacy (Bandura, 1997). Perceived competence, or

self-efficacy, is domain specific and based on context. Therefore, this dissertation will focus on the context specific, teacher sense of efficacy.

Teacher Sense of Efficacy: I Can

Teacher Sense of Efficacy (TSE) is a teacher's judgment about his or her own "capabilities to bring about desired outcomes of student engagement and learning" (Tschannen-Moran & Hoy, 2001, p. 783). Fives and Buehl (2016) pair their discussion of the construct with the question, "Can I do it?" Implying that TSE reflects a teacher's competence beliefs and whether they can accomplish the teaching task at hand. Research relates these competence beliefs to such teacher related constructs as: instructional practices (Cantrell & Callaway, 2008), teacher stress (Fives, Hamman, & Olivarez, 2007), and job satisfaction (Vieluf, Kunter, & van de Vijver, 2013). Although there is a plethora of research on TSE and related teacher outcomes, the current conceptualization and operationalization of TSE has evolved since the term "teacher efficacy" was first used in 1976 (Armor et al., 1976). Two theoretical strands of research have helped shape the construct of teacher efficacy: locus of control (Rotter, 1966) and social cognitive theory (Bandura, 1977).

History, Conceptualization and Measurement of Teacher Sense of Efficacy

Early studies on teacher efficacy were positioned under the locus of control framework. Rotter (1966) defined locus of control as the degree an individual believes that the perceived cause(s) of an intended outcome are within his or her control (as opposed to the control of the environment).

The first use of the term "teacher efficacy" in research can be traced to RAND researchers, who adopted Rotter's locus of control framework (Armor et al., 1976). Their

measurement assessed teachers' control beliefs for teaching outcomes (i.e. external and internal). The measure for teaching efficacy (TE) consisted of two items: to assess general teaching efficacy (GTE) and to assess personal teaching efficacy (PTE). The GTE score (teacher's belief about the power of external factors compared to the influence of teachers and schools) (Ashton, Olejnik, Crocker & McAuliffe, 1982) was then combined with the PTE score (the more specific and individual belief about that the teacher can accomplish) to create the TE construct (Tschannen-Moran & Hoy, 2001). Armor and colleagues (1976) found that the TE construct was significantly related to teachers' success in literacy instruction with urban, minority students. The success of such studies spurred more research on TE and the development of new instruments, each of which built upon the foundation laid by Rotter (Tschannen-Moran & Hoy, 2001).

Guskey (1981) developed the Responsibility for Student Achievement (RSA) Scale which assessed general responsibility, responsibility for student success and for student failure. Guskey (1982, 1988) compared scores from the RSA with the 2-item RAND scale described above, and found that TE was positively correlated with responsibility for student success and student failure. Tschannen-Moran & Hoy (2001) indicate that this measure has not been used again in other published studies.

Around the same time of Guskey's work, Rose and Medway (1981) developed the Teacher Locus of Control (TLC) Scale to assess teacher's feelings of an internal or external locus of control for student outcomes. TLC scores have been weakly but significantly related to each of the two RAND items (GTE and PTE) and the sum of the two items (TE) (Coladarci, 1992; Tschannen-Moran & Hoy, 2001). The TLC also never achieved wide acceptance (Tschannen-Moran & Hoy, 2001).

A third attempt at measurement came from the Webb scale (Ashton et al., 1982). This scale attempted to extend the measure of TE while “maintaining a narrow conceptualization of the construct” (Tschannen-Moran & Hoy, 2001, p.787). Tschannen-Moran and Hoy (2001) indicate that this measure was not used again past the original study used to develop it.

The second theoretical strand was developed from Bandura’s (1977) Social Cognitive Theory. Bandura (1977) defined self-efficacy as “the conviction that one can successfully execute the behavior required to produce outcomes” (p. 193). Tschannen-Moran, Hoy, and Hoy (1998) build on this idea to specifically conceptualize teacher efficacy as teachers’ beliefs in their ability to organize and execute courses of action in order to achieve desired outcomes. Teacher efficacy under this conceptual strand is a future-oriented belief about the level of competence a person believes they will display in a given situation (Tschannen-Moran & Hoy, 2001). In their review of past measures, Tschannen-Moran and Hoy (2001) indicate that past researchers attempted to reconcile both the locus of control and Social Cognitive Theory frameworks (or ignored the differences between the two).

The Ashton Vignettes were created in order to address the idea that teacher efficacy was context specific (Ashton, Buhr, & Crocker, 1984). The vignettes were only used in one other study since their development (Tschannen-Moran & Hoy, 2001). Next, Gibson and Dembo’s (1984) Teacher Efficacy Scale was developed. While this scale was the most widely used prior to 2001, statistical and conceptual problems exist, such as a lack of clarity about the definition of the factors and instability of the factor structure (Tschannen-Moran & Hoy, 2001). Tschannen-Moran and Hoy (2001) state that Bandura

created a 30-item instrument in response to the confusion about how to measure teacher efficacy, though it was not widely used. The challenges in measurement and conceptualization led to the development of a new measure — The Ohio State Teacher Efficacy Scale (OSTES) (Tschannen-Moran & Hoy, 2001).

The OSTES has both a 12-item and 24-item format each with reasonable validity and reliability (Tschannen-Moran & Hoy, 2001). The OSTES attempts to capture a broad range of teaching tasks with three subscales: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. This conceptualization of teacher sense of efficacy has been associated with several positive teacher outcomes (e.g. classroom management, instructional strategies, and goals and lower levels of burnout).

Tschannen-Moran and Hoy (2001) examined construct validity by assessing correlations of their scale (OSTES) with some other measures of efficacy discussed above. The OSTES was positively related to both items on the RAND scale ($r = 0.18$ and 0.53 , $p < 0.01$) as well as to both the personal teaching efficacy (PTE) factor of the Gibson and Dembo measure ($r = 0.64$; $p < 0.01$) and the general teacher efficacy (GTE) factor ($r = 0.16$; $p < 0.1$). They mention that the strongest correlations between OSTES and previous measures were with scales that assessed personal teaching efficacy.

Teacher Sense of Efficacy and Teacher Certification

Before delving into the outcomes associated with Teacher Sense of Efficacy, it is worth noting what constructs may precede TSE according to the literature. TSE is developmental and can change with context (Flores, Desjean-Perrotta, & Steinmetz, 2004). Certification type is one factor that may increase or decrease TSE levels (Flores et

al., 2004). A sample of 162 teachers responded to a self-report survey regarding their certification route and teacher efficacy; a post-hoc analysis indicated that significant group differences in personal teaching efficacy were found between alternative teacher certification and traditional certification teachers, with traditionally certified teachers scoring higher. (Flores et al., 2004). Flores et al. (2004) postulate that this may be because traditionally certified teachers have a greater depth of pedagogical knowledge that may lead to an increase in confidence. However, a more recent study found no significant differences between traditionally and alternatively certified teachers on any of the dimensions of TSE (i.e., student engagement, instructional strategies, and classroom management) (Guillory, 2016). Guillory (2016) hypothesizes that, although no statistically significant differences were found, alternative certification pathways may promote efficacy because they allow candidates to secure a teaching position while simultaneously receiving on-the-job training and support from teacher education program mentors. This allows teachers to practice their skills as they develop in an environment where they have full autonomy over classroom decisions. Due to the lack of literature that looks specifically at the connection between teacher certification and TSE, and the discrepancy of results in the available studies, this study will seek to answer the following research question:

RQ1a: Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy when holding constant variables known to affect TSE (i.e. gender, years of experience, education level, and perceived support)?

Hypothesis 1a: There are no differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy.

Rationale: Guillory (2016), the more recent of the two studies discussed above, found no significant differences between traditionally and alternatively certified teachers on TSE. Additionally, Guillory (2016) used the same measure of TSE that will be used in this study. Thus, I propose that there will be no differences in TSE between traditionally and alternatively certified teachers. It is likely that while traditionally certified teachers have more pedagogical knowledge at the onset of their career (Flores et al., 2004), alternatively certified teachers soon catch up through support and on-the-job training (Guillory, 2016). Due to the lack of consistent literature regarding differences in TSE based on certification type, this question is exploratory in nature.

Teacher Sense of Efficacy and Teacher Outcomes

Professional development experiences, field experiences, and student characteristics are some additional factors that can increase or decrease TSE levels (Fackler & Malmberg, 2016; Haverback & Parault, 2011; Raudenbush, Rowan, & Cheong, 1992; Tschannen-Moran & McMaster, 2009). Professional development experiences can also increase TSE. A quasi-experimental study, with 93 primary school teachers, conducted by Tschannen-Moran and McMaster (2009) found that self-efficacy beliefs about reading instruction (and subsequent strategy implementation) were significantly increased after completion of a professional development that supported mastery learning. Haverback and Parault (2011) measured pre-service teacher's reading self-efficacy after the completion of two field experiences, tutoring, and observing. Both

groups reported growth in TSE. Finally, Raudenbush et al. (1992) found that high school teachers who felt more prepared and who had high-track students were more likely to be efficacious. Fackler and Malmberg (2016) produced similar findings in a multi-national study, showing that student achievement was a relevant predictor of TSE in all 14 countries they measured.

An understanding of how to foster TSE is necessary because of the positive teacher outcomes that follow. TSE has an impact on: classroom management (Pas, Bradshaw, Hershfeldt & Leaf, 2010; Woolfolk & Hoy, 1990), instructional goals and practices (Tschannen-Moran & McMaster, 2009; Vieluf et al., 2013; Wolters & Daugherty, 2007), and teacher burnout and job satisfaction (Aloe et al., 2014; Betoret, 2006; Pas et al., 2010).

Classroom management is among the highest concerns for teachers (Chang, 2009). High TSE has been linked to positive classroom management outcomes. Pas et al. (2010) collected data from 491 teachers in an effort to explore how burnout and TSE related to student disciplinary action and referrals for support services. Low TSE was associated with a reduction in referrals for support services. Meaning that teachers with low TSE were less likely to use resources to assist with classroom management. Woolfolk and Hoy (1990) indicated that TSE was associated with teacher classroom management approaches. Teachers with high personal efficacy and general teaching efficacy took a more humanistic approach (student control) to classroom management while those with low personal efficacy took a more authoritarian approach. Humanistic classroom management beliefs have been associated with autonomy supportive behaviors (Reeve, Bolt, & Cai, 1999). The impact of TSE on classroom management may also be

mediated by students' perception of their relationship with teachers as influenced by teacher expectations (Summers, Davis, & Hoy, 2017).

Instructional goals and practices have also been associated with TSE (Tschannen-Moran & McMaster, 2009; Vieluf et al., 2013; Wolters & Daugherty, 2007). Goal structures, or the motivational beliefs held within an academic setting, are related to TSE. Wolters and Daugherty (2007) collected self-report questionnaires from 1,204 teachers and found that high TSE could be used to predict reported classroom mastery goal structure. Mastery goal structure is associated with positive student learning outcomes, such as adaptive cognitive, affective, and achievement outcomes (Wolters & Daugherty, 2007). The previously mentioned study by Tschannen-Moran and McMaster (2009) found that the professional development format that promoted mastery and increased efficacy also led to increased implementation of the newly learned reading strategy. This indicates that high TSE could be associated with increased implementation of new instructional practices. Vieluf et al. (2013) support this indication with their findings that TSE was positively correlated with teaching practices with a sample of 73,100 teachers across 23 countries.

Teacher Sense of Efficacy and Burnout

Teacher burnout and job satisfaction have also been associated with TSE in the literature (Aloe et al., 2014; Betoret, 2006; Pas et al., 2010). It has been suggested that TSE is a protective factor against teacher burnout (Aloe et al., 2014). Aloe et al. (2014) measured classroom management self-efficacy in relation to burnout using multivariate analysis and found that there was a significant relationship between all three dimensions of burnout (emotional exhaustion, depersonalization, and lower personal

accomplishment) and classroom management self-efficacy. One potential limitation of this study is that the measure of efficacy is not the same conceptualization adopted for this study. However, their findings that high levels of efficacy are associated with decreased likelihood of experiencing feelings of burnout may still be valuable in providing direction and identifying the gap in the current literature. Betoret (2006) used the social cognitive conceptualization of TSE in his study. Similar to the previous study, he found that teachers with a high level of self-efficacy reported less stress and burnout than teachers with lower self-efficacy. While the connection between TSE and burnout is established in the literature, there is a gap in exploring this relationship for alternatively certified educators. Therefore, this study will seek to answer:

RQ2a: Does teacher sense of efficacy predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

Hypothesis 2a: Teacher sense of efficacy does negatively predict burnout levels for alternatively certified teachers.

Rationale: Teacher sense of efficacy as a predictor of burnout is well established in the literature. Due to my above hypothesis that there will not be significant differences in TSE and that TSE is a well-known protective factor against burnout in the literature, I expect TSE to negatively predict burnout in alternatively certified teachers.

It should be noted that while Teacher Sense of Efficacy is often measured as a holistic construct, some research has found differences in the three subscales. For example, years of teaching experience has shown to be associated with an increase in

teacher sense of efficacy for instructional strategies and teacher sense of efficacy for classroom management, but not for teacher sense of efficacy for student engagement (Wolters & Daugherty, 2007). Additionally, personality characteristics (e.g. humor, trust in self and originality/ creativity) and capabilities (e.g. organization and schedule of teaching activities, and flexibility in teaching choices) are significant predictors for all three subscales, while motivation (e.g. personal interest and effort) is only a significant predictor for efficacy for student engagement (Poulou, 2007). One study that examined differences in efficacy for rural high school teachers found that significant mean differences for efficacy for instructional strategies and efficacy for classroom management existed between levels of education, but these mean differences did not exist for efficacy for student engagement (Shoulders & Krei, 2015). Therefore, a second research question will examine the relationship of TSE and burnout through the three TSE factors.

RQ2b: Does teacher sense of efficacy for (a) student engagement, (b) instructional strategies and, (c) classroom management predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)

Hypothesis 2b: Teacher sense of efficacy for (a) student engagement, (b) instructional strategies, and (c) classroom management does predict burnout levels for alternatively certified teachers.

Rationale: Teacher sense of efficacy as a predictor of burnout is well established in the literature. Due to my above hypothesis that there will not be significant differences in TSE and that TSE is a well-known protective factor against burnout

in the literature, I expect TSE to negatively predict burnout in alternatively certified teachers.

Teacher sense of efficacy is connected to teacher's belief that they can accomplish a given task (Fives & Buehl, 2016), a similar, but empirically distinct construct is teacher sense of responsibility (Lauermann & Karabenick, 2013) which I will discuss next.

Teacher Sense of Responsibility: I Should

Teacher sense of responsibility (TSR) is an elusive construct with multiple determinants and psychological consequences (Lauermann & Karabenick, 2011). This elusive construct has been insufficiently conceptualized and assessed, especially in distinction from related constructs (e.g. teacher sense of efficacy) (Lauermann & Karabenick, 2013). Lauermann and Karabenick (2011, 2013) define personal responsibility as “a sense of internal obligation and commitment to produce or prevent designated outcomes, or that these outcomes should have been produced or prevented” (p. 13). In accordance with this definition, TSR can be to produce an outcome (approach-oriented) or to prevent an outcome (avoidance-oriented). Additionally, it can refer to events from the past, present, and future (Lauermann & Karabenick, 2013).

Lauermann and Karabenick (2011) claim that because there is an absence of an overarching, agreed-upon definition for this elusive construct a multi-relational model is most appropriate for conceptualizing TSR. Lenk's (1992) six-component model captures the essential elements of the construct. Six questions are addressed within this model: (a) Who is responsible?, (b) For what?, (c) For/ to whom?, (d) Who is the judge?, (e) In relation to what criteria of responsibility?, and (f) In what realm of responsibility? Each

of these questions contributes to a teacher's internal sense of personal responsibility (Lauermann & Karabenick, 2011).

“Who is responsible?” is best understood by examining the three general approaches to the conceptualization of “being responsible.” These include: (a) responsibility as a personality characteristic; (b) responsibility as a situation-dependent variable; and (c) responsibility as a component of social relationships, such as role responsibilities (Lauermann & Karabenick, 2011). Lauermann and Karabenick (2011) reconcile these differing approaches in their definition discussed above.

Discussion around the “for what?” component of Lenk's (1992) model centers around the idea that making one formally responsible does not necessarily foster an internal sense of responsibility. There is a difference between feeling and being held responsible (Lauermann & Karabenick, 2011). The “for what?” and “for/to whom?” components are highly intertwined (Lauermann & Karabenick, 2011). Generally, for teachers, the “for/ to whom?” component is thought to be their students (Lauermann & Karabenick, 2011).

Multiple stakeholders in education (e.g. administrators, students, and parents) as well as teachers themselves act as the “judge” (Lauermann & Karabenick, 2011). These judgments are based on various criteria such as a moral standard or criteria based on the social role of being a teacher (Lauermann & Karabenick, 2011). Different responsibility criteria may exist in different “realms of responsibility” (Lauermann & Karabenick, 2011). The classroom is one example of a realm of responsibility.

Measuring Teacher Sense of Responsibility

Lauermann and Karabenick (2013) sought to design a scale for TSR that would capture the multi-dimensionality of the construct and work toward a uniform conceptualization in the literature. Their scale design has five primary components: (a) target of responsibility; (b) specificity; (c) authenticity; (d) time frame; (e) and valence. Five domains were selected to measure the target of responsibility: student, student achievement, students' self-confidence, responsibility for having positive relationships with students, and responsibility for providing the best possible instruction. A moderate degree of specificity was selected, in an effort to ask teachers about situations that were likely to occur in the classroom. Hypothetical statements were included to promote applicability and authenticity. Additionally, time frame was considered in promoting the applicability of the scale. Therefore, the measure uses hypothetical statements that could occur at any point in time. Finally, valence for the items is negative. This choice was made in order to measure teacher's perceived responsibility if the outcome associated with the statement was negative (e.g. if the student was *not* interested in the subject taught by the teacher).

Exploratory and confirmatory factor analyses of the scale led to the emergence of four subscales: responsibility for student motivation, responsibility for student achievement, responsibility for relationships with students, and responsibility for teaching. These subscales and the construct of TSR as conceptualized by Lauermann and Karabenick (2013) will be used throughout this study in an effort to operationalize TSR in a consistent way.

Lauermann and Karabenick (2013) provide support for discriminant validity and applicability of the teacher sense of responsibility scale. Despite the fact that TSE and TSR have often been believed to be intertwined, they found that a model separating the constructs and subscales had a better fit, $\chi^2(258, N = 315) = 443.58$, CFI = .96, TLI = .94, RMSEA = .05, SRMR = .05 than any model that intertwined the two constructs. Beliefs about teacher sense of efficacy and teacher sense of responsibility are not equivalent for each of four domains: student motivation, student achievement, student relationships, and teaching. Additionally, the TSR scale was written with a focus on wide applicability — meaning that it is focused on events that can occur in any classroom at any time.

TSR is embedded in contextual factors as well as person factors (Lauermann & Karabenick, 2011). It should be noted that these factors and the relationships they produce are not static, may adjust over time, and are situation specific (Lauermann & Karabenick, 2011). As discussed in Chapter 1, Chang (2009) asserts that research regarding teacher burnout is moving away from individual and organizational factors and into an exploration of the interaction between these factors by way of examining transactional factors, such as TSR. It is clear then why Lauermann and Karabenick (2011) would suggest that future research on TSR should look at the impact of responsibility on teacher outcomes. While some teacher outcomes have been examined, there is a gap in the literature regarding the relationship between TSR and teacher burnout.

