A SCHOOLS AND STAFFING SURVEY ANALYSIS OF TEACHER JOB ATTITUDES AND WORKING CONDITIONS IN NATIVE AMERICAN COMMUNITIES

by

Donald L Stryker

A dissertation submitted to the faculty of
The University of Utah
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Educational Leadership and Policy

The University of Utah

August 2016

The University of Utah Graduate School

STATEMENT OF DISSERTATION APPROVAL

The dissertation of **Donald L Stryker**

has been approved by the following supervisory committee members:

Yongmei Ni	, Chair	**4/29/2016** Date Approved
Amy Bergerson	, Member	**4/29/2016** Date Approved
Laurence Parker	, Member	**4/29/2016** Date Approved
Lauren Clark	, Member	Date Approved
Teresa McCarty	, Member	Date Approved

and by **Gerardo Lopez**, Chair/Dean of

the Department/College/School of **Educational Leadership and Policy**

and by David B. Kieda, Dean of The Graduate School.

ABSTRACT

The United States federal government funds two distinct types of school systems on or near indigenous lands: tribally controlled schools and Bureau of Indian Education (BIE)-operated schools. This study fills a void in the scholarly research on differences in teacher working conditions and job attitudes across all 170 of these two types of schools that are located in 23 states and on 64 Indian nations.

This study utilized cross-sectional survey data from the 2007-2008 administration of the Schools and Staffing Survey (SASS), which was conducted by the National Center for Education Statistics (NCES) and the U. S. Census Bureau. This project was undertaken in order to determine the existence of differences in perceived teacher job attitudes and working conditions across four classifications of schools with high Native American Alaskan Native (NAAN) enrollments. The study analyzed the responses from 1290 teachers who were sampled from 540 schools across the BIE and public sectors. Analytical techniques incorporated included confirmatory factor analysis of measures of organizational commitment, administrative support, teacher autonomy and student engagement, and multiple regression and group means analyses. In addition to the BIE-operated and tribally controlled schools, also incorporated into the analysis are state-funded public schools with high Native American Alaskan Native enrollments.

The results of this study have verified that administrative support is highly associated with each of the teacher job attitudes: organizational commitment, job

satisfaction, and pay satisfaction. Teachers at tribally controlled schools report greater perceived job satisfaction than do their public school counterparts at schools with high Native American Alaskan Native enrollments, and tribally controlled school teachers report much less satisfaction with their pay than do their peers at Bureau of Indian Education schools. There are significant salary disparities between the Bureau of Indian Education-operated and tribally controlled schools on the four salary points examined, and teacher experience levels both at their current school and over their careers are significantly greater for Bureau of Indian Education teachers as compared to teachers at tribally controlled schools.

Study findings possess significant potential to inform the tribal and federal policy-making processes with respect to the furtherance of tribal sovereignty in education and to optimize school resource allocation practices. At the state level, information from the study may be utilized in reforming principal preparation programs via the inclusion of teacher job attitude research.

TABLE OF CONTENTS

ACRONYMS

Acronym	Phrase represented
BIA	Bureau of Indian Affairs
BIE	Bureau of Indian Education
NAAN	Native American Alaskan Native
NCES	National Center for Education Statistics
NNDODE	Navajo Nation Department of Dine Education
SASS	Schools and Staffing Survey
TCS	Tribally controlled school
TFS	Teacher Follow-Up Survey
USDOE	United States Department of Education

ACKNOWLEDGEMENTS

This work would have never been achieved without the constant support of a number of people who have are very, very special to me. First I would like to thank each of my committee members: Dr. Amy Bergerson, Dr. Larry Parker, Dr. Lauren Clark, Dr. Terri McCarty, and, most of all, my chair, Dr. Yongmei Ni. You all made unique and valuable contributions that have greatly improved this work and for that, I will forever be in your debt.

Several of my best friends and most ardent supporters did not live to see the end result of this process, but they were with me in spirit: Bob Shelinsky and Bill Koepke. You live on in our memories. To Matt and Lora – thank you for your constant support.

Lastly and most significantly, I would like to thank my family – Sharon, Charity and Larrett – for being understanding and supportive whether it be in the form of editing, assisting with formatting, or allowing me to continue with this seemingly endless project. Sharon, now I will work to finish the house!

To those of you who are reading this manuscript and are just commencing your journey, know that it is worth the many sacrifices, the struggles with self, and the reflective periods of self-doubt. Good luck to you!

CHAPTER 1

INTRODUCTION TO THE STUDY

After providing an overview of the study in the first section of this chapter, in the second section, I provide the reader with the study's statement of the problem. The third section provides a detailed contextual backdrop that includes descriptions of the school types examined and discusses the lack of relevant research in teacher job attitudes within the NAAN context. The fourth section presents the potential significance of the study whereas in section five, I share a glimpse into my background as a researcher. Lastly, the chapter closes with a history of the evolution of tribally controlled schools.

1.1 Overview of Study

The purpose of the study was to determine if perceptual differences of teacher working conditions and job attitudes existed across four distinct classifications of schools that serve predominantly Native American Alaskan Native (NAAN) children and are situated on or proximal to Indigenous nations within the United States. The exploration of perceptual differences across these variables was pursued in order to provide policy actors at the federal, tribal, and school levels with information that may be utilized to ameliorate the teacher turnover rates at these schools.

The four school categories identified in this study are Bureau of Indian Education-operated schools (BIE), tribally controlled schools (TCS), high Native American Alaskan Native (NAAN) public schools located within the contiguous 48 United States, and high NAAN Alaskan public schools. For public schools to be included in this study, their enrollments were required to be comprised of 20% or higher NAAN students. The terms "public schools" and "Alaskan schools" as referenced throughout the remainder of this document denote these school classifications. All TCS and BIE-operated schools are funded by the BIE and were sampled in the BIE sector of the 2007-2008 Schools and Staffing Survey (SASS).

Some internal BIE data signify that tribally controlled schools (TCS) undergo nearly twice the teacher turnover of BIE-operated schools (*BIE STATS Package 2007-2008*, 2008). Additionally, my experiences working on the Navajo Nation at BIE, TCS, and public schools in the capacities of school administrator and classroom teacher led me to believe that substantial pay disparities existed across these three school groups. Furthermore, a preliminary analysis of the SASS 2007-2008 teacher dataset indicated the presence of a serious pay discrepancy with the average BIE school teacher making 30% more than their tribal school counterpart.

Based upon the approximate teacher separation rates obtained from the *BIE Stats Package 2007-2008* and the pay disparity mentioned above, research questions were selected in order to determine whether differences in teacher perceptions of working conditions (e.g., autonomy, administrative support, and student engagement) and job attitudes (e.g., job satisfaction, pay satisfaction, and organizational commitment) exist between the two distinct types of BIE-funded schools and geographically and

demographically similar public schools. The research questions that guided this study are presented below.

RQ #1: *Do teacher perceptions of organizational working conditions vary significantly between BIE-operated, tribally controlled, Alaskan, and high NAAN public schools?*

RQ #2: *Do teacher perceptions of their organizational commitment, overall job satisfaction, and pay satisfaction vary significantly between BIE-operated, tribally controlled, Alaskan, and high NAAN public schools?*

The present study utilizes restricted-use teacher, school, and district questionnaire data obtained from the 2007-2008 administration of the *Schools and Staffing Survey* (SASS), which is a nationally representative educational survey produced in the United States and is administered by the National Center for Education Statistics (NCES). The SASS was first administered in 1987-88 and the most recent rendition was performed in 2011-2012. The SASS utilizes four separate questionnaires to collect a multitude of data on teachers, principals, schools, and districts across the United States that have been categorized into various sectors: public, private, and, until the 2011-2012 administration, BIE. This study centers on data from the teacher and school surveys in the examination of teacher attitudinal variables (e.g., job satisfaction, pay satisfaction, and organizational commitment) and working conditions (e.g., autonomy, administrative support, and student engagement) at schools comprising the BIE sector of SASS. Also included as comparison groups are schools in the public sector (including Alaskan schools) that have been flagged high Native American Alaskan Native (NAAN) schools. In the case of a

public school, the corresponding district survey is also utilized in conjunction with school- and teacher-level data in order to obtain salary information for each teacher respondent. All SASS questionnaires are available for review on the NCES website: http://nces.ed.gov/surveys/sass/questionnaire.asp

1.2 Statement of the Problem

Excessive teacher turnover negatively impacts student achievement. According to the Navajo Nation Dine Department of Education, students attending BIE-funded schools "…consistently perform below Native American students in public schools on national and state assessments" (NNDODE presentation, Shiprock, NM; January 2015). Furthermore, Faircloth and Tippeconnic (2010) reported that only 60% of students attending BIE schools graduated during the 2003-04 school year as compared to a national average of 70%. I argue that a significant portion of this decreased student achievement is associated with problems precipitated by excessive teacher turnover and turnover's antecedent variables.

Prior research has demonstrated that employee turnover nearing 25% is harmful to an organization's effectiveness (Mobley, 1982, as cited in Ingersoll, 2001). In the case of educational organizations, such turnover levels would likely manifest themselves in decreased student achievement, as illustrated in the preceding paragraph. However, since the NCES does not collect turnover data on BIE-funded schools, this study was required to center on teacher working conditions and attitudinal variables known to be antecedent to turnover (e.g., organizational commitment, overall job satisfaction, working conditions, and pay) that have been consistently shown to be predictive of teacher

turnover behavior (Hanushek & Rivkin, 2007; Ingersoll, 2001; Moore Johnson, 2006; Murnane & Olsen, 1990; Park, 2005).

Although decreased student achievement is of primary concern, teacher turnover deleteriously impacts other strategic organizational facets such as employee morale and increased hiring and training costs for new staff. Some of these costs are discussed in the Significance of the Study section found later in this chapter.

1.3 Contextual Background

This section is devoted to providing the reader with multiple contextual elements both historical and contemporary, a knowledge of which will assist the reader in gaining an overarching understanding of the complexity and multitude of influential variables that are characteristic of the NAAN setting. Presented below are brief discussions on the history of teacher turnover, the expansion of locally controlled schools within Indigenous communities, and the substantial lack of teacher turnover, job attitude, and working conditions research in the NAAN school context. The section ends by illuminating the NCES' exclusion of the BIE school sector from future SASS administrations.

Long before the teacher shortage and teacher turnover phenomena were at the forefront of educational policy research in America's mainstream public schools, some of the Bureau of Indian Affairs (BIA) schools had been experiencing extreme amounts of employee turnover (Meriam, 1928). Similarly, public schools on or near Indian reservations also have witnessed elevated levels of employee turnover (Erickson, Terhune, & Ruff, 2008; Slowman Chee, 2008). Furthermore, teacher turnover at Alaskan schools ranges from 7% to over 50% for rural districts but hovers at about 10% in more

urbanized areas (Hill & Hirshberg, 2013). Even in light of teacher turnover's chronic and pervasive nature within the field of Indian education, there is a dearth of research specifically focused on this issue and the employee working conditions and job attitudes that are antecedent to it. The void in the research pertinent to these areas presents an opportunity ripe for comparative analysis of BIE-funded and state-funded public schools located on or proximal to indigenous lands

Since 1966, there has been a movement among Native American communities emphasizing an expansion of the quantity of locally controlled schools. At present, there are primarily two distinct governance structures for BIE-funded schools: BIE schools, which are operated by the federal government, and tribally controlled schools (TCS), which are operated by local governing boards under their own unique policies. By centering this research endeavor on the distinction of a school's organizational classification, the literature related to tribal sovereignty has been augmented given the fact that, theoretically, tribally controlled schools are one such manifestation of Indian Nation self-determination.

The vast majority of Native American children who reside in the United States attend public schools and are served by public school teachers (DeVoe & Darling-Churchill, 2008). The present study, however, has focused on the teachers who serve the 40,500 children who attend the 170 schools that the Bureau of Indian Education (BIE) funds. Also incorporated into this study are teachers working at state-funded public schools with student enrollments comprised of a minimum of 20% Native American Alaskan Native (NAAN) children. There are many characteristics that make the federally funded system very distinct from its public school counterparts. For example, in addition

to the 170 schools cited above, the BIE funds 14 dormitories (13 of which are tribally controlled) that provide housing for approximately 1,500 Native students who attend public schools (U.S. DOI, 2011). Another organizational distinction is that the BIE still funds day schools (117) and boarding schools, both on- (45) and off-reservation (7). These schools and dormitories are located on 64 Indian Nations diffused across 23 states (BIE website, 2011). The Navajo Nation is the largest Indian reservation and is home to 66 of the 170 BIE-funded schools.

Since the creation in 1966 of Rough Rock Demonstration School, the first tribally managed school, there has been an increasing number of tribally controlled BIE-funded schools. In fact, by the mid-1990s there was nearly an even split between the two types, and presently, 111 of 170 BIE-funded schools are tribally controlled with only 59 directly managed by the federal government (J. Martin, Personal communication, March 15, 2012). In spite of this distinction, the scholarly literature does not provide any comparisons of organizational working conditions or teacher attitudinal variables between these two types of schools.

Cranny, Smith, and Stone (1992, as cited in Thompson, McNamara, & Hoyle, 1997) reported that 5000 studies on job satisfaction had been conducted since Hoppock's work of the 1930s. To give some comparison of the disparity of resources expended on research within mainstream America versus the BIE school context, it must be noted that in comparison to the 5000 studies indicated above, merely a handful of studies on turnover (Letchworth, 1972; Plank, 1993) and just one on teacher satisfaction (Smith, 1977) were located in the review of literature on BIE-funded schools. Most of these studies have either employed qualitative methods or sampled only a subsection of the

BIE schools. A more recent study in a related area is Erickson, Terhune, and Ruff's (2008) work on teacher satisfaction and teacher stress in Montana public schools serving predominantly Native American student populations. Interestingly, the teacher turnover at these Montana schools is also comparatively excessive, occurring at twice the state average.

Not surprisingly, a review of the literature has produced not a single study that has examined teacher organizational commitment within the BIE school context, nor has a single study made comparisons of teacher perceptions of any of the aforementioned variables across the BIE and TCS dichotomy. This study has filled a number of these gaps in the research literature by examining nationally representative data from the SASS 2007-2008 datasets and reporting disparities in teacher working conditions, teacher organizational commitment, teacher pay satisfaction, and teacher job satisfaction. All of these variables have been extensively studied in prior research in both the business and education sectors with study findings consistently demonstrating their linkages to employee quit behavior.

This study's use of antecedent variables in lieu of actual turnover data is necessitated by the fact that the National Center for Education Science (NCES), the federal agency charged with administering the SASS, does not include the BIE sector in the Teacher Follow-Up Survey (TFS). The TFS is administered in the year immediately following each SASS administration wherein samples of individuals who were respondents to the SASS questionnaires from the previous year are classified as either "movers" (switched schools or districts), "stayers" (remained in the same school), or "leavers" (left the profession) and are interviewed a second time. The TFS data thus

enable researchers to conduct analyses on actual turnover behavior and the individual's espoused reasons for that behavior, including factors related to job satisfaction, organizational commitment, and working conditions.

Interestingly, 50 teachers from BIE-funded schools *were* selected for participation in the 1994-95 TFS administration. Even though the BIE-funded school group provided the greatest TFS response rate (99.5%), the BIE-funded schools were discontinued from later TFS administrations (NCES, 2003). By excluding the BIE schools from the TFS, the majority of analytical work that has been conducted on traditional public schools, charter schools, and private schools *cannot be replicated* in the BIE school context. In spite of the constraints imposed by the examination of antecedents of turnover, the information gained during the course of this study is timely and relevant to issues of sovereignty, school improvement initiatives, and other policy issues at BIE-funded schools and reservation schools.

1.4 Significance of the Study

1.4.1 Pay Equalization

The results of this study can be utilized to assist federal and tribal policy actors, local school boards, and building-level managers in the evaluation of their organizations' work environments and resource allocation practices. Furthermore, study findings enable stakeholders to evaluate the impacts their current practices have on their position within local labor markets. Study findings also have the potential to influence the advancement of tribal sovereignty initiatives nationwide as tribal education agencies attempt to acquire more of the schools operated by the BIE. For instance, currently the Navajo Nation's

Dine Department of Education (NNDODE) is attempting to obtain control over the 66 BIE-funded schools situated within the Navajo Nation (NNDODE presentation, Shiprock, NM; January 2015; Navajo Times, 2014).

1.4.2 Human Capital Loss

Human capital here is referring to a school's investment in professional development training, advanced coursework, and mentoring experiences for their teaching staff. Over time as teachers become disenchanted with their working conditions, they often decide to seek alternative employment and, ultimately, may quit their organization. When teachers do sever the employment relationship, the school's investment in the form of advanced training goes down the road with them. This human capital loss constitutes a resource drain on the school making the initial investment.

The potential benefits that the present study has for improving working conditions, and subsequently job satisfaction and teacher organizational commitment, are significant to the particular population being studied. In addition to stemming the resource drain mentioned above, minimizing teacher turnover may assist in improving schools' effectiveness and thereby increasing student achievement. Mobley (1982, as cited in Ingersoll, 2001) posited that organizations requiring "coherence and continuity" in order to be effective will likely be negatively impacted by turnover rates approaching 25%. In light of this assertion, it is alarming to note that for the 2007-2008 school year, 28 of the tribally controlled schools had turnover rates greater than or equal to this 25% turnover threshold. Furthermore, it is important to note that seven BIE-operated schools also suffered turnover of this magnitude (2007-2008 BIE Stats Package) as do some of

the Alaskan public schools (Hill & Hirshberg, 2013). Hence, study findings should prove useful to those individuals charged with human resource management at either type of BIE-funded schools, given that improving teacher working conditions could serve in the retention of certified staff and simultaneously free up additional resources that could then be utilized in school improvement efforts.

1.4.3 Financial Costs

In addition to the human capital loss involved in excessive turnover (Becker, 1977), there are also numerous examples of the direct and indirect financial costs of teacher turnover. According to a U.S. Department of Labor study cited in Barnes, Crowe, and Schaefer (2007), employee restaffing expenditures totaled 30% of the former employee's total salary and benefit package. Barnes et al. (2007) studied five districts of varying geographic regions and levels of urbanicity and found teacher replacement costs ranging from a low of $4,366 in a small rural district to a high of $17,872 in a large urban district. The bottom line is that excessive voluntary turnover costs schools and districts money that could be more effectively spent on sign-on bonuses, improved salary schedules, and other initiatives associated with increased teacher retention.

1.4.4 Tribal Sovereignty and Indian Self-determination

Another area to which this study has the potential to contribute is the highly politicized debate on the continued expansion of tribally controlled schools: Is a complete transition to tribally controlled schools, in fact, desirable? Is it not prudent to have the governmental entity that directly funds the BIE-funded schools involved in some

oversight capacity with respect to the management of these schools? While proponents of tribal sovereignty and Indian self-determination would likely argue that such a shift is the ultimate goal, other constituencies, such as the teachers and staff currently employed at BIE schools that would lose job security and higher wages, might offer contrary viewpoints. The findings of the present study provide decision makers from both of these political camps with valuable empirical evidence for the advancement of their positions.

1.4.5 Advocacy and Inclusion

As previously stated, the NCES also sponsors the Teacher Follow-Up Survey (TFS), which it administers to traditional public schools, charter schools, and private schools. The BIE sector was only included in the 1994-95 TFS administration; NCES practices should be inclusive and not discriminatory against any particular group, especially in light of the response rates for the BIE schools. With the exception of the 2007-2008 administration, the BIE sector has frequently had the highest response rates on the SASS teacher, school, and principal questionnaires (see Table 1.1).

On July 22, 2011, I sent an email to the United States Secretary of Education, Dr. Arne Duncan, explaining the marginalization of the BIE schools and the Native community attributable to the NCES unilaterally deciding to eliminate the BIE school sector from the SASS administrations commencing with the 2011-2012 cycle. Shortly thereafter, I received a letter from the NCES Commissioner, Dr. Jack Buckley, in response to my communication to Secretary Duncan. The commissioner confirmed that the BIE schools were not going to be sampled in the 2011-2012 administration. Commissioner Buckley indicated in his letter that, “We would very much appreciate

copies of your research, as it may help to solidify the importance of this collection" (see Appendix A, letter from Jack Buckley to me dated July 29, 2011). Thus, another goal of this study has been to provide information that can be utilized in justifying the reinstatement of BIE schools in future SASS administrations.

1.5 Researcher Background Statement

This study has arisen from my interests in and ties to the Navajo community. As such, it is incumbent upon me to disclose work experiences and family relationships that have been influential on my course of study and choice of research topic. I first began working on the Navajo Nation as a public school teacher in 1993. Since that time, I have worked as a teacher and as an administrator at both BIE-operated and tribally controlled schools on the Navajo Nation. It is in no small part that these experiences have shaped my perspectives on the two types of schools under study in this project.

My wife, Sharon, is Navajo and was born and raised in the Monument Valley, Utah area. We have a home site lease in Oljato, Utah that provides a wonderful view of the Monument Valley area that has been frequently used as a backdrop in many western films. Sharon and her siblings, my Navajo *in-laws,* also attended boarding schools, and the stories they have shared with me have doubtlessly influenced my perspectives as well.

This experiential background, coupled with the fact that the Navajo Nation is the largest Indian reservation and is home to 66 of the 170 BIE-funded schools, is reflected in the inclusion of a somewhat Navajo-centered perspective at times. However, I argue that the Navajo context may be representative of the other Native American communities across the United States in that it is very rural and suffers high rates of poverty and

unemployment. Specific to the school context, decreased levels of student achievement and high rates of teacher turnover plague the educational systems.

1.6 Evolution of Tribally Controlled Schools

The development of the first community-controlled school began at the Rough Rock Demonstration School in 1966 when the BIA allocated $307,000 (the estimated operating costs for that year) and transferred control of a brand new $3,000,000 school facility to a Navajo school board. That same year, the Office of Economic Opportunity provided Rough Rock an additional $329,000 for innovative programs (Roessel, 1968). This school became extremely popular and was highly influential on the burgeoning movement toward Indian Self-Determination, evidenced by the 15,000 visitors logged during the first 22 months of the project's operations (Roessel, 1968). The second school to make the transition to a community-controlled organization was actually a public school in Ramah, New Mexico. The school was initially private but later obtained federal funding in an amount equivalent to the total cost that would have been incurred by the BIA if the Ramah students were to attend a BIA boarding school (Rosenfelt, 1973). In 1972, the Busby School community on the Northern Cheyenne Reservation in Montana assumed control of its school (Rosenfelt, 1973), and on the Navajo Reservation in the same year, the Rock Point Community School board "contracted" with the BIA as well(Vorih & Rosier, 1978).

1.6.1 School Data Availability

The annual *Statistics Concerning Indian Education* publications for fiscal years 1967 to 1979 were accessible from the ERIC database and were used to compile data on the numbers and types of BIA-funded schools operated annually by the BIA. However, attempts to locate more recent editions of this series were not available for inclusion in this study; hence, it is difficult to give exact figures on the evolution of the numbers of TCS. Figure 1.1 depicts a portion of the data located during the course of this research, and although incomplete, there is a definite increase in the numbers of TCS reflective of major Indian legislation such as the Indian Education Act of 1972 (Public Law 92-318) and the Indian Self-Determination and Education Assistance Act of 1975 (Public Law 93-638).

1.6.2 Trending in the Conversion Process

Figure 1.2 depicts the numbers of each type of school at three points in time. Data are presented for 3 school years: 1979, 1993, and 2011. During the 1979 school year, there were 174 BIA and 33 tribal schools; for the 1993-1994 school year, there were 93 BIA and 91 tribal schools; and for the 2011-2012 school year, there were 58 BIE-operated and 125 tribally controlled schools including dormitories.

The BIE-TCS school ratio fluctuates as BIE schools make the switch to tribally controlled status (e.g., Hunter's Point in Arizona, SY 2011-2012) and also the number of tribally controlled schools at times can decrease through the processes of retrocession and reassumption. In the first case, at any time a tribal entity no longer desires to continue operating a contracted program, it may "retrocede" it or give it back to the Bureau.

Reassumption, on the other hand, is when the Bureau steps in and “reassumes” control of a program. This is an option the Bureau has when one or more of three predetermined conditions exist: 1) a pattern or practice of violation of rights, 2) the health, safety, or welfare of people are endangered, and 3) “Gross negligence or mismanagement in the handling of funds provided under the contract” (BIA, 1976, p. 43). A recent history of retrocession is presented in Table 1.2.

Another factor that may substantially impact the BIE-funded schools composition is the Obama administration’s push toward tribal sovereignty (see Executive Order 13592). Part of this emphasis is the transfer of the governance from the BIE-operated schools to the tribes in which the schools are located. Specifically within the context of the Navajo Nation, the Navajo Nation Department of Dine Education (NNDODE) is attempting to obtain, "…full authority for the operations of the 66 BIE funded facilities on the Navajo Nation" (NNDODE presentation, January 29, 2015; Shiprcock, NM). These 66 schools would eventually comprise a single school district; however, the notion of complete tribal takeover of all BIE-funded schools has met some significant opposition (Navajo Times, December 14, 2014). As an example of the intricacies and complexities involved in the change in a school's status, I have attached two articles from a newspaper widely circulated on the Navajo Nation that provides the reader with a glimpse of the political contexts surrounding changing a school's status (see Appendices B and C).

Table 1.1. Summary of weighted unit response rates for selected SASS questionnaires.

Questionnaire	1993-94	1999-2000	2003-04	2007-08	2011-12
School district survey	93.9	88.6	82.9	87.8	80.6
Public principal survey	99.6	90.0	82.2	79.4	72.7
Public school survey	92.3	88.5	80.8	80.4	72.5
Public Teacher Survey	88.2	92.2	89.2	86.2	79.6
Private principal survey	87.6	84.8	74.9	72.2	64.7
Private School survey	83.2	79.8	75.9	75.9	65.7
Private Teacher Survey	80.2	87.0	85.4	85.1	71.6
BIE Principal Survey	98.7	93.3	90.7	79.2	n/a
BIE School Survey	99.3	96.7	89.5	77.1	n/a
BIE Teacher Survey	86.5	97.8	93.8	87.3	n/a

Source: https://nces.ed.gov/statprog/handbook/pdf/sass.pdf, NCES (2014).