Teacher Sense of Responsibility and Teacher Outcomes

While research on Teacher Sense of Responsibility, as conceptualized by Lauermann and Karabenick (2011, 2013), is still in its infancy, TSR's relationship to specific teacher outcomes has been at the forefront of the growing body of literature. Despite the primary focus on positive consequences in much of the research on TSR, a small body of qualitative work has examined undesirable outcomes. For example, a comparative study of 360 French and 360 English primary school teachers found that both sets of teachers felt highly responsible for the pupils in their care, but because of policy changes outside of their control, were demoralized in their professions (Broadfoot, Osborn, Gilly, & Paillet, 1988). Additionally, Fischman, DiBara, and Gardner (2006) conducted interviews with 40 high school teachers in urban American schools. Their findings indicated that the responsibility teachers create for themselves to address gaps in the educational system may create risk for frustration and burnout. More recently, Lauermann (2014) conducted a systematic analysis of teacher's personal conceptualizations of responsibility using Lenk's (1992) model (discussed above). Findings indicate that personal responsibility can also come at a personal cost such as hard work, lack of sleep, and less family time.

The negative consequences discussed above do not negate the positive effect of TSR on such teacher outcomes as expectations (Diamond, Randolph, & Spillane, 2004) and instructional choices (Matteucci, Guglielmi, & Lauermann, 2017). For example, a series of semi-structured interviews and participant observation conducted by Diamond et al. (2004) found that organizational expectations within the school are coupled with a reduction in teacher's sense of responsibility for student learning. However, findings also

show that the reduction can be mediated if school leaders work to “engage in practices designed to increase teachers’ sense of responsibility for student learning” (p. 75).

Matteucci et al. (2017) used path analysis to explore 287 high school teachers’ sense of responsibility in relation to their instructional approaches and professional well-being. They found that teachers who felt responsible for their teaching and students were more likely to “endorse mastery-oriented instructional practices that emphasized student effort, task mastery, and individual growth” (p. 275).

Additional positive teacher outcomes associated with TSR include: positive attitudes, academic optimism, hope, and emotions about teaching (Eren, 2014; Halvorsen, Lee, & Andrade, 2009). Eren (2014) used regression, correlation, and structural equation modeling analyses to explore the relationships between personal responsibility, academic optimism (the extent to which people hold favorable expectancies for their future), hope (the perceived capacity to derive pathways to desired goals), and emotions about teaching (ways of being that emerge from judgments regarding perceived successes at attaining goals) for a group of 455 prospective teachers. Findings from the study suggest personal responsibility was significantly related to the three variables of interest (i.e., emotions about teaching, academic optimism, and hope).

Job satisfaction and career choice satisfaction are also associated with TSR (Eren 2015, 2017; Matteucci & Guglielmi, 2014; Matteucci et al., 2017; Winter et al., 2006). Research shows that job satisfaction is a consequence of TSR. Personal responsibility positively predicts job satisfaction (Winter, Brenner and Petrosko, 2006). Matteucci et al. (2017) found that high school teachers who felt responsible for their teaching and students reported higher levels of work engagement and job satisfaction than less

responsible teachers. Additionally, job satisfaction may serve as an antecedent to TSR. Matteucci and Guglielmi (2014) collected survey data from 293 Italian high school teachers. Using one-way ANOVA they found that teachers who declared the career of teaching as their first choice obtained significantly higher values on the responsibility and work engagement scales. In conclusion, TSR has “significant potential to influence teacher’s decision to remain in the teaching profession” (Eren, 2015, p. 161).

Job satisfaction, an ambiguous term studied as teacher’s satisfaction with different circumstances, is significantly related to at least two dimensions of teacher burnout (emotional exhaustion and reduced personal accomplishment) (Skaalvik & Skaalvik, 2009). However, job satisfaction and burnout are empirically distinguishable and thus, there is still a gap in the literature. How does TSR relate to teacher burnout? In an effort to address this gap, with specific regard to alternatively certified teachers, this study seeks to answer the following research question:

RQ1b: Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility when holding constant variables we known affect TSR (i.e. gender, years of experience, education level, and perceived support)?

Hypothesis 1b: There are differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility. Traditionally certified teachers will have higher TSR.

Rationale: Predicted turnover rate for teachers certified through alternative pathways is higher than the predicted turnover rate for traditionally certified teachers (Carver-Thomas & Darling-Hammond, 2017). Due to the fact that TSR

is a potential predictor of a teacher's decision to remain in the profession (Eren, 2015) and the literature indicates that alternatively certified teachers have higher turnover rates, I hypothesize there will be difference on teacher sense of responsibility between traditionally certified teachers and alternatively certified teachers.

Teacher Sense of Responsibility and Burnout

While the explicit connection between teacher sense of responsibility and burnout has not yet been explored in the literature, some connections can be made. Education is currently in an era of accountability driven by standardized testing practices (Nichols & Berliner, 2006). This external pressure may lead to teaching practices that are inconsistent with teacher's beliefs about what constitutes good practice (Lauermann & Karabenick, 2011). The high attrition rates caused by the exit of qualified teachers from the field could signify a gap between teachers' internal responsibility and the formal accountability they are held to (Lauermann & Karabenick, 2011), which may lead to burnout. Additionally, teachers' personal responsibility may lead them to work voluntarily beyond their contractual obligations, which may increase burnout (Lauermann & Karabenick, 2011). The lack of explicit consideration of the relationship between TSR and burnout led to the following research question:

RQ3a: Does teacher sense of responsibility predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

Hypothesis 3a: Teacher sense of responsibility negatively predicts burnout levels for alternatively certified teachers.

Rationale: The positive correlational relationship between TSR and TSE (Lauermann & Karabenick, 2013) may suggest that TSR is a protective factor against burnout. Additionally, the fact that job satisfaction and career choice satisfaction are positively associated with TSR (Eren 2015, 2017; Matteucci & Guglielmi, 2014; Matteucci et al., 2017; Winter et al., 2006) contributes to the hypothesis that it will predict lower levels of burnout.

It should be noted that while Teacher Sense of Responsibility is often measured as a holistic construct some research has found differences in the four subscales. For example, the professional aspiration of planned effort is significantly and positively predicted by teacher sense of responsibility for student motivation, student relationships, and teaching but not predicted by teacher sense of responsibility for achievement (Eren, 2017). However, much research has found that the four factors are highly interrelated (Matteucci, et al., 2017) and related to similar outcomes (Eren, 2015). Therefore, a second research question will examine the relationship of TSER and burnout through the four TSR factors.

RQ3b: Does teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

Hypothesis 3b: Teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching negatively predicts burnout levels for alternatively certified teachers.

Rationale: The positive correlational relationship between TSR and TSE (Lauermann & Karabenick, 2013) may suggest that TSR is a protective factor against burnout. Additionally, the fact that job satisfaction and career choice satisfaction are correlated with TSR (Eren 2015, 2017; Matteucci & Guglielmi, 2014; Matteucci et al., 2017; Winter et al., 2006) contribute to the hypothesis that it will predict lower levels of burnout.

Burnout

The operational definition for burnout for this study comes from Maslach et al. (2001), “an erosion of engagement, that what started out as important, meaningful and challenging work becomes unpleasant, unfulfilling and meaningless” (p. 416). Further, Maslach et al. (2001) determined that burnout is composed of three components: emotional exhaustion, depersonalization, and reduced personal efficacy. These components are each quantitatively measured using the Maslach Burnout Inventory (MBI). However, before the MBI, burnout was not systematically studied (Chang, 2009).

History and Conceptualization of Burnout

Chang’s (2009) review of burnout literature indicates that the syndrome first appeared in the literature around the mid-1970s. The earliest research on burnout appeared through descriptive and qualitative observations by early researchers in human services and healthcare (Chang, 2009). One notable example comes from Freudenberger (1974), he used observations of staff at a free clinic to explore physical and behavioral

indicators of burnout syndrome. Further, he proposed preventative measures and implications for helping someone experiencing burnout.

Maslach and Pines (1977) began conducting interviews with workers in service professions to better understand burnout syndrome. Maslach and Pines (1977) postulated that the burnout syndrome they had observed among other professional groups was also occurring in child care. They conducted a questionnaire and interview study with staff from daycare centers. Eighty-three staff members participated in the study. In accordance with their hypothesis, the researchers found that day care staff members run the risk of burnout “as a result of working closely and intensively with other people” (p. 110).

The interview and questionnaire data from the exploratory research cited above provided a foundation for the items included in the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981). The creation of the (MBI) provided a method for assessing burnout in a systematic and measurable way. Three subscales emerged from the data analysis: emotional exhaustion, depersonalization, and personal accomplishment. While other conceptualizations of burnout exist (e.g. Freudenberger), the Maslach conceptualization is adopted for this dissertation for two reasons. First, it provides a method for measuring burnout in a systematic way, which other conceptualizations do not. Also, the Maslach conceptualization presents the best theoretical fit because of the reduced personal accomplishment (or reduced efficacy) subscale and the social cognitive theoretical framework adopted in this dissertation.

Maslach and colleagues (Maslach et al., 2001) discuss validity of burnout as measured by the MBI. Construct validity is established through the clear link between low job satisfaction and burnout. Additionally, the MBI is related to anxiety and

depression (Maslach et al., 2001). Despite these relationships, discriminant validity is also established for burnout. Correlations between job satisfaction and burnout (ranging from .4 to .52) are not high enough to indicate that the two constructs are identical (Maslach et al., 2001). Additionally, burnout is related to job and situation specific contexts, unlike depression and anxiety (Maslach et al., 2001).

Teacher Burnout

While burnout and the MBI (Maslach et al., 1996) were created to measure burnout in a variety of human service occupations, there has been a high level of focus on the teaching occupation specifically. Three reasons for this high focus, as discussed by Maslach et al. (1996), include the fact that teaching is one of the largest and most visible human service occupations. Additionally, teachers are tasked with encouraging moral and ethical development in their students, while seeking to correct social problems. Finally, the large attrition rates and the fact that fewer people are seeking to become teachers add to the high interest on teacher burnout in the burnout literature. Due to this high focus, the Maslach Burnout Inventory- Educator Survey (MBI-ES) was created to measure teacher burnout (Maslach et al., 1996).

The history of teacher burnout in the literature is long but linear. Early studies looked at burnout through the lens of teacher stress (McIntyre, 1983; Smylie, 1999). In the early 1980s the literature shifted to a focus on demographic variables as the underlying factors associated with burnout (Chang, 2009). During the late 1980s and 1990s focus shifted to organizational factors (Karasek, 1979). Maslach (1999) went so far as to say that job factors were more strongly related to teacher burnout than personality or background characteristics. Eventually, researchers used theoretical models to examine

the interaction of teacher burnout and the work environment (Blasé, 1982). These theoretical examinations paved the way for the current shift in teacher burnout research. Chang (2009) claims that transactional factors, or factors that examine the interactions between person and organizational factors, are the primary focus of current teacher burnout literature. Teacher burnout can begin as early as the student teaching experience (Fives et al., 2007), which increases the value of an understanding of the consequences and sources of teacher burnout.

Symptoms and Consequences of Teacher Burnout

Teacher burnout occurs when “exhaustion replaces feeling energized, cynicism replaces being hopeful and being involved, and ineffectiveness replaces feeling efficacious” (Chang, 2009, p. 195). Therefore, there are three major symptoms of teacher burnout. Emotional exhaustion is at the core of teacher burnout and is the most obvious symptom of the syndrome (Chang, 2009). When people describe themselves as experiencing burnout, they most often refer to their experience of exhaustion (Maslach et al., 2001). A second symptom is cynicism or depersonalization. Maslach et al. (2001) defined this as an indifference that human service providers develop towards colleagues or those they serve. Teachers who experience higher levels of burnout tend to withdraw from student-teacher relationships (Burke, Greenglass, & Schwarzer, 1996). Third, burnout is characterized by inefficacy or a reduced sense of personal accomplishment. Inefficacy is likely a secondary symptom associated with the feelings of exhaustion and depersonalization, which may make it difficult to gain a sense of personal accomplishment (Chang, 2009). Chang’s (2009) review of existing teacher burnout

studies, indicates that the psychological properties associated with burnout seem to be a temporary state on a continuum, rather than a terminal state.

In addition to the psychological symptoms discussed above, another consequence of teacher burnout is attrition or intention to leave the profession. Leung and Lee (2006) used structural equation modelling to explore intention to quit the teaching profession for 379 Chinese teachers in Hong Kong, using the three burnout components as conceptualized by Maslach. They found that emotional exhaustion was highly predictive of intention to quit. Likewise, Martin, Sass, and Schmitt (2012) used data from 631 teachers to analyze a model that predicted teachers' intent to leave. Their model indicated that all three components of burnout had an indirect effect on teacher's intent to leave through job satisfaction.

Sources of Teacher Burnout

Sources of teacher burnout can be categorized into three types of factors: personal or individual factors, organizational factors, and transactional factors (Chang, 2009). Examples of personal or individual factor include personality and emotional intelligence. One study aimed to investigate the relationship between personality, emotional intelligence, and burnout. Teachers from Iran (n= 147) were surveyed; results showed a significant relationship between personality types (e.g. neuroticism, extroversion, agreeableness, conscientiousness), emotional intelligence and all three dimensions of burnout defined by the MBI (Pishghadam & Sahebjam, 2012). Additional examples include: gender, education level, and seniority (Sezer, 2012).

Organizational factors can also influence levels of burnout (Chang, 2009). Past research has identified student misbehaviors such as inattentiveness and disrespect as

predictors for burnout (Friedman, 1995). Additionally, student-teaching and field experiences have been shown to predict burnout levels. A study conducted by Fives, Hamman and Olivarez (2007) showed that student-teachers that experienced high levels of guidance during their student-teaching experience demonstrated lower levels of burnout at the end of their practicum. Additionally, number of students taught in classroom may have an influence on burnout (Sezer, 2012).

Although personal and organizational factors, such as those discussed above, have been shown to influence burnout levels, research in the field has moved toward the examination of transactional factors (Chang, 2009). These factors seek to answer the question, “Who gets burned out in which situations?” (Chang, 2009). One transactional factor explored by Chang (2009) was emotional appraisals of student misbehaviors. Findings indicated that the emotion following a student misbehavior was predictive of teacher burnout. A second transactional factor that predicts teacher burnout is self-efficacy (Skaalvik & Skaalvik, 2010). Due to the lack of longevity in the research movement toward transactional factors, there are still gaps in the literature. One research question that has emerged from this gap is:

RQ1c: Are there differences between traditionally certified teachers and alternatively certified teachers on burnout when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

Hypothesis 1c: There are differences between traditionally certified teachers and alternatively certified teachers on burnout: certified teachers will have higher levels of burnout.

Rationale: Predicted turnover rate for teachers certified through alternative pathways is higher than the predicted turnover rate for traditionally certified teachers (Carver-Thomas & Darling-Hammond, 2017). This higher turnover may be related to increased levels of burnout.

Relevant Individual and Organizational Variables

The variables of gender, years of teaching experience, perception of support, and teacher education level have been known to impact TSE, TSR, and burnout according to the existing research. For example, Klassen and Chui (2010) found a non-linear relationship between years of teaching experience and the three factors of efficacy (increasing from early to mid-career and then decreasing). They also found that female teachers have shown lower classroom management efficacy than males teachers (Klassen & Chui, 2010). Additionally, teacher perceptions of administrative and parental support are associated with high teacher sense of efficacy (Stipek, 2012).). Teacher training may also be associated with increases in TSE (Yost, 2002), for this reason it is reasonable to suspect that higher education level may lead to TSE.

Teacher Sense of Responsibility is also potentially influenced by gender, years of teaching experience, perception of support, and education level. Teachers with a more internal locus of control were more likely to be female, according to Greenwood, Olejnik, and Parkey (1990). Guskey (1981) found that differences in self-responsibility may be related to years of teaching experience. Additionally, Matteucci and colleagues (2017) found that perceptions of school climate (including perceptions of support) are a positive predictor of sense of responsibility.

Chang (2009) indicates that individual (e.g. gender, years of teaching experience, and education level) and organizational factors (e.g. perceived support) influence teacher burnout. Chang (2009) asserts that there are mixed results in the literature regarding differences in teacher burnout in terms of gender, but some studies have found gender differences (Burke & Greenglass, 1993). Friedman (1991) found that sex, level of education, and number of years of teaching experience can influence burnout. Lack of social support from administration can also contribute to burnout (Burke & Greenglass, 1993; Maslach et al., 2001). Due to the impact of gender, years of teaching experience, perception of support, and teacher education level on TSE, TSR, and burnout these variables are held constant in the analyses for this study.

Summary

As discussed in this chapter, alternatively certified teachers represent an understudied population in the literature. Teacher Sense of Efficacy is associated with many positive teacher outcomes, but there is a gap in the literature regarding potential differences in this construct based on certification type. While it is known that TSE can be a potential protective factor against burnout, the literature on this does not examine alternatively certified teachers. Teacher Sense of Responsibility is a related, but also understudied, construct which may be an area of potential difference based on certification type and a potential predictor of burnout. Burnout is associated with negative teacher outcomes and may be influenced by transactional teacher factors such as TSE and TSR. Based on this information and existing gaps in the literature, this study will specifically address the following questions:

1a. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy when holding constant variables known to affect TSE (i.e. gender, years of experience, education level, and perceived support)?

1b. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility when holding constant variables known to affect TSR (i.e. gender, years of experience, education level, and perceived support)?

1c. Are there differences between traditionally certified teachers and alternatively certified teachers on burnout when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

2a. Does teacher sense of efficacy predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

2b. Does teacher sense of efficacy for (a) student engagement, (b) instructional strategies, and (c) classroom management predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

3a. Does teacher sense of responsibility predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

3b. Does teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching predict burnout levels for alternatively certified

teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

CHAPTER III

METHODS

The purpose of this study is to investigate teacher burnout in relation to teacher sense of efficacy and teacher sense of responsibility for alternatively certified teachers and to determine if there are differences in these constructs for alternatively certified teachers when compared to their traditionally certified peers.

Research Questions

For the purposes of this study three research questions will be examined. The first question will examine potential differences between traditionally certified and alternatively certified teachers on three constructs of interest: teacher sense of efficacy, teacher sense of responsibility, and burnout. The second will examine whether teacher sense of efficacy predicts burnout levels for alternatively certified teachers. Similarly, the third research question will examine whether teacher sense of responsibility predicts burnout levels for alternatively certified teachers. Each of these research questions and their anticipated results are listed below:

RQ1a. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy when holding constant variables known to affect TSE (i.e. gender, years of experience, education level, and perceived support)?

H_{1a}: There are no differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy.

RQ1b. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility when holding constant variables known to affect TSR (i.e. gender, years of experience, education level, and perceived support)?

H_{1b}: There are differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility. Traditionally certified teachers will have higher TSR.

RQ1c. Are there differences between traditionally certified teachers and alternatively certified teachers on burnout when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

H_{1c}: There are differences between traditionally certified teachers and alternatively certified teachers on burnout. Alternatively certified teachers will have higher levels of burnout.