Table 1.2. BIE school transitions since 2000.

School Year	School Name	**State**	Underwent
2000-2001	Mariano Lake Community School	New Mexico	Reassumption
2001-2002	Havasupai Elementary School	Arizona	Reassumption
2003-2004	Kayenta Community School	Arizona	Reassumption
2007-2008	Ojibwa Indian School	North Dakota	Reassumption
2007-2008	Trenton School	North Dakota	Went public
2011-2012	Jeehdeez'a Academy Inc.(Low Mountain)	Arizona	Reassumption
2011-2012	Hunter's Point	Arizona	Conversion

Note: Source: J. Martin, personal communication, September 6, 2011.

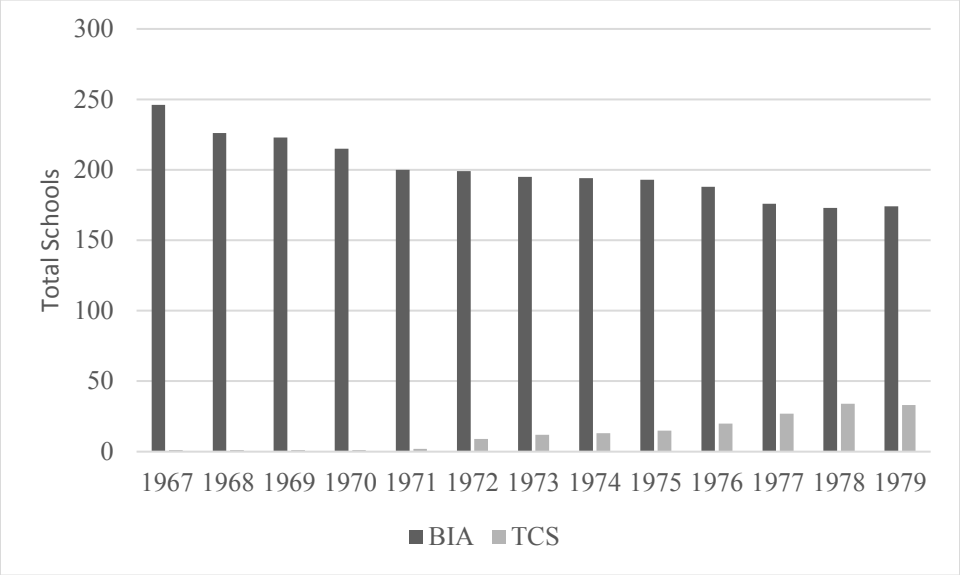

Figure 1.1. Transformation of BIA-funded schools.

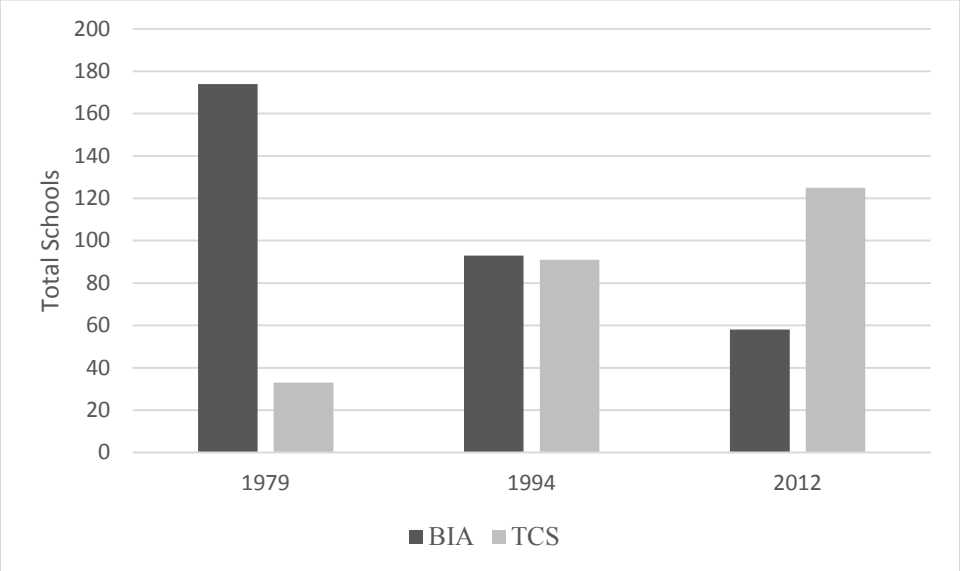

Figure 1.2. Trend in BIA to TCS conversion process.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter commences with an overview of the employee turnover phenomenon and its associated costs and then transitions to brief reviews of the variables of interest: teacher job satisfaction, pay level satisfaction, and organizational commitment. The third section provides the conceptual definitions and justification for the selection of the present study's variables of interest. The fourth segment reviews the proposed organizational working conditions and control variables identified for inclusion in the study. The chapter ends with the proposed conceptual model.

2.1 Employee Turnover

According to Price and Mueller (1987), there are two types of turnover – voluntary and involuntary. The former is initiated on the part of the employee and is commonly known as "quits." This behavior is distinguishable from involuntary turnover, which consists of retirements, reductions in force, removals or dismissals, or death (p. 243). Unless specifically stated otherwise, in this paper, the meaning of the word "turnover" should be interpreted as voluntary employee-initiated separation.

Although teacher attrition has been a chronic problem at federally funded Indian schools for generations, the federal government's National Center for Educational

Statistics has only included the BIE sectors schools one time in the Teacher Follow-Up surveys (1994-95 administration); however, the NCES routinely samples traditional public, charter, and private schools in both SASS and TFS administrations. This inequity in the data collection process necessitated the examination of variables that are antecedent to and predictive of teacher turnover behavior in this research endeavor. This project has enabled the direct comparisons of teacher job satisfaction, pay satisfaction, and organizational commitment between BIE-operated and tribally controlled schools. This evaluation may provide federal and tribal policy actors with the essential information necessary for the optimization of resource allocation practices and the improvement of teacher working conditions and job attitudes. Improved teacher job attitudes and working conditions may also foster increased teacher retention in the long run.

2.1.1 Effects of Turnover

It is commonly recognized that a small amount of employee turnover is healthy for an organization given that, as new agents become members of an organization, they bring with them fresh perspectives or newer technology (Mowday et al., 1982). However, excessive amounts of turnover significantly impact an organization's effectiveness (Ingersoll, 2001).

2.1.1.1 Financial Effects

According to Mobley (1982), some of the negative effects of turnover experienced by the organization include the costs of recruitment, hiring, and training of

new employees. With respect to the outgoing employees, there are costs associated incurred in the forms of severance pay and decreased productivity prior. This figure was 30% according to a U.S. Department of Labor study cited in Barnes, Crowe, and Schaefer (2007). Barnes et al. (2007) studied five districts of varying geographic regions and levels of urbanicity and found teacher replacement costs ranging from a low of $4,366 in a small rural district to a high of $17,872 in a large urban district. In addition to direct financial costs, time is another crucial resource that is impacted by excessive turnover. Administrators who are more heavily involved in recruiting and hiring teachers have less time for assisting with the core technologies of the school such as improving instruction. The bottom line is that excessive voluntary turnover costs schools and districts money that could be more efficiently spent on improving salary schedules and offering enhanced professional development activities to promote teacher retention.

2.1.1.2 Organizational Effects

In addition to the loss of human capital involved when a teacher leaves the organization (Becker, 1977), there are also hidden costs to the organization in the form of morale and work group cohesion. In discussing work group cohesion, a positive emotional attachment co-workers feel for one another, and the disruptive nature of turnover, Etzioni (1961) states “High cohesion requires a certain amount of stability in the membership of the group, since too much turnover prevents the growth of mutual emotional investment” (p. 182). Resources expended in professional development go out the door and are then acquired by competing schools.

2.1.1.3 Student Achievement

One problem created by excessive teacher turnover is the resulting decrease in the number of more experienced teachers at high turnover schools. There is a definite association between teacher experience level and student achievement (Betts, Ruben, & Danenburg, 2000). This pattern manifests in the form of an increasingly limited resource base with fewer mentors and less support in the form of professional development for those veteran teachers who remain (Loeb, Darling-Hammond, & Luczak, 2005).

Since Indian Nations are not recognized as state-level entities under Family Educational Rights and Privacy Act (FERPA) guidelines, tribal acquisition of student assessment data has some restrictions, and analysis of student data can be complex (U.S. Department of Education, 2012). However, when the high teacher turnover rates cited in the limited literature on BIE schools and in public school districts serving predominantly Native student populations (Erickson et al., 2008; Latham, 1989; Letchworth, 1972) are taken in conjunction with the negative impact such attrition rates have on an organization's ability to achieve goal attainment (Mobley, 1982), one anticipated outcome is decreased student achievement. An example of this is evidenced in Faircloth and Tippeconnic's (2010) report that only 60% of students attending BIE schools graduated during the 2003-04 school year as compared to a national average of 70%.

2.2 Selection of Outcome Variables

As previously mentioned, although the BIE schools have been included in previous SASS administrations, the NCES has only once sampled the BIE-funded schools in the TFS administrations and in this same instance, a miniscule quantity of

teachers (50) was sampled. This exclusionary practice has created a significant barrier to research on the causes of turnover at these schools. Hence, this study must incorporate outcome variables known to be highly predictive of turnover: teacher job satisfaction, organizational commitment, and pay satisfaction.

2.2.1 Outcome Variable Relationships

Griffeth, Hom, and Gaertner (2000) found both organizational commitment (ρ = -.23) and job satisfaction (ρ = -.19) to be predictive of employee turnover in their meta-analysis of 67 samples with a total of 27,540 observations. Mathieu and Zajac (1990) found attitudinal commitment strongly correlated with overall job satisfaction (r = .688) in their meta-analysis on organizational commitment as did Glisson and Durrick (r = .64, 1988) and Meyer, Stanley, Herscovitch, and Topolnytsky (ρ = .65, 2002). Although these job attitudes are very highly correlated, they are recognized as distinct constructs with organizational commitment identified as the *bond between the employee and the organization* while job satisfaction is traditionally regarded as the employee's *affective response to their job*. Due to the severe economic factors at play in indigenous communities and the fact that employee satisfaction with their compensation impacts an organization's ability to reach goal attainment (Lawler, 1973; Williams et al., 2006), an additional variable of interest, pay satisfaction, was included in the study.

2.2.2 Dilemma of Definitions

Cranny, Smith, and Stone (1992, as cited in Thompson, McNamara, & Hoyle, 1997) reported that more than 5,000 studies on job satisfaction had been conducted

between the mid-1930s and 1992. In commenting on the plethora of research on job satisfaction, Locke noted "…much of this literature is trivial, repetitive and inconclusive" (1976, p. 1298). It should come as no surprise to learn that, with such a multitude of studies, the definitions researchers have chosen to incorporate or not to incorporate has somewhat nullified comparability of results. The historic definitional ambiguity poses a problem that Locke, again, succinctly illustrates: "job satisfaction is whatever my (arbitrarily chosen) measure of it measures" (1976, p. 1300). Some specific instances of this phenomenon are outlined below.

In their meta-analysis of articles related to job satisfaction presented in the first 26 volumes of *Educational Administration Quarterly*, Thompson et al. (1997) point out that Belasco and Alutto (1972) "operationalized job satisfaction as willingness to remain in the organization despite inducements to leave. A year later, Alutto and Belasco (1973) applied this same operational definition to the construct of organizational commitment" (p. 25). Some previous SASS analyses have demonstrated the same pattern. In one case, Ingersoll et al. (1997) operationalized teacher commitment via the variable, "If you could go back to your college days and start over again, would you become a teacher or not?" Although this variable actually directly gauges ones' teacher *professional commitment* (desire to maintain membership in a profession), another group of researchers, Perie, Baker, and Whitener (1997), utilized the same variable in conjunction with two other indicators of professional commitment in an attempt to measure the teacher *career satisfaction* construct. The same lack of definitional clarity is present within the discussions of pay satisfaction (see Miceli and Lane, 1991). In sum, there are often overlaps in the operationalization of these conceptually distinct attitudinal variables;

therefore, the following sections provide brief topical overviews and then carefully explicate the choices of definitions utilized within this study.

2.3 Outcome Variables

2.3.1 Job Satisfaction

Since Hoppock's pioneering work in 1935, there have been thousands of studies bent on determining what aspects of workers' jobs are pleasing or displeasing to them. Many times, the studies have centered on productivity and efficiency, which are predominantly organizational points of interest. However, there is also a more employee-oriented benefit to studying job satisfaction; people's jobs are a significant component of their lives. People take their work home with them and, subsequently, job satisfaction impacts a person's overall quality of life (Lawler, 1973) as well as the lives of those in their proximity.

2.3.1.1 Early Frameworks

An early theoretical frame focused on the impact of the exchange relationship on job attitudes is well illustrated by the following portion of the Barnard-Simon Theory of Organizational Equilibrium. Each participant will continue his participation in an organization only so long as the inducements offered him are as great or greater (measured in terms of his values and in terms of the alternatives open to him) than the contributions he is asked to make (March & Simon, 1958, p. 84). The inducements referenced above include pay and benefits, while the employee contributions consist of the services performed. It is evident from this quote that employees are continually

evaluating the contribution-inducement exchange from their own perspective. From the employee's perspective, when there is a disequilibrium in the system (e.g., dissatisfaction resulting from needs not being met), the individual perceives that s/he is being shortchanged in the relationship and will act to enhance their position and re-establish equilibrium. This typically results in the form of increased search behavior and greater likelihood of turnover in the event that viable alternative employment is available (March & Simon, 1958).

2.3.1.2 Two-Factor Theory

One of the more famous job satisfaction theories is the satisfaction / dissatisfaction dichotomy proposed by Herzberg, Mausner, and Snyderman (1959) wherein the satisfaction continuum is split into two distinct metrics. Herzberg et al. split the concept of employee satisfaction into two distinct continua: 1) satisfiers or elements that satisfy employees because people inherently desire more of them – such as "…recognition, achievement, responsibility, professional growth, personal growth in competence," and 2) dissatisfiers (hygiene factors) that include "…supervision, interpersonal relations, physical working conditions, salary, company policies and administrative practices, benefits, and job security" (Herzberg et al., 1959, p. 113). According to the two-factor theory, employees seek out satisfiers in their attempt to reach states of higher self-actualization while demonstrating avoidance behaviors when confronted with factors external to the immediate work. Absenteeism is a manner of avoiding negative or painful experiences endemic to the work environment.

2.3.1.3 Values and Satisfaction

Many studies of job satisfaction have also utilized definitions very similar to Edwin Locke's (1976) version of overall job satisfaction, "Job satisfaction may be defined (for the present) as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (1976, p. 1300). Locke (1976) shifted the focus of the satisfaction paradigm from a needs satisfaction orientation to one that focused on an employee's values. Specifically, Locke posited that there are two value judgments inherent in any emotional response one makes. The first is an evaluation of whether there is a discrepancy between what the person wants and what their perceived needs are, and the second is the determination of the degree of importance placed on what is wanted (1976, p. 1304). From the second portion of his discrepancy theory framework, Locke critiqued the technique of treating facets of satisfaction (i.e., pay, administration, coworkers, etc.) additively to create a "sum of facet" or composite measure of overall satisfaction since not all people value all aspects of their jobs equally. This notion is relevant to the present study in light of the severe economic issues present in Native American communities as well as the salary discrepancies discussed previously.

2.3.1.4 Job Satisfaction Defined

The cultural aspects of Native community, including the extended family concept, facilitate the comparison and dissemination of employment-related information: this flow of information has the potential to strongly influence individuals' perceptions and evaluations of their employment situation. Furthermore, the context lends itself to the development of an affective element with respect to the crystallization of teacher job

attitudes. As such, Locke's definition has been chosen for the purposes of this study; satisfaction is the positive or negative emotional state that is evoked in an employee as they evaluate the circumstances of their employment. This evaluation is exactly what teachers do when completing a questionnaire composed of Likert-type items as is the case with the SASS. Finally, the chosen definition aligns nicely with the operationalization of the job satisfaction construct as posed on the teacher SASS questionnaire: "I am generally satisfied with being a teacher at this school" (NCES, 2007).

2.3.1.5 Facet Satisfaction

Some of the facets or elements of job satisfaction that have been studied in previous research include satisfaction with supervision, satisfaction with coworkers, and satisfaction with the work itself. Hackman and Oldham's (1980) Job Diagnostic Survey (JDS) is an example of an instrument designed to measure both overall job satisfaction and various facets. Some of the constructs that the JDS measures include general satisfaction, growth satisfaction, as well as satisfaction with job security, compensation, coworkers, and supervision. Studies utilizing the JDS or other similar instruments have the distinct advantage of assessing the various satisfaction facets with multiple items, a process that yields high reliability. Shann (1998) also found that teachers reported that dividing job satisfaction into its constituent facets facilitated more accurate measurement.

2.3.2 Pay Satisfaction

For the present study, only one facet of job satisfaction, pay satisfaction, has been considered. This is due to the low degree of abstraction for the pay satisfaction construct (Weiss, 2002) and the inclusion of a SASS teacher questionnaire item that affords direct measurement of the pay satisfaction construct. Additionally, there is a long-standing documentation that supports the importance played by the concept of pay in the turnover process (Bobbit et al., 1994; Ingersoll, 2001; Ingersoll & Smith, 2003; Lawler, 1973; Lortie, 1975; Williams et al., 2006).

2.3.2.1 The Importance of Pay Satisfaction

Lawler's (1973) explanation of how the effects of pay dissatisfaction impact an employee's participation is comprehensive, accurate, and one of two main theories on pay satisfaction that have endured the past 30 years (Williams et al., 2006). Lawler's model has been chosen over the other major theory (Adams, 1965) due to the fact that Lawler includes an employee's perceptions of the salaries of "referent others" as a determinant of what compensation an employee believes s/he is entitled to receive (see Figure 2.1).

When individuals compare their work conditions and levels of pay with other similarly situated employees, a person who perceives that they are not being compensated fairly based on their preparation, skill level, demands of the job, and other factors will experience pay dissatisfaction (Lawler, 1973). This, in turn, is reflected in the employee's desire for more compensation, which impacts performance, the number of job-related complaints, and increased search behavior (see also March & Simon, 1958). This point is

particularly integral to the context under study: teachers employed at tribally controlled schools are paid significantly less than the neighboring BIE-operated school teachers who provide the same services to the same clientele.

2.3.2.2 Definition of Pay Satisfaction

Pay satisfaction for the purposes of this study follows the lead of Miceli and Lane (1991) who utilized the term pay level satisfaction to represent "an individual's satisfaction with his or her base pay" (p. 245). This definition matches well with how the pay construct is operationalized with SASS item (TQ 55b), "I am satisfied with my teaching salary."

The frequent proximity of BIE and tribal schools combined with the extended family networks present in Native American communities facilitates an exchange of information regarding the job characteristics of schools that employ family members and friends in a given locale. I posit that this exchange not only influences employee's pay satisfaction but also their job satisfaction.

Another reason for including pay satisfaction in the present study is that there is greater precision in measuring a more concrete construct or facet (Locke, 1976; Weiss, 2002), and, in this case, satisfaction with one's pay is far less abstract than overall job satisfaction. The teacher SASS questionnaire contains a single item that assesses pay satisfaction, which might raise concerns about reliability of the measurement. However, the Williams et al. (2006) meta-analysis on pay satisfaction found that single item measures of pay level satisfaction produced an estimated reliability of 0.41 when Hunter and Schmidt (1990) have indicated that, "The reliability of single responses is rarely

higher than r_{YY} = .25" (p. 243). In communities that exhibit unemployment rates frequently triple the national average, sensitivity to the issue of pay, and resulting dissatisfaction with perceived disparities, will likely be even higher for teachers employed at tribally controlled schools.

2.3.3 Organizational Commitment

A review of the literature on Indian education revealed that *no* studies have been conducted on teacher organizational commitment within the BIE school context. On this basis, I claim that this project has the potential to make significant scholarly contributions to the field of Indian education. Given that there has been no prior research specifically within the BIE school context, supporting information in this section focuses on published works from the business and mainstream education fields.

2.3.3.1 Genesis of Commitment

At the onset of this section, it is prudent to emphasize that there are multiple *forms* of commitment as well as multiple *objects* of commitment (Meyer & Allen, 1997; Reichers, 1985). A detailed discussion of the breadth and quantity of research on these topics is beyond the scope of this project; however, an overview will permit the author to expound on contextual factors later in this work. The objects of an employee's commitment can include a work group, a larger organizational subunit (e.g., department), an organization, a union, or a profession (Meyer & Allen, 1997). Firestone and Pennell (1993) have outlined teacher's commitment to include commitment to students, to teaching, and to the school. According to these authors, commitment studies in education

have only recently begun relative to the private sector.

March and Simon's (1958) early postulates on the employee's identification with the organization's goals comprised some of the initial groundwork on commitment. Shortly thereafter, Becker (1960) claimed that there had been "little formal analysis" conducted on commitment, and his sociological focus on consistency of an individual's behavior across time added the notion of "side bets" to the commitment cauldron. Becker posited that commitment to an organization increased over time due to an accrual of immovable benefits one accumulates through continued membership in an organization. These items are considered "sunk costs" and often take the form of nontransferable pension benefits, seniority, social networks, as well as the costs associated with relocating one's family in the pursuit of a new vocation or position at another organization.

Etzioni (1961) considered the power relations within the boundaries of an institution in his development of three-tiered perspective on involvement. The lowest level of involvement, *alienative involvement*, is expressed by those who have a highly negative orientation toward the organization or institution (i.e., prisoners, etc.). The second level is known as *calculative involvement* and emotional intensities range from low intensity negative to low intensity positive orientations. Participants who are at this level of involvement are focused on the exchange relationships involved between the parties. At the higher end of the continuum, *moral involvement* is expressed as high intensity in a positive direction.

Hrebiniak and Alutto (1972) produced a scale on calculative involvement that has been utilized extensively and, according to Mathieu and Zajac (1990), is second only in

frequency of usage to that of the instrument developed by Mowday, Porter, and Steers' Organizational Commitment Questionnaire (1982). Salancik's (1977) explication of the commitment construct emphasizes its behavioral aspects: "To act is to commit oneself" (p. 4). He posits that there are differing degrees of commitment based upon four characteristics of a behavioral act: deniability, irreversibility, volition, and publicity. Salancik (1977) also credits Kiesler (1971) on two assumptions requisite for the prediction of the outcomes of commitment. The first is that people will try to reconcile differences between their behaviors and their attitudes. So, over time, if someone who initially is not committed to an organization remains, they will adjust their level of commitment accordingly. Second, commitment toward an object necessarily limits behavioral options with respect to that same object. Hence, a person who is committed to their students, coworkers, or organization is less likely to leave them in pursuit of alternative employment.

2.3.3.2 Organizational Commitment Defined

Whereas the previously mentioned commitment researchers focused on the behavioral aspects, Mowday, Porter, and Steers (1982) focused on a psychological metric of the employee – organization linkage. Mowday et al. define attitudinal commitment as consisting of three elements: " (*a*) a strong belief in and acceptance of the organization's goals and values; (*b*) a willingness to exert considerable effort on behalf of the organization; and (*c*) a strong desire to maintain membership in the organization" (p. 27). Mowday's definition of organizational commitment has been chosen for this study due to the fact that 1) there are several SASS teacher questionnaire items that assess the last two

elements, willingness to exert effort and desire to maintain membership; and 2) in their meta-analysis, Meyer et al. (2002) found the Mowday et al. model of affective commitment to be much more strongly correlated with overall job satisfaction (ρ=.65) than other types of commitment such as continuance (financially motivated) or normative (moral) commitment. Also according to Meyer and colleagues (2002), the Mowday et al. instrument is "the most widely used unidimensional measure of organizational commitment" (p. 28).

2.3.3.3 Satisfaction vs. Commitment

Organizational commitment is differentiated from job satisfaction in a number of ways. First, organizational commitment is considered to be an employee – organization attachment whereas job satisfaction refers to the degree to which an employee enjoys his/ her job itself. Another distinction between commitment and satisfaction is their temporal nature: job satisfaction is more volatile and can fluctuate from day to day, while organizational commitment is more stable over time (Mowday et al., 1982). There have been disagreements in the past over the causal nature of these two attitudes.

2.3.3.4 Commitment, Satisfaction, and Causality

Although this study does not explore the existence of a causal relationship between satisfaction and commitment, this issue has been a critical topic in the field and, therefore, is briefly discussed herein. There are two primary camps with respect to the interrelationship between these two attitudes: the advocates of the first group proclaim that there is a causal nature between these two attitudes with satisfaction developing more

quickly and, generally, presenting a more volatile construct that can change from day to day (see Mowday et al., 1982). In these models, satisfaction serves as a prerequisite to developing the more stable attitude of organizational commitment. At the other end of the spectrum, Salancik (1977) has posited that an employee demonstrates commitment *through the action* of merely accepting a job; commitment presents itself first and then job satisfaction may develop.

Although the vast majority of job attitude research conducted is cross-sectional, in the first longitudinal attempt to determine the relationship between organizational commitment and job satisfaction, Bateman and Strasser (1984) found that commitment caused satisfaction with the exception of one facet, pay satisfaction. In more recent models, job satisfaction and organizational commitment are depicted as correlates (Mathieu & Zajac, 1990; Price, 2004).

2.4 Working Conditions as Antecedent Variables

As previously mentioned, there is often a large correlation between overall job satisfaction and organizational commitment when these two distinct constructs have been studied simultaneously. In a quasi-explanatory fashion, it is noted that, similarly, there has been considerable overlap in the determinant variables chosen for each of these attitudes in previous studies.

With minor modifications necessitated due to the elimination of certain SASS questionnaire items, this study has incorporated many of the same organizational-level variables employed in Ingersoll's (2001) model: administrative support, autonomy, pay, and student engagement. Ingersoll's original model utilized a battery of items that

assessed student discipline issues. Since the 1990-1991 SASS administration, over one-half these disciplinary items have been discontinued. This study retained the original elements still found in the "problem" battery in the 2007-2008 Teacher Questionnaire and augmented them with additional indicators of student engagement such as "dropping out," "parental involvement," and other similar items.