RQ2a. Does teacher sense of efficacy predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

H_{2a}: Teacher sense of efficacy does negatively predict burnout levels for alternatively certified teachers.

RQ2b. Does teacher sense of efficacy for (a) student engagement, (b) instructional strategies, and (c) classroom management predict burnout levels for alternatively

certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

H0_{2b}: Teacher sense of efficacy for (a) student engagement, (b) instructional strategies, and (c) classroom management does predict burnout levels for alternatively certified teachers.

RQ3a. Does teacher sense of responsibility predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

H_{3a}: Teacher sense of responsibility negatively predicts burnout levels for alternatively certified teachers.

RQ3b. Does teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

H_{3b}: Teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching negatively predicts burnout levels for alternatively certified teachers.

Participants

Data was collected from 250 certified employees included in the Oklahoma State Department of Education certified staff data base. Both traditionally certified and alternatively certified educators participated in the survey. However, a quota of 50 was programmed into the survey so that only 50 traditionally certified employees could complete the survey and 200 alternatively certified. This decision was made after a priori

power analysis was completed for all research questions. After distribution of the first wave of surveys (approximately 25,000 surveys) several districts throughout the state requested that their teachers be removed from any subsequent waves. Of the 250 participants who completed the survey, data was missing from 5 traditionally certified respondents and 27 alternatively certified respondents. Missing data was replaced with predicted values using the expectation maximization algorithm for each subscale (Moon, 1996). After assessing for outliers, no additional participants were removed.

Selected participant demographic characteristics are given in Table 3.1. The majority of participants indicated that they were female (80% traditionally certified; 74.5% alternatively certified) and White (84% traditionally certified; 75% alternatively certified). Seventy-five percent of participants answered definitely yes or probably yes when asked if they felt supported in their current teaching position. Seventy-six percent of participants indicated that their future professional plans were to continue teaching at their current school. However, education (highest attained degree) and years of school teaching experience demonstrated more variety across the sample.

Table 3.1

Descriptive Statistics of Participant Demographics

Variable	Traditionally Certified Data Set N= 50		Alternatively Certified Data Set N=200	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
Gender				
Female	40	80%	149	74.5%
Male	10	20%	45	22.5%
Other/ Decline to Answer	0	0%	6	3%
Race/Ethnicity				
White	42	84%	150	75%
African American (Black)	0	0%	7	3.5%
Latino/a	3	6%	5	2.5%
Native American	3	6%	15	7.5%
Other	2	4%	21	10.5%
Highest Attained Degree				
High School Diploma or GED	0	0%	1	0.5%
Four Year Degree	23	46%	68	34%
Some Graduate Work	6	12%	35	17.5%
Masters	18	36%	73	36.5%
Education Specialist	3	6%	11	5.5%
Doctorate	0	0%	8	4%
Missing	0	0%	4	2%
Years of K-12 Public Teaching Experience				
< 5	6	12%	86	43%
6-10	10	20%	42	21%
11-20	19	38%	60	30%
21+	15	30%	12	6%

Measures

Three questionnaires (Appendix A) were used to measure the three key constructs of this study: teacher sense of efficacy, teacher sense of responsibility, and teacher burnout. Instruments were selected based on their use in the burnout, teacher sense of

responsibility, and teacher sense of efficacy literature as well as their sound psychometric characteristics. The Ohio State Teacher Efficacy Scale was used to measure teachers' judgment of their capabilities to bring about desired outcome of student engagement and learning (Tschannen-Moran & Hoy, 2001). The Teacher Sense of Responsibility scale was used to measure teachers' willingness to assume personal responsibility for negative educational outcomes that they should have prevented (Lauermann & Karabenick, 2013). The Maslach-Burnout Inventory- Educator Scale was used to measure emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach et al., 1996). In addition to these measures, participants were asked to complete a short demographic questionnaire. Each of the measures is further discussed in the following sections.

Ohio State Teacher Efficacy Scale (OSTES)

Teacher efficacy was measured using the OSTES (Tschannen-Moran & Hoy, 2001). The 24 items of the OSTES loaded onto three factors: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. The efficacy for instructional strategies subscale contains 8 items (e.g. *To what extent can you use a variety of assessment strategies?*). The efficacy for classroom management subscale contains 8 items (e.g. *How much can you do to calm a student who is disruptive or noisy?*). The efficacy for student engagement subscale contains 8 items (e.g. *How much can you do to help your students value learning?*). Each item was scored on a 9 point Likert-type scale from 1 (*nothing*) to 9 (*a great deal*). Reported Cronbach's internal consistency reliability estimates for the subscales are: $\alpha = .91$ instruction, $\alpha = .90$ management, and $\alpha = .87$ engagement. This is comparable to Cronbach's internal

consistency reliability estimates for this study: $\alpha = .87$ instruction, $\alpha = .91$ management, and $\alpha = .84$ engagement, and $\alpha = .94$ overall teacher sense of efficacy.

Teacher Sense of Responsibility Scale

The Teacher Sense of Responsibility (TSR) Scale was used to measure teacher sense of responsibility (Lauermaun & Karabenick, 2013). The scale consists of 12 items divided into four subscales: responsibility for student motivation, responsibility for student achievement, responsibility for relationships with students, and responsibility for teaching. The responsibility for student motivation subscale contains 3 items (e.g. *I would feel personally responsible if a student of mine was not interested in the subject I teach*). The responsibility for student achievement subscale consists of 3 items (e.g. *I would feel personally responsible if a student of mine failed to learn the required material*). The responsibility for relationships with students subscale consists of 3 items (e.g. *I would feel personally responsible if a student of mine did not believe that I truly cared about him/her*). The responsibility for teaching subscale consists of 3 items (e.g. *I would feel personally responsible if a lesson I taught failed to reflect my highest ability as a teacher*). Each item was scored on a Likert-type scale from 0 (*not at all responsible*) to 100 (*completely responsible*) in ten point increments. Cronbach's internal consistency reliability estimates for the subscales are: $\alpha = .84$ student motivation, $\alpha = .84$ student achievement, $\alpha = .78$ relationships with students and $\alpha = .79$ teaching. This is comparable to Cronbach's internal consistency reliability estimates for this study: $\alpha = .92$ student motivation, $\alpha = .93$ student achievement, $\alpha = .85$ relationships with students, $\alpha = .93$ teaching, and $\alpha = .90$ overall sense of responsibility.

Maslach Burnout Inventory- Educator Scale (MBI-ES)

Teacher Burnout was measured using MBI-ES (Maslach et al., 1996). The measure consists of three sub-scales: emotional exhaustion, depersonalization, and personal accomplishment/ efficacy. The MBI-ES consists of 22 Likert scale items divided into three subscales. The emotional exhaustion subscale contains 9 items (e.g. *I feel emotionally drained from my work*). The depersonalization subscale consists of 5 items (e.g. *I worry that this job is hardening me emotionally*). The personal accomplishment/ efficacy subscale consists of 8 items (e.g. *I deal very effectively with the problems of my students*). Each item will be scored on a Likert-type scale from 0 (*never*) to 6 (*every day*). Maslach et al. (1996) cite two studies in the MBI-ES manual which substantiate the reliability and validity of the scale: Iwanicki and Schwab (1981) and Gold (1984). Both studies support the three factor structure of the MBI-ES. According to Iwanicki and Schwab (1981) Cronbach's internal consistency reliability estimates for the subscales are: $\alpha = .90$ for emotional exhaustion, $\alpha = .76$ for depersonalization, and $\alpha = .76$ for personal accomplishment. Gold reports estimates of $\alpha = .88$, $\alpha = .74$, and $\alpha = .72$. This is comparable to Cronbach's internal consistency reliability estimates for this study: $\alpha = .91$ for emotional exhaustion, $\alpha = .69$ for depersonalization, $\alpha = .77$ for personal accomplishment, and $\alpha = .72$ for overall burnout. Due to the low internal reliability estimate for the depersonalization subscale, the burnout scale was only used in its entirety for analysis.

Demographic Questions

Demographic information was collected from the participants. Gender was collected in four categories: male, female, other, and decline to answer. Data was coded

as 1, 2, or 3 (no participants declined to answer). Ethnicity was collected in seven categories: Asian or Pacific Islander, African American (Black), Latino/a, Native American or Alaskan Native, Euro-American (White), Other, and Decline to answer. Certification type was dichotomized for this study; teachers were asked to choose the answer that best described their *initial* certification type: (a) Traditionally Certified- Bachelor's degree in education, traditional track" or (b) Alternative/ Emergency Certified or Other- Sought or currently seeking non-traditional method for initial certification. Education level was collected in nine categories. Teachers were asked to report the highest level of education they had completed: less than high school, high school diploma or GED, some college, 2-year degree, 4-year degree, at least one year of course work beyond a bachelor's degree but not a master's degree, master's degree, educational specialist or professional diploma, or doctorate. Teachers were asked to write a numeral for the question: "Including this school year, how many years have you been a school teacher (including part time experience)?" Teachers were asked "Do you feel supported in your current teaching position?" The item was scored on a five point Likert scale from 1 (*definitely yes*) to 5 (*definitely not*). The item was reverse coded for analysis so that higher scores indicated a higher level of perceived support. Teachers were also asked "Which of the following best described your immediate professional plans?" with six possible answers ranging from continue teaching at my school to leave education entirely.

Procedure

Upon approval from the Institutional Review Board (IRB) (Appendix B), teachers were recruited via email based on their inclusion in the Oklahoma State Department of

Education Certified Staff Directory, which includes approximately 54,000 valid email addresses. Data were collected in a computer-mediated setting using an online survey system (i.e., Qualtrics), which is a secure online data collection instrument. Two separate survey links were included on the email: one which indicated that the participant's initial certification type was "Traditionally Certified- Bachelor's degree in education, traditional track" and one which indicated that the participant's initial certification type was "Alternative/ Emergency Certified or Other- Sought or currently seeking non-traditional method for initial certification." Upon clicking the appropriate link, interested participants confirmed their consent at the beginning of the 88-item survey and confirmed they were at least 18 years of age. Participants first answered a question regarding certification type. A quota was included in the survey so that only the first 50 traditionally certified respondents and the first 200 alternatively certified respondents could complete the Maslach's Burnout Inventory- Educator Scale portion of the survey due to licensing limitations. This discrepancy in size of sub-sample was due to the fact that only research question 1 included the traditionally certified sub-sample. A priori power analysis was conducted for each research question before this methodological decision was made.

Data Analysis

Missing values were analyzed using Little's Missing Completely at Random Test (MCAR) to determine if data was missing completely at random (Little, 1988). The test was not significant, $p = .562$, which indicates that it is probable that the data is missing completely at random. For this reason, missing data was replaced with predicted values

using the expectation maximization algorithm for each subscale (Moon, 1996). This allowed for an analysis of a complete data set, which increased power.

Sub-scale scores were created for the teacher sense of efficacy scale: (a) teacher sense of efficacy for student engagement; (b) teacher sense of efficacy for classroom management; and (c) teacher sense of efficacy for instructional strategies. Subscale scores were also created for the teacher sense of responsibility scale: (a) teacher sense of responsibility for motivation; (b) teacher sense of responsibility for achievement; (c) teacher sense of responsibility for teaching; and (d) teacher sense of responsibility for relationships with students. Finally, subscale scores were created for the burnout scale: (a) emotional exhaustion; (b) depersonalization; and (c) personal accomplishment (all items on this sub-scale were reverse coded) by computing the mean score of all associated items. Scales for teacher sense of efficacy, teacher sense of responsibility, and burnout were created by computing the mean score of all associated subscales. Gender and education were dualistically dummy coded for analysis. Gender was coded as female or non-female. Education level was coded as having completed graduate work above a Bachelor's degree or not having completed education above a Bachelor's degree. Internal reliability estimates were calculated using Cronbach's alpha. Assumptions of linearity, normality, and homogeneity of variance were tested. Regression analyses were conducted for research questions 1a, 1b, 1c, 2a, 2b, 3a and 3b using Statistical Package for Social Sciences 24.0. Results are reported in Chapter 4.

CHAPTER IV

RESULTS

In this study I investigated teacher burnout in relation to teacher sense of efficacy and teacher sense of responsibility, and will determine if there are differences in these constructs for alternatively certified teachers when compared to their traditionally certified peers. Specifically, I addressed the following research questions:

- 1a. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy when holding constant variables known to affect TSE (i.e. gender, years of experience, education level, and perceived support)?
- 1b. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility when holding constant variables known to affect TSR (i.e. gender, years of experience, education level, and perceived support)?
- 1c. Are there differences between traditionally certified teachers and alternatively certified teachers on burnout when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

2a. Does teacher sense of efficacy predict burnout for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

2b. Does teacher sense of efficacy for (a) student engagement, (b) instructional strategies and, (c) classroom management predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

3a. Does teacher sense of responsibility predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

3b. Does teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

Assumptions

Scatter plots illustrate that the assumption of linearity was met for each of the continuous dependent and independent variables, though the relationship was weak because many cases did not fit the regression line. (Appendix C). Multiple variables violated the assumption of normality (significant Shapiro-Wilkes tests), though methods used are robust to violations of normality when there is a relatively large N. Homogeneity of variance was maintained for all variables according to Levene's test $p > .05$.

Prior to conducting all hierarchical multiple regressions, the relevant assumptions of this statistical analysis were tested. An examination of correlations revealed that no

independent variables were highly correlated indicating that there is no multicollinearity in the data set. Additionally, analysis of collinearity statistics support that the assumption of no multi-collinearity has been met (i.e. Tolerance and VIF) as the collinearity statistics were all within acceptable limits. Tolerance scores were all above 0.2 (Kumari, 2008); the range for this data set was .769-.987. Variance Inflation Factors (VIF) scores were well below 10 (Kumari, 2008); the range for variables in this data set was 1.012-1.300.

The Durbin-Watson statistic showed that the assumption that values of the residuals of independent has been met with all Durbin-Watson values being between 2 and 3 (Durbin & Watson, 1971). The plots of standardized residuals versus standardized predicted values (Appendix D) showed no obvious signs of funneling, indicating the assumption of homoscedasticity (or the assumption that the amount of error in the model is similar at each point of the model) was met for all regression models (Osborne & Waters, 2002). The P-P plots for the models (Appendix E) suggested that the assumption of normality of the residuals has not been violated. Cook's Distance values were all under 1, suggesting individual cases were not unduly influencing the model. The range of distance values for this data set is .000-.172.

Descriptive Statistics

Pearson correlation analyses were conducted to identify correlations between the variables of interest in this study. These correlations, mean values and standard deviation values for each variable are included in Table 4.1.

The predictor variable of teacher sense of efficacy was significantly correlated with the criterion variable of burnout ($r = -.469, p = .00$). It was also significantly correlated with teacher sense of responsibility ($r = .336, p = .000$) and all four teacher

sense of responsibility subscales: (a) teacher sense of responsibility for motivation ($r = .324, p = .000$); (b) teacher sense of responsibility for achievement ($r = .278, p = .000$); (c) teacher sense of responsibility for teaching ($r = .239, p = .000$); and teacher sense of responsibility for relationships with students ($r = .148, p = .019$). Years of teaching experience ($r = .192, p = .002$) and perceived support ($r = .204, p = .001$) were also significantly correlated with teacher sense of efficacy. Gender, certification type and education level were not significantly correlated with TSE.

The subscales for TSE followed this relational pattern, with a few exceptions. Efficacy for classroom management was not significantly correlated with TSR for relationships with students ($r = .052, p = .410$). Efficacy for student engagement was not significantly correlated with years of teaching experience ($r = .060, p = .343$). Efficacy for instructional strategies was not significantly correlated with perceived support ($r = .112, p = .076$) and was significantly correlated with education level ($r = .160, p = .011$).

The predictor variable of teacher sense of responsibility was correlated with the criterion variable of burnout ($r = -.297, p = .00$). It was also significantly correlated with teacher sense of efficacy ($r = .336, p = .000$) and all three teacher sense of efficacy subscales: (a) teacher sense of efficacy for classroom management ($r = .205, p = .001$); (b) teacher sense of efficacy for student engagement ($r = .446, p = .000$); and (c) teacher sense of efficacy for instructional strategies ($r = .224, p = .000$). Gender ($r = .238, p = .000$) was also significantly correlated with teacher sense of responsibility. Years of teaching experience, perceived support, education level, and certification type were not significantly correlated with TSR.

The subscales for TSR followed this relational pattern, with a few exceptions. Responsibility for motivation was significantly, negatively correlated with certification type (alternative certification) ($r = -.140, p = .026$). Responsibility for student relationships was significantly correlated with perceived support ($r = .146, p = .020$).

All subscales for both teacher sense of efficacy and teacher sense of responsibility were correlated with burnout, except for the responsibility for student relationships subscale ($r = -.118, p = .061$). Additionally, perceived support was significantly, negatively correlated with burnout ($r = -.479, p = .000$). Of note, alternative certification was significantly, negatively correlated with years of teaching experience ($r = -.377, p = .00$).

Table 4.1 *Correlation and Descriptive Statistics of Main Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Teacher Sense of Efficacy (TSE)	1														
2. Efficacy for Classroom Management		.864**													
3. Efficacy for Student Engagement			.614**												
4. Efficacy for Instructional Strategies				.661**											
5. Teacher Sense of Responsibility (TSR)					1										
6. Responsibility for Motivation						.802**									
7. Responsibility for Achievement							.602**								
8. Responsibility for Teaching								1							
9. Responsibility for Student Relationships									.454**						
10. Burnout										1					
11. Years of Teaching Experience											1				
12. Perceived Support												1			
13. Gender (Female)													1		
14. Education Level (above Bachelor's)														1	
15. Certification (Alternative)															1
M	6.97	7.11	6.50	7.28	7.99	5.71	6.98	9.44	9.82	2.83	9.87	3.97	.75	.63	.79
SD	.97	1.22	1.10	1.04	1.63	2.89	2.41	1.78	1.74	.97	7.52	1.17	.43	.48	.40
Scale Reliabilities	.829	.908	.843	.878	.748	.915	.931	.931	.852	.709					

Note. * $p < .05$, ** $p < .01$

Differences between Traditionally Certified and Alternatively Certified Teachers

Regression analysis was used to determine differences between traditionally and alternatively certified teachers on teacher sense of efficacy, teacher sense of responsibility, and burnout. The first regression model for each research question holds constant variables we know to affect the construct of interest (i.e. gender, years of teaching experience, education level, and perceived support) Next, certification type is added to the model to determine if certification type predicts the construct of interest above and beyond those demographic variables we already know to impact the construct.

Difference for Teacher Sense of Efficacy

1a. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of efficacy when holding constant variables known to affect TSE (i.e. gender, years of experience, education level, and perceived support)?

A two stage hierarchical multiple regression was conducted with Teacher Sense of Efficacy as the dependent variable. Gender, years of teaching experience, perceived support, and education level (above Bachelor's degree) were entered at stage one of the regression to control for demographic variables known to influence TSE. Certification type was entered at stage two in order to determine whether it showed a significant improvement in the portion of explained variance in TSE by the model. Results are shown in Table 4.2.