In a similar vein, previously, Ingersoll incorporated two sections of items into a construct labeled faculty influence. The 2007-2008 SASS dataset has retained only the items pertinent to classroom autonomy; school-level influence on budgetary, personnel, and other similar issues is no longer assessed. Hence, the present study recognized classroom control as autonomy.

2.4.1 Autonomy

The importance autonomy plays in employee attitudes is widely recognized. Reflective of this, a battery of SASS items from the 2007-2008 Teacher Questionnaire specifically focused on the element of teacher autonomy was incorporated into the study design. In their Job Characteristics Theory, Hackman and Oldham stress the integral nature of autonomy as an aspect of motivation. Autonomy, they posit, is requisite to induce within the employee a *critical psychological state,* responsibility. Salancik illustrates the connection of autonomy and responsibility to commitment when he states that "any characteristic of a person's job situation which reduces his felt *responsibility* will reduce his commitment" (1977, p. 17, emphasis added). Hackman and Oldham define autonomy as "the degree to which the job provides substantial freedom, independence and discretion to the individual in scheduling the work and in the

procedures to be used in carrying it out" (1980, p. 79).

Rosenholtz and Simpson (1990) surveyed 1,213 teachers at 78 schools from across the state of Tennessee. When the teachers were asked for their perceptions of various working conditions, they indicated that principal buffering (similar to the administrative support variable in the present study) and autonomy were the two factors most strongly associated with organizational commitment at $r = .63$ and $r = .61$ respectively.

In a study of Canadian teachers, Holdaway (1978) found that several of the 14 items that had been rated as satisfying to very high percentages of survey respondents were indicators of the autonomy domain. These items included the freedom to select teaching methods, subject matter, and materials within budget constraints. In a study on the 1993-1994 SASS data, Perie et al. (1997) found that teachers with higher levels of autonomy also enjoyed greater job satisfaction. A hierarchical regression approach to SASS data by Ingersoll and Alsalam (1997) revealed a correlation ($r = .15$) between teacher autonomy and professional commitment. As professional commitment has been shown to be highly correlated with organizational commitment ($r = .505$, Wallace, 1993), it is understandable that Mathieu and Zajac's (1990) meta-analytic work produced a minor positive correlation ($r = .083$) between task autonomy and commitment. They also found the related concept of organizational centralization negatively associated ($r = -.061$) with organizational commitment. Contrary to other research findings, Riehl and Sipple (1996) claim that the level of teacher autonomy does not affect goal (organizational) commitment.

2.4.2 Administrative Support

The influential nature of perceived administrative support on employee job satisfaction is well illustrated in the following quote from Argyris: "The leadership style of the supervisors, the administrative controls such as budgets, production bogeys and quality control may be more powerful to cause the employee to leave than the intrinsic job satisfaction can cause him to remain" (1972, p. 114). Although clearly expressed in business nomenclature, the concept transfers to the educational arena. In the BIE school context, Letchworth (1972) made follow-up phone calls to 21 teacher-leavers from the 1969-70 school year. He discovered that the most frequently cited reason for a teacher's attrition was "relationships with supervisional and other administrative personnel" (p. 49).

Tickle, Chang, and Kim (2011) used 2003-2004 SASS data and SEM path analysis to determine whether administrative support (constructed from five items) mediated the effects of three antecedent variables on teacher intent to remain in teaching: teacher experience, student behavior, and teacher salary satisfaction. Of the three variables considered, Tickle et al. (2011) found administrative support to be the most significant predictor of teacher job satisfaction. Job satisfaction was also more predictive of teacher's intent to stay in teaching, which has been shown to be the most highly predictive determinant of actual turnover. In another study that utilized the 1993-1994 SASS data, Perie et al. (1997) also demonstrated the linkage between administrative support and teacher career satisfaction. Analysis for school controls indicated that school level variables accounted for only 4.8% of the model variance, but when an administrative support variable was included, the resulting model explained 14% of the

total variance. In Shann's (1998) study of urban middle schools, teachers ranked their relationships with administrators as third in importance for teacher job satisfaction. Research on rural Canadian teachers revealed that "Attitude of Society and Administration" and policies were the two greatest sources of overall teacher dissatisfaction (Holdaway, 1978).

Referencing the high job satisfaction – organizational commitment correlation previous stated, we would expect that administrative support would also be a determinant of organizational commitment. This is, in fact, the case. Riehl and Sipple (1996) studied the first wave of SASS and TFS data (1987, 1988) and found that teachers who worked for more supportive administrators reported greater organizational commitment. Likewise, Billingsley and Cross (1992) also showed school commitment to be positively correlated with leader support. Later, Littrell, Billingsley, and Cross (1994) also found that both school commitment and teacher job satisfaction were positively correlated with principal support.

2.4.3 Student Engagement

Huberman (1993, as cited in Riehl & Sipple, 1996) offers a most insightful quote on the deleterious effects of inadequate student engagement.

> the single common enemy is more probably the number of apathetic or disruptive cohorts of pupils to be faced each day or each year. In the secondary school, with three such groups in a seven-period day, the year is a shambles, psychically speaking. (p. 877)

In their study of Montana public schools with high Native American student populations, Erickson, Terhune, and Ruff (2008) found the most influential factor on teacher satisfaction to be "student value of learning," which corresponds to the student

engagement variable in the present study. Ingersoll's (2001) analysis of Teacher Follow-Up Survey data indicated that 50% of all leavers from urban high – poverty schools cited a lack of student motivation as a source of dissatisfaction. The percentage of respondents dissatisfied with the level of student engagement was greater than any other source of dissatisfaction for urban teachers including poor salary (46%), student discipline (27%), school safety (26%), and inadequate administrative support (18%). Marks (2000) established that student engagement is negatively associated with student grade level when no controls for other effects (i.e., subject area, student SES, etc.) are incorporated into the analysis.

These dissatisfiers ultimately serve to increase teacher turnover, which has been shown to result in negative student affective responses toward teachers as evidenced in Plank's (1993) work. It was in his first year as a teacher at Many Farms High School on the Navajo Nation in the early 1980s that a student approached him and asked, "Are you coming back next year?" Although Plank initially did not understand the nature of the student's question, he soon learned that it was due to the high levels of turnover at the school. This question prefaces the difficulty that teachers often encounter in bridging student and community perceptions of a short-term nature of the typical "outsider" teacher's tenure in a Native community. These perceptions can exacerbate already, at times, racially strained student- and parent-teacher social relationships.

2.4.4 Salary

Riehl and Sipple (1996) used 1987-1988 SASS data to analyze the relationships between organizational climate and teacher organizational and professional commitment.

Specifically relevant to this study, they found a negative correlation between pay satisfaction and organizational commitment. While Ingersoll and Smith (2003) found that 75% of the teachers who left after 1 year of service cited salary as a major source of dissatisfaction with the teaching profession, Liu and Meyer (2005) found pay dissatisfaction as the "leading cause of teachers' unhappiness" (p. 997). Bobbit et al. (1994) found that in public schools, 64.4% of stayers , 61.1% of movers, and 46.1% leavers indicated that increasing salaries or enhancing benefits would be the most effective step schools could take to get teachers to stay in the field.

Although Amhrein-Beardsley (2007) found that expert teachers indicated a salary premium would be a tremendous incentive to work in hard-to-staff schools, thus somewhat mitigating the teacher shortage, other researchers have pointed to student demographics, including student SES and student body racial compositions, and teacher hometown as causal mechanisms for teacher sorting and attrition (Hanushek & Rivkin, 2007; Lankford, Loeb, & Wycoff, 2002; Loeb, Darling-Hammond, & Luczak, 2005) in New York teachers. These examples clearly indicate the significance salary has to educators, the importance of which has often times been downplayed.

Many scholars reference Lortie's (1975) work when they posit that money, an extrinsic motivator, is not as strong a motivator as the intrinsic rewards a teacher gleans from interactions with students. I argue that this is not necessarily the case in general and specifically within American Indian communities and other labor markets in which there are devastatingly high levels of unemployment. One aspect of Lortie's work that scholars typically do not cite, however, is the societal pressures on teachers that stress that educators "…are not supposed to consider money, prestige and security as inducements"

(1975, p. 30). The prospect that social desirability effects played a significant role in some of the educators' responses during Lortie's research is worthy of consideration. Another point that contradicts the assertion that financial motives are not effective motivators for teachers is Lortie's finding that more money and increased promotional opportunities *would increase teacher satisfaction*. In fact, twice as many respondents chose these factors as potentially improving teacher satisfaction than "better facilities," the next highest ranked item in the same category (Lortie, 1975).

With regard to compensation, an urbanicty effect has been reported in previous research with rural schools typically paying much less than more urban or suburban schools (Hanushek & Rivkin, 2007). This is partially attributed to the desire of some to live in more picturesque environments, decreased local tax bases, and increased transportation costs (Monk, 2007). However, Alaskan rural teachers were found to be quite satisfied with salary and benefits and their relations with administration according to Klienfeld and McDiamid's analysis (1986). These researchers noted, however, that in schools with enrollments at 80% or more Native students, there were significant differences on satisfaction with student academic progress, a parallel indicator to student engagement in the present study.

2.4.5 Student-to-Staff Ratio

With the exception of the funding category known as *Administrative Cost Grant*, the mechanism for determining funding levels at both types of BIE-funded schools is essentially the same (J. Herrin, personal communication, March 23, 2016). Tribally controlled schools receive this special grant as a supplement to cover purchased services

(i.e., legal, procurement, etc.) that various departments and/ or agencies of the federal government typically provide free of charge to Bureau–operated schools.

Given the comparability of the funding schemes for the two types of schools, the BIE – TCS teacher pay discrepancy, and the researcher's prior experience at both BIE-operated and tribally controlled schools, student-to-staff ratio was included as an additional working condition variable. At the onset of this project, it was theorized that tribally controlled schools would, on average, have smaller student-to-staff ratios. This variable is distinct from the more common student-teacher ratio in that all staff were included in the calculations. It was further posited that, as schools increase their staffing without a proportional increase in student enrollment, the additional hires made will force a reduction in overall rate of pay.

2.5 Organizational Level Control Variables

2.5.1 Urbanicity

In contrast to the NCES statistics on the traditional public school system that indicate that 31% of all schools as rural (Ingersoll, 2001), according to 2007-2008 SASS data, nearly all BIE-funded schools are designated as "rural" by the U.S. Census Bureau. One hundred-thirteen of the 131 schools that participated in the 2007-2008 SASS administration were classified as "rural" with 18 listed as rural-fringe, 22 as rural-distant, and 73 as rural-remote (see https://nces.ed.gov/ccd/rural_locales.asp). Since the school is the primary sampling unit, the distribution of teachers naturally follows the same pattern.

Although geographic isolation is not assessed through the SASS, the remote location of the vast majority of the schools is definitely a factor that heavily impacts

teachers who are not community members. Also influential on teacher satisfaction, I posit, is the racial component mentioned above. Plank (1993) also writes of racial segregation practiced by the teachers as well as the community on the Navajo Nation. It is argued that these factors substantially affect a teacher's overall job satisfaction.

2.5.2 Student Demographics

Teacher turnover and teacher quality research routinely associate school enrollment characteristics such as size and demographic variables (i.e., race/ ethnicity, socioeconomic status, etc.) with teacher attrition and migration (Hanushek & Rivkin, 2007). Since this study concentrates on variables predictive of turnover, it logically follows that these variables would also be of interest here. However, with respect to demographic characteristics, both types of BIE-funded schools are quite homogeneous. The incorporation of the public school groups in this project introduced some demographic variation among the four school types owed to the 20% NAAN enrollment inclusion criteria. Given the overall relative homogeneity of the two primary school types examined in this study, it was not anticipated that these characteristics would explain much model variance.

2.5.2.1 Racial Composition

The BIE-funded schools examined herein serve Native American students exclusively. Non-Native children living in the vicinity of these schools typically attend nearby public schools. As previously stated, there is greater variation on the NAAN enrollment variable at the public and Alaskan school subgroups owed to the arbitrary

construction of the 20% Native enrollment cut point.

2.5.2.2 Total Enrollment

As reported on the SASS school data files, within the BIE school system, 17 of the 131 respondent schools enrolled 100 or fewer students, and 38.9% of them have enrollments ranging from 101 to 200 students. An addition 18.3% of the schools enroll from 201 to 300 students. Essentially, over 70% of the BIE-funded school enrollments do not exceed 300 children. Ingersoll (2001) did find that increasing school enrollment was predictive of increased likelihood of teacher retention; however, enrollments of 600 or more students were considered large. Alternatively, Ingersoll and Alsalam (1997) determined that school size was not related to level of commitment.

2.5.2.3 Low Socioeconomic Status

The socioeconomic composition of a student body is also heavily utilized in research on teacher turnover. Lankford, Loeb, and Wycoff (2002) discovered that teachers across the state of New York moved to schools that had much smaller concentrations of students from lower economic backgrounds than the schools at which they were initially employed. Ingersoll (2001) likewise found that turnover was 45% greater at schools classified as high poverty. Although these studies emphasized turnover as a function of student socioeconomic status, as previously stated, both job satisfaction and organizational commitment are correlated with turnover behavior. As one would expect, Ostroff (1992) found that increasing levels of low SES students were weakly associated with decreasing teacher job satisfaction and organizational commitment.

However, Kushman's (1992) study of urban elementary and middle schools in the northwestern United States resulted in a much larger correlation between organizational commitment and SES (r = .452).

When one considers that *high poverty* schools are defined as those at which 50% or more of their students meet the eligibility requirements for the National School Lunch Program (NSLP), it is staggering to learn that only 10.7% of the 131 respondent BIE – funded schools escape this label. In other words, nearly 90% of the federally funded Indian schools are regarded as *high poverty*. In fact, 74% of these schools reported that at least 75% of their students were eligible for free/ reduced lunch status. Fifty-nine of the 131 schools (45%) responded that 100% of their students qualify for participation in the NSLP.

2.5.3 School Level

Of the schools listed in the 2011 BIE School Directory, approximately 60% are classified as elementary schools with a majority being classified as K-8 schools. The second largest group of schools (25%) are combined schools that serve the grade levels typically taught at two or more traditional public school (i.e., elementary and middle, etc.). The majority of these combined schools provide services to grades K-12. A typical control variable, school level has been shown to be associated with both teacher commitment and job satisfaction. The Thompson et al. (1997) meta-analysis of EAQ articles revealed that 7.5% of the explained variance in teacher satisfaction was attributed to the school-level variable with elementary teachers being more satisfied. More recently, in a multilevel analysis on the 2003-2004 SASS data, Shen et al. (2011) also found that

elementary teachers were more satisfied than secondary teachers. However, when Bogler and Somech (2004) studied the organizational commitment and professional commitment of Israeli middle and high school teachers, they reported no differences in educator's levels of organizational or professional commitment. Finally, Kushman's study of 45 schools of varying grade levels yielded no significant differences on commitment between school grade levels. The three-level indicator variable (elementary, secondary and combined) is used as a school level control variable in the present study. The school level designation was also utilized in the SASS school stratification process and is discussed further in Chapter 3.

2.6 Employee Level Variables

2.6.1 Age

Job satisfaction increases with a teacher's age, according to Belasco and Alutto (1972). Supportive of this Mathieu and Zajac's meta-analysis of the antecedents and correlates of organizational commitment determined the existence of a moderate positive association (r = .201) between age and commitment to the organization. Meyer et al. (2002) found that both age and organizational tenure demonstrated a weak positive correlation with multiple forms of commitment including affective commitment. Other researchers have explored the notion of a U-shaped attrition curve (Ingersoll, 2001; Mobley, 1982) and constructed categories (e.g., ages 30 and below, 31 to 50, and over 50) to allow refined analysis and this was replicated in the present study.

2.6.2 Sex

In their meta-analytic work on pay level satisfaction, Williams et al. (2006) examined 24 samples with a total sample size of 17,306. After controlling for pay level, they found that women were slightly more satisfied than their male counterparts. Specific to the educational context, Belasco and Alutto (1972) found that female teachers were more satisfied as were elementary teachers in general. In their analysis of 1993-1994 SASS data, Perie and colleagues (1997) found females to be more satisfied with being a teacher. Ellis and Burnhardt's (1992) findings also indicated that female teachers tend to be more satisfied than males. Although there is typically a correlation between sex and job satisfaction, there are some cases where no relationship has been determined (see Billingsley and Cross, 1992).

Women have been found to be generally more committed to their employing organization according to Mathieu and Zajac's findings (r = -.179). In their multilevel analysis of SASS data, Ingersoll and Alsalam (1997) similarly found a minimal association between sex and commitment (r = .03) with women displaying greater commitment. Riehl and Sipple's (1996) study of the first round of SASS data (1987-1988) determined, again, that females shared greater goal congruence with their employing organization. In earlier research, Angle and Perry (1981) found similar results as did Hrebiniak and Alutto (1972) in their seminal study on teachers and registered nurses. In both cases, female subjects demonstrated a higher degree of commitment to their employing organization. Women have also been found to be slightly more satisfied with their pay according to the meta-analysis performed by Williams et al., 2006.

2.6.3 Race

Billingsley and Cross (1992) found that for both special and general education teachers, non-Whites were less satisfied with their jobs than Whites, but Perie et al. (1997) found Black and Latin@ teachers more satisfied than their Anglo counterparts. In Riehl and Sipple's (1996) investigation, teachers of color were shown to be more committed to school goals, whereas Weiss, in her analysis of 1st year teacher job attitudes utilizing the 1987-1988 SASS data, found that race played no role in differentiating groups across items measuring commitment (1999). However, Anglos were found to be more satisfied with their level of pay than non-Anglos ($\rho = .25$, $N =$ 43,174) according to Williams et al. (2006). With respect to supervisor-subordinate race congruence, using data from the 2003-2004 SASS administration, Grissom and Keiser (2011) found that teachers are more satisfied when they are of the same race as their supervisor. Although race congruence is not explored in this study, dependent upon the school system demographics variations, this factor could have an impact on teacher job satisfaction.

In the present study, race is likely dichotomized to a much greater degree than in traditional teacher attitudinal research. A preliminary analysis of the 2007-2008 BIE teacher file at the national level (all schools) yielded a 2:1 ratio of non-Native to Native teachers. However, when the analysis was restricted to the states of Arizona and New Mexico, which are home to over one-half of all the BIE-funded schools, Native teachers comprised the majority making up 51.2% of all teachers.

Predicated on the notion of Indian nation sovereignty, a logical prediction on the relationship between teacher race/ ethnicity and organizational commitment is that

greater organizational commitment would be displayed by Native teachers at tribally controlled schools. This assertion is based upon the theory that tribally controlled school philosophies, mission statements and curricula resonate significantly more with Native teachers due to greater teacher-school-community goal congruence.

2.6.4 Years of Experience

Perie, Baker, and Whitener (1997) found less experienced teachers to be more satisfied with their careers than those teachers with more experience, as did Tickle et al. (2011). Shen et al. (2011) found the opposite: older teachers are more satisfied with their jobs than teachers with less experience. The results of Shen et al. are more consistent with what one would expect in consideration of the teacher turnover literature that consistently shows that early career teachers exhibit much greater levels of turnover than do veteran educators (Ingersoll, 2000; Ingersoll, 2001). In fact, Ingersoll and Smith (2003) estimate that between 40 and 50% of early career teachers leave the profession within the first 5 years. Riehl and Sipple (1996) found that total full- and part-time teaching experience in both public and private schools was associated with increased goal (organizational) commitment. Pavel's (1995) work is one of the few pieces of literature that takes advantage of data collected on the BIE schools, which is collected through the SASS administrations. Specifically, using a 25% cut point for high- and low-density NAAN enrollment, Pavel examined the 1990-1991 SASS data in order to compare teachers and principals at BIE-funded schools with mainstream public schools. He found that BIE/tribal school teachers differed in their levels of teacher experience as compared to their public school counterparts. The former group had a mean of 10 years experience,

whereas the public school teachers experience level was a function of the proportion of Native American students comprising the student body. Public schools with low numbers of Native students exhibited higher levels of longevity (15 years) as compared to public schools serving student bodies with higher proportions of Native American students (13 years). An important contribution of the present study not included in Pavel's work is the distinction of the tribally controlled school teachers from the BIE-operated school teachers.

2.6.5 Education

Another pattern observed in job attitude research is a typical correlation between an employee's level of education and their reported job satisfaction. Mathieu and Zajac (1990) found a negative correlation (r = -.114) among 22 studies with a total sample comprised of 4,914 cases. Likewise, Glisson and Durrick (1988) found an inverse relationship between education level and organizational commitment, as did Riehl and Sipple (1996). It has been posited that increased educational level opens more avenues to changing career paths and creates within the employee the belief that they are entitled to more pay, faster promotions, and other extrinsic rewards. These beliefs translate into desires which, when not gratified, can produce a perception of system inequity (Adams, 1965) that can lead to heightened levels of search behavior.

2.6.6 Teacher Certification Level

The fact that children who come from lower socioeconomic backgrounds, urban school settings, or linguistically marginalized groups are taught by less-experienced

teachers who are often operating with provisional or emergency credentials has been well documented (Lankford, Loeb, & Wycoff, 2002; Loeb, Darling-Hammond, & Lukzac, 2005). Shen et al. (2011) found that higher levels of certification (e.g., advanced, regular, probationary) were associated with increased levels of teacher satisfaction. This is quite reasonable in that better academic preparation and increased exposure to teaching through teacher preparation programs (including student teaching) would have a culling effect on the selection process for teachers. Specific to BIE schools, Pavel and Curtin (1997) found that, overall, BIE-funded school teachers (both school types) were less likely to be certified in their area of assignment than public schools enrolling high numbers of Native children. Pavel and Curtin also found a higher usage of substitute teachers and greater difficulty in filling vacancies at the federal schools.

2.7 Conceptual Model

The conceptual model for this study is presented in Figure 2.2. The reader will recall that the focus of the first research question explored in this study, which corresponds to the first phase of the analysis, centers upon differences in working conditions across the four school types examined: BIE-operated, tribally controlled, Alaskan, and high NAAN public schools. This initial phase in response to RQ1 consists of two models: model 1 utilizes the three perception-based working conditions (administrative support, student engagement, and autonomy) as outcome variables and regresses them against teacher-level control variables. Model 2 utilizes the same dependent variables and teacher-level controls but also incorporates a set of school-level controls; school types are also incorporated as independent variables.

The second phase of the analysis consists of three models and responds to the second research question that centers upon the differences in teacher job attitudes across school type. The three attitudinal variables (organizational commitment, pay satisfaction, and job satisfaction) serve as outcome variables in each model for this phase of the analysis. In the first model, for each outcome variable, only teacher-level control variables are utilized in the regression equation. In addition to the teacher-level and school-level control variables, the second regression model for teacher job attitudes includes school types as independent variables. The third regression model further expands the analysis by adding the working conditions explored in Phase 1 as independent variables to the Model 2 regression equation.

In addition to the variables depicted in Figure 1.2, the existence of significant mediator variables including teacher cultural and linguistic backgrounds are acknowledged. Unfortunately, these factors are not incorporated within the SASS survey design. Furthermore, the motivational influences for a teacher working within either of the four school types under study is not able to be determined empirically in the present study (Castro, 2014). These factors are referenced again in Chapter 5.

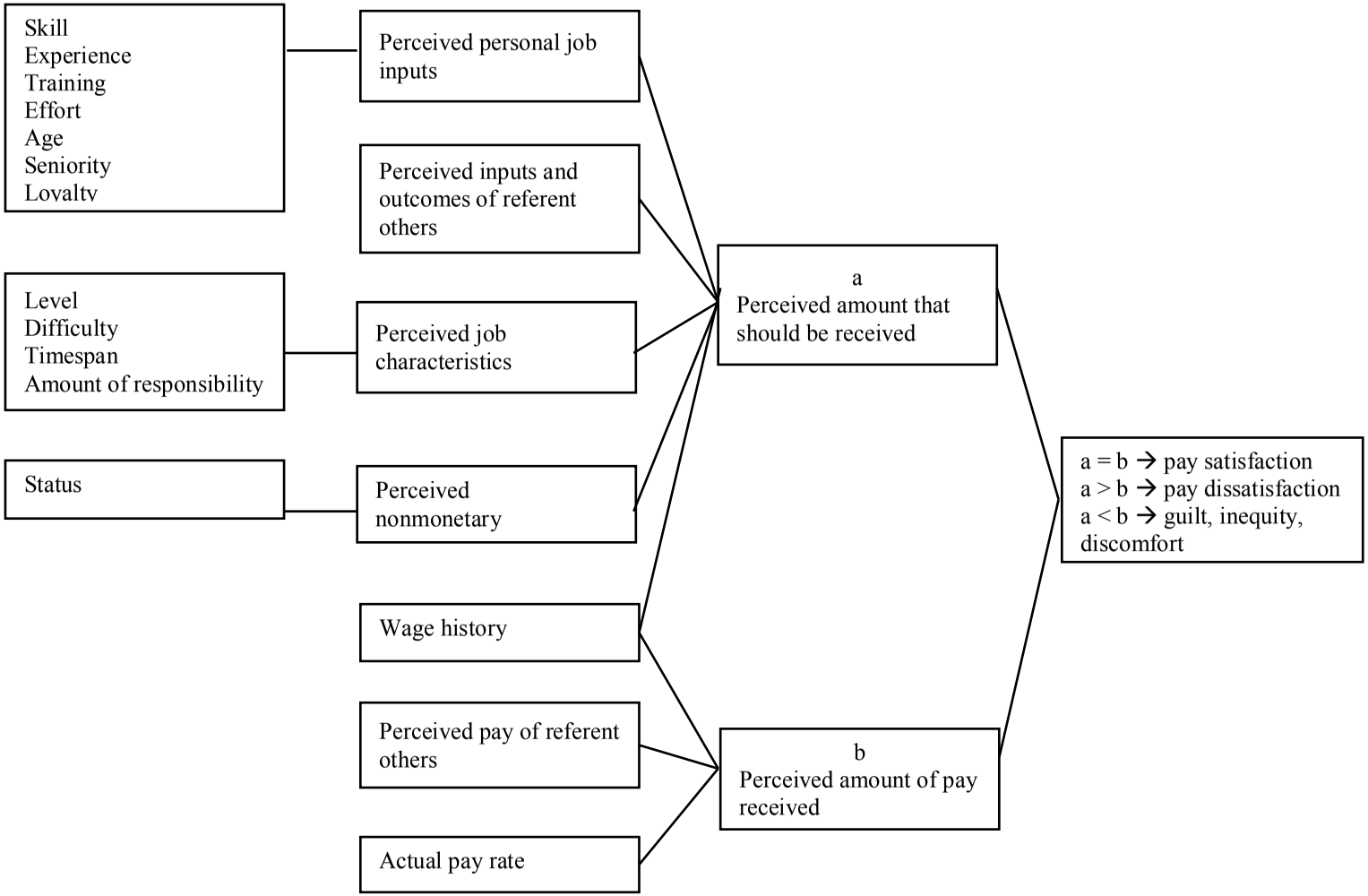

Figure 2.1 Lawler's model of pay satisfaction (1971). Reprinted with permission. Note: The dotted lines represent the linkages between the control variables and the outcome variables for Phase 1 (working conditions) and Phase 2 (job attitudes). The solid lines display the independent variable – dependent variable relationships.