Table 4.2

Certification Type Predicting Teacher Sense of Efficacy

Predictors	B	SE B	β	<i>t</i>	p
Step 1					
Gender	.092	.140	.041	.660	.510
Years of Teaching	.023	.008	.180	2.840*	.005
Experience					
Perceived Support	.189	.051	.225	3.674**	.000
Education Level	.161	.126	.080	1.277	.203
F					6.430
R ² (Adjusted R ²)					.095(.081)
Step 2					
Gender	.090	.139	.040	.646	.519
Years of Teaching	.029	.009	.224	3.237**	.001
Experience					
Perceived Support	.186	.051	.222	3.628**	.000
Education Level	.123	.128	.061	.956	.340
Certification Type	.250	.161	.104	1.560	.120
F					5.661
R ² (Adjusted R ²)					.104(.086)
ΔR^2					.009

Note. *p<.05, **p<.001

The hierarchical multiple regression revealed that of the demographic variables entered, only years of teaching experience ($\beta = .224, p = .001$) and perceived support ($\beta = .222, p < .001$) positively, significantly contributed to the model. However, the model containing all demographic variables known to impact TSE was significant, $F(4, 244) = 6.420, p < .000$ and accounted for 9.5% of the variation in Teacher Sense of Efficacy. Introducing certification type into the model only explained an additional .9 % of the variation in TSE and this F change was not significant, $F(1, 244) = 2.433, p = .120$. Additionally, although the model containing certification type was significant, the effect size for this test was small, $f^2 = .12$.

Difference for Teacher Sense of Responsibility

1b. Are there differences between traditionally certified teachers and alternatively certified teachers on teacher sense of responsibility when holding constant variables known to affect TSR (i.e. gender, years of experience, education level, and perceived support)?

A two stage hierarchical multiple regression was conducted with Teacher Sense of Responsibility as the dependent variable. Gender, years of teaching experience, perceived support, and education level were entered at stage one of the regression to control for demographic variables known to influence TSR. Certification type was entered at stage two in order to determine whether certification type showed a significant improvement in the portion of explained variance in TSR by the model. Results are shown in Table 4.3.

Table 4.3

Certification Type Predicting Teacher Sense of Responsibility

Predictors	B	SE B	β	<i>t</i>	<i>p</i>
Step 1					
Gender	.931	.236	.246	3.941**	.000
Years of Teaching Experience	.002	.014	.008	.125	.901
Perceived Support	.238	.087	.169	2.740*	.007
Education Level	-.120	.214	-.036	-.561	.576
F					5.500
R ² (Adjusted R ²)					.083(.068)
Step 2					
Gender	.934	.236	.247	3.954**	.000
Years of Teaching Experience	-.005	.015	-.024	-.337	.736
Perceived Support	.241	.087	.171	2.779*	.006
Education Level	-.073	.218	-.022	-.336	.737
Certification Type	-.302	.272	-.075	-1.112	.267
F					4.652
R ² (Adjusted R ²)					.087(.069)
ΔR^2					.005

Note. * $p < .05$, ** $p < .001$

The hierarchical multiple regression revealed that of the demographic variables entered, only gender ($\beta = .247, p < .001$) and perceived support ($\beta = .171, p = .006$) positively, significantly contributed to the model. However, the model containing all

demographic variables known to impact TSR was significant ($F(4, 244) = 5.500, p < .000$) and accounted for 8.3% of the variation in Teacher Sense of Responsibility.

Introducing certification type into the model only explained an additional .5 % of the variation in TSR and this F change was not significant, $F(1, 244) = 1.237, p = .267$.

Additionally, the effect size was small at $f^2 = .1$.

Difference for Burnout

1c. Are there differences between traditionally certified teachers and alternatively certified teachers on burnout when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

A two stage hierarchical multiple regression was conducted with Burnout as the dependent variable. Gender, years of teaching experience, perceived support, and education level were entered at stage one of the regression to control for demographic variables known to influence burnout. Certification type was entered at stage two in order to determine whether certification type showed a significant improvement in the portion of explained variance in burnout by the model. Results are reported in Table 4.4

Table 4.4

Certification Type Predicting Burnout

Predictors	B	SE B	β	<i>t</i>	<i>p</i>
Step 1					
Gender	.062	.121	.029	.511	.610
Years of Teaching Experience	-.008	.007	-.062	-1.072	.285
Perceived Support	-.383	.044	-.483	-8.607**	.000
Education Level	-.045	.110	-.024	-.411	.681
F					19.295
R ² (Adjusted R ²)					.240(.228)
Step 2					
Gender	.063	.121	.029	.516	.606
Years of Teaching Experience	-.010	.008	-.079	-1.235	.218
Perceived Support	-.382	.045	-.482	-8.569**	.000
Education Level	-.031	.112	-.017	-.282	.778
Certification Type	-.088	.140	-.039	-.630	.529
F					15.478
R ² (Adjusted R ²)					.242(.226)
ΔR^2					.001

Note. * $p < .05$, ** $p < .001$

The hierarchical multiple regression revealed that of the demographic variables entered, perceived support ($\beta = -.482$, $p < .001$) negatively significantly contributed to the

model. However, the model containing all demographic variables known to impact burnout was significant, $F(4, 245) = 19.295, p < .000$, and accounted for 24% of the variation in burnout. Introducing certification type into the model only explained an additional .1% of the variation in burnout and this F change was not significant, $F(1, 244) = .397, p = .529$. The effect size was large at $f^2 = .32$.

Teacher Sense of Efficacy as a Predictor for Burnout for Alternatively Certified Teachers

Regression analysis was used to determine the relationship between teacher sense of efficacy and burnout for alternatively certified teachers. Two, two-step hierarchical multiple regressions were conducted with burnout as the dependent variable. The first model for each regression held constant variables known to affect burnout (i.e. gender, years of teaching experience, perceived support, and education level). Next, teacher sense of efficacy was added to the model to determine if TSE predicted the burnout above and beyond those demographic variables known to impact the construct. The second regression also added TSE into the second model, but separated the three subscales and entered each into the model to investigate the relationship between each component of teacher sense of efficacy (for classroom management, student engagement, and for instructional strategies) and burnout.

Teacher Sense of Efficacy Scale as a Predictor for Burnout

2a. Does teacher sense of efficacy predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

A two stage hierarchical multiple regression was conducted with burnout as the dependent variable. Gender, years of teaching experience, perceived support, and education level were entered at stage one of the regression to control for demographic variables known to influence burnout. Teacher sense of efficacy was entered at stage two in order to determine whether it showed a significant improvement in the portion of explained variance in burnout by the model. Results are reported in Table 4.5.

Table 4.5

Teacher Sense of Efficacy Predicting Burnout

Predictors	B	SE B	β	<i>t</i>	p
Step 1					
Gender	.119	.134	.057	.888	.375
Years of Teaching Experience	-.008	.009	-.058	-.888	.376
Perceived Support	-.386	.050	-.491	-7.795**	.000
Education Level	.013	.124	.006	.101	.920
F					16.275
R ² (Adjusted R ²)					.252 (.237)
Step 2					
Gender	.136	.121	.064	1.118	.265
Years of Teaching Experience	.004	.009	.028	.461	.645
Perceived Support	-.328	.046	-.417	-7.208**	.000
Education Level	.065	.112	.034	.579	.563
Teacher Sense of Efficacy	-.377	.056	-.394	-6.681**	.000
F					24.889
R ² (Adjusted R ²)					.393 (.377)
ΔR^2					.141

Note. *p<.05, **p<.001

The hierarchical multiple regression revealed that of the demographic variables entered, only perceived support ($\beta = .417, p < .001$) positively significantly contributed to the model. However, the model containing all demographic variables known to impact burnout was significant, $F(4, 195) = 16.275, p < .000$, and accounted for 25.2 % of the variation in burnout for alternatively certified teachers. Introducing teacher sense of efficacy into the model explained an additional 14.1% of the variation in burnout and this F change was significant, $F(1, 194) = 44.631, p < .000$. The effect size for the second model is large at $f^2 = .65$.

Teacher Sense of Efficacy Subscales as a Predictor for Burnout

2b. Does teacher sense of efficacy for (a) student engagement, (b) instructional strategies and, (c) classroom management predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

A two stage hierarchical multiple regression was conducted with burnout as the dependent variable. Gender, years of teaching experience, perceived support, and education level were entered at stage one of the regression to control for demographic variables known to influence burnout. Teacher sense of efficacy subscales (TSE for classroom management, TSE for student engagement, and TSE for instructional strategies) were entered at stage two in order to determine the contribution of each subscale to explained variance in burnout by the model. Results are shown in Table 4.6.

Table 4.6

Teacher Sense of Efficacy Subscales Predicting Burnout

Predictors	B	SE B	β	<i>t</i>	p
Step 1					
Gender	.119	.134	.057	.888	.375
Years of Teaching Experience	-.008	.009	-.058	-.888	.376
Perceived Support	-.386	.050	-.491	-7.795**	.000
Education Level	.013	.124	.006	.101	.920
F					16.275
R ² (Adjusted R ²)					.252(.237)
Step 2					
Gender	.136	.121	.064	1.118	.265
Years of Teaching Experience	.004	.009	.028	.461	.645
Perceived Support	-.328	.046	-.417	-7.208**	.000
Education Level	.065	.112	.034	.579	.563
Teacher Sense of Efficacy for Classroom Management	-.068	.058	-.090	-1.172	.243
Teacher Sense of Efficacy for Student Engagement	-.320	.071	-.366	-4.527**	.000
Teacher Sense of Efficacy for Instructional Strategies	.007	0.70	.009	.107	.915
F					19.527
R ² (Adjusted R ²)					.418(.397)
ΔR^2					.166

Note. * $p < .05$, ** $p < .001$

Again, the hierarchical multiple regression revealed that of the demographic variables entered, only perceived support ($\beta = -.417, p < .001$) negatively significantly contributed to the model. However, the model containing all demographic variables known to impact burnout was significant, $F(4, 195) = 16.275, p < .001$, and accounted for 25.2% of the variation in burnout for alternatively certified teachers. Introducing the three subscales of TSE into the model explained an additional 16.6% of the variation in burnout and this F change was significant, $F(3, 192) = 18.097, p < .001$. The effect size for the second model is large at $f^2 = .72$. The analysis shows that teacher sense of efficacy for student engagement ($\beta = -.366, t(193) = -4.527, p < .001$) was the only TSE subscale that was a significant predictor of burnout for this model.

Teacher Sense of Responsibility as a Predictor for Burnout for Alternatively Certified Teachers

Regression analysis was used to determine the relationship between teacher sense of responsibility and burnout for alternatively certified teachers. Two, two-step hierarchical multiple regressions were conducted with burnout as the dependent variable. The first model for each regression holds constant variables known to affect burnout. Next, teacher sense of responsibility is added to the model to determine if TSR predicts burnout above and beyond those demographic variables already known to impact the construct. The second regression also adds TSR into the second model, but separates the four subscales and enters each into the model to investigate the relationship between each component of teacher sense of responsibility (for motivation, for achievement, for teaching, and for relationships with students) and burnout.

Teacher Sense of Responsibility Scale as a Predictor for Burnout

3a. Does teacher sense of responsibility predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

A two stage hierarchical multiple regression was conducted with burnout as the dependent variable. Gender, years of teaching experience, perceived support, and education level were entered at stage one of the regression to control for demographic variables known to influence burnout. Teacher sense of responsibility was entered at stage two in order to determine whether TSR showed a significant improvement in the portion of explained variance in burnout by the model. Results are show in Table 4.7

Table 4.7

Teacher Sense of Responsibility Predicting Burnout

Predictors	B	SE B	β	t	p
Step 1					
Gender	.119	.134	.057	.888	.375
Years of Teaching Experience	-.008	.009	-.058	-.888	.376
Perceived Support	-.386	.050	-.491	-7.795**	.000
Education Level	.013	.124	.006	.101	.920
F					16.275
R ² (Adjusted R ²)					.252(.237)
Step 2					
Gender	.228	.136	.108	1.679	.095
Years of Teaching Experience	-.009	.009	-.061	-.962	.337
Perceived Support	-.370	.049	-.470	-7.605**	.000
Education Level	-.018	.121	-.009	-.145	.885
Teacher Sense of Responsibility	-.123	.039	-.201	-3.171*	.002
F					15.642
R ² (Adjusted R ²)					.289(.271)
ΔR^2					.037

Note. *p<.05, **p<.001

The hierarchical multiple regression revealed that of the demographic variables entered, only perceived support ($\beta = -.370$, $p < .001$) negatively significantly contributed to the model. However, the model containing all demographic variables known to impact burnout was significant, $F(4, 195) = 16.275$, $p < .000$ and accounted for 25.2% of the variation in burnout for alternatively certified teachers. Introducing teacher sense of responsibility into the model explained an additional 3.7% of the variation in burnout and this F change was significant, $F(1, 194) = 10.056$, $p = .002$. The effect size for the second model is large at $f^2 = .41$.

Teacher Sense of Responsibility Subscales as a Predictor for Burnout

3b. Does teacher sense of responsibility for (a) achievement, (b) motivation, (c) student relationships, and (d) teaching predict burnout levels for alternatively certified teachers when holding constant variables known to affect burnout (i.e. gender, years of experience, education level, and perceived support)?

A two stage hierarchical multiple regression was conducted with burnout as the dependent variable. Gender, years of teaching experience, perceived support, and education level were entered at stage one of the regression to control for demographic variables known to influence burnout. Teacher sense of responsibility was entered at stage two in order to determine whether TSR showed a significant improvement in the portion of explained variance in burnout by the model. Results are show in Table 4.8

Table 4.8

Teacher Sense of Responsibility Subscales Predicting Burnout

Predictors	B	SE B	β	<i>t</i>	p
Step 1					
Gender	.119	.134	.057	.888	.375
Years of Teaching Experience	-.008	.009	-.058	-.888	.376
Perceived Support	-.386	.050	-.491	-7.795**	.000
Education Level	.013	.124	.006	.101	.920
F					16.275
R ² (Adjusted R ²)					.252(.237)
Step 2					
Gender	.244	.136	.116	1.787	.076
Years of Teaching Experience	-.006	.009	-.041	-.621	.535
Perceived Support	-.365	.049	-.464	-7.504**	.000
Education Level	.005	.123	.003	.040	.969
TSR for Motivation	-.064	.028	-.172	-2.258*	.025
TSR for Achievement	-.028	.031	-.071	-.882	.379
TSR for Teaching	-.042	.040	-.074	-1.050	.295
TSR for Relationships w/ Students	.042	.041	.070	1.014	.312
F					19.527
R ² (Adjusted R ²)					.304(.275)
ΔR^2					.052

Note. * $p < .05$, ** $p < .001$

Again, the hierarchical multiple regression revealed that of the demographic variables entered, only perceived support ($\beta = -.365$, $p < .001$) negatively significantly contributed to the model. However, the model containing all demographic variables known to impact burnout was significant ($F(4, 195) = 16.275$, $p < .001$) and accounted for 25.2% of the variation in burnout for alternatively certified teachers. Introducing the four subscales of TSR into the model explained an additional 5.2% of the variation in

burnout and this F change was significant, $F(4, 191) = 3.536, p = .008$. The effect size for the second model is large at $f^2 = .44$. The analysis shows that teacher sense of responsibility for motivation ($\beta = -.172, t(189) = -2.258, p = .025$) was the only TSR subscale that was a significant predictor of burnout for this model.

CHAPTER V

SUMMARY, CONCLUSIONS AND IMPLICATIONS

Predicted turnover rate for alternatively certified teachers is higher than the predicted turnover rate for those who take a traditional certification pathway (Carver-Thomas & Darling-Hammond, 2017). This may be because of teacher burnout, which is linked to teacher attrition (Chang, 2009; Skaalvik & Skaalvik, 2011). Understanding some of the additional factors that influence burnout in alternatively certified teachers (e.g. teacher sense of efficacy and teacher sense of responsibility) might help curb teacher attrition so that they stay in the teaching profession.

Teacher sense of efficacy is thought to be a protective factor against burnout (Aloe, Amo, & Shanahan, 2013), but little research has examined the alternatively certified population specifically. A discriminately valid, yet similar construct, teacher sense of responsibility (Lauermaann & Karabenick, 2013) may also share a predictive relationship with burnout, although there is little research yet to support this claim. This study sought to address the current gap in the literature by examining teacher sense of efficacy and teacher sense of responsibility as they predict burnout for alternatively certified teachers. A second aim of the study was to determine if there are differences between alternatively and traditionally certified teachers in teacher sense of efficacy, teacher sense of responsibility, and burnout after controlling for gender, years of teaching

experience, education level, and perceived support.

This final chapter is broken into four sections. The first section addresses a summary of the findings from the study and conclusions based on those findings. The second section discusses implications of the results. The next section recognizes the limitations of this study and the final suggests areas for future research.

Findings and Conclusions

In the current study, I examined three research questions through seven regression analyses. Hierarchical linear regression was used for each research question. Model 1 for each regression analysis contained variables known to impact TSE, TSR, and burnout. For questions 1a, 1b, and 1c, certification type was added to model 2 to determine whether this explained additional variance in TSE, TSR, or burnout respectively. For research question 2a, the predictor variable (teacher sense of efficacy) was analyzed for its relationship on the criterion variable (burnout) in model 2. A subsequent regression analysis was conducted for question 2b, in which the predictor variables (teacher sense of efficacy for student engagement, for classroom management, and for instructional strategies) were analyzed in model 2 for their relationship to the criterion variable (burnout). A similar approach was taken with the regression analyses examining teacher sense of responsibility. First, for question 3a, the predictor variable (teacher sense of responsibility) was analyzed for its relationship on the criterion variable (burnout). Next, for question 3b, the predictor variables (teacher sense of responsibility for motivation, student achievement, teaching, and relationships with students) were analyzed for their relationship on the criterion variable (burnout). The findings of each of these analyses are discussed below.

Differences between Traditionally Certified and Alternatively Certified Teachers

There is a lack of conclusive research regarding differences in teacher outcomes by certification type. While some argue that traditionally certified teachers are higher in sense of efficacy, confidence and instructional knowledge (Darling-Hammond et al., 2002), others assert that alternatively certified teachers gain those critical teacher outcomes from a more intensive teacher training process (Pazyura, 2015). This inconsistency is troubling due to the nearly 20% of alternatively teachers currently entering the workforce (DeMonte, 2015). This study sought to contribute to the conversation by determining if there were differences in three important teacher outcomes (teacher sense of efficacy, teacher sense of responsibility, and burnout) based on certification type (traditionally certified versus alternatively certified).

Differences in Teacher Sense of Efficacy. First, I sought to determine if certification type explained variance in TSE above and beyond variables known to influence the construct (i.e. gender, years of teaching experience, education level, and perceived support). The literature regarding potential differences in TSE for traditionally and alternatively certified teachers was inconclusive. Some researchers found higher TSE in traditionally certified teachers and postulated that this may be because traditionally certified teachers have a greater depth of pedagogical knowledge that may lead to an increase in confidence (Flores, et al., 2004). However, others found no statistically significant differences between traditionally and alternatively certified teachers on any of the dimensions of TSE (i.e., student engagement, instructional strategies, and student engagement) (Guillory, 2016). Because Guillory's (2016) findings are more recent and use the same measure of TSE used in this study, I hypothesized that there were no

differences in TSE between traditionally and alternatively certified teachers. The analysis confirmed this hypothesis and contributes to the current conversation in the literature, supporting findings by Guillory (2016) who also found no statistically significant differences. However, since TSE is developmental and can change with context (Flores, Desjean-Perrotta & Steinmetz, 2004), it is possible that while traditionally certified teachers have more pedagogical knowledge at the onset of their career (Flores, et al., 2004), alternatively certified teachers soon catch up through support and on-the-job training (Guillory, 2016).

TSE can also be influenced by years of experience (Klassen & Chui, 2010). Specifically, Klassen and Chui (2010) found that there was an increase in TSE from early to mid-career, and then a decline for late career. The results of this dissertation showed that teaching experience positively predicts TSE scores; more years of PK-12 teaching experience led to higher TSE. As discussed in Chapter 2, efficacy is influenced, in part, by enactive mastery experiences (Bandura, 1997). I hypothesize that more years of experience as a teacher allows for more time to acquire these mastery experiences, which allows teachers more time to develop their sense of “I can.”

Perception of support was another significant positive predictor of TSE. Previous research has concluded that teacher’s perceptions of the support they receive from administration are positively associated with TSE (Stipek, 2012). This may be because the sense of encouragement and support leads to an increase in confidence. The relationship between perception of support and TSE is a valuable one. Many contextual factors impacting TSE are out of the administrator’s control, but not perception of support. Administrators can work to create a supportive environment, which will

positively impact TSE and, subsequently, provide for positive student learning outcomes (Wolters & Daugherty, 2007).

Differences in Teacher Sense of Responsibility. Next, I sought to determine if certification type explained variance in TSR above and beyond variables known to influence the construct (i.e. gender, years of teaching experience, education level, and perceived support). Research indicates that TSR is a potential predictor of a teacher's decision to remain in the teaching profession (Eren, 2015). Research also shows that predicted turnover rate for alternatively certified teachers is higher than the predicted turnover rate for those certified through traditional pathways (Carver-Thomas & Darling-Hammond, 2017). Because alternatively certified teachers have a higher turnover rate and because TSR may be a factor in a teacher's decision to remain, I hypothesized there would be additional explained variance by certification type for teacher sense of responsibility. Specifically, I hypothesized that traditionally certified teachers would have a higher TSR. However, the analysis revealed that the model containing certification type did not produce a statistically significant change in explained variance. A potential reason for this result is that, much like TSE discussed above, TSR is embedded in personal and contextual factors (Lauermann & Karabenick, 2011) and these factors, and the relationships they produce, are not static, may adjust over time, and are situation specific (Lauermann & Karabenick, 2011). This study asked teachers to tell us their initial certification type. This question does not reveal potential personal and contextual factors that may have influenced TSR since initial certification was granted.

Analysis also revealed that gender and perceived support positively contributed to TSR, a finding that is consistent with the literature (Greenwood et al., 1990; Matteucci et

al., 2014). Greenwood et al. (1990) found that female teachers were more likely to have an internal locus of control, or feeling of responsibility for their own successes and failures, than male teachers regarding motivating students to achieve. Identifying as female was a positive predictor of TSR in this study. This result could be because the criteria for responsibility is based on perceptions of the social role of being a teacher (Lauermann & Karabenick, 2011), and female teachers may feel more pressure to fulfill this social role.

Perception of support was also a significant positive predictor of TSR. Matteucci et al. (2014) found that personal sense of responsibility was positively related to a positive perception of school climate. Lenk's (1992) six-component model that is used to conceptualize the TSR construct indicates that stakeholders act as the "judge" regarding for what teachers should (or should not) feel responsible. It makes sense then, that if the stakeholders are perceived as supportive, the teachers will adopt feelings of internal responsibility.

Differences in Burnout. Finally, I sought to determine if certification type explained variance in burnout above and beyond variables known to influence the construct (i.e. gender, years of teaching experience, education level, and perceived support). I expected there to be additional explained variance by certification type for burnout. Specifically, I expected alternatively certified teachers to have higher levels of burnout. My primary rationale for this hypothesis is that predicted turnover rate for teachers certified through alternative pathways is higher than the predicted turnover rate for traditionally certified teachers (Carver-Thomas & Darling-Hammond, 2017). This higher turnover may be related to increased levels of burnout. However, the analysis

revealed that there was not a statistically significant change in explained variance in burnout when accounting for certification type. This finding should spur future research which seeks to address potential other reasons for the higher turnover rates of alternatively certified teachers.

Analysis also revealed that perceived support significantly negatively contributed to burnout. This finding is consistent with the literature (Burke & Greenglass, 1993; Maslach et al., 2001). It is also worth noting that the control variables (gender, number of years teaching, education level, and perceived support) accounted for 24% of the variance in burnout. Nearly a quarter of the variance in burnout was explained by a handful of individual and organizational variables, such as gender, years of teaching experience, perceived support, and education level. This indicates that, though the burnout research is shifting towards transactional variables (Chang, 2009), researchers cannot neglect the individual and organizational variables known to influence burnout. Specific attention should be paid to perceived support, as it was the only significant predictor of the group. High perception of support led to lower levels of burnout, which may be because perception of support helps combat the symptoms of burnout, emotional exhaustion, depersonalization, and reduced sense of personal accomplishment (Chang, 2009).

Teacher Sense of Efficacy as a Predictor for Burnout

The relationship between teacher burnout (and job satisfaction) and teacher sense of efficacy is well established in the literature (Aloe et al., 2014; Betoret, 2006; Pas et al., 2010). Specifically, it has been suggested that TSE may protect against burnout (Aloe et al., 2014). Some research has shown that traditionally certified teachers had higher instructional knowledge, sense of efficacy, and confidence when compared to their

alternatively certified peers (Darling-Hammond, et al., 2002). This is troubling because alternatively certified teachers who have higher rates of teacher turnover (Carver-Thomas & Darling-Hammond, 2017) could likely benefit from this protective factor. However, research examining the relationship between TSE and burnout for alternatively certified educators is scarce. This study sought to address this gap in the literature by determining if teacher sense of efficacy was a predictor of burnout for alternatively certified teachers.

First, a hierarchical multiple regression was used to analyze the relationship of teacher sense of efficacy on burnout for alternatively certified teachers, when holding constant variables known to influence burnout. I expected to find that teacher sense of efficacy would predict burnout in alternatively certified teachers because teacher sense of efficacy as a predictor of burnout is well established in the literature and I did not expect there to be significant differences in TSE between alternatively and traditionally certified teachers. As expected, I found that teacher sense of efficacy was a significant predictor of burnout for the alternatively certified teacher sample; the variance in burnout explained by TSE was 14.1% above the variance accounted for by other variables in the model. Additionally, the effect size was large, indicating that the impact of TSE in predicting burnout is large. The significance of this regression was not surprising due to the clear establishment of the relationship between TSE and burnout in the existing literature.

Next, a hierarchical multiple regression was used to analyze the relationship of teacher sense of efficacy for student engagement, for classroom management, and for instructional strategies on burnout for alternatively certified teachers. This step in the analysis process was meant to determine the weight each factor of TSE carried in predicting burnout. While TSE is often measured as a holistic construct, some research

has found differences in the three subscales (Poulou, 2007; Shoulders & Krei, 2015; Wolters & Daugherty, 2007); therefore, it seemed rational to explore potential differences in predictive weight. I found that while both teacher sense of efficacy for classroom management and teacher sense of efficacy for instructional strategies were not significant predictors of burnout, teacher sense of efficacy for student engagement was a significant negative predictor of burnout. This means that a higher teacher sense of efficacy for student engagement is associated with lower burnout for alternatively certified teachers.

This finding is not surprising. Since its genesis in 1977 (Maslach & Pines), burnout has been viewed as a “result of working closely and intensively with other people” (p. 110). Teacher sense of efficacy for student engagement seems to be the most relationship oriented factor of the Teacher Sense of Efficacy scale, as it relates to teacher’s relationships with students. Additionally, Friedman (1995) found that student inattentiveness predicted burnout. Student inattentiveness could be curbed with increase student engagement. Teachers may feel that if they are confident in their abilities to engage students (TSE for student engagement), then they may have the tools to prevent inattentiveness. It is of no surprise then that teachers’ sense of “I can” for getting students to engage in their classrooms is predictive of lower levels of burnout.

Teacher Sense of Responsibility as a Predictor for Burnout

What is known about the relationship between teacher sense of responsibility and burnout is far less developed in the literature than teacher sense of efficacy and burnout. However, some assumptions can be made. The current era of accountability driven by standardized testing practices (Nichols & Berliner, 2006) may lead to external pressure, which is inconsistent with teachers’ pedagogical beliefs (Lauermann & Karabenick,

2011). This gap between teachers' internal responsibility and the formal accountability they are held to (Lauermann & Karabenick, 2011) may lead to burnout and could be to blame for the high attrition rates caused by the exit of teachers from the field. Despite these assumptions, the lack of explicit consideration of the relationship between TSR and burnout (especially for alternatively certified teachers) has created a gap in the literature, which this study sought to address by determining if teacher sense of responsibility predicted burnout levels for alternatively certified teachers.

First, a hierarchical multiple regression was used to analyze the relationship of teacher sense of responsibility on burnout for alternatively certified teachers, when holding constant variables known to influence burnout. I expected to find that teacher sense of responsibility would negatively predict burnout in alternatively certified teachers, because the positive correlational relationship between TSR and TSE (Lauermann & Karabenick, 2013) suggests TSR is a protective factor against burnout. Additionally, the fact that job satisfaction and career choice satisfaction are positively associated with TSR (Eren 2015, 2017; Matteucci & Guglielmi, 2014; Matteucci et al., 2017; Winter et al., 2006) contributed to the hypothesis that TSR would predict lower levels of burnout. I found that while TSR was a significant predictor of burnout for the alternatively certified teacher sample, the additional variance in burnout explained by TSR was only 3.1 %. However, the effect size was large indicating that the explained variance by the control variables and TSR had a large impact on burnout. This finding may support my hypothesis statistically, but practically the explained variance is quite low. This result may be explained by the fact that while TSR is associated with many positive teacher outcomes, it is also associated with some negative teacher outcomes,

such as demoralization in the teaching professions, risk for frustration and burnout, and personal cost such as, lack of sleep and less family time (Broadfoot et al., 1988; Fischman et al., 2006; Lauermann, 2014). The overall negative relationship between TSR and burnout indicates that the positive teacher outcomes may be more substantial, but the low explained variance should caution researchers to not overlook the negative outcomes associated with TSR.

Next, a hierarchical multiple regression was used to analyze the relationship of teacher sense of responsibility for achievement, for motivation, for student relationships, and for teaching on burnout for alternatively certified teachers. This step in the analysis process was meant to determine the weight each factor of TSR carried in predicting burnout. It should be noted that while TSR is often measured as a holistic construct, some research has found differences in the four subscales (Eren, 2015, 2017; Matteucci, et al., 2017), which provided my rationale for exploring predictive weight of the factors of TSR. I found that only teacher sense of responsibility for motivation was significant in predicting burnout; higher sense of responsibility for student motivation led to lower levels of burnout. The absence of significance from the other factors (responsibility for achievement, for student relationships, and for teaching) was surprising — particularly, the lack of significance for responsibility for student relationships. As discussed in the previous section, burnout is highly related to human factors, and I expected this to influence the predictive nature of responsibility for student relationships. Future research should explore the possible negative effects of TSR for student relationships.

Summary

Despite my hypothesis that certification type would explain variance beyond the

control variables for teacher sense of responsibility and burnout because of higher teacher attrition for alternatively certified teachers, the f -change for the model adding certification type was not significant in either case. No significant changes in explained variance when accounting for certification type were found for teacher sense of efficacy, teacher sense of responsibility, or burnout. This could be because TSE and TSR are more contextual and developmental than self-reported, initial certification type can measure. Additionally, it may mean that there are other reasons for the higher attrition rate than burnout.

Teacher sense of efficacy was found to significantly, negatively predict burnout. This finding is heavily supported by the existing literature. Further analysis showed that while TSE for student engagement was a significant predictor of burnout, TSE for instructional strategies and TSE for classroom management were not. This result is supported by the fact that burnout is brought about by close work with others (Maslach & Pines, 1977).

Teacher sense of responsibility was also a significant, negative predictor of burnout. However, while the statistical significance was high, the practical significance should be viewed with caution. The explained variance was quite low and only TSR for motivation was statistically significant upon further analysis. This finding, when combined with the positive and negative outcomes associated with TSR in the literature, indicates that TSR may not be as protective against burnout as TSE.

Implications of Conclusions

In Chapter 1, I noted that teaching is emotional work (Hargreaves, 1998; Hargreaves, 2000), which is linked to teacher burnout (Maslach, Schaufeli, & Leiter,

2001). Due to the fact that teacher attrition is high in Oklahoma (Carver-Thomas & Darling-Hammond, 2017), and that open teaching spots are quickly filling with alternatively certified teachers (DeMonte, 2015), understanding factors which contribute to burnout in alternatively certified teachers is an important task. This understanding may provide the foundation for curbing teacher attrition. Three practical implications were derived from this study that could be used to catalyze a movement for protecting alternatively certified teachers from burnout.

First, one important implication is the possibility of curbing teacher attrition by fostering TSE to protect against burnout. Specifically, administrators and teacher educators can seek to foster efficacy for student engagement to best protect against teacher burnout. Arming teachers with student engagement strategies to increase their sense of “I can” in this area may help to decrease their overall levels of experienced burnout. Arming teachers with student engagement strategies is best accomplished by promoting mastery experiences, according to research conducted by Tschannen-Moran and McMaster (2009). The ideal method for promoting mastery experiences in student engagement would be to provide information about and model methods for student engagement, allow teachers to practice those methods, and then provide follow-up coaching on the use of the new student engagement techniques (Tschannen-Moran & McMaster, 2009).

Second, while the results of this study show that teacher sense of responsibility may also help protect against burnout, practitioners should view this finding with caution. The level of protection associated with TSR is not practically significant enough to overlook possible negative teacher outcomes (e.g. demoralization in the teaching

professions, risk for frustration and burnout, and personal cost such as lack of sleep and less family time) (Broadfoot et al., 1988; Fischman et al., 2006; Lauermann, 2014). If administrators and teacher educators do foster one factor of TSR, findings suggest it would be best to foster teacher sense of responsibility for motivation. Again, fostering teacher sense of responsibility for student motivation is best done by promoting mastery experiences in student motivation (Tschannen-Moran & McMaster, 2009). Specifically, administrators and teacher educators should provide information about and model methods for student motivation, allow teachers to practice those methods, and then provide follow-up coaching on the use of the new student motivation techniques (Tschannen-Moran & McMaster, 2009). Due to the lack of differences on TSE and TSR based on initial certification type, it can be concluded that these practical implications for curbing burnout may be beneficial for all teachers, regardless of initial certification pathway.

Finally, although alternatively certified teachers have higher rates of turnover (Carver-Thomas & Darling-Hammond, 2017), no differences were found between traditionally and alternatively certified teachers on burnout. Therefore, administrators, teacher educators, and policy makers should ask themselves, “If it is not burnout causing the higher turnover, what is it?” One possibility is perception of support. Perceived support negatively significantly predicted burnout in both models. Administrators and other stakeholders should work to establish an environment of support to protect against burnout.

This study contributes to the existing gap in the literature, which explores a growing population of teachers (alternatively certified). Findings indicate that, actually,

there are not statistically significant differences between the dichotomized traditional and alternative certification groups on TSE, TSR, and burnout. The lack of statistical significance may imply that differences are not there, but I think a more likely conclusion is that certification is a more nuanced process than the dichotomization allowed for in this study. Throughout data collection, I received emails from participants detailing their certification process and asking me which survey to take. For example, one teacher emailed to say she had completed initial certification through a Master's program in education. She mentioned that she did not necessarily fit within either category and was not sure which link to click. A second nuance to the certification binary is that alternatively certified teachers can work to attain a traditional certification. A teacher can attain an alternative certification initially and subsequently complete the education requirements for a traditional certification. Many teachers in the state take varying paths to teacher certification and this context likely influences their beliefs (e.g. TSE and TSR) and the affective impact of those beliefs (e.g. burnout). Thus, certification type seems not as black and white as some research may suggest.

Limitations

The findings of this study have to be seen in light of some limitations. Limitations of the sample include non-response bias and an overgeneralization of certification type in the survey design. Limitations of measurement include self-reported data and small sample.

Non-response bias exists when the respondents of a survey are different from those who did complete the survey in terms of some demographic or attitudinal variables (Sax, Gilmartin & Bryant, 2003). The potential for non-response bias in this study is

high, due to the recruitment methods used. The Oklahoma State Department of Education was unable to provide a list of alternatively or emergency certified teachers, therefore the entire database of certified public school employees was contacted. The first 200 respondents who clicked the link to the alternatively certified survey became the respondents included in my analysis due to a measurement limitation (survey licensure). It can be assumed that the first 200 people to click the link are attitudinally different than those who may have returned to the email later. Specifically, a participant experiencing high levels of burnout may not have taken the time to complete a survey due to being overwhelmed with the responsibilities of their job. Attitudinally, this sample indicated they felt highly supported and intended to remain in their current teaching positions, which may also indicate lower levels of burnout.

Demographic non-response bias was partially combatted by randomizing the email addresses in the database before recruitment so that participants were from a random sample of districts, schools, and positions. However, two sizeable urban districts requested that their teachers be removed from the second wave of recruitment emails, thus many teachers from these districts were not sampled. The removal of these districts from subsequent waves of recruitment contributes to non-response bias because teachers from sizable urban districts may be prone to higher levels of burnout. Future research should seek a larger sample size or adopt more strategic recruitment methods to minimize the amount of non-response bias.

Additionally, the dichotomization of the sample may have over generalized the differences in certification type. Participants were asked to choose between two survey links: “Traditionally Certified- Bachelor’s degree in education, traditional track” or

“Alternative/Emergency Certified or Other- Sought or currently seeking non-traditional method for initial certification.” Some participants responded to the recruitment email asking which survey they should take and describing their path to certification in detail. This confusion may have limited the sample. Future research should be careful not to dichotomize certification types and may want to provide an open-ended question for participants to explain their path, as there are many potential variations.

In addition to the sample limitations, several measurement limitations exist as well. The data is completely self-reported. This is a limitation in that the attitudinal scales cannot be verified and thus, we must rely on the participant’s responses. Selective memory, exaggeration, or a telescopic lens, which focuses on a one-time event may have influenced the data. Future research may include interviews and observations of teachers to determine if their self-reported attitudes reflect reality.

Another measurement limitation is that perception of report is measured with a single, self-report, Likert item. A more holistic understanding of perceived support could be gained with a comprehensive scale to measure the construct.

Future Directions

There is much future research needed to explore factors related to teacher sense of efficacy, teacher sense of responsibility, burnout, and certification type. Future researchers should realize that TSE and TSR are both highly dependent on context and that initial certification type may not be contextually specific enough to explore potential differences. For this reason, longitudinal studies examining changes in TSE and TSR after initial certification should be conducted. Most existing research on TSE and TSR is cross-sectional and cannot delve into the nuances of TSE and TSR development.

In addition, it seems certification type is also highly contextual. Future research should take care not to dichotomize traditional and alternative certification, without also providing opportunity for teachers to specify their certification pathway. Interviews and observations may be a beneficial supplement to self-reported surveys, in that they would allow researchers to determine if self-reported levels of TSE, TSR, and burnout reflect reality and they would allow the nuances of teacher's certification pathways to be further examined. Each teacher's pathway towards certification is individual and full of experiences that may impact their beliefs and behaviors.