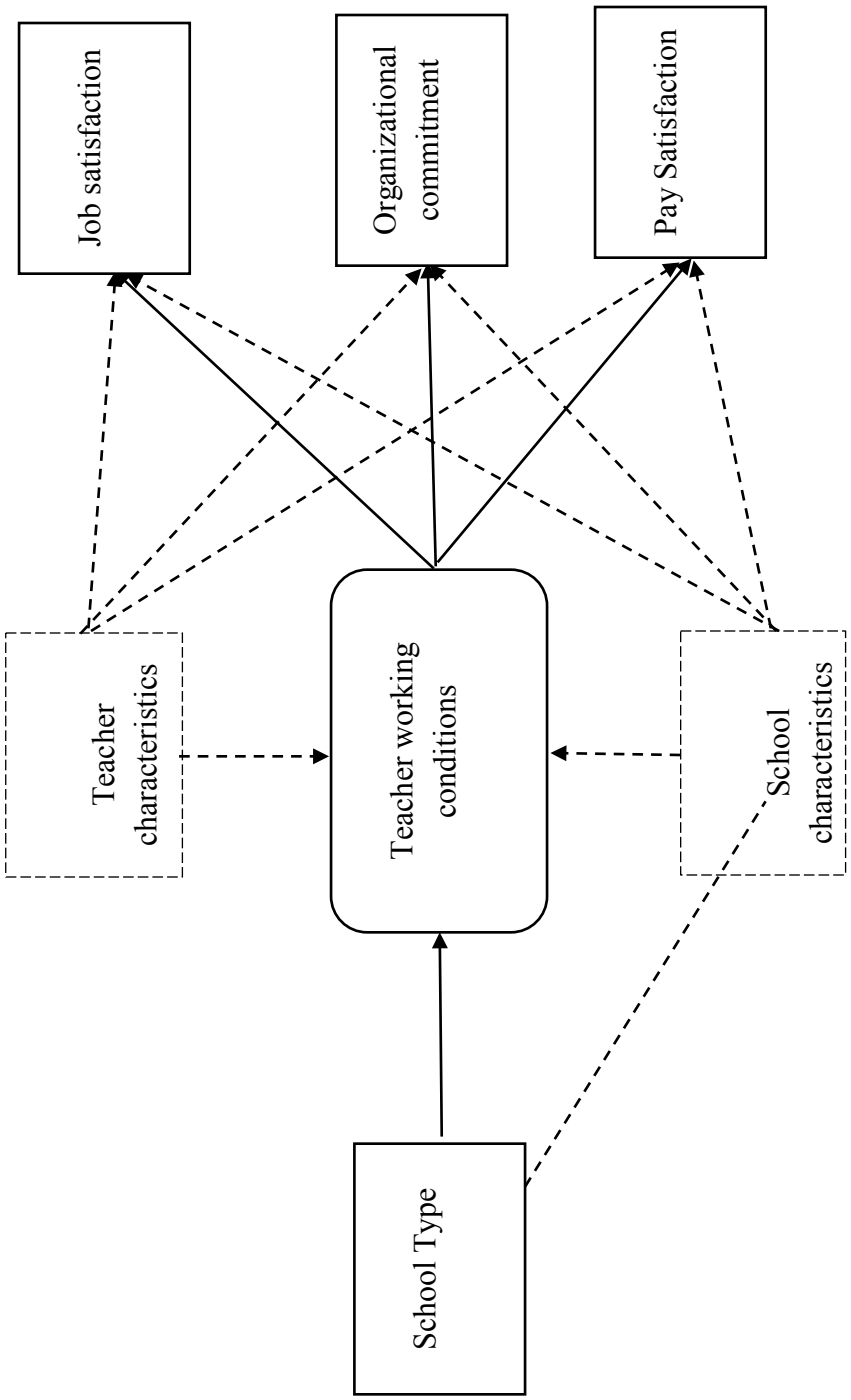

Figure 2.2 Conceptual model of the study

CHAPTER 3

RESEARCH DESIGN

This chapter is divided in five sections; the first section gives an overview of the rationale for the study including the choice of outcome variables. The second section presents the two research questions that guided the study's focus. The third section describes the data utilized in this project as well as the SASS sampling methods and the data recoding and file merging required for proper analysis. The penultimate section recounts the statistical techniques employed in analysis and the final section summarizes the chapter.

3.1 Rationale

This study employed a nonexperimental quantitative design in the analysis of restricted-use data from the BIE and public sectors' teacher and school files compiled from the National Center for Education Statistics' nationally representative 2007-2008 Schools and Staffing Survey administration. The study was conducted in order to determine if differences in working conditions, teacher organizational commitment, teacher job satisfaction, and pay satisfaction exist across the distinct types of schools

which enroll high proportions of NAAN students (20% or higher). These variables have all been linked to employee quit behaviors and have been demonstrated to be highly predictive of actual turnover behavior. The reliance upon variables antecedent to turnover instead of actual TFS data is necessitated due to the fact that the NCES does not administer the TFS battery to BIE-funded schools and this precludes direct comparison of turnover behavior and the teachers' espoused reasons for that behavior. The 2007-2008 data is the most current set available, which includes BIE sector data and, therefore, is the data that will be most accurate in terms of incorporating significant study findings into future policy revisions at the tribal and federal levels.

3.2 Research Questions

The two research questions that guided this study both center on the exploration of differences across school type on various characteristics including teacher perceptions of working conditions such as autonomy, administrative support, and teacher job attitudes: organizational commitment, job satisfaction, and pay satisfaction.

1. *Do teacher perceptions of organizational working conditions vary significantly between BIE-operated, tribally controlled, Alaskan, and high NAAN public schools?*
2. *Do teacher perceptions of their organizational commitment, job satisfaction, and pay satisfaction vary significantly between BIE-operated, tribally controlled, Alaskan, and high NAAN public schools?*

3.3 Overview of the Schools and Staffing Survey

The Schools and Staffing Survey administered by the NCES is comprised of four separate questionnaires. The School Questionnaire, Teacher Questionnaire, Principal Questionnaire, and School District Questionnaire are four surveys that are presented to respondents in the public and private sectors. Teacher, School, and Principal questionnaires were also sent to schools within the BIE sector until the 2011-12 cycle. The data from these surveys are used to analyze school climate, the working conditions and characteristics of teachers and principals, student demographics, district retention policies, salaries, and other areas of interest in our country's K-12 educational system (see http://nces.ed.gov/surveys/sass/overview.asp).

A comprehensive discussion of the historical and technical aspects of the Schools and Staffing Survey is outside the scope of the current project. However, detailed information on the history and development of the SASS, including sampling procedures, instrumentation development, and statistical reports, is available on the NCES website (http://nces.ed.gov). Furthermore, inquisitive readers are recommended to review the SASS questionnaires that are available for download at the NCES website: http://nces.ed.gov/surveys/sass/questionnaire.asp

3.3.1 Sampling

The SASS utilizes a stratified probability-proportionate-to-size sampling design (Keigher, 2009) in order to produce nationally representative datasets collected on public and private schools in the United States. The 2005-2006 Common Core of Data files constituted the frame for traditional public and charter schools. In the first stage of the

sampling process, participating schools constitute the primary sampling unit (PSU) and are selected from their respective sector's sampling frame. Each participating school designates a survey coordinator and provides the NCES with a completed *Teacher Listing Form* that contains the names of all teachers at the school. A random sample of teachers is then drawn from each school with average sample sizes of three to eight per school (NCES, 2011). The principal of each participating school is included in the principal sample. The sampling designs are stratified in order to allow inferences to be made at the national, regional, state, and grade levels (e.g., elementary, secondary, and combined) for public schools and at the national, regional, and affiliate levels for private schools. The BIE school data are representative at the national level only.

Although stratification is typically employed in determining those schools from the public and private sectors participating in the SASS administration, in the case of the BIE schools, the NCES has utilized a census approach and, for the 2007-2008 administration, utilized the 2005-2006 Common Core of Data (CCD) file to sample all BIE schools with certainty. Since the BIE also funds 14 dormitories, these are screened out of the sampling process based upon the NCES parameters that define a "school." According to the NCES definition, a school is an organization that provides classroom instruction, employs one or more teachers, serves students in one or more grades 1-12, and is located in one or more buildings (NCES, 2010). This process screens out the 14 dormitories that the BIE funds and results in a universe of 170 schools. In comparison, approximately 9,800 public schools (including charter schools) and 2,940 private schools were sampled during the 2007-2008 administration (Keigher, 2009).

3.4 Data

The primary SASS datasets of interest for this study are the 2007-2008 SASS school and teacher data files for both BIE and Public school sectors. Ultimately, when these files were appended across school type, the aggregate school and teacher files contained 510 and 1290 cases, respectively. Although small in comparison to the sizes of public and private sector data files collected in SASS administrations, the BIE dataset is the only available option for analyzing working conditions of the BIE-funded schools and is representative at the national level. In the case of the public school sector data, each school's district data file was incorporated into the study so as to provide the needed salary information.

In order to construct comparison groups for the BIE and tribally controlled schools, the public school file was modified by deleting any cases with a NAAN enrollment of less than 20%. The remaining school cases were categorized into two classifications: Alaskan public schools (henceforth referred to as "Alaskan schools") and high NAAN public schools that consist of all others located in the 48 contiguous states.

3.4.1 Data Coding

Since this project's analysis required reclassification of teacher-level and school-level data on the basis of school type, each school contained in the BIE school file was manually coded using the 2007-2008 BIE school directory. During the coding process of the BIE-funded schools, each school case was coded as representing either a BIE-operated (= 0) or a tribally controlled (= 1) school through utilization of information obtained from the 2007-2008 Bureau of Indian Education's school directory. After

coding the BIE sector schools into the BIE-funded or tribally controlled school categories, it was noticed that two schools were listed as being "cooperative" schools by the BIE. This category is neither strictly BIE nor TCS; therefore, these schools and their associated teachers (10) were dropped from subsequent analysis.

The public sector school file did not require any coding, but it did require the generation of the NAAN enrollment variable in order to utilize the 20% Native American Alaskan Native cut point. The public school file was then sorted by this variable and school cases with a NAAN enrollment of less than 20% were eliminated from future analysis. This generated school file was merged with the "district" file in order to incorporate the salary data. This procedure yielded 370 public schools and 140 Alaskan schools with NAAN enrollments of at least 20%. This file was in turn merged with the coded BIE school file and was then utilized in the school-level analyses.

Each of the BIE and public school files was merged with its corresponding teacher file and then all cases in which the respondents were not full-time teachers were dropped from the study (Note: there were a number of administrators, counselors and other staff who completed surveys.) There were also a few cases in which the respondent did not provide an accurate salary (i.e., $4000 for yearly salary) that were also dropped from the study.

3.4.2 Weighting

Due to the probability proportionate to size approach incorporated into the SASS sampling design, balanced repeated replication weighting (BRR) was utilized during the survey analysis in order to incorporate the 88 replicate weights in the teacher and school

files. These weights account for nonresponse bias and also allow accurate estimates to be made that are reflective of the total populations. The weighting procedures account for the school's selection probabilities, reduce nonresponse bias, and incorporate external sources of information to enhance sample estimate precision (NCES, 2011).

3.5 Statistical Methods

This study utilized STATA 12 Data Analysis and Statistical software produced by StataCorp LP to facilitate the analysis. Prior to performing the analytical techniques required to answer the research questions, a data reduction technique, confirmatory factor analysis (CFA), was utilized in order to generate factor scores for a total of four latent constructs. The first of the two CFA models was a 3-factor model in which the autonomy, administrative support and student engagement factors were allowed to be correlated. The second model was a single factor CFA model employed for the organizational commitment construct. The results of the CFA procedure produced factor loadings, coefficients, and error variances for each indicator variable associated with each factor. All parameter estimates were calculated using maximum likelihood estimation. Factor scores were subsequently computed on each of the four latent constructs; these scores were added to the database and utilized in the regression models in order to investigate the two research questions.

CFA was chosen over exploratory factor analysis as an appropriate analytical technique for this study given that experts from numerous fields contribute to the development of each generation of SASS questionnaires, which contain batteries of items focused on specific topics. When CFA is employed, items are selected on an *a priori*

basis and they are assumed to be linked to an underlying but latent construct. In the present study, batteries of items were examined that centered on four specific constructs: autonomy, administrative support, student engagement, and organizational commitment. The indicator variables for each construct in this study are presented in Tables 3.1 to 3.4, and all of these items did indeed demonstrate factor loadings greater than 0.32 and were retained for the analysis (Tabachnick & Fidell, 2001). Some items, such as some of the indicator variables for the administrative support construct, did require reverse coding in order to align increasing respondent scores with increasing construct measures; these are noted within the tables.

In addition to determining the model's factor loadings on the battery of indicator variables, confirmatory factor analysis also generated factor scores that were used in the Ordinary Least Squares (OLS) multiple regression model analyses of the latent perceptual variables autonomy, administrative support, student engagement, and organizational commitment. To adjust for the fact that SASS utilizes schools as the primary sampling unit and groups of teachers are then selected from each school, standard errors for statistics were calculated via Stata's *clustvar* option that clustered standard errors at the school level. This technique corrects for correlated errors due to unobserved cluster effects (Wooldridge, 2009). This error correlation is likely to be present within data obtained from teachers working at the same school (cluster) and operating under the same set of policies. Failure to make corrections in OLS multiple regression analyses has been demonstrated to produce spurious significance tests due a downward standard error bias (Moulton, 1986).

To answer my Research Question (1), how teacher working conditions vary

across different types of schools, a set of regression models were conducted. The outcome variables are the three perception-based working conditions that were generated through factor analysis, including perceived autonomy, administrative support, and student engagement. The independent variables are the type of schools. The control variables include teacher-level (level 1) and school-level (level 2) characteristics. Model 1 incorporated only the teacher-level control variables, which included male, Native teacher, new teacher, young, old, teaching level (elementary vs. secondary), incomplete licensure, masters degree, total years of experience, years at current school, and teaching salary (in the logarithm form). Model 2 added the school's categorization as BIE, TCS, Alaskan, or high NAAN public, in addition to the school-level control variables: log of enrollment, percent NAAN enrollment, percent poverty enrollment, school grade span (elementary, secondary or combined grade level), and the school's urbanicity classification (urban, suburban or rural). For Research Question (2) how job attitude varies across different types of schools, the three outcome variables are job satisfaction, pay satisfaction, and organizational commitment. The same batteries of teacher and school control variables and the types of schools were included sequentially in Models 1 and 2. The third regression model for the job attitude analysis added five independent variables to the analysis, including the three perception-based working conditions (autonomy, student engagement, and administrative support) as well as the two resource-based working conditions, student-to-staff ratio and base pay in logarithmic form.

3.6 Summary

This chapter commenced with an overview of the research design and then presented the reader with the guiding questions that are foundational to this study. The third section provided a brief background on the SASS questionnaires, the SASS sampling techniques, and the recoding necessary to conduct this study. The fourth section described the SASS datasets and recoding techniques employed in this study while the final section of the chapter explicated the incorporation of the various statistical techniques that included confirmatory factor analysis and multiple OLS regression.

Table 3.1. Indicator variables for the autonomy construct.

How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teachings?
Selecting textbooks and other instructional materials
Selecting content, topics, and skills to be taught
Selecting teaching techniques
Evaluating and grading students
Disciplining students
Determining the amount of homework to be assigned

Note: 2007-2008 SASS teacher questionnaire, items 56a-f
Scale: 1=no control, 2=minor control, 3=moderate control, 4=a great deal

Table 3.2. Indicator variables for the administrative support construct.

To what extent do you agree or disagree with each of the following statements?
The school administration's behavior toward the staff is supportive and encouraging
My principal enforces school rules for student conduct and backs me up when I need it
The principal knows what kind of school he or she wants and has communicated that it to the staff
In this school, staff members are recognized for a job well done
I am given the support I need to teach students with special needs

Note: 2007-2008 SASS teacher questionnaire, items 55a,g,j,l,o
Scale: 1=strongly agree, 2=somewhat agree, 3=somewhat disagree, 4=strongly disagree
Note: All items were reverse coded.

Table 3.3. Indicator variables for the student engagement construct.

To what extent is each of the following a problem at this school?
Student tardiness
Student absenteeism
Student class cutting
Students dropping out
Student apathy
Lack of parental involvement
Student come to school unprepared to learn

Note: 2007-2008 SASS teacher questionnaire, items 56a,b,c,e,g,i
Scale: 1=serious problem, 2=moderate problem, 3=minor problem, 4=not a problem

Table 3.4. Indicator variables for the organizational commitment construct.

To what extent do you agree or disagree with each of the following statements?
The stress and disappointments involved in teaching at this school aren't really worth it
I like the way things are run at this school (Reverse coded)
If I could get a higher paying job I'd leave teaching as soon as possible
I think about transferring to another school

Note: 2007-2008 SASS teacher questionnaire, items 57a,c,d,e
Scale: 1=strongly agree, 2=somewhat agree, 3=somewhat disagree, 4=strongly disagree

CHAPTER 4

FINDINGS

As a result of an ongoing shortcoming in data collection on teacher turnover at BIE-funded schools, this study is compelled to center on variables known to be antecedent to and correlated with turnover, which include teacher job attitudes, teacher- and school-level control variables, and organizational working conditions. There are also four school classifications incorporated into the analysis: BIE-operated schools, tribally controlled schools (TCS), Alaskan schools, and public schools serving high proportions of Native American / Alaskan Native students (NAAN) located in the 48 contiguous states. For the Alaskan and public school groups, only schools reporting enrollments composed of 20% or higher NAAN students are included.

This chapter details the findings of the study and is organized into four sections. The first section provides the results of utilizing Stata 12 statistical software to conduct confirmatory factor analysis in order to generate teacher-level scores on three teacher working condition constructs (teacher perceptions of autonomy, administrative support, student engagement), and organizational commitment, which are utilized as variables in subsequent analyses. The first section also provides construct reliability aspects (Cronbach's alpha) and model fit statistics for the factor analysis. The second section of

the chapter shares the descriptive statistics on teacher-level and school-level control variables, teacher-level organizational working conditions, including perceptions of autonomy, administrative support, and student engagement, two school-level organizational working conditions (student-to-staff ratio and salary), and the study's three primary outcome variables, which are three teacher self-reported job attitudes: pay satisfaction, job satisfaction, and organizational commitment. Additionally, I also compare a number of teacher and school characteristics by school classification, an understanding of which is beneficial in the subsequent interpretation of the regression models. The third section of Chapter 4 addresses Research Question 1: *Do teacher perceptions of organizational working conditions vary significantly between BIE-operated, tribally controlled, Alaskan, and public schools?* For the purposes of this study, organizational working conditions are subdivided into two categories – school-level and teacher-level working conditions. The former consists of established salary structures and student-to-staff ratios; the latter consists of administrative support, autonomy, and student engagement. The first research question is addressed by estimating multiple regression models of how the perception-based working conditions constructs, student-to-staff ratios, and group mean scores for various points in the organizations' salary schedules are different among the four school classifications, after controlling for teacher and school characteristics. In the fourth section, the job attitude regression model results are provided and discussed in response to the second research question: *Do teacher perceptions of their organizational commitment, overall job satisfaction, and pay satisfaction vary significantly between BIE-operated, tribally controlled, Alaskan, and public schools?*

4.1 Factor Scores, Factor Loadings, and Scale Reliability

This section describes the confirmatory factor analysis models used to generate variables representing organizational commitment and the perception-based teacher-level working conditions: autonomy, administrative support, and student engagement. Factor scores for these four constructs were computed for each teacher and then added to the database for use in subsequent analysis. It is worthwhile to mention that these three teacher-level working conditions variables serve as dependent variables in the models that generate responses to the first research question. These same three variables serve as independent variables in the models that respond to the second research question.

4.1.1 Confirmatory Factor Analysis: Perception-based Working Conditions

Confirmatory factor analysis (CFA) was used to construct scores for the autonomy, administrative support, and student engagement constructs utilizing *a priori* selected indicator variables anticipated to be strongly associated with the given constructs. The autonomy, administrative support, and student engagement constructs were combined in a three-factor CFA model for the working conditions constructs, which was classified as *over-identified* based upon the number of available degrees of freedom (Byrne, 2010). Since the independence of observations assumption of normality was not consistent with the sampling design (teachers clustered at schools), the variance was determined using a clustered option within Stata (cluster *clustvar*) in lieu of Stata's default standard error estimator, the observed information matrix (OIM). Usage of this feature limited the calculation of model fit statistics to those techniques that are based

upon residuals. For the 3-factor model of working conditions, the standardized root mean squared residual (SRMR) was reported to be 0.059. According to Bryne (2010), a value of 0.05 or less is indicative of a well-fitted model, while Tabachnick and Fidell (2001) purport that a SRMR score of less than 0.08 is desirable. The same criteria (0.08) constitutes a good fit according to the Stata literature (Stata Press, 2011). Giving consideration to these varying SRMR values, the 3-factor working conditions model implemented in this dissertation more than adequately fits the data. The coefficient of determination (CD) for the working conditions model was found to 0.996. This figure also indicates a good model fit as the values of the CD range from 0 to 1, with a value of 1 indicating that the model explains all the variance in the dependent variable. Also, it is important to note that a model's fit does not equate with its appropriateness; these are two separate notions (Browne & Cudeck, 1993). I argue that both of these models more than adequately fit the data and are parsimonious as well.

Tables 4.1 through 4.3 present the factor loadings (Coef.) for each of the indicator variables utilized within their respective constructs. In Table 4.1, we see that the *Selecting teaching strategies* item has the greatest factor loading of 0.74, the square of which is the variance explained by the item. The weakest indicator for the autonomy construct is *disciplining students* (0.42). Likewise, in Table 4.2, which presents data on the administrative support construct, the strongest and weakest indicator variable pair combination was found to be *supportive administration* (0.80) and *ESS support* (0.42). The final working condition construct, student engagement (see Table 4.3), shows student absenteeism as the most influential variable on this construct with a loading of 0.76, while the lowest indicator for student engagement, *students come unprepared*, has a

loading of 0.64.

4.1.2 Confirmatory Factor Analysis:

Organizational Commitment

The items utilized for the organizational commitment construct were initially selected via the same *a priori* method described above. Unfortunately, the algorithm was unable to calculate a fit for the organizational commitment construct because the model was determined to be *just identified* consisting of only three items assigned to a single factor, thus yielding an insufficient number of degrees of freedom (Byrne, 2010). However, proper CFA reporting practices necessitate the reporting of multiple fit indices that can only be obtained from an *over-identified* model (Jackson, Gillaspy, & Purc-Stephenson, 2009). Therefore, it was obligatory to select a fourth item (t0316) in order to enable the determination of model fit statistics. The additional item reads, "If I could get a higher paying job I'd leave teaching as soon as possible." Although it could be argued that this item might be more aligned with a professional commitment than organizational commitment, the item does resonate with the third element of Mowday, Porter, and Steers' (1982) commitment model: "a strong desire to maintain membership in the organization."

The same constraints applied to the generation of fit indices for this new 4-item model. Stata produced an SRMR value of 0.023 for this model of organizational commitment, which I assert does a very good job at fitting the model to the data. Furthermore, the coefficient of determination for the same model is 0.741, which indicates that 74.1% of the variance in the model's outcome variable is explained by the

regressors. Within the organizational commitment factor (see Table 4.4), the strongest and weakest indicator variables were found to be *teaching not worth it* (loading = 0.68) and *like the way the school's run* (0.58).

4.1.3 Scale Reliability

Cronbach's alpha calculations were also conducted on the sets of indicator variables employed in generating the factor scores for the administrative support, autonomy, student engagement, and organizational commitment constructs. The resulting scales appear as notes in Tables 4.1 to 4.4 and report values of student engagement (0.86), administrative support (0.82), autonomy (0.77), and organizational commitment (0.73).

In Table 4.5, the correlation coefficients for each pair of working condition constructs are provided. The reader will note that there are significant correlations for two of the three pairs of factors. The autonomy – administrative support correlation produces a positive value for *r* of 0.23. This indicates that as a teacher's score on the autonomy construct increases, so does their score on the administrative support construct. This relationship is reasonable considering the nature of these two constructs. The second pair of constructs that demonstrate significant correlation is the administrative support – student engagement dyad. In this case, the correlation has a negative value (-.32). The negative correlation indicates the existence of an inverse relationship between a teacher's perception of administrative support and their perception of student engagement.

4.2 Descriptive Statistics

This section is subdivided into two components. The first enumerates the means, standard deviations, ranges, and coding schemes for all teacher and school control variables as well as the three job attitude variables organizational commitment, job satisfaction, and pay satisfaction. The second component elaborates on the teacher- and school-level demographic characteristics.