Future research should also explore possible negative effects of teacher sense of responsibility, as they may contribute to the small explanation of variance in the findings of this study. There are known negative consequences to TSR and if researchers are setting out to explore TSR as a positive teacher outcome, then they should do their due diligence to ensure that the positive consequences of TSR outweigh the negative consequences.

Regarding the methods applied in this study, future research should work to limit non-response bias and allow for test-retest to increase the reliability of the MBI-ES (and other measures). Increased sample size would increase the power of the study. It may also be beneficial to collect enough data to regress TSE and TSR on burnout for traditionally certified teachers and compare findings. This may further solidify the findings of this study, which indicate no significant differences in TSE, TSR, or burnout based on certification type.

Finally, future research should address potential reasons for higher turnover rates in alternatively certified teachers. This study found no additional explanation of burnout

variance by certification type, so future research should aim to determine what the cause of these turnover rates is if it is not burnout. Based on the findings of this study, future research should look to the possibility of perceived support as a factor influencing burnout for teachers. Additionally, qualitative research should be done to examine what administrators can do specifically to foster an increased perception of support.

In fact, perceived support should be investigated more in-depth in relation to each of the investigated constructs in this study. Perception of support, in this study, was negatively significantly correlated with burnout, and positively significantly correlated with TSE, TSE for classroom management, TSE for student engagement, and TSR for student relationships. Future research would benefit from expanding the method for measuring perceived support (this study measured it with a single self-report item) and further investigating the above relationships.

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APPENDICES

Appendix A

Ohio State Teacher Sense of Efficacy Scale

1. How much can you do to get through to the most difficult students?
2. How much can you do to help your students think critically?
3. How much can you do to control disruptive behavior in the classroom?
4. How much can you do to motivate students who show low interest in school work?
5. To what extent can you make your expectations clear about student behavior?
6. How much can you do to get students to believe they can do well in school work?
7. How well can you respond to difficult questions from your students?
8. How well can you establish routines to keep activities running smoothly?
9. How much can you do to help your student's value learning?
10. How much can you gauge student comprehension of what you have taught?
11. To what extent can you craft good questions for your students?
12. How much can you do to foster student creativity?
13. How much can you do to get children to follow classroom rules?
14. How much can you do to improve the understanding of a student who is failing?
15. How much can you do to calm a student who is disruptive or noisy?
16. How well can you establish a classroom management system with each group of students?
17. How much can you do to adjust your lessons to the proper level for individual students?
18. How much can you use a variety of assessment strategies?
19. How well can you keep a few problem students from ruining an entire lesson?
20. To what extent can you provide an alternative explanation or example when students are confused?
21. How well can you respond to defiant students?
22. How much can you assist families in helping their children do well in school?
23. How well can you implement alternative strategies in your classroom?
24. How well can you provide appropriate challenges for very capable students?

9-pt. scale from 1 (nothing) to 9 (a great deal)

Teacher's Sense of Responsibility Scale

I would feel personally responsible if...

- 1... a student of mine was not interested in the subject I teach.
- 2... a student of mine did not value learning the subject I teach.
- 3... a student of mine disliked the subject I teach.
- 4... a student of mine failed to make excellent progress through the school year
- 5... a student of mine failed to learn the required material.
- 6... a student of mine had very low achievement [in general?]
- 7... a student of mine thought he/she could not count on me when he/she needed help with something.
- 8... a student of mine did not think that he/she can trust me with his/her problems in or outside of school.
- 9... a student of mine did not believe that I truly cared about him/her.
- 10... a lesson I taught failed to reflect my highest ability as a teacher.
- 11... a lesson I taught was not as effective for student learning as I could have possibly made it.
- 12... a lesson I taught was not as engaging for students as I could have possibly made it.

11-pt. scale from 0 (not at all responsible) to 100 (completely responsible) in 10-pt increments.

Maslach's Burnout Inventory- Educator Scale

Three sample items from a single form of this instrument may be reproduced for inclusion in a thesis or dissertation. An entire form or instrument may not be included or reproduced at any time in any published material.

1. I feel emotionally drained from my work.
2. I feel used up at the end of the workday
3. *I can easily understand how my students feel about things.

*Reverse coded (all items from the Personal Accomplishment subscale were reverse coded)

7- pt scale from 0 (*never*) to 6 (*every day*)

MBI - Human Services Survey - MBI-HSS: Copyright ©1981 Christina Maslach & Susan E. Jackson. All rights reserved in all media. Published by Mind Garden, Inc., www.mindgarden.com

Demographic Questions

1. What is your gender? (male, female, other, decline to answer)
2. In what year were you born?
3. Which best describes your ethnicity? (Asian or Pacific Islander, African

American (Black), Latino/a, Native American or Alaskan Native, Euro-American (White), other (please specify), decline to answer)

4. What is the highest level of education you have completed? (High school diploma or GED, Associate's degree, Bachelor's degree, At least one year of course work beyond a Bachelor's degree but not a graduate degree, Master's degree, Education specialist or professional diploma based on at least one year of course work past a Master's degree level, Doctorate)
5. Counting this school year, how many years have you been a school teacher, including part-time teaching?
6. Counting this school year, how many years have you taught in this general subject area, including part-time teaching?
7. What is the grade level you are currently teaching? (Select all that apply)
8. Counting this school year, how many years have you taught in your current school, including part-time teaching?
9. In Oklahoma what type of teaching certification do you hold? MARK ONE RESPONSE ONLY.

Regular or standard state certificate or advanced professional certificate
Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period)

Provisional or other type given to persons who are still participating in what the state calls an "alternative certification program"

Temporary certificate (requires some additional college coursework and/or student teaching before regular certification can be obtained)

Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching)

Regular or full certification by an accrediting or certifying body other than the state

I do not have any of the above certifications in this state

10. How would you best describe your initial certification type? (traditionally certified- bachelor's degree in education, traditional track OR alternative/emergency certified or other- sought or currently seeking non-traditional method for initial certification)
11. Do you feel supported in your current teaching position? If so, how?
12. Which of the following describes your immediate professional plans? (continue teaching at my current school, continue teaching in this district but leave this school, continue teaching in this state but leave this district, continue working in education but pursue an administrative position, continue working in education but pursue a non-administrative position, leave education entirely)

Appendix B



Oklahoma State University Institutional Review Board

Date: 11/26/2018
Application Number: ED-18-163
Proposal Title: Examining Teacher Efficacy and Sense of Responsibility in Relation to Teacher Burnout in Alternatively Certified Teachers

Principal Investigator: Emily Finney
Co-Investigator(s):
Faculty Adviser: Mike Yough
Project Coordinator:
Research Assistant(s):

Processed as: Exempt

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

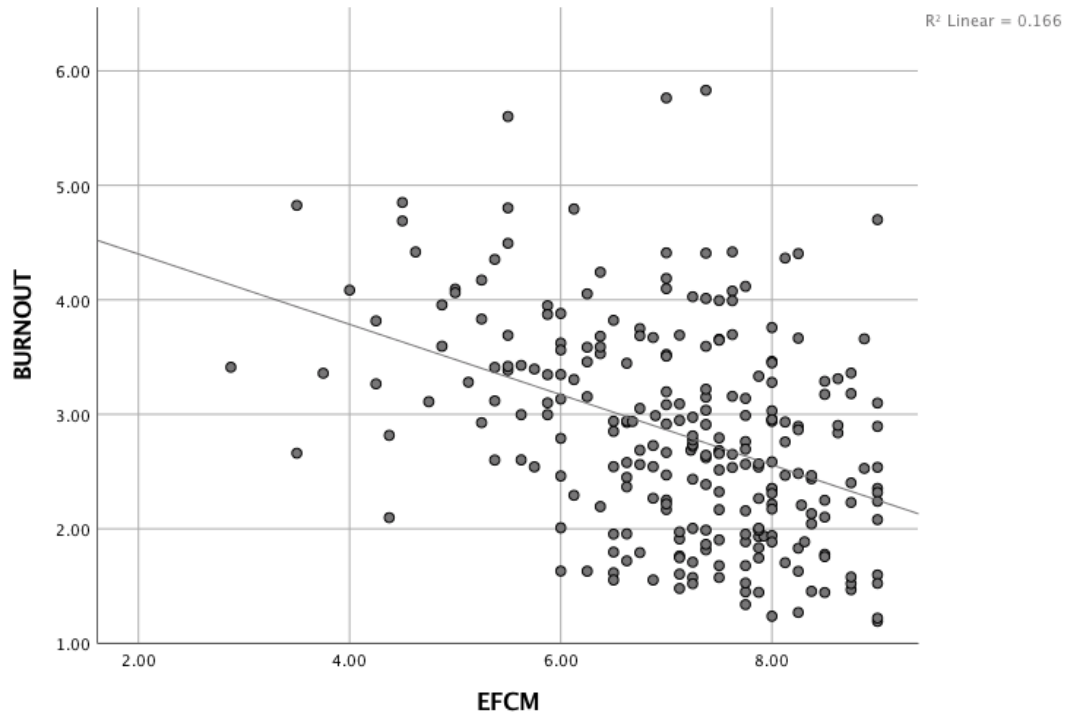
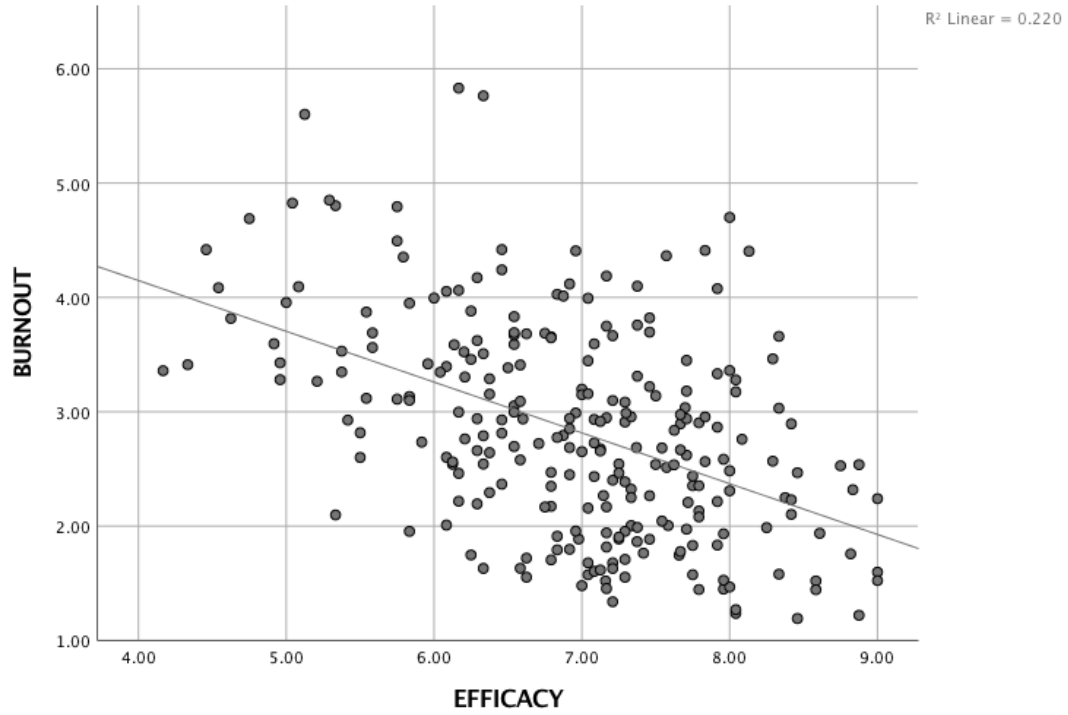
1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

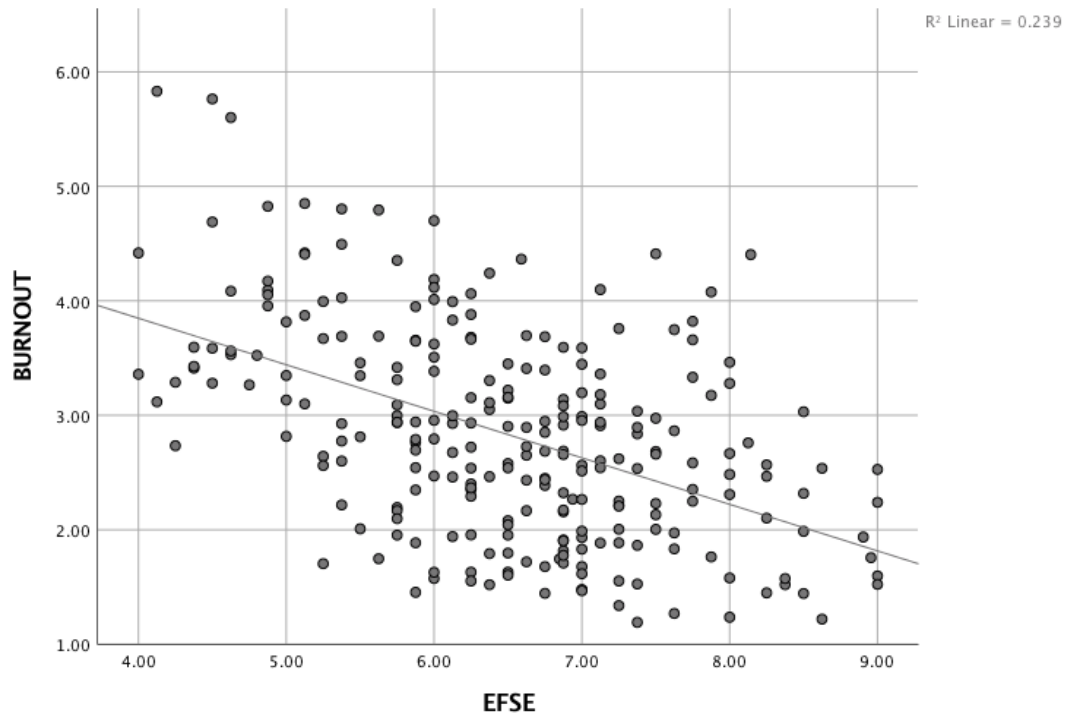
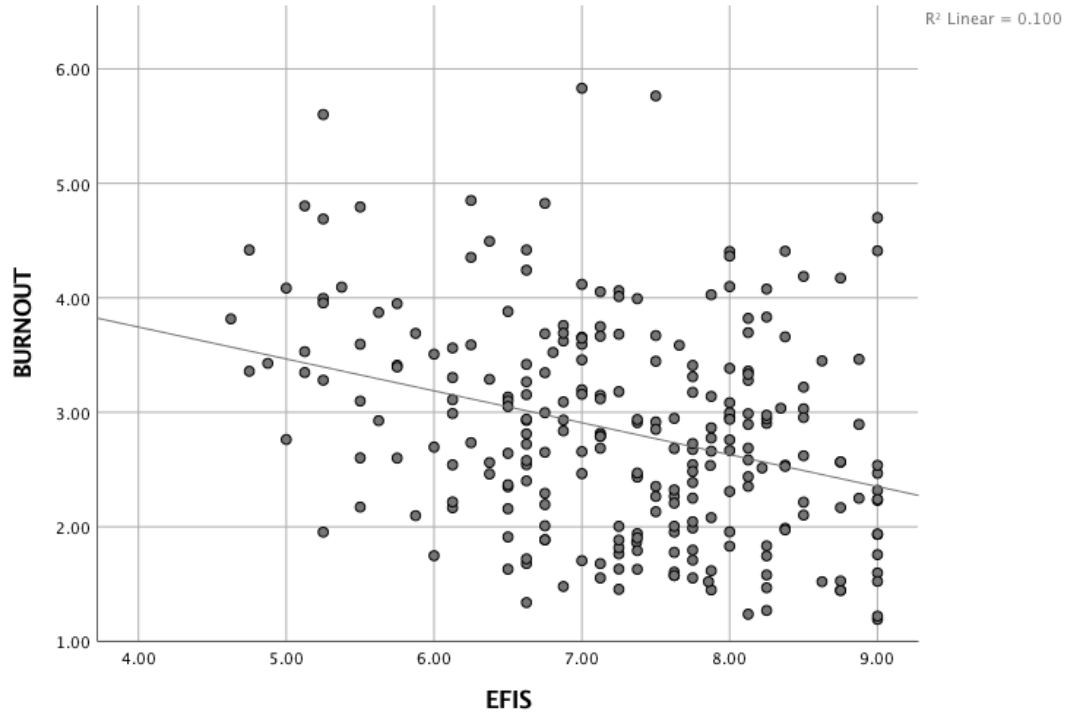
Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 223 Scott Hall (phone: 405-744-3377, irb@okstate.edu).

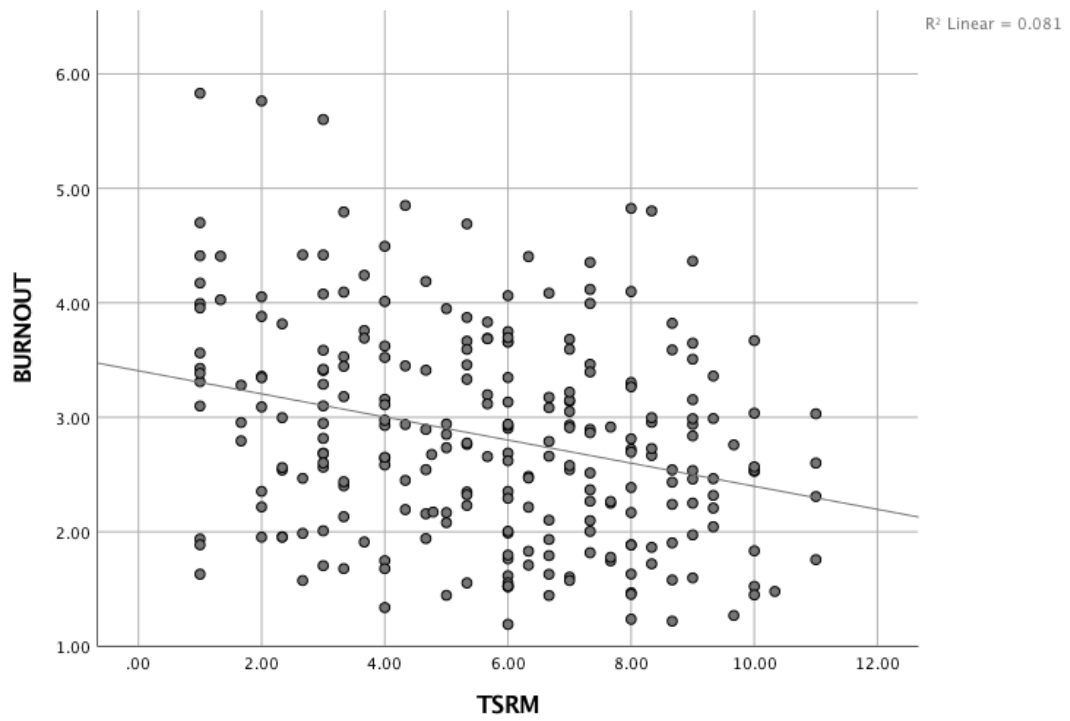
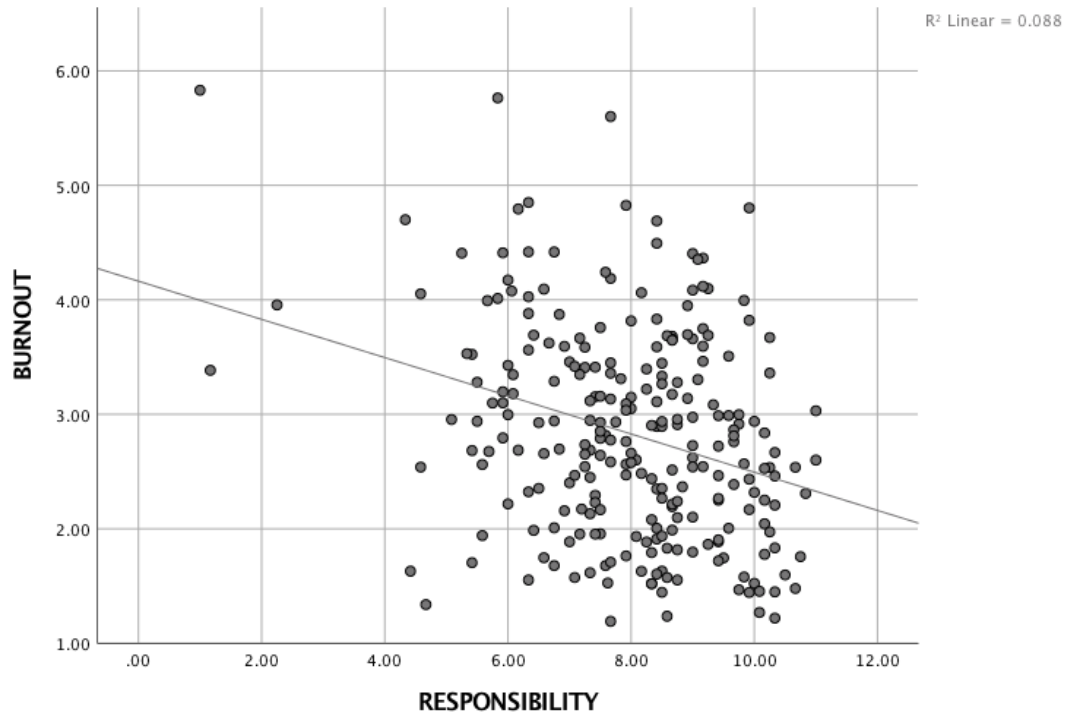
Sincerely,
Oklahoma State University IRB

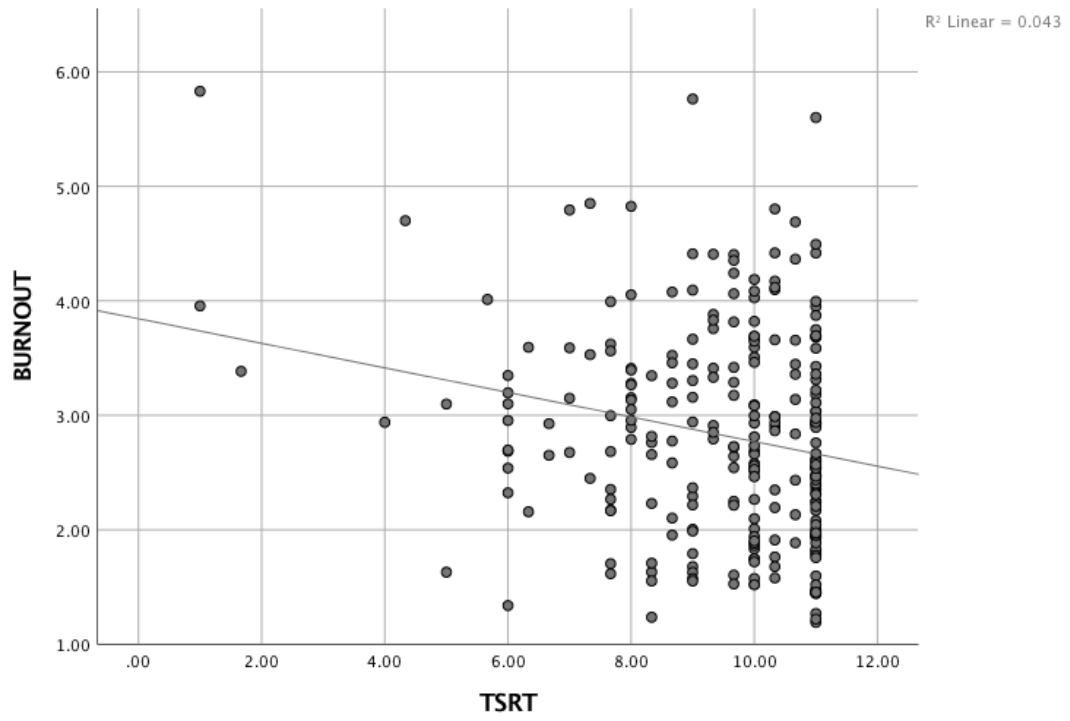
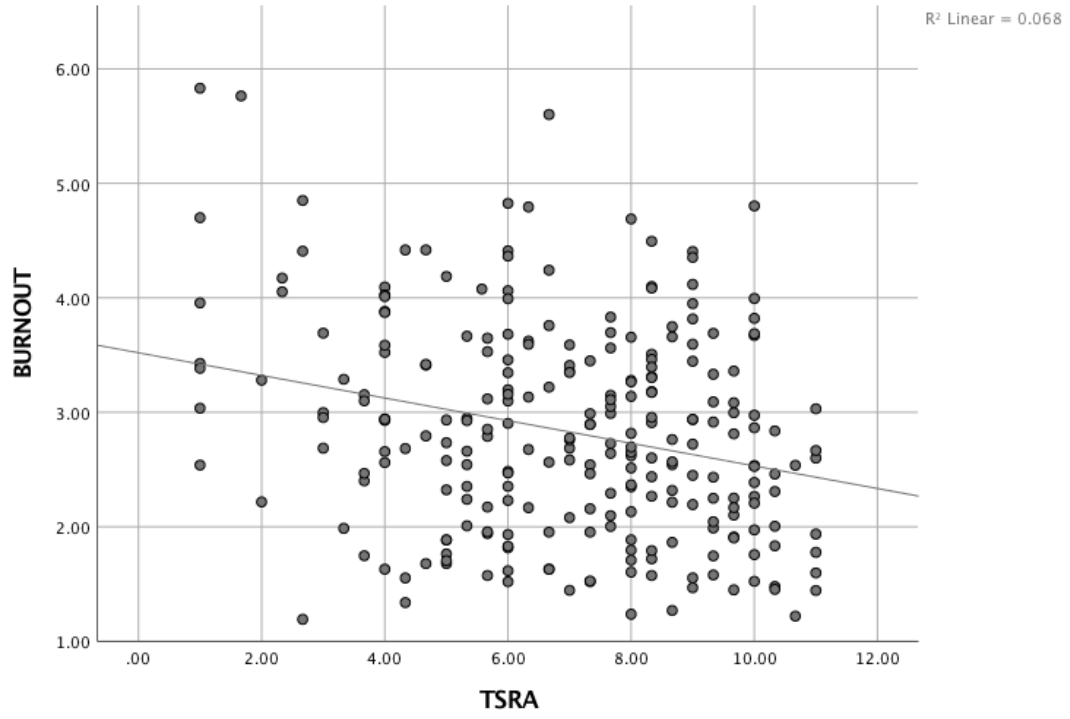
Appendix C

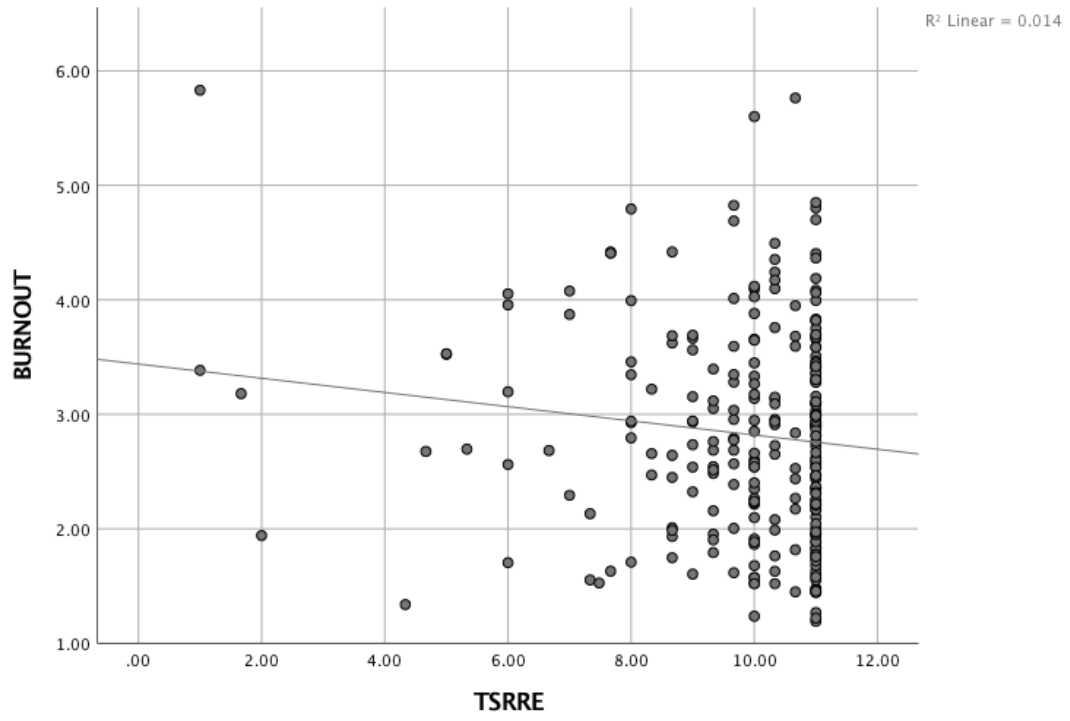
Scatter Plots of Continuous Dependent and Independent Variables





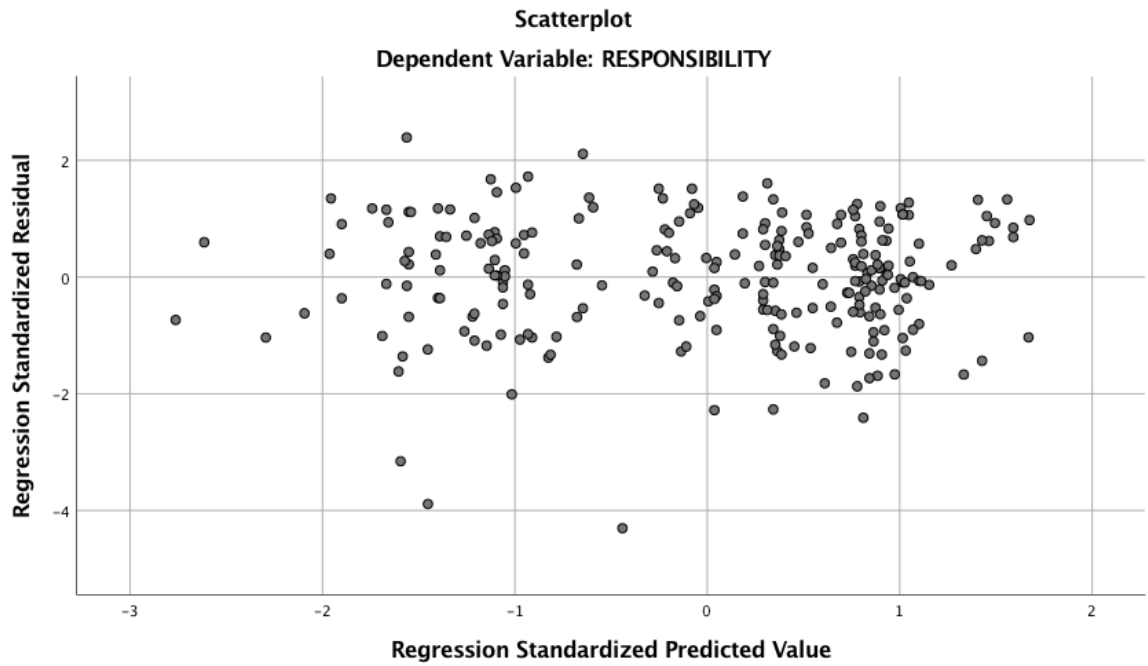
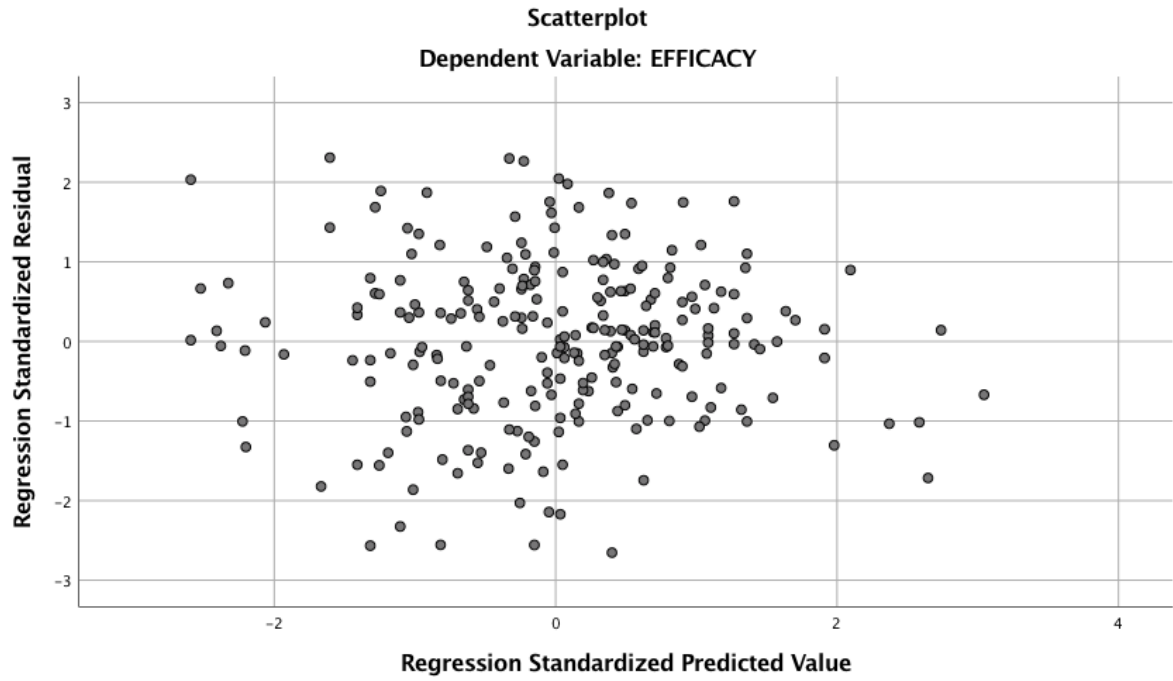


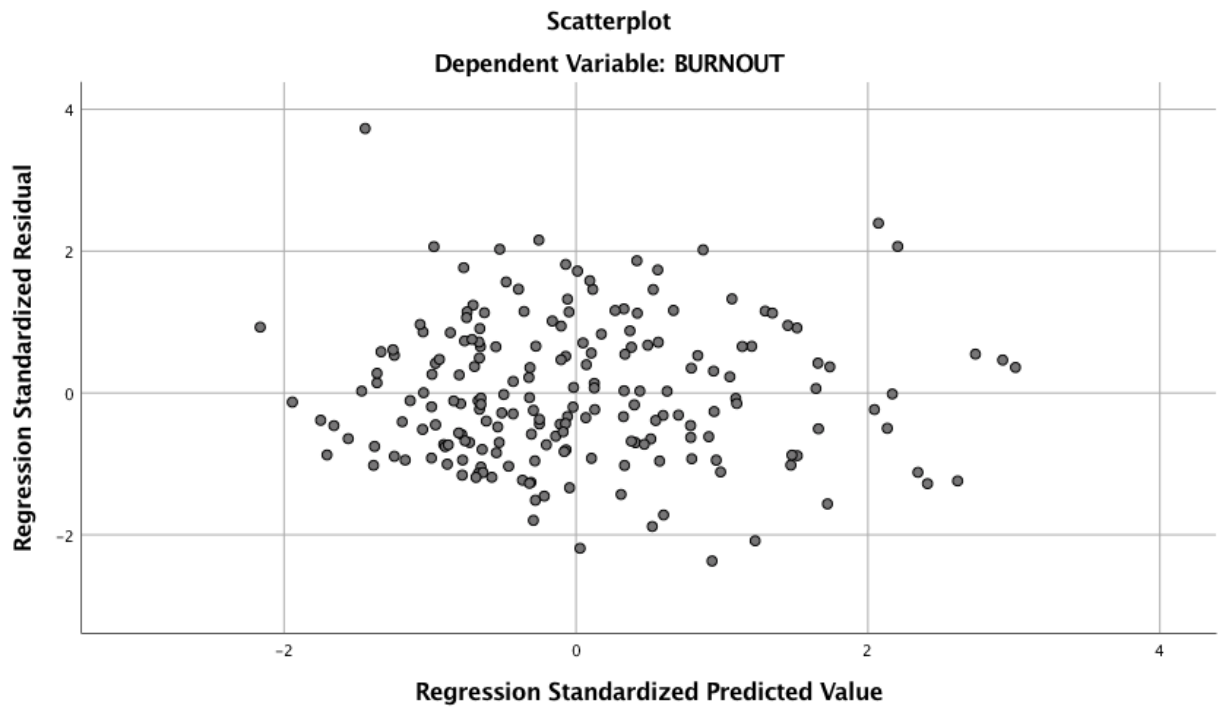
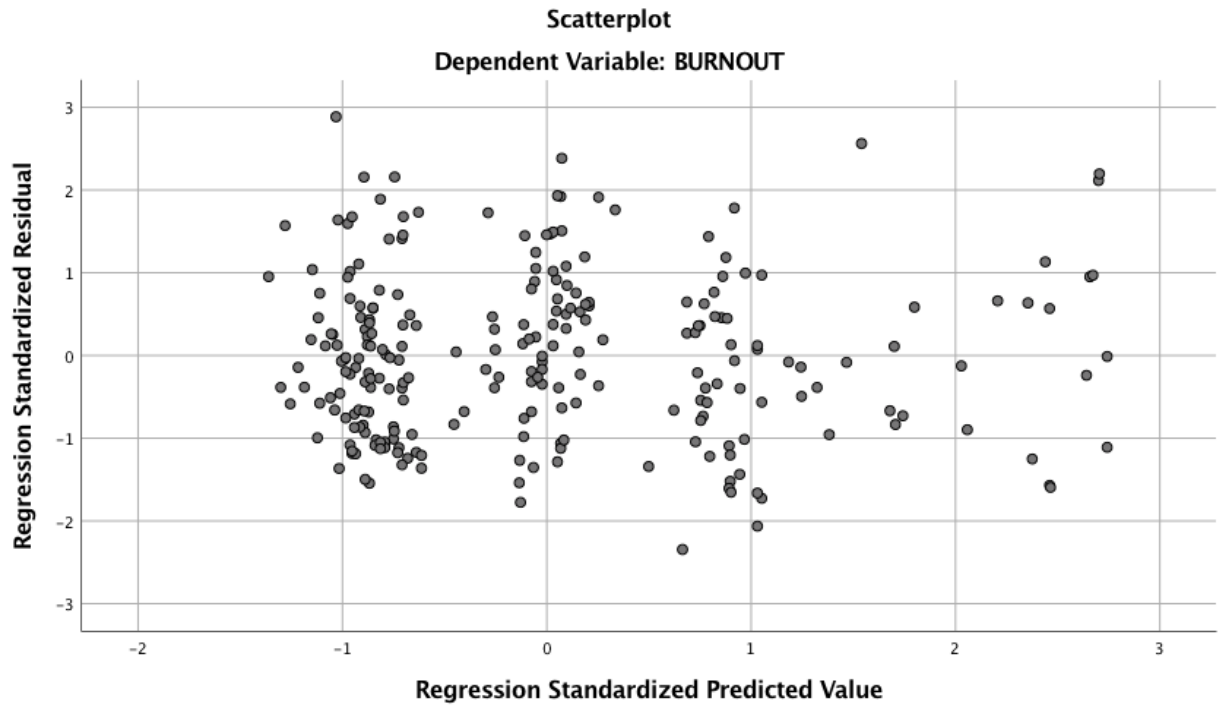