4.2.1 Coding and Descriptive Statistics

Table 4.6 provides coding and descriptive statistics for the teacher-level control variables, teacher perceptions of working conditions, and teacher job attitudes. The following teacher-level variables are dichotomous: male, teacher race, new teacher, secondary level, incomplete licensure, and master's degree. As indicated in Table 4.6, 32% of the teachers represented in the sample are male and 26% of all teachers self-identify as having a tribal affiliation. Fifteen percent of the sampled teachers are 30 years of age or younger while 38% of the teachers are over age 50. Forty-seven percent of the respondent teachers are between the ages of 30 and 51, and this group constitutes the reference category for teacher age. Fifty-two percent of the teachers report teaching at the secondary level, 12% of the surveyed teachers indicated that they do not have a full licensure, and 59% have reportedly earned a master's degree.

Indices of teacher experience are continuous in nature as is the logarithmic form of the teacher salary variable. For all teachers incorporated in the study, the average total teaching experience is 13.7 years while the average tenure at the teacher's current school was reported to be 8.2 years. The mean log salary for the surveyed teachers is 10.64

($41,770).

The teacher-level perceptions of working conditions in Table 4.6 including autonomy, administrative support, and student engagement as well as one of the job attitudes variables, organizational commitment, were constructed from factor scores, as described in the previous section. These variables have been standardized; hence, the means are zero and the standard deviations are 1. The last two teacher job attitudes variables, pay satisfaction and job satisfaction, have reported means of 2.51 and 3.37, respectively.

Table 4.7 displays the means of the school-level control variables, which include the logarithm of total enrollment (5.52), the percentage of a school's enrollment identified as Native American Alaskan Native (64%), and the percentage of a school's student population that is eligible for participation in the national school lunch program (72%).

The average of the logarithms of enrollments is 5.52, which corresponds to 249 students. The three remaining school variables are categorical in nature. The measure of a school's urbanicity is classified as either urban, suburban, or rural (reference category) with the distribution of schools being 5%, 23%, and 72%, respectively. To compensate for school stratification issues, the three classifications of school levels are designated as elementary, secondary, and combined (reference category). The third categorical variable is the school's organizational classification, which must be either BIE, Alaskan, public, or TCS (reference category). This variable is distributed across these respective categories in the amounts of 8%, 13%, 64%, and 15%. The last two school-level variables are the resource-based working conditions student-to-staff ratio and log of entry level

salary, which exhibit corresponding means of 6.98 and 10.38 (equivalent to $32,200).

4.2.2 Demographic Characteristics

In addition to the general descriptive data provided in Tables 4.6 and 4.7, several teacher- and school-level demographic characteristics were selected, based on previous Native American-centered research (e.g., Pavel, 1994), for a further comparative examination among the four school classifications, which could be used to draw inferences on possible teacher turnover trends across the school groups under study. As such, the data presented in Table 4.8 illuminate a number of interesting patterns in the demographics of the four school groups, the first of which is the BIE teacher's age. At nearly 49 years of age, the average BIE teacher is significantly older than their peers employed at Alaskan and public schools (see Appendix A.5 for details). The second pattern is reflected in the total years of teaching experience found across the school types: BIE teachers have nearly 17 years total classroom teaching experience whereas the TCS teachers have just under 13. The third trend in Table 4.8 is evidenced by the average teacher's tenure at their current schools.

In the lower half of Table 4.8, I present a snapshot comparison of relative school size, Native enrollment, and poverty enrollment at the distinct school types. There are no major discrepancies in the data with the BIE and TCS groups displaying consistency on all three indicators. The public schools are very close with the BIE and TCS groups on the enrollment variable; they also closely parallel the Alaskan schools on poverty enrollment. However, the Alaskan school group scores considerably higher on the NAAN enrollment indicator than do public schools in the lower 48 states, which is attributable to

Alaska's high NAAN population, recently reported to be at 14.8% (U.S. Census Bureau, 2014). There is, however, a size discrepancy with the Alaskan schools reporting much smaller enrollments.

Group means test results on the *total years experience* and *years at current school* variables determined significant differences on the years of service at their current school for teachers at the TCS and BIE schools ($p < .05$). The data show that BIE teachers have been employed, on average, over 10 years at their present school, whereas a similar TCS teacher would likely have less than 7 years of service at their current school (see Table 4.9). The same relationship is observed when total years teaching experience is examined across school groups – the BIE teachers' average teaching experience is greater than the TCS' value on this variable (see Table 4.10). Finally, a review of the statistics regarding new teachers (less than 3 years of experience) serves as an indicator that there is likely much greater teacher turnover at the TCS. Ten percent of the BIE teacher sample is reported to have less than 3 years of experience, whereas the proportion of new teachers employed at the other three school groups is nearly double at 20%. Although there are no significant differences across the group means of this variable, a detailed table on this aspect of the analysis is included in Appendix A.5. An in-depth discussion of the relevance of this phenomenon will be included in Chapter 5.

4.3 Do Working Conditions Vary Across the School Categories?

For the purposes of this study, school-level organizational working conditions include established salary structures and student-staff ratios. The remaining three organizational working conditions are teacher level, were constructed via CFA, and

include administrative support, autonomy, and student engagement. Analysis of the first two measures, salary structure and student-staff ratio, are presented via a group means analysis since these are not perception-based variables. Rather, they constitute factors that are highly reflective of resource allocation and are unaffected by the teacher- and school-level control variables. The reader will notice that there are some major pay disparities between the four school groups presented in Table 4.11. Recall that the funding mechanisms for BIE-operated and tribally controlled schools are virtually identical, and yet there are significant differences between these two school systems with respect to teacher compensation. BIE-operated school pay rates also significantly exceed public schools ($p<.05$). Moreover, all levels of pay rates at Alaskan schools are significantly higher than corresponding rates at all other school categories using 95% confidence intervals. The only significant salary differential that was determined between tribally controlled and public schools was on current salary. More detailed information on these salary differentials is presented in Tables 4.12 to 4.16.

Another working condition that is also indicative of resource allocation is the student-to-staff ratio. This variable was created by dividing the school's total enrollment by the total number of full-time staff. I interpret this ratio as distinct from the typical teacher-student ratio in that this statistic is more appropriate for making assumptions regarding total staffing resource allocation since this figure incorporates not just teachers but also administrators, food service workers, and all other full-time employees. In general, comparably funded schools with similar operational requirements should manifest similar student-to-staff ratios; however, this is not the case. The school classification with the fewest number of students per full-time employee is the tribally

controlled group. It is important to acknowledge that many of the TCS serve as boarding schools and, therefore, would require more staff for residential-related services. The only other group with similar residential opportunities for students is the BIE-operated group. Confidence intervals for all school groups appear in Table 4.17.

4.3.1 Perception-based Working Conditions

This section provides the results of the two regression models explored in response to the first research question: Do teacher perceptions of organizational working conditions vary significantly between BIE-operated, tribally controlled, Alaskan, and high NAAN public schools? The first model demonstrates the effects of regressing each working condition on only teacher level variables while the second model incorporated both teacher- and school-level independent variables.

Table 4.18 presents the results of multiple regression analyses for the three working condition constructs when only teacher-level control variables have been entered into the model. It is noted that all three of these constructs, administrative support, autonomy, and student engagement, are constructed from teacher self-report data. Model 1 for the administrative support construct failed to reach the minimum F-value and is not significant – no teacher variables explained any model variance; however, utilizing only teacher level variables, the autonomy and student engagement models are both significant, [R^2=.06, $F(11,77) = 2.49$, $p<.05$] and [R^2=.17, $F(11,77) = 3.16$, $p<.005$], respectively. Secondary teachers perceive their students as being less engaged than do their elementary peers, although the level of perceived student engagement decreases marginally as teachers spend more time at a given school. Interestingly, teachers who are

not fully certified report a higher level of student engagement than those who are fully credentialed, and non-Native teachers report greater levels of perceived engagement than Native teachers do. There is also an inverse relationship between a teacher's salary and their reported sense of autonomy in the classroom.

Model 2 for the working conditions, represented by Table 4.19, demonstrates that, upon addition of the school-level control variables, all three perception-based working conditions are significant: autonomy [R^2=.11, F(21, 67) = 2.88, p<.005], administrative support [R^2=.11, F(21, 67)=4.41, p<.005], and student engagement [R^2=.34, F(21, 67=9.77), p<.005]. Some interesting trends emerge in Model 2: 1) females and both young and old teachers perceive their students as more highly engaged than do males and middle-aged teachers; 2) the average secondary teacher's perception of their students engagement is greater than the average elementary teachers; 3) as school size increases logarithmically, so does the perceived engagement but the perceptions of administrative support and autonomy decrease; 4) as salary decreases, perceptions of autonomy and student engagement actually increase albeit the latter relationship is not strong; 5) interestingly, at schools serving higher percentages of low-income students, there appears to be less perceived autonomy while at the same time, teachers at poorer schools tend to perceive greater student engagement.

With respect to school-level variables, there appears to be higher perceived administrative support at elementary schools and secondary schools than at those schools with combined elementary and secondary grades. The data also indicate that there is less perceived engagement at elementary schools than at those with mixed grades. Urban school teachers reported higher engagement than did their rural peers. Lastly, tribally

controlled school teachers reported greater administrative support than did their BIE counterparts.

It is noteworthy to reiterate that the addition of school-level variables including demographics, school levels, and urbanicity enabled the explanation of 34% of the model's variance in student engagement. Additionally, Model 2 regressions explained 11% of the variance associated with the administrative support and autonomy variables.

4.4. Do Job Attitudes Vary Across the School Categories?

This section addresses the second research question by investigating whether organizational commitment, pay satisfaction, and job satisfaction vary by school classification. Specifically, tribally controlled schools are the reference category and are compared to the each of the three remaining groups. The three models for each of the outcome variables manifest in the following format: the first incorporates only the teacher controls, the second adds the school controls, and the final model adds five working conditions to the regression. Tables 4.18 to 4.20 display the results for each successive model.

Upon inspecting the Model 1 outputs (Table 4.20), which only included the teacher level control variables, the pay satisfaction outcome variable is the only one of the three attitudes with a significant model [R^2=.12, $F(11, 77) = 5.87$, $p<.005$]. There were 170 respondents (over 13%) with incomplete licensure who, on average, reported greater pay satisfaction than their fully licensed peers. Generally speaking, as a teacher's experience level increases, so too does their satisfaction with their compensation; however, we also observe that as the years at their current job increases, the teacher's pay

satisfaction decreases. Finally, as we would expect, there is a positive relationship between total pay received and pay satisfaction.

In Model 2, as shown in Table 4.21, the addition of the school-level controls produces significant results for both organizational commitment [R^2=.10, F(21, 67) = 2.05, p<.05] and pay satisfaction [R^2=.16, F(21, 67) = 5.25, p<.005]. With respect to the organizational commitment, a school's designated level (elementary or secondary) is a predictor of a teacher's organizational commitment with the relationship being positive in both cases as compared to schools with combined grades (reference category). The BIE school teacher's commitment is reported as less than the TCS teacher's at this level of the analysis, and the relationship between organizational commitment and school size is negative. Pay satisfaction displays the same relationships as those discussed in Model 1 above, but now the strength of its relationship with licensure has decreased, possibly due to a greater proportion of TCS teachers reporting incomplete licensure than BIE teachers. In this model, a respondent's teaching level is also significant; secondary teachers report greater satisfaction with their pay. Additionally, the pay disparities exhibited in Tables 4.10 to 4.15 likely manifest themselves in a significant difference of mean pay satisfaction between BIE and TCS teachers (reference group). There is also a mild urbanicity effect with suburban teachers reporting less pay satisfaction than rural teachers (reference group).

The Model 3 results in Table 4.22 are significant for all three of the job attitudes being examined. The organizational commitment construct has only four variables that are significant predictors: suburban, autonomy, administrative support, and student engagement – which together account for 46% of the model's variance [R^2=.46, F(26, 62)

= 16.84, $p<.005$]. Noteworthy here is the jump in explained variance from 10% to 46%, an increase of 36%, which was produced by the addition of five working conditions, albeit only the autonomy, student engagement, and administrative support constructs proved to be significant. Ultimately, one-half of the OC model variance (23%) was explained by the AS variable alone.

The pay satisfaction predictors from Model 2 are retained with the exception of incomplete licensure, and now entry level salary is significant ($p<.10$) along with administrative support ($p<.01$). A total of 23% of the variance in pay satisfaction is explained by Model 3 [$R^2=.23$, $F(26, 62) = 5.96$, $p<.005$.

The model 3 regression equation for job satisfaction was significant, $R^2=.47$, $F(26, 62) = 12.83$, $p<.005$, with student engagement and the public school variables significant ($p<.05$). The interpretation of the significance of the Public variable is that teachers at the average public school report less job satisfaction than their TCS counterparts. Also evident in this model are the impacts of teacher sex and teacher race with females and Native teachers reporting greater satisfaction with their employment. The change in significance of these teacher level variables was investigated by deleting independent variables one by one in reverse order. The elimination of significances of both Native teacher and Male variables was achieved when the administrative support working condition was dropped from the model. When the administrative support variable was dropped from the third JS regression model, the explained variance decreased to a meagre 13%. Approximately 33% of the model variance hinges on the administrative support construct.

In summarizing this section, the most impressive takeaway is the powerful

influence that the administrative support construct is playing in the job satisfaction and organizational commitment models. The large difference in pay satisfaction between BIE and TCS teachers directly reflects the disparity in the salary schedules and also of primary importance. The significance of these relationships will be discussed in the Implications section of Chapter 5.

4.5 Summary

This purpose of this chapter was to share the results of the study and to answer the research questions in an attempt to determine the existence of significant differences in working conditions and job attitudes as reported by teachers from each of the four school groups examined.

There are considerable significant differences in demographic characteristics across school groups. BIE teachers tend to have more years of experience and more years at their current school than their peers in TCS and Alaskan schools. The average ages of Alaskan and public school teachers are significantly less than those of the BIE teachers. Additionally, although the differences are not significant, it is important to stress that BIE schools, on average, employ approximately half as many new teachers (10%) as do TCS, public and Alaskan schools (see Appendix E).

Working conditions also differ among the BIE, TCS, public, and Alaskan schools. BIE school teachers report less administrative support than TCS teachers. No differences on the administrative support construct were detected between TCS and Alaskan or public schools. Furthermore, tribally controlled schools reported a higher student-to-staff ratio than the BIE – operated schools while public and Alaskan schools were comparable

on this working condition. Alaskan salaries were much higher than all other groups at all levels but, also at all levels, BIE school salaries significantly exceeded those of tribally controlled schools.

Teacher job attitudes differ somewhat between these school categories. Specifically, pay satisfaction is significantly greater at BIE schools than it is at tribally controlled schools. Equally of interest is the finding that public school teachers reported less job satisfaction than their TCS colleagues. The administrative support variable proved to be a powerful predictor of all three job attitudes: organizational commitment, pay satisfaction, and job satisfaction.

Table 4.1. Factor loadings on autonomy construct variables.

Standardized	Coef.	Std. Err.	z	P>z	95% CI	
Selecting texts & materials	0.58	0.03	18.60	0	0.52	0.64
Selecting content, topics, skills	0.63	0.03	21.97	0	0.58	0.69
Selecting teaching techniques	0.74	0.02	31.63	0	0.70	0.79
Evaluating and grading	0.68	0.03	22.42	0	0.62	0.74
Disciplining students	0.42	0.04	10.07	0	0.34	0.50
Establishing homework amounts	0.55	0.04	13.72	0	0.47	0.62
NOTE: Alpha = 0.77						

Table 4.2. Factor loadings on administrative support construct variables.

Standardized	Coef.	Std. Err.	z	P>z	95% CI	
Supportive administration	0.80	0.02	43.96	0	0.76	0.83
Principal enforces rules	0.80	0.02	44.53	0	0.76	0.83
Principal communicates goals	0.77	0.02	46.79	0	0.74	0.80
Staff members recognized	0.71	0.02	34.21	0	0.67	0.75
Teachers given ESS support	0.42	0.03	14.12	0	0.36	0.48
NOTE: Alpha = 0.82						

Table 4.3. Factor loadings on student engagement construct variables.

Standardized	Coef.	Std. Err.	z	P>z	95% CI	
Student tardiness	0.69	0.03	24.96	0	0.63	0.74
Student absenteeism	0.76	0.02	39.38	0	0.72	0.80
Student class cutting	0.71	0.02	34.7	0	0.67	0.75
Students dropping out	0.67	0.02	31.7	0	0.63	0.71
Student apathy	0.68	0.02	29.98	0	0.64	0.73
Lack of parental involvement	0.65	0.03	24.55	0	0.60	0.71
Students come unprepared	0.64	0.03	24.84	0	0.59	0.69
NOTE: Alpha = 0.86						

Table 4.4. Factor loadings on organizational commitment construct variable.

Standardized	Coef.	Std. Err.	z	P>z	95% CI	
Like the way school's run	0.59	0.03	21.51	0	0.53	0.64
Teaching not worth it	0.70	0.03	26.68	0	0.65	0.75
Contemplating transfer	0.68	0.03	24.78	0	0.62	0.73
Leave for better job	0.59	0.03	21.14	0	0.53	0.64
NOTE: Alpha = 0.73						

Table 4.5. Covariances for working conditions constructs.

Standardized	Coef.	Std. Err.	z	P>z	95% CI	
Autonomy						
Administrative Support	0.23	0.04	5.64	0.00	0.15	0.31
Student Engagement	0.02	0.04	0.43	0.67	-0.06	0.10
Administrative Support						
Student Engagement	0.32	0.03	9.42	0.00	0.26	0.39

Table 4.6. Descriptive statistics for teacher control variables, perceptions of working conditions, and teacher job attitudes.

Teacher level controls	Mean	Std. Dev.	Min	Max	Definitions
Male	0.32	0.47	0	1	1=male; 0=female
Teacher race	0.26	0.44	0	1	1=Native; 0=other
New teacher	0.19	0.39	0	1	1=less than 3 years; 0=veteran
Young	0.15	0.36	0	1	1=no more than 30; 0=over 30
Old	0.38	0.49	0	1	1=over 50; 0=less than 51
Reference (31<YOA<50)					
Secondary level	0.52	0.50	0	1	1=Secondary; 0=elem.
Incomplete licensure	0.13	0.34	0	1	1=Incomplete; 0=full cert.
Master's degree	0.39	0.49	0	1	1=Masters; 0=AA or BA
Total years of experience	13.70	10.56	1	51	
Years at current school	8.21	8.12	0	39	
Log of teaching salary	10.64	0.26	9.62	11.33	
Teacher Perceptions of Working Conditions					
Autonomy	0.00	1.00	-4.66	1.10	factor score
Administrative support	0.00	1.00	-2.95	1.36	factor score
Student engagement	0.00	1.00	-2.60	1.80	factor score
Teacher Job Attitudes					
Org. commitment	0.00	1.00	-2.63	1.47	factor score
Pay satisfaction	2.51	1.00	1	4	Likert scale score
Job satisfaction	3.37	0.73	1	4	Likert scale score

Note: AA=associate degree; BA =bachelor's degree; cert. = certificate; Org.=organizational

Note: Reference categories for dummy variables are in parentheses. n = 1290

Table 4.7. Descriptive statistics for school-level controls and working conditions.

School level controls	Mean	Std. Dev.	Min	Max	Definitions
n = 540					
Log of enrollment	5.52	0.94	1.1	7.71	
NAAN enrollment (%)	0.64	0.32	0.2	1	
Poverty enrollment (%)	0.72	0.25	0	1	
School level (Elem.)	0.55	0.5	0	1	1=Elementary; 0=not
School level (Sec.)	0.21	0.41	0	1	1=Secondary; 0=not
Reference (Combined)					
Urban	0.05	0.21	0	1	1=Urban; 0=not
Suburban	0.23	0.42	0	1	1=Suburban; 0=not
Reference (Rural)					
BIE	0.08	0.27	0	1	1=BIE school; 0=not
Alaskan	0.13	0.33	0	1	1=Alaskan; 0=not
Public	0.64	0.48	0	1	1=Public; 0=not
Reference (Tribal schools)					
School Level Working conditions					
Student to staff ratio	6.98	3.29	1.41	42	enrollment/FTE staff
Log of entry level salary	10.38	0.13	9.97	10.7	log BA step 1 salary

Table 4.8. Group means of teacher and school demographic data.

Teacher demographics	BIE - Operated	Tribally Controlled	Alaskan	Public
N (weighted)	1090	2830	2680	19170
Age	48.7	45.7	43.0	43.6
Total years experience	16.9	12.7	12.9	13.7
Years at current school	10.2	6.8	6.9	9.8
Percent new teachers	10.2	19.5	19.0	20.9
School demographics				
N (weighted)	60	110	310	2100
Total enrollment	265	270	144	286
Percent NAAN enroll.	99.7	98.6	76.1	49.2
Percent poverty enroll.	85	82	62	69

Table 4.9. Group mean years at current school.

Variable	School type	Mean	SE	95% CI	
Years at current school	BIE - Operated Schools	10.25	0.91	8.44	12.06
	Tribally Controlled Schools	6.82	0.40	6.02	7.61
	Alaskan Schools	6.94	0.56	5.83	8.04
	Public Schools	9.82	1.41	7.01	12.63

Table 4.10. Group mean of total years of experience.

Variable	School type	Mean	SE	95% CI	
Total years experience	BIE - Operated Schools	16.88	1.11	14.67	19.08
	Tribally Controlled Schools	12.71	0.65	11.43	14.00
	Alaskan Schools	12.85	0.80	11.27	14.43
	Public Schools	13.72	1.12	11.48	15.95

Table 4.11. Salary data and student-to-staff ratio by school type.

Teacher salaries	BIE - Operated	Tribally Controlled	Alaskan	Public
N (weighted)	60	110	310	2100
Bachelors	34016	29821	39502	32424
Bachelors +10	42786	36907	50385	38920
Masters	40244	34482	43927	34820
Masters + 10	49562	42068	60267	42524
Student-to-staff ratio	5.6	4.2	6.7	7.4

Table 4.12. Group means for current salary.

School type	Mean	SE	95% Conf. Interval	
BIE - Operated Schools	50464	1322	47835	53092
Tribally Controlled Schools	38132	370	37396	38868
Alaskan Schools	54316	1017	52295	56337
Public Schools	41595	959	39688	43502

Table 4.13. Group means for entry level salary with BA.

School type	Mean	SE	95% Conf. Interval	
BIE - Operated Schools	34286	321	33648	34925
Tribally Controlled Schools	30215	150	29918	30513
Alaskan Schools	39372	345	38687	40058
Public Schools	31903	520	30869	32936

Table 4.14. Group means for BA degree with 10 years experience.

School type	Mean	SE	95% Conf. Interval	
BIE - Operated Schools	42689	407	41879	43499
Tribally Controlled Schools	37581	163	37258	37904
Alaskan Schools	50855	583	49696	52014
Public Schools	40080	588	38910	41249

Table 4.15. Group means for entry level salary with MA.

School type	Mean	SE	95% Conf. Interval	
BIE - Operated Schools	39640	250	39143	40138
Tribally Controlled Schools	34368	243	33884	34852
Alaskan Schools	44055	356	43348	44762
Public Schools	34769	560	33657	35882

Table 4.16. Group means for MA degree with 10 years experience.

School type	Mean	Std. Err.	95% Conf. Interval	
BIE - Operated Schools	49901	446	49015	50787
Tribally Controlled Schools	42310	237	41839	42781
Alaskan Schools	59946	549	58855	61037
Public Schools	44726	765	43206	46246

Table 4.17. Group means for student-to-staff ratios.

	Mean	SE	95% Conf. Interval	
BIE - Operated Schools	5.6	0.2	5.2	6.1
Tribally Controlled Schools	4.2	0.1	4.1	4.4
Alaskan Schools	6.7	0.4	6.0	7.5
High NAAN Schools	7.4	0.5	6.5	8.3

Table 4.18. Model 1, Working conditions as outcome variables

	Autonomy			Administrative support			Student engagement		
	Coef.	SE		Coef.	SE		Coef.	SE	
Teacher Level									
Male	0.01	0.12		0.01	0.23		0.06	0.11	
Native teacher	-0.16	0.11		-0.27	0.15	~	-0.29	0.12	*
New teacher	-0.30	0.32		-0.24	0.31		0.14	0.15	
Young	-0.08	0.18		-0.06	0.18		-0.27	0.18	
Old	0.29	0.25		0.03	0.19		-0.44	0.14	***
Secondary level	0.19	0.14		0.05	0.25		-0.60	0.12	***
Incomplete licensure	0.03	0.16		0.29	0.23		-0.28	0.14	*
Master's degree	0.08	0.19		0.09	0.17		-0.03	0.11	
Total years experience	-0.01	0.01		0.00	0.01		-0.01	0.01	
Years at current school	0.01	0.01	~	0.01	0.01		0.01	0.01	~
Teaching salary (log)	-0.71	0.27	**	-0.08	0.20		0.42	0.43	
y-intercept	7.30	2.94	*	0.92	2.09		-3.67	4.39	
R^2		0.06			n/a			0.17	

Note: Only teacher level variables are included in all the models.

~ p<.10, * p<.05, ** p<.01, *** p<.005

Table 4.19. Model 2, Working conditions as outcome variables

	Autonomy			Administrative support			Student engagement		
	Coef.	SE		Coef.	SE		Coef.	SE	
Teacher level									
Male	0.02	0.14		0.07	0.20		0.12	0.07	~
Native teacher	-0.16	0.14		-0.05	0.13		0.06	0.11	
New teacher	-0.24	0.29		-0.21	0.25		0.10	0.14	
Young	-0.12	0.20		-0.07	0.17		-0.23	0.13	~
Old	0.22	0.21		0.10	0.17		-0.20	0.10	*
Secondary level	-0.05	0.24		0.04	0.25		-0.33	0.09	***
Incomplete licensure	-0.01	0.16		0.30	0.18		-0.08	0.13	
Master's degree	0.11	0.20		0.11	0.16		-0.06	0.11	
Total years experience	-0.01	0.01		0.00	0.01		-0.01	0.01	
Years at current school	0.02	0.01	*	0.01	0.01		0.00	0.01	
Teaching salary (log)	-0.67	0.28	*	-0.07	0.24		0.64	0.37	~
School level									
Enrollment (log)	-0.16	0.07	*	-0.29	0.11	**	-0.22	0.08	**
NAAN enrollment	-0.10	0.19		-0.48	0.36		-0.40	0.24	
Poverty enrollment	-0.003	0.001	*	0.00	0.00		-0.01	0.00	**
School level (Elem.)	-0.22	0.14		0.39	0.14	**	0.69	0.11	***
School level (Sec.)	0.25	0.15		0.38	0.19	*	0.09	0.13	
Urban	-0.01	0.24		-0.02	0.32		-0.33	0.14	*
Suburban	-0.18	0.14		-0.29	0.30		0.22	0.19	
BIE	0.32	0.20		-0.37	0.15	*	-0.17	0.16	
Alaskan	0.10	0.17		0.21	0.17		-0.22	0.17	
Public	0.06	0.10		0.16	0.15		0.15	0.13	
y-intercept	8.34	3.14	*	2.21	2.47		-4.68	3.94	
R^2		0.11			0.11			0.34	

Note: ~ p<.10, * p<.05, ** p<.01, *** p<.005

Table 4.20. Model 1 results, linear regression of predictors of teacher job attitudes

	Organizational Commitment			Pay Satisfaction			Job Satisfaction		
	Coeff.	SE		Coeff.	SE		Coeff.	SE	
Teacher level									
Male	-0.19	0.20		-0.17	0.18		-0.14	0.13	
Native teacher	-0.27	0.16	~	0.18	0.11		0.03	0.10	
New teacher	-0.17	0.29		0.00	0.18		-0.15	0.19	
Young	-0.13	0.19		-0.05	0.16		-0.24	0.18	
Old	-0.09	0.17		-0.13	0.14		-0.05	0.12	
Secondary level	0.19	0.24		0.28	0.17		0.07	0.16	
Incomplete licensure	0.14	0.22		0.32	0.15	*	0.14	0.17	
Master's degree	0.04	0.14		-0.01	0.09		0.11	0.10	
Total years experience	0.00	0.01		0.01	0.01	*	0.00	0.01	
Years at current school	0.01	0.01		-0.02	0.01	***	0.01	0.01	
Teaching salary (log)	0.05	0.24		0.99	0.20	***	-0.08	0.16	
Y-intercept	-0.49	2.46		-8.26	2.09	***	4.23	1.67	*
R^2		n/a			0.12			n/a	

Note: Only teacher level variables are included in all the models.

~ $p<.10$, * $p<.05$, ** $p<.01$, *** $p<.005$

Table 4.21. Model 2 results, linear regression of predictors of teacher job attitudes.

	Organizational Commitment			Pay Satisfaction			Job Satisfaction		
	Coeff.	SE		Coeff.	SE		Coeff.	SE	
Teacher level									
Male	-0.15	0.16		-0.14	0.16		-0.11	0.11	
Native teacher	-0.11	0.13		0.04	0.11		0.11	0.10	
New teacher	-0.15	0.26		0.08	0.20		-0.12	0.17	
Young	-0.14	0.18		-0.04	0.17		-0.24	0.19	
Old	-0.04	0.14		-0.20	0.12		-0.02	0.12	
Secondary level	0.20	0.25		0.32	0.13	*	0.07	0.16	
Incomplete licensure	0.13	0.18		0.24	0.14	~	0.15	0.13	
Master's degree	0.06	0.13		0.00	0.08		0.12	0.09	
Total years experience	0.00	0.01		0.01	0.01	*	0.00	0.01	
Years at current school	0.01	0.01		-0.02	0.01	***	0.00	0.01	
Teaching salary (log)	0.08	0.28		1.08	0.24	***	0.03	0.17	
School level									
Enrollment (log)	-0.23	0.11	*	-0.11	0.08		-0.15	0.08	~
NAAN enrollment	-0.42	0.34		0.01	0.21		-0.29	0.23	
Poverty enrollment	0.00	0.00		0.00	0.00		0.00	0.00	
School level (Elem.)	0.40	0.14	***	0.03	0.11		0.22	0.10	*
School level (Sec.)	0.37	0.18	*	-0.04	0.12		0.21	0.13	
Urban	0.07	0.28		-0.17	0.21		-0.09	0.16	
Suburban	-0.25	0.29		-0.34	0.18	~	-0.20	0.20	
BIE	-0.36	0.17	*	0.44	0.12	***	-0.16	0.10	
Alaskan	0.07	0.19		-0.02	0.16		-0.05	0.12	
Public	0.01	0.16		-0.01	0.12		-0.02	0.10	
Y-intercept	0.25	2.95		-8.57	2.50	***	3.97	1.90	*
R^2		0.10			0.16			n/a	

Note: Both teacher and school level variables are included in all models.

~ $p<.10$, * $p<.05$, ** $p<.01$, *** $p<.005$

Table 4.22. Model 3 results, linear regression of predictors of teacher job attitudes.

	Organizational Commitment			Pay Satisfaction			Job Satisfaction		
	Coeff.	SE		Coeff.	SE		Coeff.	SE	
Teacher level									
Male	-0.20	0.12	~	-0.16	0.16		-0.11	0.06	~
Native teacher	-0.05	0.09		0.13	0.13		0.14	0.08	~
New teacher	0.08	0.13		0.16	0.18		0.03	0.09	
Young	-0.08	0.13		0.03	0.19		-0.22	0.16	
Old	0.02	0.09		-0.11	0.10		0.00	0.07	
Secondary level	0.05	0.10		0.30	0.11	**	0.03	0.08	
Incomplete licensure	-0.06	0.11		0.19	0.13		0.01	0.08	
Master's degree	-0.05	0.10		-0.04	0.10		0.03	0.06	
Total years experience	0.00	0.01		0.01	0.01	~	0.00	0.00	
Years at current school	0.00	0.01		-0.02	0.01	*	0.00	0.00	
Teaching salary (log)	0.11	0.22		0.92	0.25	***	0.10	0.16	
School level									
Enrollment (log)	-0.01	0.06		0.03	0.07		-0.04	0.04	
NAAN enrollment	0.16	0.17		0.25	0.21		0.00	0.11	
Poverty enrollment	0.00	0.00		0.00	0.00		0.00	0.00	
School level (Elem.)	0.07	0.11		-0.08	0.12		-0.01	0.08	
School level (Sec.)	0.26	0.16		-0.09	0.14		0.08	0.09	
Urban	0.15	0.21		-0.24	0.22		-0.04	0.14	
Suburban	-0.20	0.12	~	-0.43	0.11	***	-0.11	0.09	
BIE	-0.11	0.15		0.45	0.13	***	0.02	0.10	
Alaskan	0.12	0.19		-0.11	0.17		-0.09	0.14	
Public	-0.09	0.10		-0.01	0.10		-0.12	0.06	~
Working conditions									
Student to staff ratio	0.01	0.02		-0.01	0.02		0.01	0.01	
Entry level salary (log)	-0.38	0.45		0.70	0.40	~	-0.30	0.40	
Autonomy	0.13	0.04	***	0.04	0.05		0.03	0.03	
Administrative support	0.53	0.08	***	0.21	0.08	**	0.44	0.05	***
Student engagement	0.15	0.06	*	0.05	0.07		0.08	0.03	*
Y-intercept	2.46	4.36		-14.87	4.06	***	5.67	3.65	
R^2		0.46			0.23			0.47	

Note: Both teacher and school level variables are included in all models.

~ p<.10, * p<.05, ** p<.01, *** p<.005

CHAPTER FIVE

CONCLUSIONS AND IMPLICATIONS

The chapter is divided into four major sections; the first of the major sections, summary of the study, concisely reiterates the statement of the problem and presents the research questions addressed through the investigation. The second major portion of this chapter presents the major study findings and connects them to the research questions as well as prior literature where such literature exists. The study's strengths and limitations are discussed in the third portion, which ends with an acknowledgment of the omission of the current socio-political context of Indian Nations and historical aspects of federal / tribal relations. The study findings' implications for future research in the field of Indigenous education and suggestions for the study's utility in federal and tribal policy decision making comprise the final portion of the chapter.

5.1 Summary of the Study

In an effort to increase the scholarly literature base within the Native American / Alaskan Native education context, this study has centered on teacher job attitudes and working conditions within Native American / Alaskan Native communities that are typically understudied with respect to teacher turnover.

Excessive teacher turnover negatively impacts student achievement.

Unfortunately, although teacher turnover has long been a problem at schools serving predominantly Native student populations (Fuchs & Havigurst, 1972; Latham 1993; Smith, 1977), the federal government's exclusion of the BIE-funded schools from NCES surveys such as the TFS prohibited me from directly studying teacher attrition within the specific context of Indigenous communities. Hence, although at the outset of this project, the original intent was the examination of teacher turnover rates across various school systems, the lack of data necessitated analysis of variables known to be antecedent to and closely linked with teacher turnover.

Over the course of this project, responses to the following two research questions were sought and obtained: 1) *Do teacher perceptions of organizational working conditions vary significantly between BIE-operated, tribally controlled, Alaskan, and public schools?,* and 2) *Do teacher perceptions of their organizational commitment, overall job satisfaction, and pay level satisfaction vary significantly between BIE-operated, tribally controlled, Alaskan, and public schools?*

5.2 Conclusions

As stated in Chapter 1, an integral component of the rationale for this research project was the lack of teacher- and school-level statistical information within the field of Native American and Alaskan Native educational settings, specifically, on variables that have been previously shown to be predictive of teacher turnover.

By centering this study on four categories of schools that have high proportions of NAAN students, the results have revealed that there are indeed differences across the various school types in teacher self-reported job attitudes and working conditions. The

first portion of the Conclusions illuminates the findings as related to the teacher and school characteristics examined across the diverse school settings; the second portion of this section sets forth the study findings for the regression models utilized in determining which teacher- and school-level control variables were associated with teacher working conditions, including the three perception-based working conditions: autonomy, administrative support, and student engagement and the two school-level resource allocation variables: salary schedules and student-to-staff ratios. The third component of the section discusses how teacher working conditions influence teacher job satisfaction, pay satisfaction, and organizational commitment, after controlling for teacher and school characteristics.

5.2.1 Teacher and School Characteristics Among Four Types of Schools

The centering of working conditions and job attitudes at the core of this project necessitated the inclusion of a number of teacher- and school-level demographic variables, the analysis of which has produced more valuable information that I summarize here.

5.2.1.1 Teacher-level Demographics

A number of demographic disparities are evidenced within the study findings (see Table 4.8). The average teacher working at a BIE-funded school has just over 10 years of work experience at their current school and nearly 17 years of total teaching experience. Significantly different from the BIE teachers, tribally controlled school teachers and

Alaskan school teachers both report tenures of less than 7 years with their present employer and report just under 13 years of total teaching experience.

In his analysis of the 1990-91 SASS data, Pavel (1995) found that teachers in high NAAN public schools (25% cut point criteria) reported 13 years of total experience whereas the combined BIE / TCS group reported just 10 years. It is important to note that Pavel did not disaggregate the teachers by school type, however. Nonetheless, in comparing Pavel's findings with those of the present study, there has been a shift in teacher longevity as in the 2007-08 data both BIE and TCS teacher longevity is considerably greater than 10 years. In fact, the BIE teachers show the greatest longevity at 17 years. These phenomena indicate that teacher turnover has likely decreased somewhat since Pavel's study that used 1990-91 SASS data.

The study findings on teacher race variation across school type provide another interesting discussion point within the Native educational arena. A central tenet behind Indian Nation sovereignty and the shift toward increasing tribally controlled schools is the well-founded belief that Natives know best how to educate their children (see Figure 1.2). A logical extension of the drive toward sovereignty and Native control of schools is that, ceteris paribus, one would assume that a greater proportion of Native American Alaskan Native teachers would gravitate toward tribally controlled schools as opposed to the other groups identified in this study if cultural congruence were a dominant influence in teacher job seeking behaviors. This assumption appears to be correct when I juxtapose staffing patterns at tribally controlled schools alongside those of Alaskan schools and public schools at which 40, 14, and 11% of teachers respectively identified as being Native American or Alaskan Native. Perhaps somewhat more striking, however, is the

fact that 69% of all BIE teachers surveyed also identified themselves as Natives. Since both the TCS and BIE schools provide Indian preference in hiring, the greater proportion of NAAN teachers at BIE schools vies against the argument of cultural congruence as the primary factor in teacher sorting and, rather, enunciates the powerful nature of the salary discrepancy as the primary draw for educators.

5.2.1.2 School-Level Characteristics

One phenomenon that parallels this project's initial focus on teacher turnover is the observed relative proportion of new teachers (less than 3 years of experience) at the various school types. At 20.0%, the public schools exhibit the greatest percentage of new teachers employed at their organizations with TCS and Alaskan schools right behind them at 19.5% and 19.0%, respectively. There is a dramatic difference in the number of new teachers at the BIE-operated schools: 10.2%. This figure is a stark contrast to findings of Smith (1977), who found that 44% of the BIE (then BIA) teachers had less than 2 years of experience.

Pavel (1995) did not disaggregate the BIE-funded schools among the BIE / TCS dichotomy; however, even in the aggregate form, it is evident that the salaries at BIE and TCS schools were equal to or higher than salaries received by the high NAAN school group. Expanding this point further, my analysis of the 2007-08 SASS data shows pronounced salary schedule disparities between the BIE and TCS school groups, which may contribute to the smaller number of new teachers at the BIE schools.

5.2.2 Impacts of Teacher-level and School-level Variables on Teacher Working Conditions

5.2.2.1 Perception-based Working Conditions

Of the three perception-based working conditions examined in this study (administrative support, student engagement, and autonomy), the administrative support variable was the only working condition that differed significantly across school groups. The BIE teachers reported much lower administrative support than their TCS counterparts on this construct. Below I explain how teacher and school variables are related to the three perception-based working conditions.

Several variables were determined to be associated with the student engagement construct. Turning to teacher-level variables, an interesting phenomena that resonates with prior research was observed: younger and older teachers perceived lower student engagement than did their middle aged peers. This age-associated pattern for student engagement is consistent (albeit reversed) with the U-shaped curve obtained when turnover is distributed over age (Ingersoll, 2001). This student engagement age relationship may be attributed to several issues such as burnout among older teachers, the greater struggles new teachers confront with classroom management, and possibly cultural influences on teachers' perspectives. Parallel to previous student engagement study findings, elementary teachers in general perceive a much greater degree of student engagement than do their secondary peers (Mark, 2000; Yazzie-Mintz, 2007). At the school level, teachers in rural settings reported greater student engagement than did their urban peers. Furthermore, this study utilized each school's reported grade spans in order to preserve some of the SASS design's stratification effects.

Ultimately, teaching level and a school's grade span emerged as the independent variables most strongly associated with student engagement (see Table 4.19). This finding is particularly useful in that student engagement is known to be a requisite condition for student learning; therefore, the employment of strategies used to boost student engagement in other low-performing school settings will likely benefit the NAAN school context as well.

Turning to administrative support, no teacher-level variables were found to be significantly related to this construct (see Tables 4.20 and 4.21); however, the addition of school-level variables produced associations between administrative support and enrollment, school level and school type. Teachers at larger schools reported decreased administrative support as did teachers at BIE-operated schools. These are understandable findings for, in the former case, rule enforcement and recognition of staff members would likely decrease with increasing size of the organization and these are two of the indicator variables utilized in the administrative support construct in this study. As for the fact that BIE teachers report less support than TCS teachers, this could be due to increased workload placed upon the BIE principals, the bureaucratic nature of the BIE, or even higher administrator turnover at the BIE schools. In either case, the intense demands of these positions contribute to the difficulty of filling administrative vacancies at schools on Indigenous lands (Slowman Chee, 2008).

As for teacher autonomy, neither sex, total years of teacher experience, nor education level display significant associations with this construct. This is supportive of the findings of Pearson and Hall's groundbreaking research on teacher autonomy (1993). As a school's total enrollment and poverty enrollment increase, on average, teachers

report a lower perception of autonomy. These trends might be partially attributed to the usage of scripted programs or other attempts to increase student test scores (i.e., elimination or reduction of fine arts programs, music, PE, etc.) at schools that continually struggle to make Adequate Yearly Progress (AYP) (see Wauneka, 2008). Given the similar student body compositions across the four school types, it is understandable that there are no reported differences in perceived autonomy across this variable. Furthermore, urbanicity level was not associated with perceived autonomy.

Finally, and most noteworthy from a teacher's perspective, is the fact that *all three* perception-based working conditions are inversely related to a school's total enrollment size. In other words, as a school's enrollment increases a teacher's perception of their autonomy, administrative support and student engagement, on average, decrease.

5.2.2.2 Working Conditions Related to Resource Allocation:

Salary and Student-to-Staff Ratios

As presented in Tables 4.11 through 4.17, there is great variation in both current salaries and salary schedules across the BIE, TCS, public, and Alaskan schools. Notably, at all four salary schedule comparison points, the BIE school salaries are significantly greater than the tribally controlled and public schools. I posit that the lower salary levels at TCSs are caused by the employment of excessive staff (see Table 4.17). As mentioned previously, the BIEs and TCSs are funded from essentially the same formula; however, greater average teacher longevity at BIE schools coupled with excessive staff employed at many TCSs plays a substantial role in exacerbating the BIE – TCS pay disparity. In fact, when a comparison of the 2007-2008 current salaries is made, the BIE teachers, on

average, made 32% more than their TCS counterparts. In light of the high influence teacher salary has on teacher turnover (Ingersoll, 2001; Ingersoll & Smith, 2003), this finding has the potential to be very influential on future personnel policy decisions as, with the exception of the Alaskan school group, these schools typically are located in the same labor markets and, therefore, are drawing generally from the same teacher pool.

Specifically, when a human resource specialist notes that their school's salary schedule is not competitive with neighboring higher paying schools, s/he should begin comparing their school's staffing ratio and organizational chart with those of the surrounding schools. The possibility of conducting a reduction in force in order to eliminate unnecessary positions and provide a funding source for increasing salaries of key positions should be considered.

Directly linked to the salary variable discussed above is the working condition identified as student-to-staff ratio. Only full-time staff were included in the generation of this statistic, the results of which are displayed in Figure 4.17. The aforementioned linkage is due to the simple fact that, all other things being equal, there will be an inverse relationship between the number of staff employed at a school and the school's average salary. That is to say, the more people who are served a slice from a pie of fixed size, the smaller each serving must be. The group designation with lowest student–to-staff ratio is the tribally controlled school group that averaged 4.2 students per full-time staff member. The BIE schools enrolled 5.6 students per each FTE staff member, which equates to a 33% increase in the number of students for every full-time employee compared to the TCS group. This fact echoes the BIE – TCS salary disparity previously discussed. The Alaskan and public schools have similar ratios (6.7 and 7.4, respectively) with

overlapping confidence intervals.

In sum, there are serious salary disparities between the BIE and TCS schools wherein the average BIE teacher earns substantially greater income than their TCS counterpart. Parallel to this inequity, the student-to-staff ratios are considerably lower at the TCSs, which is indicative of an "overstaffing" effect at these schools, which, if remedied properly, could serve to mitigate the salary differential.

5.2.3 Job Attitudes: Organizational Commitment, Pay Satisfaction, and Job Satisfaction

5.2.3.1 Organizational Commitment

One of the more substantive findings of this study has been the significance of the teacher perceptions of their working conditions. For instance, all three teacher perception–based working conditions: autonomy, administrative support, and student engagement were found to be significantly associated with a teacher's organizational commitment in this study. The autonomy variable was highly significant in the organizational commitment model ($p<.005$), and the student engagement was also significant, albeit to a lesser degree ($p<.05$). In the case of organizational commitment, although 46% of the variance in the third regression model was explained when the five working conditions variables augmented the earlier models (Table 4.22), it was determined that the administrative support variable uniquely explained 23% of this variance, which reinforces the finding of Park (2005). However, neither student-to-staff ratio nor teacher entry level pay was associated with any of the teacher job attitudes, including organizational commitment.

The powerful nature of administrative support cannot be overstated. In addition to Park's work (2005) demonstrating the direct relationship between administrative support and organizational commitment in high schools, other research has demonstrated the existence of a strong positive association between administrative support and teacher job satisfaction (Tickle et al., 2011). Likewise, Ingersoll (2001) found that increased administrative support was associated with decreased teacher turnover. Decreasing teacher turnover will enable school administrators to reallocate more of their precious resources toward activities conducive to goal attainment (Mobley, 1982). Since it has been documented that organizational commitment is positively correlated to student achievement (Kushman , 1992), one logical extension is that, in addition to directly improving teacher job attitudes, resources spent on increasing perceived administrative support will likely yield dividends in the form of increased student achievement.

Within the model explored in this study, females reported slightly more commitment than did males, which is consistent with previous research (Collie, Shapka, & Perry, 2011; Hebreniak & Alutto, 1973; Mathieu & Zajac, 1990). Furthermore, the weak urbanicity effect observed may be due to greater alternative employment opportunities for suburban teachers who report slightly less commitment than rural teachers. Similar to my findings, Ingersoll and Alsalam (1997) noted that teachers at both urban and suburban schools were less committed than rural schools. One teacher-level control that commonly emerges as linked to organizational commitment is the teacher's education level. That was not the case is my findings and this is likely to the lack of employment alternatives in many Native communities that suffer severe levels of unemployment.

In sum, a high level of administrative support is positively associated with a teacher's commitment to their organization, which, in turn, has been shown to be predictive of teacher retention and associated with student achievement.

5.2.3.2 Pay Satisfaction

Among the five working condition variables examined in the job attitude models, the only one that demonstrated significant association with the pay satisfaction attitude was the perception-based administrative support variable ($p<.01$). In other words, as the teacher's perception of administrative support increased, so did the teacher's pay satisfaction, which further supports the powerful nature inherent in the administrative support construct. Not surprisingly, teacher salary exhibits strong positive association with teacher pay satisfaction as evidenced by the greater pay satisfaction reported by BIE teachers when contrasted with TCS teachers. The only other working condition associated with pay satisfaction was the logarithm of the entry level salary at the teacher's school. Interestingly, a teacher's current salary is not associated with either organizational commitment or job satisfaction in this study; the lack of association between salary and job satisfaction is inconsistent with the findings of Judge et al. (2010). Further, although there was a significant difference between the TCS and BIE teacher's reported pay satisfaction, not all two-way school comparisons were made in this analysis and other significant differences in pay satisfaction may exist. Also, secondary teachers reported much more satisfaction with their pay than did teachers of elementary schools, which might be at least partially attributed to the effects of Lawler's (1973) model that incorporates the notion of "perceived outcomes of referent others." This comparison is

obvious and highly probable given that elementary teachers in any given school or district naturally compare their resulting increased workloads and job stresses resultant from the impositions forced upon them by the No Child Left Behind testing mandates to any similar effects felt by secondary teachers. This study also illuminates a pronounced urbanicty effect with rural teachers reporting greater pay satisfaction than their suburban counterparts. Although pay was not associated with teacher job satisfaction in this study, Judge et al. (2010) found that pay level was associated with both pay and job satisfaction but the relationship was stronger with pay satisfaction. Finally, a teacher's pay satisfaction is positively correlated with their organizational commitment and job satisfaction although the correlations are weak (see Appendix E).

5.2.3.3 Job Satisfaction

Similar to the findings on organizational commitment, the inclusion of student-to-staff ratio, entry level salary, autonomy, administrative support, and student engagement caused the job satisfaction model to shift from one of nonsignificance to one with a variance explanation of 47%. Although Erickson, Terhune, and Ruff (2008) found the most influential factor on teacher satisfaction to be "student value of learning," which corresponds to the student engagement variable in the present study, the administrative support variable was again more strongly associated with job satisfaction than any other independent variable utilized in the study.

Another interesting finding is that TCS teachers, on average, reported greater job satisfaction than their counterparts in public schools, which to some degree could offset the average TCS teacher's dissatisfaction with their pay and help in the retention process.

The job satisfaction disparity could be due, in part, to the different levels of cultural congruence at these schools. For instance, 11% of public school teachers are Native but 40% of TCS teachers identify themselves by tribal affiliation. As reported in previous research, females report greater satisfaction with their job than did males (Williams et al., 2006) and, unique to this study, Native teachers report higher satisfaction over their non-Native peers, although both of these associations are weak. The race effect somewhat contradicts Liu and Meyers (2005) reporting that minority teachers were generally less satisfied with teaching; however, this may be due to a teacher – principal race congruence effect as demonstrated in other SASS research (see Grissom & Keiser, 2011).

Another interpretive possibility of the race – satisfaction relationship is whether a teacher is native to the community in which s/he works. Although teacher hometown data is not determined through the SASS administration, one plausible explanation for the Native teacher's increased satisfaction could emanate from the fact that many of them are living within or near their hometown communities. This is a reasonable assertion given the research of Boyd, Lankford, Loeb, and Wycoff (2003) who found that one trend in teacher sorting is geographical in nature: teachers gravitate toward teaching positions very near to the communities in which they attended high school.

In contrast to my findings, Shen et al. (2011) reported that elementary teachers, more experienced teachers, and teachers with full or at least provisional certification reported greater job satisfaction than did secondary, less experienced, and less credentialed teachers, respectively. One explanation for the discordance between this study's findings and those of Shen et al. is observed in their construction of the satisfaction variable wherein they utilized eight SASS items as compared to this study's

single item approach.

In conclusion, BIE teachers have more years of total and current school teaching experience than their TCS peers, and BIE schools exhibit the greatest proportions of NAAN teachers and fewest percentages of new teachers. The administrative support variable remains the strongest in association with all three teacher job attitudes: organizational commitment, pay satisfaction, and job satisfaction, and BIE teachers reported significantly less administrative support than TCS teachers. Furthermore, student engagement was found to be strongly negatively associated with the teacher's reported teaching level and school's grade span, while teachers at larger schools and schools with greater numbers of low SES students report less autonomy in the classroom. BIE school salary schedules at all four levels examined are far superior to the TCS salary schedules, and this is reflected in the school's student-to-staff ratios. TCS schools have many fewer students per full-time staff member than any of the other school types incorporated into the study. With respect to job attitudes, organizational commitment was greater among females and rural teachers and this construct was heavily influenced by perceived administrative support. Job satisfaction was determined to be greater for public teachers than for TCS teachers, and although the relationships were weak, females and Natives also reported greater satisfaction than males and non-Natives. Finally, BIE teachers reported much greater satisfaction with their pay than did the TCS teachers.