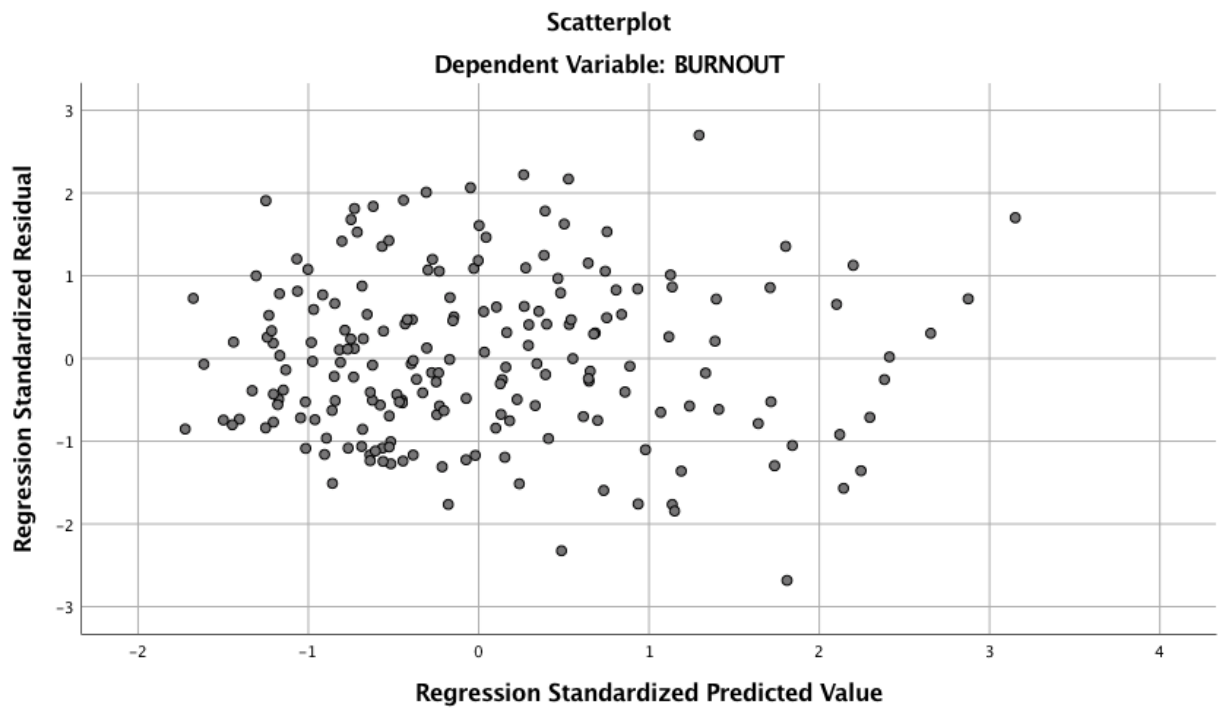
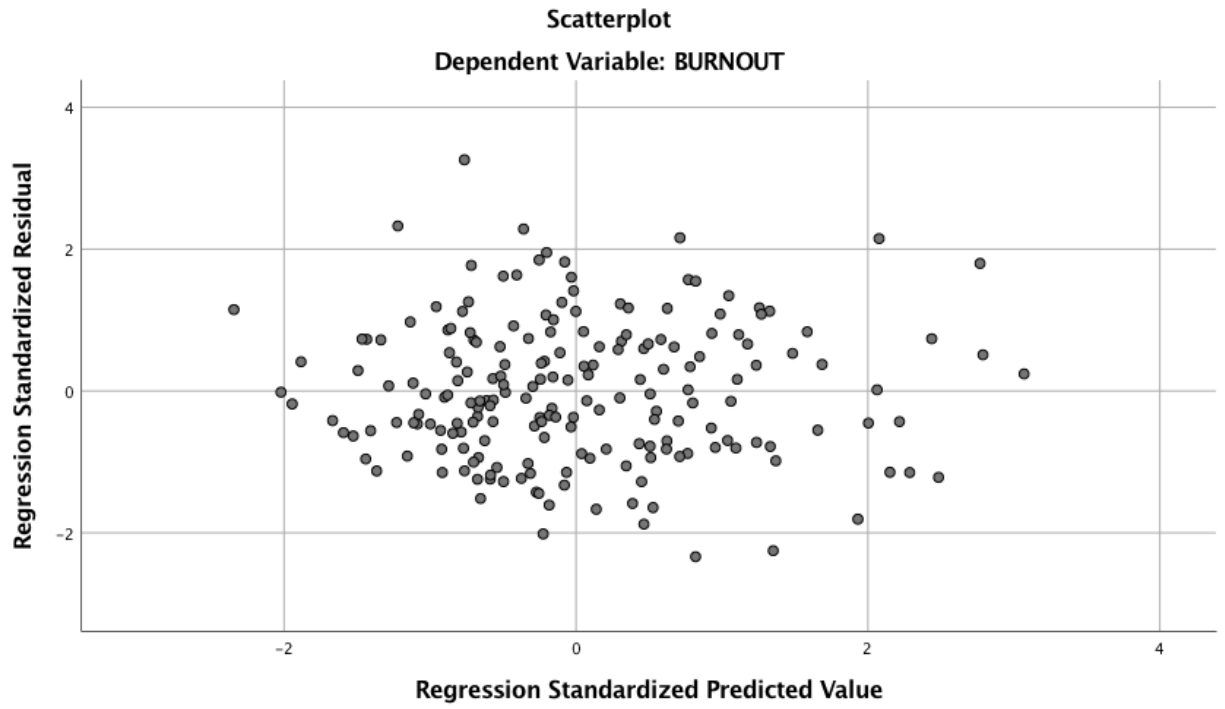


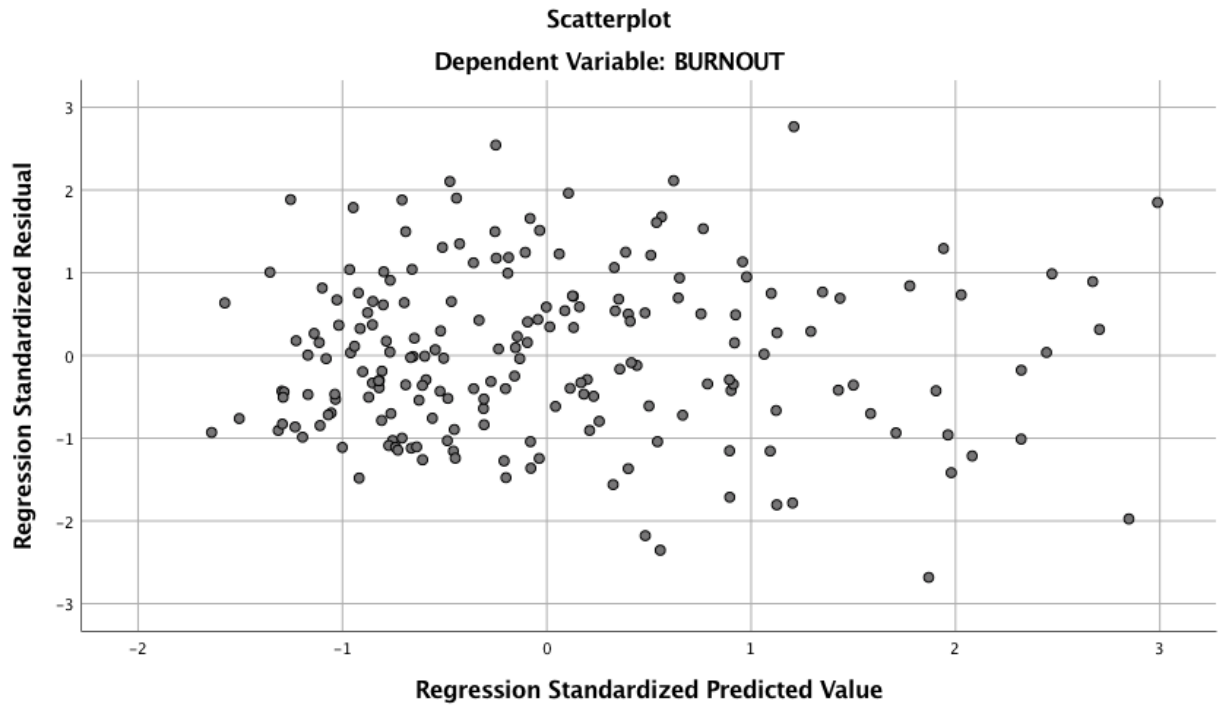
Appendix D

Scatterplots of Standardized Predicted Values and Standardized Residuals Obtained







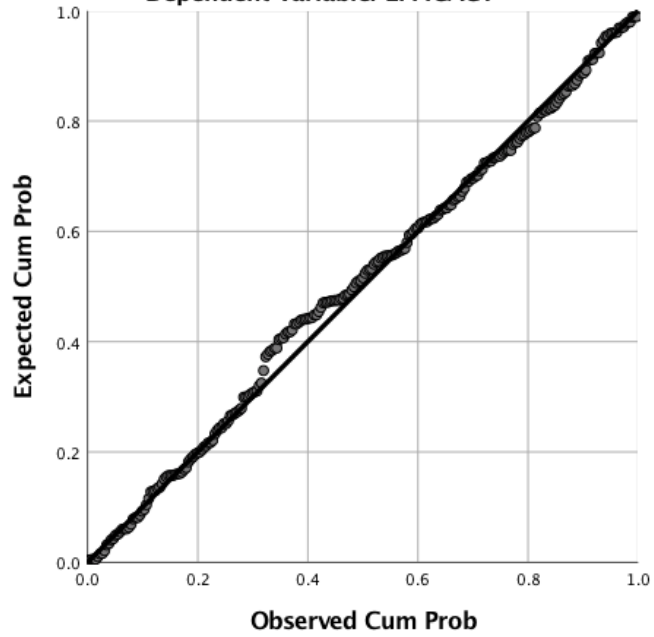


Appendix E

Distribution of the Values of the Residuals

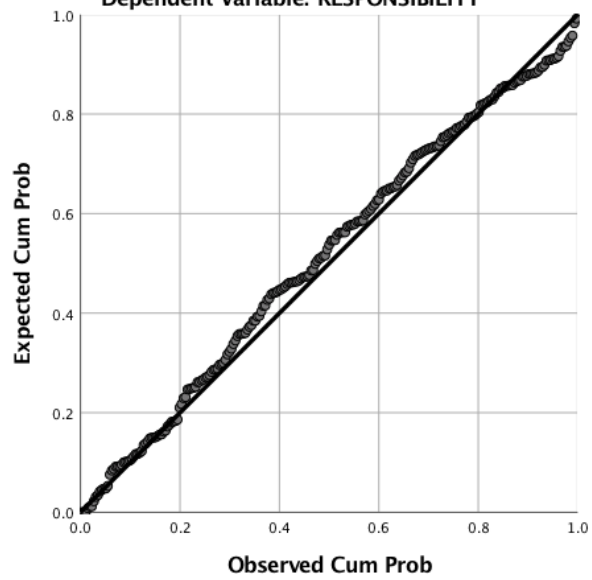
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: EFFICACY

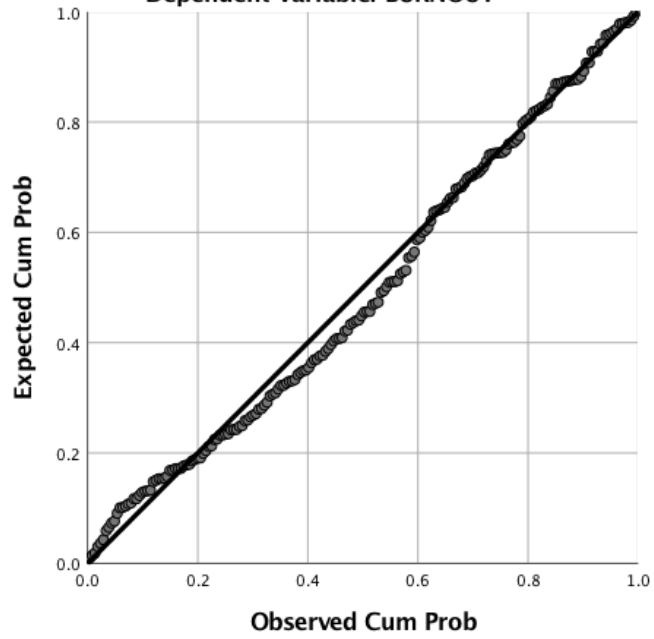


Normal P-P Plot of Regression Standardized Residual

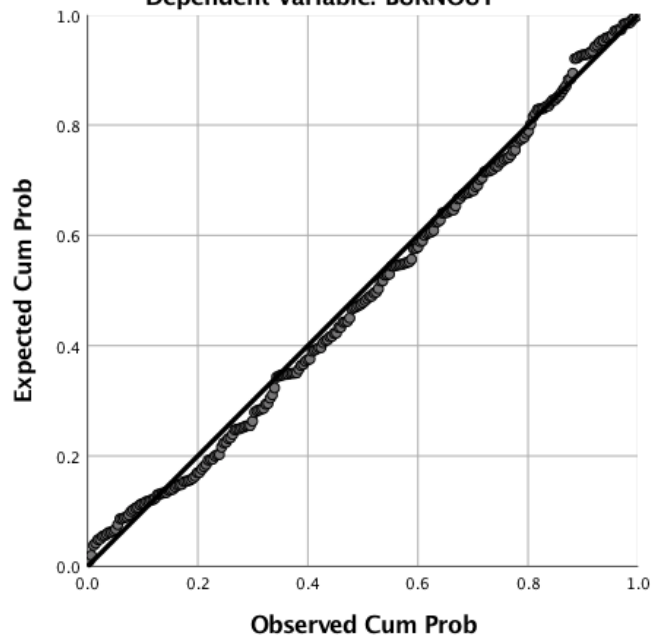
Dependent Variable: RESPONSIBILITY



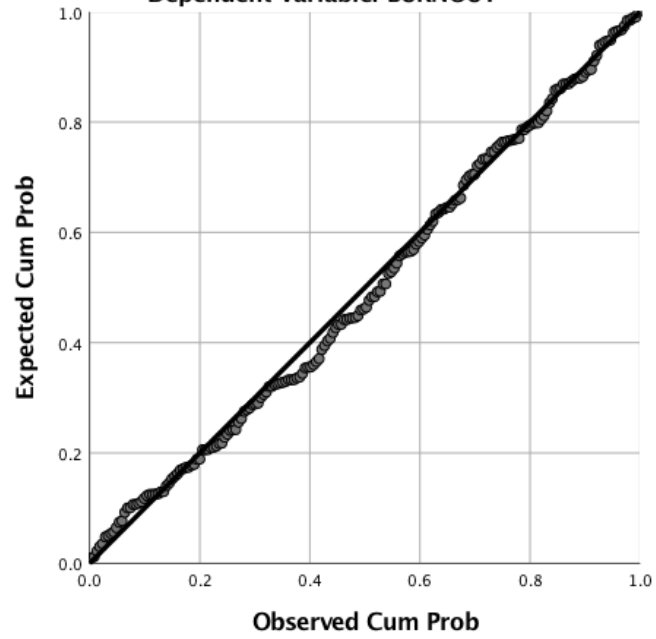
Normal P-P Plot of Regression Standardized Residual
Dependent Variable: BURNOUT



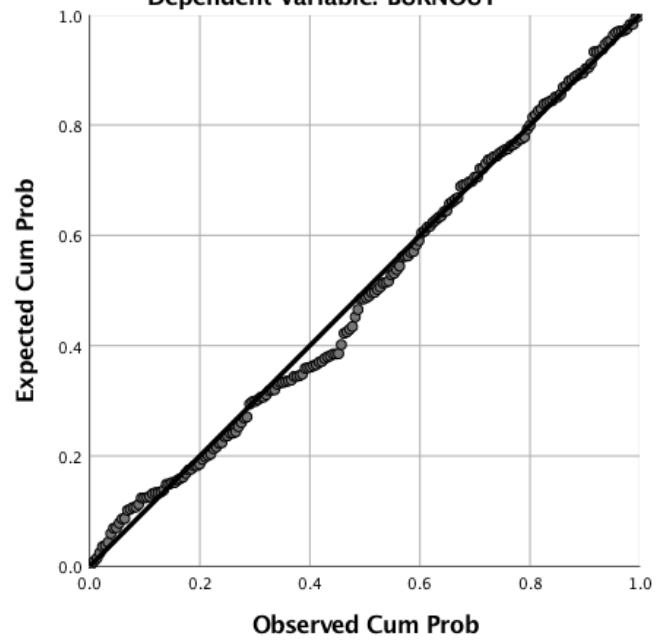
Normal P-P Plot of Regression Standardized Residual
Dependent Variable: BURNOUT



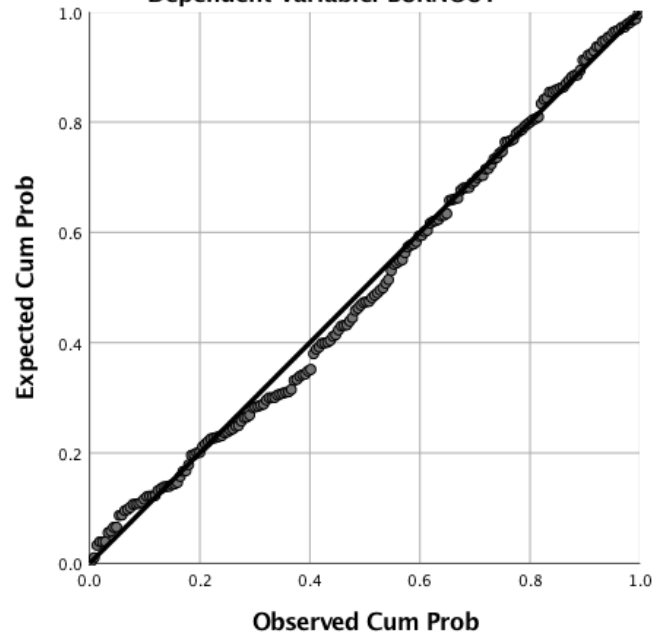
Normal P-P Plot of Regression Standardized Residual
Dependent Variable: BURNOUT



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: BURNOUT



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: BURNOUT



VITA

Emily Ann Finney

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Doctor of Philosophy

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Teacher-Muskogee Public Schools	August 2013-May 2015

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