5.3 Strengths and Limitations

This section briefly addresses the strengths and limitations of the study. Strengths include examining the two classifications of BIE-funded schools across a number of

variables of interest and the utility and parsimony of the models employed. The limitations include the inability to include various cultural and sociopolitical influence within the study framework and select constraints imposed due to the data structure.

5.3.1 Strengths

Owing to the general dearth of quantitative research conducted within the NAAN educational context, a main strength of this study is the augmentation of scholarly research on NAAN teacher populations from multiple educational systems across multiple settings, including BIE-operated, tribally controlled, Alaskan, and public schools serving predominantly NAAN student populations. The findings produced by this study will allow policy makers to make informed decisions as they move forward and investigate areas of personnel and resource management. For instance, federal, tribal, and state educational entities can utilize the study findings as a comparative baseline for the evaluation of future school improvement initiatives designed at enhancing teacher job attitudes across these various school types, which will ultimately result in decreased teacher turnover, more efficient utilization of resources, and, ultimately, increased student achievement. I will expand on this in the implications section.

The parsimonious nature of the models employed in this study was possible due to the depth and breadth of the SASS survey design. For illustrative purposes, consider the research on organization commitment conducted by Rosenholt and Simpson (1990). They utilized a total of 51 items which explained 57.3% of their model's variance. The 4-item CFA model from this study explained 46% of the variance. Likewise, Ho and Au's (2006) devised a 5-item model for teacher satisfaction that accounted for 53% of the

variance while the full job satisfaction model incorporated in this study, which used a single item, explained 47% of the model's variance.

5.3.2 Limitations

As I mentioned in Chapter 3, there are many powerful forces at work that are not included in any of the models and that are undoubtedly influencing multiple aspects of each of the school systems, including teacher job attitudes. Given the quantitative nature of this research project, the many cultural, societal, and sociopolitical issues present in all geographical regions represented by this study are highly influential, and are beyond the scope, design, and methodological procedures utilized in my study. For instance, the vast majority of Indian Nations experience excessive chronic rates of unemployment – which produce the associated poverty evidenced in the demographic information previously shared. The levels of violent crimes (including domestic violence) are typically much higher than the national averages as well. The historical contexts of each Nation's relationship with the U.S. government are also factors that impact the Native's perspective on the role and/ or value of public education as an extension of the government. The legal jurisdictional quandary that impacts every reservation community is yet another issue that impacts daily life *on the rez*. These factors are but a few of the forces at work.

A second limitation of this study is due to differences in the stratification procedures used across the different sectors of the SASS administration. It is important to note that the BIE sampling frame was not designed to produce two discrete sets, yet the BIE teacher and school data files were subdivided into BIE and tribally controlled

schools and teachers. Although I do not opine that this procedure has produced a substantial impact on the results of the study, the original dataset was designed to be representative at the national level. Another limitation of this study was inherent in the data – many of the BIE sector schools only had one teacher associated with them and this eliminated a number of statistical techniques which might have otherwise been utilized (e.g., hierarchical linear modeling).

5.4 Implications

This section discusses how the findings obtained from this research project may be further developed by future researchers across multiple contexts both within and outside the NAAN educational arena. How the study findings may be incorporated into policy-making process at different levels is also presented.

5.4.1 Suggested Further Research

As an extension to this study, the parsimonious models of job satisfaction and organizational commitment can be applied to various educational systems at the state, tribal, regional (i.e., Arizona portion of the Navajo Nation), or even school level to examine teacher job attitudes and working conditions within their own prescribed contexts. One example of this might be seen at school systems located along the U.S.-Mexico border communities because schools in these areas generally experience greater teacher turnover and high student mobility, two conditions exhibited in many reservation communities. Other areas of exploration with respect to teacher job attitudes might center on additional influences such as the selectivity of teacher undergraduate institutions,

union membership, or teacher influence at the school level. Further exploration on the impacts of select personnel policies such as probationary periods, teacher tenure, and Indian preference in hiring are warranted as other points of inquiry.

A second extension or complement to what I have done would include conducting more in-depth qualitative work that would enable the determination as to why some of the perceptual differences presented here exist. Schools that conduct exit interviews with departing teachers might serve as an initial sample source. Some questions to consider might be the following: Does Lawler's model serve in explaining perceptual differences of pay or job satisfaction in a given context? What factors account for the remaining 50% of model variance for job satisfaction and organizational commitment? Obtaining accurate school-level turnover data would facilitate an entirely new line of research questions such as the following: Do schools employing Indian preference in hiring policies and/ or tribal preference in hiring policies (e.g., Navajo Preference in Employment Act) enjoy greater employee retention?

Other threads of future research should include parent and student voices on their experiences with schools. Thusly, parent involvement and student engagement could become focal points in the research framework; these are two factors that are universally prevalent challenges facing schools.

5.4.2 Implications for Policy

The completion of this research is particularly timely in that there is a strong push for usurpation of the remaining BIE-operated schools by tribal governments. In fact, at this time, the Navajo Nation is attempting to construct a 66-school district that would

encompass all currently BIE-funded schools within the Navajo Nation boundaries. The information produced by this research project, such as disparities in pay, student-to-staff ratio, new teacher rates, and teacher working conditions and attitudes across school types, will hopefully serve as focal points for refinement of human resource policies including salary schedules and staffing ratios. Below I illustrate the significance of the study findings with respect to policy implications.

This study has verified that administrative support is highly associated with each of the teacher job attitudes: organizational commitment, job satisfaction, and pay satisfaction. The fact that prior research has shown each of these variables is predictive of teacher turnover essentializes the impetus for improving administrative support in order to retain quality teachers. The fact that administrative support is perceived to be much higher among TCS teachers than BIE teachers is a critical juncture that should be explored by the administrators and governing boards of both school systems. This phenomenon is relevant to the tribally controlled schools because the TCS new teacher rates reflect a much greater turnover even though it should be less, ceteris paribus, due to the increased support from administration. The BIE administrators and school boards should anticipate that TCS will eventually reallocate resources and increase their pay schedules; therefore, it behooves the BIE-operated school systems to increase administrative support and retain quality teachers in the face of more competitive salary schedules.

Salary schedules, pay satisfaction, and student-to-staff ratios are critical points in the discussion of the chronic teacher shortages routinely confronted by schools on or near Indigenous communities. With respect to employee compensation, in the event that tribal

governments acquire complete authority over the BIE-operated schools located within their jurisdictions, I posit that, unless careful evaluation is given to the TCS, BIE, and public school salary schedules, such a political transition will lead to a self-inflicted political wound that will manifest in the form of greater shortages of teachers at tribally operated schools. I base this claim on the likelihood that BIE teachers at schools that transition to TCS status will choose to exit the tribally controlled schools and opt to move to nearby public schools that offer more attractive pay and, typically, improved job security in the form of tenure. In order to make the TCS more attractive to potential applicants, tribal governments must include a robust review of current staffing patterns at TCSs followed by the elimination of any unnecessary "make work" positions. The additional funding produced by these reductions in force will then be allocable toward increasing TCS teacher salaries to more competitive levels (see Appendix E for a recent example of this phenomenon).

At the university level, educational leadership programs which generate leaders of BIE, TCS, Alaskan and public schools could incorporate teacher job attitude research into their principal and superintendent preparation programs. Developing such a psychology-based job attitude course that stresses the impactful nature of administrative support, student engagement, and teacher autonomy on teacher job attitudes should ultimately lead to improved principal performance due to the administrator's increased understanding of teacher-level affect. At the school level, the incorporation of teacher job attitude data in the administrator's evaluation system would serve as an incentive for administrators to align their practices and reallocate some resources (i.e., time, etc.) toward the betterment of teacher job attitudes.

At the building administrator level, as leaders work to reshape their organization's culture, it is incumbent upon them to examine potential teacher candidates' metaphors with regard to their motivation for being in the field of education. Does an applicant operate from a visionary, reformer, savior, or opportunist mindset or framework (Castro, 2014)? A teacher's framework toward the teaching profession will undoubtedly influences their perspectives on the students and the school community (Castro, 2014) and likely their working relationships with colleagues and commitment to the employing organization as well.

Finally, I strongly recommend that the federal government reinstate the data collection of the BIE school sector in future SASS and TFS administrations. This project has demonstrated that the data are indeed capable of being utilized in academic research, which will foment policy recommendations and guide practices specific to the Native American Alaskan Native educational context. Therefore, it is only just that the BIE sector schools and teachers should be included in future SASS and TFS administrations. If the federal government chooses to continue disenfranchising the BIE-funded schools from the SASS and TFS administrations, it may be possible for the BIE or even some of the larger Indian Nations to include their own SASS-based research as an element of their school improvement programs. The policy recommendations distilled from this discussion can be summarized as follows:

- Administrative support is immensely powerful and influences all three teacher job attitudes: organizational commitment, job satisfaction, and pay satisfaction
- Salary schedules, pay satisfaction, and student-to-staff ratios must be

discussed as schools serving high NAAN populations attempt to minimize teacher turnover

- Universities offering principal and superintendent preparation programs should incorporate teacher job attitude and working condition research
- The federal government should reinstate the data collection of the BIE school sector in future SASS and TFS administrations in order to enable the same quality of research as is conducted in mainstream society

5.5 Summary

The results of this study have shown that organizational working conditions found to influence teacher turnover in previous studies also affect teacher job attitudes within Indian Nation settings. Furthermore, there are some significant differences in working conditions and job attitudes across the BIE, TCS, Alaskan, and public school groups.

The findings presented herein provide substantial groundwork for future research in the field of Native American Alaskan Native education. The study findings are also timely for the current political climate in the NAAN educational arena and lend themselves to inclusion in the discussion of future changes to various policy and practice initiatives.

Finally, this study has clearly shown that administrative support is strongly associated with three organizational-level teacher working conditions: organizational commitment, job satisfaction, and pay satisfaction. The fact that there are minimal costs associated with enhancing many of the facets of administrative support (i.e., staff recognition, rule enforcement, etc.) provides a ripe opportunity to impact schools in

manners which will serve to improve teacher job attitudes, improve teacher retention, and ultimately increase student achievement.

APPENDIX A

LETTER FROM COMMISSIONER JACK BUCKLEY

Appendix A.1. Letter from Commissioner Jack Buckley

U.S. DEPARTMENT OF EDUCATION
INSTITUTE OF EDUCATION SCIENCES

NATIONAL CENTER FOR EDUCATION STATISTICS

Mr. Don Stryker
1335 University Village
Salt Lake City, Utah 84108

July 29, 2011

Dear Mr. Stryker:

Thank you for your email of July 22 to Secretary Duncan concerning the inclusion of BIE schools in the 2011-12 Schools and Staffing Survey (SASS). As you know, the National Center for Education Statistics (NCES) is responsible for administering SASS, and the Secretary asked that my office respond.

You are correct; NCES will not be including a census of BIE schools in its 2011-12 SASS. NCES was unable to procure funding in time for this collection. NCES is not ruling out the possibility of a census for the 2015-16 SASS and will work diligently to obtain funding for the next collection.

NCES appreciates your offer of assistance, and looks forward to seeing your analysis of the 2007-08 BIE data. We would very much appreciate copies of your research, as it may help to solidify the importance of this collection.

Sincerely,

Jack Buckley
Commissioner

APPENDIX B

GALLUP INDEPENDENT ARTICLE #1

July 3, 2003

Kayenta school board dismissed

Probe alleges spending abuses

Larry Di Giovanni
Staff Writer

WINDOW ROCK — The Kayenta Community School Inc. governing board had its powers stripped Tuesday by the Navajo Nation Education Committee after a fact-finding mission submitted evidence of abuse of travel, meeting stipends and other misspent federal education funds.

The investigation, conducted by a five-member team from the tribal Education Department, also found that three Kayenta Community School board members did not submit certification documents required by a March 17 deadline. The delayed documents, which included a requirement that each of the seven board members sign a code of ethics and an acknowledgment that they read and understand the U.S. code regarding criminal activities related to grants and contracts jeopardized the school's three-year, $8 million grant re-authorization.

The findings, relayed through the North Central Association's Monitoring and Technical Services in conjunction with the Division of Din Education, stressed that the school's problems involved bitter disagreements over the proper chain of command for school spending and meeting notice requirements. The administrative feud often pitted school board President Beverly Becenti-Pigman against school Superintendent Dan Bradfield, the investigative team found. Bradfield had his contract renewed for another year in April, but he has been on school board-initiated administrative leave since June 6.

By dismissing the Kayenta Community School board by a 5-0 count with one abstention, the Education Committee placed Kayenta Community School governance in the hands of Shiprock Alternative Schools Inc., another grant-community school. Such schools are former BIA schools now locally controlled, which still receive federal education funds. The Education Committee's action isn't final. That decision rests today with the powerful

Intergovernmental Relations Committee, consisting of the chairs of each of the tribe's 11 standing committees and presided over by the Navajo Nation Council speaker.

Shiprock Alternative Schools Inc., which has a new $27 million campus for its alternative high school, provided a letter from its board Monday to the Education Committee. The SASI board stated its willingness to provide governance of Kayenta Community School for as long as necessary to ensure that educational programs for its 500 students in grades K-8 are "not jeopardized." In order to govern the Kayenta school for the academic year that started Tuesday and perhaps beyond one year Shiprock Alternative Schools will have to apply for a grant amendment to administer Kayenta Community School programs.

Due to Kayenta Community School board negligence, the school's federal funding authorization expired Friday, the investigation found.

The Education Committee's action was preceded by an emotional protest from several Kayenta community members led by Becenti-Pigman. She and others said the investigative report was only provided Friday, which did not allow time for a properly prepared response and due process.

"It hurts me to know you people are doing this ... it's very one-sided," Becenti-Pigman said.

Committee members including Chairman Leonard Chee, Vice Chairman Wallace Charley and Katherine Benally remained resolute that the school board had been given ample time to correct its problems before they got to the crisis stage involving failure to meet a grant re-authorization deadline.

Kayenta Community School's grant status required "extreme measures" from the Education Committee by way of immediate action, Benally said. And she added that having the SASI board administer the school is a workable solution because its board "has its heart with their children's learning."

"We're not on anybody's side. We're here for the children," Chee said.

Charley noted that the five-member investigative team interviewed each of the school board members and gave them a reasonable amount of time that it takes to produce required documents. But it didn't happen and the grant application deadline expired.

Becenti-Pigman, Kayenta community member Mary Ann Navajo and others alleged that Bradfield, their on-leave superintendent, had threatened "to shoot the board" if his contract was not renewed. Becenti-Pigman obtained a temporary restraining order against Bradfield, the status of which went back to tribal court this week.

Bradfield did not attend Tuesday's special Education Committee meeting. Reached for comment Wednesday, he said Becenti-Pigman and three others on the board who support her have "attacked me from every angle" to challenge his day-to-day role as top school administrator. The school's principal, Alan Rumsey, recently informed the board of his decision to resign within 30 days, Bradfield said while interviewed from his home in

Kayenta. Bradfield said he rid the school of its Council of Elders, including Navajo and others, whom he said were receiving $100 meeting stipends and being "disruptive" to the educational process when on school grounds.

Bradfield said he never threatened anyone on the board. Becenti-Pigman and her supporters want him removed because Bradfield said he would not tolerate their abuse of meeting stipends, abuse of travel, abuse of federal grant moneys for a Special Diabetes Project and other issues involving board spending malfeasance.

Bradfield said he has appreciated the Division of Din Education's support concerning his problems with four of the board members, but said at this point he will reluctantly resign as long as he's paid the year on his contract that the board approved in April. Education Committee members said they have found no evidence that he made a death threat to the board.

"The administrator (Bradfield) has tried unsuccessfully in curbing school board expenditure and complying with the policies and procedures manual," the investigative report determined. "It appears that when he tries to enforce policies, his efforts worked against him, thereby resulting in ... a possible dismissal. The 'at will' policy creates much tension and anxiety for school administrators."

The investigation found that by February, the Kayenta Community School Inc. governing board had exhausted its allowable board budget for travel and meeting expenses, which by law amounted to 1 percent or $37,000 of the $3.7 million in per-student federal funding the school received for the year. At that point, the board replenished its budget by using 2 percent of the "encumbrance" funds from vacant positions within the administration.

Findings also showed that two board members were being reimbursed for car travel at the rate of 31.5 cents per mile by driving to board meetings from Phoenix and Peabody Western Coal Co.'s Black Mesa Mine. The mileage is only supposed to be reimbursed from a person's in-community home or chapter house to the board meeting.

The investigation revealed that due to improper posting and inadequate notice given for board meetings, the board held more than five illegal meetings for which they got paid at a rate of $100 for a regular meeting and $60 for a special meeting. Bradfield said when he tried to stop the meetings and explain that they were "null and void," the board's attorney from the Hufford, Horstman and Mongini firm of Flagstaff would intervene on the board's behalf and allow them to continue. The findings from the investigation backed that assertion.

Bradfield said the school's attorneys have made considerable sums for themselves by completing Becenti-Pigman's agenda work for her.

APPENDIX C

GALLUP INDEPENDENT ARTICLE #2

September 30, 2003

BIA steps into Kayenta school mess, by Pamela G. Dempsey, Dine Bureau

Window Rock-Kayenta Community School has had more than its share of "first days" during this year. Sept. 26 was no exception.

Friday marked the first day the Bureau of Indian Affairs stepped in to take the school back over.

In a letter to Navajo Nation President Joe Shirley, Jr., the Principal Deputy Assistant Secretary of the BIA, Aurene Martin, stated the Navajo Nation "retroceded" the Kayenta Community School Board, Inc. grant to BIA.

"I have been informed that the Shiprock Alternative School will not be able to meet any financial obligations for the Kayenta Community School Board, Inc. after Sept. 26, 2003," she wrote. "Because the Navajo Nation has not provided the Bureau of Indian Affairs with a legal solution to this difficult situation, it has effectively retroceded the Kayenta Community School Board Inc. grant to the Bureau of Indian Affairs."

The retrocession, Martin stated, "is effective immediately".

"The president's position has been very clear from the very beginning," said Deana Jackson, senior press officer for the Office of the President and Vice President. "Community schools such as this should be governed by a body of people put in place by the people in their community.

The bureau has taken measure like this in other situations, Jackson said. The President sees this as them providing technical assistance with the ultimate goal of giving the power back to the community.

In July, both the Education and IGR Committees passed resolutions placing Kayenta Community Schools under the hands of SASI, after the Division of Dine Education investigated allegations of abuse of mileage claims, misuse of funds and due process for administrators.

To gain operating funds for the 2003-04 school year, SASI needed to amend its grand to include Kayenta Community School or KCSB needed to gain re-authorization, which it failed to do before its contract expired June 30.

In a letter to Martin dated Aug. 25, Louis Denetsosie, Attorney General for the Navajo Nation Department of Justice, supported Shirley's position on questioning the authority of the IGR and Education Committees in "assigning the administration and operation of the Kayenta Community School to Shiprock Alternative Schools, Inc. at the expense of the Kayenta Community School Board."

"I agree with the Navajo Nation President tha the IGRC and EC did not comply with the Navajo Nation policies adopted by the Navajo Nation Council in approving Resolutions IGRC-11-03 and ECJY-44-03," Denetsosie stated

Martin referred to this opinion in her letter.

"If the resolution rescinding Kayenta's authority to receive a grand is not valid, the Bureau continues to have a grant agreement with the Kayenta Community School Board, Inc.," Martin stated. "However, again the Navajo Nation as a whole has not expressed an interest in amending the Kayenta grant for a full year."

The IGR and Education Committee held a special meeting Monday to discuss their concerns over Martin's decision.

"We still need to believe the resolution and we need to respect that authority," said Speaker Lawrence T. Morgan (Iyanbito/ Pinedale) in a press release. "If we believe in our legislation and authority, we carry on. If you believe no individual should overturn your decision, I agree with you."

Two of their biggest concerns were Denetsosie's opinion to Martin and the definition of "retrocession".

"How much influence does the President have over what you say or even what you think?" Education Committee chairperson, Leonard Chee (Birdsprings/ Leupp/ Tolani Lake) asked Denetsosie. "Obviously, he has been supporting a small group that supports the former board. Obviously, he doesn't support these resolutions."

Denetsosie responded his letter was based on Navajo Nation Code as adopted by the Navajo Nation Council and he was merely responding to a request from Martin. His opinion, he said, was in lieu of the committee's consultations and contact with people of the local community. He said there was no indication attached to the resolution of that.

"It was because of the community people's complaints to the previous Education Committee and eventually to this committee that we took an interest in their concerns and issues," said Katherine Benally (Dennehotso). "We have documentation of file, even by the previous committee that here was community involvement."

Frank Seanez, attorney for the Navajo Nation, told the committee members at the IGR meeting that the definition of "retrocession" is the return to the secretary of a contracted

program for any reason before the expiration of that contract. He said it is a voluntary act that must be done during the term of the contract.

“To ‘retrocede’ means it needs to be done voluntarily, said Karen Francis, public information officer of the Speaker’s Office in a later interview. “The (Education Committee) never gave up control of Kayenta Community School the Bureau of Indian Affairs.”

With all the controversy, Wallace Charley (Shiprock) wanted the committees to know that the school is open and in operation.

“I want to reassure the IGR committed that students are in class, teachers have been hired, and books have been ordered,” Charley said.

The BIA could not be reached for comment.

The Education Committee is holding a special meeting at Kayenta Community School at 10 a.m. today. They will be voting on two resolutions-one rescinding a former resolution which supported Kayenta Community School Board, Inc. to continue its grant and the second, which amends SASI’s grant to include operation of Kayenta Community School.

“With the former Kayenta Community School board, they were being deprived of an education,” said Patricia Parrish, one Kayenta parent who attended Monday’s meeting. “The SASI board is doing a good job. They cleaned up the building. More classrooms have been opened. They hired good teachers. The kids are actually happy now.”

APPENDIX D

ARIZONA DAILY SUN ARTICLE

Leupp Schools Inc. to lay off 21 in restructure

CORINA VANEK Sun Staff Reporter

Feb 17, 2016

After an IRS audit revealed a nonpayment of federal taxes of more than $100,000, Leupp Schools, Inc. leaders voted to eliminate 21 staff positions Wednesday afternoon, officials said.

The school was closed Wednesday, according to the school website.

Unaffected is the Flagstaff Unified School District-run Leupp School, which is not part of the Navajo Nation school system.

“As a precautionary measure for the safety of students and staff, the Leupp School Administration has declared a non-school day Thursday, February 18, 2016,” a notice on the school website said. “A report of this action will be provided as soon as all information has been compiled. We assure you while there is no current threat to the health and safety of students and staff, this action is being taken as a precautionary measure.”

In a press release, Tommy Lewis, the Superintendent of Schools in the Department of Dine Education, said he was worried about the school’s future.

Lewis said he became aware of the school’s financial problems in August of 2015.

“We will continue to monitor the school to make sure student safety and learning is not interrupted,” Lewis said in a press release.

In a statement, Lewis said the reduction in force would be the only way the school could get through the year without running out of money.

Department spokesman Albert Deschine said IRS audits from August and September 2014 revealed the school failed to pay $108,775 in federal taxes.

In the press release, Deschine said Lewis and the Office of Accountability and Compliance of the Department of Dine Education produced a reorganization plan in 2015 in response to parent concerns about mismanagement of money.

“We assisted in outlining a plan on how the school could declare a reorganization and possibly a reduction in force so the school would have funds to the end of the school year,” Lewis said in a statement. “The projection at the time was that if a reorganization was not declared by the board right away, the school could possibly run out of money by March 2016.”

Darrick Franklin, a senior education specialist in the Department of Dine Education, said the layoff will affect both classified and certified staff, including some teachers. He said 51 employees will remain employed at the school.

The school enrolls 147 students in kindergarten through high school, Deschine said.

Deschine said it was unclear if there would be criminal liability for the unpaid taxes.

The reporter can be reached at cvanek@azdailysun.com or 556-2249.

APPENDIX E

PAIRWISE CORRELATIONS FOR ALL VARIABLES

Table E.1

		1.	2.	3.	4.	5.
1.	Pay satisfaction	1				
2.	Org. commitment	0.2394*	1			
3.	Job satisfaction	0.2123*	0.6295*	1		
4.	Total years experience	0.0627*	0.0857*	0.0442	1	
5.	Years at current school	-0.0064	0.0559*	0.0350	0.5801*	1
6.	Teaching salary (log)	0.2353*	0.0688*	0.0405	0.4478*	0.2920*
7.	Enrollment (log)	-0.1048*	-0.0222	-0.014	0.0688*	0.0859*
8.	NAAN enrollment	0.1318*	-0.1528*	-0.0557	-0.0586*	-0.1018*
9.	Poverty enrollment	0.0198	-0.1019*	-0.0447	-0.0336	-0.0561*
10.	Student to staff ratio	-0.0377	0.1213*	0.0783*	0.0208	0.0200
11.	Entry level salary (log)	0.2176*	0.0532	0.0280	-0.0105	-0.0538
12.	Autonomy	0.0153	0.2504*	0.2187*	0.0620*	0.1076*
13.	Administrative support	0.1947*	0.5871*	0.5699*	0.0340	-0.0284
14.	Student engagement	-0.0672*	-0.3506*	-0.3262*	0.0043	-0.0165

Note: * indicates significance of $p<.05$.

Table E.2

		6.	7.	8.	9.	10.
6.	Teaching salary (log)	1				
7.	Enrollment (log)	0.0768*	1			
8.	NAAN enrollment	-0.0366	-0.2500*	1		
9.	Poverty enrollment	-0.0391	-0.0456	0.3712*	1	
10.	Student to staff ratio	0.1312*	0.4536*	-0.4775*	-0.2213*	1

Note: * indicates significance of $p<.05$.

Table E.3

		11.	12.	13.	14.
11.	Entry level salary (log)	1			
12.	Autonomy	-0.0795*	1		
13.	Administrative support	0.0647*	0.2689*	1	
14.	Student engagement	-0.0353	-0.0236	-0.3676*	1

Note: * indicates significance of $p<.05$.

Table E.4

		15.	16.	17.	18.	19.
15.	Male	1				
16.	Native teacher	-0.0913*	1			
17.	New teacher	0.0104	0.0066	1		
18.	Young	-0.0138	-0.047	0.5211*	1	
19.	Old	-0.0285	-0.014	-0.2526*	-0.3374*	1
20.	Secondary level	0.3281*	-0.0926*	-0.0264	-0.0338	0.0256
21.	Incomplete licensure	0.0255	-0.0004	0.3374*	0.1955*	-0.1148*
22.	Master's degree	-0.0486	-0.0522	-0.1959*	-0.1912*	0.1517*
23.	School level (Elem.)	-0.1969*	0.0457	0.0031	0.0053	-0.0333
24.	School level (Sec.)	0.2281*	-0.0849*	-0.0470	-0.0456	0.0224
25.	Urban	0.0368	-0.0656*	0.0134	0.0577*	-0.0076
26.	Suburban	-0.0321	0.0348	0.0100	0.0103	-0.0185
27.	BIE	0.0042	0.2509*	-0.0705*	-0.0662*	0.1042*
28.	Alaskan	-0.0185	-0.0854*	0.0226	0.0924*	-0.0485
29.	Public	0.0404	-0.2315*	-0.004	-0.0004	-0.0386

Note: * indicates significance of $p<.05$.

Table E.5

		20.	21.	22.	23.	24.
20.	Secondary level	1				
21.	Incomplete licensure	0.0188	1			
22.	Master's degree	0.0697*	-0.0666*	1		
23.	School level (Elem.)	-0.4672*	-0.0428	-0.0216	1	
24.	School level (Sec.)	0.5389*	-0.0246	0.0816*	-0.4889*	1
25.	Urban	0.0647*	-0.0157	0.0292	0.0164	0.1572*
26.	Suburban	-0.0648*	-0.0256	0.0529	0.1800*	0.012
27.	BIE	-0.0479	-0.0569*	0.0740*	0.1034*	-0.0217
28.	Alaskan	-0.0585*	0.1050*	-0.0234	-0.1425*	-0.1354*
29.	Public	0.1688*	-0.0765*	-0.0116	0.1048*	0.2728*

Note: * indicates significance of $p<.05$.

Table E.6

		25.	26.	27.	28.	29.
25.	Urban	1				
26.	Suburban	-0.1178*	1			
27.	BIE	-0.0084	0.0188	1		
28.	Alaskan	-0.043	-0.1064*	-0.1496*	1	
29.	Public	0.1608*	0.0785*	-0.2845*	-0.4010*	1

Note: * indicates significance of $p<.05$.

APPENDIX F

GROUP MEAN TEACHER AGE

Table F.1

Variable	School type	Mean	SE	95% Conf. Interval	
Mean teacher age	BIE - Operated Schools	48.75	1.25	46.27	51.23
	Tribally Controlled Schools	45.67	0.60	44.47	46.87
	Alaskan Schools	43.04	0.95	41.15	44.93
	High NAAN Schools	43.63	0.89	41.86	45.40

APPENDIX G

PERCENTAGE OF NEW TEACHERS

Table G.1

Variable	School type	Mean	SE	95% Conf. Interval	
Percent new teachers	BIE - Operated Schools	0.10	0.03	0.04	0.16
	Tribally Controlled Schools	0.20	0.02	0.15	0.24
	Alaskan Schools	0.19	0.03	0.13	0.25
	High NAAN Schools	0.21	0.04	0.12	0.29

REFERENCES

Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology, 2,* 267-299. Retrieved August 11, 2011 from, Utah.illiad.oclc.org

Alutto, J. A., & Belasco, J. A. (1973). Patterns of teacher participation in school system decision making. *Educational Administration Quarterly, 9*, 15-26. Retrieved October 15, 2011 from, http://eaq.sagepub.com.

Audrey Amrein-Beardsley. (2007). Recruiting expert teachers into hard-to-staff schools, *PhiDelta Kappan*, *89*, 64-67. Retrieved April 14, 2010 from, http://www.jstor.org/stable/20442411

Angle, H. L., & Perry, J. L. (1981). An empirical assessment of organizational commitment and organizational effectiveness. *Administrative Science Quarterly. 26*, 1-14. Retrieved August 20, 2011 from, EbscoHost Business Source Premier database.

Argyris, C. (1972). *The applicability of organizational sociology*. Cambridge, MA: The University Press.

Barnes, G., Crowe, E., & Schaefer, B. (2007). *The cost of teacher turnover in five school districts: A pilot study*. (ERIC Document Reproduction Service No. ED497176)

Bateman, T. S., & Strasser, S. (1984). A longitudinal analysis of the antecedents of organizational commitment. *Academy of Management Journal, 27*, 95-112. Retrieved August 21, 2011 from, EBSCOHost Business Source Premier.

Becker, G. S. (1977). *Human capital: A theoretical and empirical analysis, with special reference to education* (2nd ed.). New York: National Bureau of Economic Research.

Becker, H. S. (1960). Notes on the concept of commitment. *The American Journal of Sociology*, *66*, 32-40. Retrieved June 12, 2010 from, http://www.jstor.org/stable/2773219

Belasco, J., & Alutto, J. (1972). Decisional participation and teacher satisfaction. *Educational Administration Quarterly, 8*, 27-41. Retrieved December 6, 2010 from, http://eaq.sagepub.com.

Betts, J. R., Ruben, K. S., & Danenberg, A. (2000). *Equal resources, equal outcomes? The distribution of school resources and student achievement in California*. Public Policy Institute of California. Retrieved from December 8, 2011 from, www.ppic.org/content/pubs/report/R_200JBR.pdf

Billingsley, B. S., & Cross, L. H. (1992). Predictors of commitment, job satisfaction, and intent to stay in teaching: A comparison of general and special educators. *The Journal of Special Education, 25*, 453-471. Retrieved June 26, 2011 from, EBSCOHost Academic Search Premier database.

Bitsoi, A. L. (2014, December 14). Educators say no to BIE schools proposal. *The Navajo Times*, pp. A1, A3.

Bobbit, S., Faupel, E., & Burns, S. (1994). *Characteristics of stayers, movers and leavers: Results from the Teacher Follow Up Survey, 1988-1989* (NCES 91-128). U. S. Department of Education. Washington, D.C: National Center for Education Statistics. (ERIC Document Reproduction Service No. ED335411)

Bogler, R., & Somech A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teaching and Teacher Education, 20*, 277-289. Retrieved June 26, 2011 from Elsevier ScienceDirect Complete database.

Brown, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. *Testing Structural Equation Models*, 136-162. Retrieved February 13, 2015 from, Utah.illiad.oclc.org

Bureau of Indian Affairs. (1976). *Handbook for decision makers on Title I of the Indian Self-Determination and Education Assistance Act, revised*. Washington, DC: Federal Register. (ERIC Document Reproduction Service No. ED134355)

Bureau of Indian Education. (2011). *The Bureau of Indian Education*. Retrieved August 20, 2011 from, http://www.bia.gov/WhoWeAre/BIE/index.htm

Bureau of Indian Education, Accountability Division. (n.d.) *BIE STATS Package 2007-2008.* Retrieved January 28, 2010 from, http://www.bie.edu/site_res_view_folder.aspx?id=56891471-de08-4a01-bdf1-9e8eef2619a5

Carlsen, W. S., & Monk, D. H. (1992). Differences between rural and nonrural secondary science teachers: Evidence from the longitudinal study of American youth. *Journal of Research in Rural Education, 8*, 1-10. Retrieved December 6, 2011 from, http://www.jrre.psu.edu/articles.html.

Castro, A. J. (2014). Visionaries, reformers, saviors, and opportunists: Visions and metaphors for teaching in the urban schools. *Education and Urban Society, 46*, 135-160. Retrieved April 29, 2016 from, http://eus.sagepub.com.ezproxy.lib.utah.edu/content/46/1/135.full.pdf+html

Choudhary, T. (2002). *Navajo Nation data from U.S. Census 2000.* Window Rock, AZ: Division of Economic Development, Navajo Nation. Retrieved January 6, 2011 from, http://www.navajobusiness.com/pdf/NNCensus/Census2000.pdf.

Collie, R. J., Shapka, J. D., & Perry, N. E. (2011). Predicting teacher commitment: The impact of school climate and social-emotional learning. *Psychology in the Schools*, *48*, 1034-1048. Retrieved February 29, 2016 from EBSCOhost.

Cranny, C. J., Smith, P. C., & Stone, E. F. (1992). *Job satisfaction*. New York: Lexington.

Dempsey, P. G. (2003, September 30). BIA steps into Kayenta school mess. *The Gallup Independent*, pp. A1, A2.

DeVoe, J.F., & Darling-Churchill, K.E. (2008). Status and Trends in the Education of American Indians and Alaska Natives: 2008 (NCES 2008-084). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved May 8, 2015 from, http://nces.ed.gov/pubs2008/2008084.pdf

Di Giovanni, L. (2003, July 3). Kayenta school board dismissed. *The Gallup Independent*, pp. A1, A2.

Ellis, N. H., & Bernhardt, R. G. (1992). Prescription for teacher satisfaction: Recognition and responsibility. *The Clearing House, 65*, 179-182. Retrieved June 8, 2010 from, http://www.jstor.org/stable/30188947

Erickson, J. L. Terhune, M. N., & Ruff, W. G. (2008). Measuring work conditions for teachers of American Indian students. *Researcher*, *21*, 1-10. Retrieved December 15, 2009 from, http://www.nrmera.org/?q=node/175.

Etzioni, A. (1961). *A comparative analysis of complex organizations on power, involvement, and their correlates*. New York: The Free Press of Glencoe, Inc.

Executive Order 13592, 3 C.F.R. 76603 (2011).

Faircloth, S. C., & Tippeconnic, J. W., III. (2010). *The dropout/ graduation crisis among American Indian and Alaska Native students: Failure to respond places the future of Native peoples at risk.* Los Angeles, CA: The Civil Rights Project/ Proyecto Derechos Civiles at UCLA. Retrieved July 14, 2016 fromwww.civilrightsproject.ucla.edu

Firestone, W. A., & Pennell, J. R. (1993). Teacher commitment, working conditions, and differential incentive policies. *Review of Educational Research, 63*, 489-525. Retrieved August 5, 2010 from, http://www.jstor.org/stable/1170498

Fuchs, E., & Havighurst, R. J. (1972). *To live on this earth*. Garden City, NY: Doubleday & Company, Inc.

Glisson, C., & Durrick, M. (1988). Predictors of job satisfaction and organizational commitment in human service organizations. *Administrative Science Quarterly, 33*, 61-81. Retrieved July 14, 2016 from, http://www.jstor.org/stable/2392855

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26*, 463-488. Retrieved July 14, 2016 from, jom.sagepub.com

Grissom. J. A., & Keiser, L. R. (2011). A supervisor like me: Race, representation, and the satisfaction and turnover decisions of public sector employees. *Journal of Policy Analysis and Management*, *30*, 557-580. Retrieved July 14, 2016 from, http://onlinelibrary.wiley.com.ezproxy.lib.utah.edu/doi/10.1002/pam.20579/epdf

Hackman, R. J., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley Publishing Company.

Hanushek, E. A., & Rivkin, S. G. (2007). Pay, working conditions, and teacher quality. *The Future of Children, 17*, 69-86. Retrieved December 12, 2010 from, http://www.jstor.org/stable/4150020

Herzberg, F., Mausner, B. & Snyderman, B. B. (1959). *The motivation to work*. New York: Chapman & Hall, Limited.

Hill, A., & Hirshberg, D. (2013). *Alaska Teacher Turnover, Supply, and Demand: 2013 Highlights.* Retrieved March 23, 2015 from, http://www.anchorage-education.com/ media/Symposium_2_pdf/TeacherTurnover.pdf

Holdaway, E. A. (1978). Facet and overall satisfaction of teachers. *Educational Administration Quarterly, 14*, 30-47. Retrieved February 8, 2011 from, eaq.sagepub.com

Hoppock, R. (1935). *Job satisfaction*. New York: Harper & Brothers Publishers.

Hrebiniak, L. G., & Alutto, J. A. (1972). Personal and role-related factors in the development of organizational commitment. *Administrative Science Quarterly*, *17*, 555-573. Retrieved July 14, 2016 from, http://www.jstor.org/stable/2393833

Huberman, M. (1993). The model of the independent artisan in teachers' professional relations. In J. W. Little & M. W. McLaughlin (Eds.), *Teachers' work: Individuals, colleagues, and contexts* (pp. 11-50). New York: Teachers College Press.

Hunter, J. E., & Schmidt, F. L. (1990). *Methods of meta-analysis: Correcting error and bias in research findings*. Newbury Park, NY: Sage Publications.

Indian Self-Determination and Education Assistance Act. 25 U.S.C. 450 (1975).

Ingersoll, R. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, *38*(3), 499-534. Retrieved May 27, 2008 from, http://www.jstor.org/stable/3202489

Ingersoll, R. (2001a). *Teacher turnover, teacher shortages, and the organization of schools*. Center for the study of teaching and policy, University of Washington. Document R-01-1. Retrieved November 5, 2009 from, http://depts.washington.edu/ctpmail/PDFs/Turnover-Ing-01-2001.pdf

Ingersoll, R. (2003). *Is there really a teacher shortage?* Center for the Study of Teaching and Policy, University of Washington. Retrieved April 2010 from, http://depts.washington.edu/ctpmail/PDFs/Shortage-RI-09-2003.pdf

Ingersoll, R., & Alsalam, (1997). *Teacher professionalism and teacher commitment: A multilevel analysis.* (NCES 97-069). U.S. Department of Education. Washington, DC: National Center for Educational Statistics. Retrieved July 14, 2016 from, http://nces.ed.gov/pubs/97069.pdf

Ingersol, R., & Smith, T. (2003). The wrong solution to the teacher shortage. *Educational Leadership*, *60*(8*)*, 30-33. Retrieved July 14, 2016 from, EBSCOhost database.

Jackson, D. L., Gilaspy, J. A., Jr., & Purc-Stephenson, R. (2009). Reporting practices in Confirmatory Factor Analysis: An overview and some recommendations. *Psychological Methods*, *14*, 6-23. Retrieved July 14, 2016 from, EBSCOhost database.

Johnson, S. M. (2006). The workplace matters: Teacher quality, retention, and effectiveness. Best practices NEA research: Working paper. Retrieved April 19, 2010 from, http://www.nea.org/assets/docs/HE/mf_wcreport.pdf.

Judge, T. A., Piccollo, R. F., Podsakoff, N. P., Shaw, J. C., & Rich, B. L. (2010). The relationship between pay and job satisfaction: A meta-analysis of the literature. *Journal of Vocational Behavior, 77*, 157-167. Retrieved December 12, 2015 from ScienceDirect.com

Keigher, A. (2009). *Characteristics of Public, Private, and Bureau of Indian Education Elementary and Secondary Schools in the United States: Results from the 2007-08 Schools and Staffing Survey* (NCES 2009-321). U.S. Department of Education. Washington, DC: National Center for Education Statistics. (ERIC Document Reproduction Service No. ED134355)

Kiesler, C . A. (1971). *The psychology of commitment: Experiments linking behavior to belief*. New York: Academic Press.

Klienfeld, J., & McDiarmid, G. W. (1986). The satisfaction of Alaska's isolated rural teachers with their work life. *Research in Rural Education, 3*, 117-120. Retrieved on 07/14/2016 from http://jrre.psu.edu/?page_id=1884

Kluckhohn, C., & Leighton, D. (1947). *The Navajo*. Cambridge, MA: Harvard University Press.

Kushman, J. W. (1992). The organizational dynamics of teacher workplace commitment: A study of urban elementary and middle schools. *Educational Administration Quarterly, 28*(1), 5-42. Retrieved August 26, 2010 from, eaq.sagepub.com

Lankford, H., Loeb, S, & Wyckoff, J. Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis*, *24*, 37-62. Retrieved on January 15, 2010 from, http://www.jstor.org/stable/3594146

Latham, Glenn I. (1989). Thirteen most common needs of American Indian education in BIA Schools. *Journal of American Indian Education*, *29,* 1-11. Retrieved October 14, 2009 from, http://jaie.asu.edu/

Lawler, E. E., III. (1973) *Motivation in work organizations*. Monterey, CA: Books Cole Publishing Company.

Letchworth, G. (1972). *Teacher separation and retention in Bureau of Indian Affairs Schools. Final report.* National Center for Educational Research and Development (DHEW / OE), Washington, D.C. (ERIC Document Reproduction Service No. ED059832)

Littrell, B., Billingsley, B. & Cross, L. (1994). The effects of principal support on special and general educator's stress, job satisfaction, school commitment, health, and intent to stay in teaching. *Remedial and Special Education, 15*, 297-310. Retrieved July 14, 2016 from, Ebscohost database.

Liu, X. S., & Meyer, J. P. (2005). Teachers' perceptions of their jobs: A multilevel analysis of the Teacher Follow-Up Survey for 1994-95. *Teachers College Record, 107*, 985-1003. Retrieved July 14, 2016 from, http://www.tcrecord.org.ezproxy.lib.utah.edu/library/Issue.asp?volyear=2005&number=5&volume=107

Locke, E. A. (1976). The nature and causes of job satisfaction. In D. D. Marvin (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1349). Chicago: Rand McNally College Pub. Co. Retrieved February 15, 2011 from, Utah.illiad.oclc.org .

Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education, 80,* 44-70. Retrieved July 14, 2016 from, http://www.jstor.org/stable/3497042

Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago, IL: The University of Chicago Press.

March, J. G., & Simon, H.A. (1958). *Organizations*. New York: John Wiley & Sons, Inc.

Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates and consequences of organizational commitment. *Psychological Bulletin, 108*, 171-194. Retrieved July 14, 2016 from, ebscohost.com

Meriam, L. (1928). *The problem of Indian administration*. *Report of a survey made at the request of Honorable Hubert Work, Secretary of the Interior, and submitted to him on February 21, 1928*. Retrieved March 27, 2016 from, http://files.eric.ed.gov/fulltext/ED087573.pdf)

Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research and application.* Thousand Oaks, CA.: Sage Publications.

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior, 61*, 20-52. Retrieved July 14, 2016 from, Elsevier ScienceDirect

Miceli, M. P., & Lane, M. C. (1991). Antecedents of pay satisfaction: A review and extension. *Research in Personnel and Human Resources Management, 9*, 235-309. Retrieved November 7, 2011from, Wisconsin Library Services (WiLS) via Utah.illiad.oclc.org

Mobley, W. H. (1982). *Employee turnover, causes, consequences, and control.* Reading, MA: Addison Wesley publishing company.

Monk, D. H. (2007). Recruiting and retaining high-quality teachers in rural areas. *The Future of Children, 17,* 155-174. Retrieved June 8, 2010 from, http://www.jstor.org/stable/4150024

Moulton, Brent R. (1986). Random group effects and the precision of regression estimates. Journal of econometrics: Random group effects and the precision of regression estimates. *Journal of Econometrics, 32*, 385-397. Retrieved

March 1, 2016 from, Utah.illiad.oclc.org .

Mowday, R., Porter, L., & Steers, R. (1982). *Employee-Organization linkages: The psychology of commitment, absenteeism, and turnover*. New York: Academic Press.

Murnane, R. J., & Olsen, R. T. (1990). The effects of salaries and opportunity costs on length of stay in teaching: Evidence from North Carolina. *The Journal of Human Resources, 25*, 106-124. Retrieved June 2, 2011 from, http://www.jstor.org/stable/145729?origin=JSTOR-pdf

National Center for Educational Statistics. (2003). *NCES handbook of survey methods: Technical report*. (NCES 2003-603). National Center for Educational Statistics. U. S. Department of Education. Washington, DC: National Center for Educational Statistics.

National Center for Education Statistics. (2007). *Teacher attrition and mobility: Results from the 2004-05 Teacher Follow-up Survey* (NCES 2007-307). National Center for Educational Statistics. U. S. Department of Education. Washington, DC: National Center for Educational Statistics. Retrieved on July 14, 2016 from, http://nces.ed.gov/

National Center for Education Statistics. (2010). *2011-12 Schools and Staffing Survey (SASS), preliminary field activities, OMB supporting statement, part B, OMB# 1850-0598 v.6.* Retrieved September 2011 from http://edicsweb.ed.gov/

National Center for Educational Statistics. (2010a). *SASS and TFS database training seminar materials*. National Center for Educational Statistics. U. S. Department of Education. Washington, DC: National Center for Educational Statistics.

National Center for Educational Statistics. (2011). *NCES handbook of survey methods*. (NCES 2011-609). National Center for Educational Statistics. U. S. Department of Education. Washington, DC: National Center for Educational Statistics. (ERIC Document Reproduction Service No. ED521154)

National Center for Educational Statistics. (2011a). *2007-2008 SASS Methods and Procedures.* Retrieved February 12, 2011 from, http://nces.ed.gov/surveys/sass/methods0708.asp.

National Center for Educational Statistics. (2014). *NCES Handbook of survey methods: Schools and staffing survey (SASS)*. Retreived January 9, 2016 from, http://nces.ed.gov/statprog/handbook/pdf/sass.pdf

Navajo Nation Department of Dine Education, Power Point presentation, Shiprock, NM, January 29, 2015.

Office of Management and Budget. (2007). *Circular No. A-133 Revised to show changes published in the Federal Register June 27, 2003 and June 26, 2007 Audits of States, Local Governments, and Non-Profit Organizations.* Retrieved December 10, 2011 from www.whitehouse.gov

Ostroff, C. (1992). The relationship between satisfaction, attitudes, and performance: An organizational level analysis. *Journal of Applied Psychology, 77*(6), p. 963-974. Retrieved August 20, 2011 from, EBSCOhost PsycARTICLES database.

Pavel, D. M., & Curtin, T. R. (1997). *Characteristics of American Indian and Alaskan Native Education: Results from the 1990-91 and 1993-94 Schools and Staffing Survey.* (ERIC Document Reproduction Service No. ED 405169)

Pavel, D. M. (1995). Comparing BIA and tribal schools with public schools: A look at the year 1990-91. *Journal of American Indian Education, 35*(1), 10-15. Retrieved October 12, 2011 from, http://jaie.asu.edu

Pearson, L. C., & Hall, B. W. (1993). *Initial construct validation of the Teaching Autonomy Scale, 86*(3), 172-178. Retrieved January 1, 2016 from, JSTOR database.

Perie, M., Baker, D. P, & Whitener, S. (1997). *Job satisfaction among America's teachers: Effects of workplace conditions, background characteristics, and teacher compensation* (NCES 97-471). Washington, DC: U.S. Government Printing Office. (ERIC Document Reproduction Service No. ED412181)

Plank, G. A. (1993). The school-leaving of non-Navajo educators in the interior of the Navajo Nation. *Journal of Navajo Education, 10*(2), 26-34. Retrieved September 14, 2011 from, Utah.illiad.oclc.org

Price, J. L. (2004). The development of a causal model of voluntary turnover. In R. Griffeth & P. Hom (Eds.), *Human resource management: Innovative theory and empirical research on employee turnover* (pp. 3-32). Greenwich, CT: IAP Information Age Publishing.

Price, J. L., & Mueller, C. W. (1986). *Handbook of organizational measurement*. Marshfield, MA: Pitman Publishing, Inc.

Reichers, A. E. (1985). A review and reconceptualization of organizational commitment. *Academy of Management Review, 10*, 465-476. Retrieved March 1, 2016 from, http://www.jstor.org/stable/258128

Riehl, C. & Sipple, J. W. (1996). Making the most of time and talent: Secondary school organizational climates, teaching task environments, and teacher commitment. *American Educational Research Journal, 33*(4), 873-901. Retrieved on July 14,

2016 from, http://www.jstor.org/stable/1163419

Roessel, R. A. (1968). An overview of the Rough Rock Demonstration School. *Journal of American Indian Education, 7*. Retrieved September 10, 2011 from, http://jaie.asu.edu/v7/V7S3over.html.

Rosenfelt, D. M (1973). The renaissance of Indian education. In L. Levy (Series Ed.) *Inequality in education: Vol. 15. Citizen voice in the public schools* (pp. 13-22). (Eric Document Reproduction Service No. ED 085467)

Rosenholtz, S. J., & Simpson, C. (1990). Workplace conditions and the rise and fall of teachers' commitment. *Sociology of Education, 63*(4), 241-257. Retrieved August 27, 2011 from, http://www.jstor.org/stable/2112873

Salancik, G. R. (1977). Commitment and control of organizational behavior and belief. In B. M. Staw & G. R. Salancik (Eds.), *New directions in organizational behavior* (pp. 1-54). Chicago, IL: St. Clair Press.

Shann, M. H. (1998). Professional commitment and satisfaction a month teachers in urban middle schools. *The Journal of Educational Research, 92*, 67-73. Retrieved May 12, 2010 from, http://www.jstor.org/stable/27542193

Shen, J., Leslie, J. M., Spybrook, J. K., & Ma, X. (2011). Are principal background and school process related to teacher job satisfaction? A multilevel study using Schools and Staffing Survey 2003-04. *American Educational Research Journal*, *49*, 200-230. Retrieved July 14, 2016 from, http://www.jstor.org/stable/41419455

Slowman Chee, J. (2008). *A study of superintendent turnover in public school districts on the Navajo Nation in the states of Arizona and New Mexico*. *Dissertation Abstracts International*, *69* (03), (UMI No. 3304883)

Smith, F. D. (1977). Factors involved in job satisfaction among teachers in the Bureau of Indian Affairs system on the Navajo Reservation. *BIA Education Research Bulletin*, *5*, 21-33. (ERIC Document Reproduction Service No. ED235990)

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn and Bacon.

Thompson, D. P., McNamara, J. F., & Hoyle, J. R. (1997). Job satisfaction in education organizations: A synthesis of research findings. Educational Administration *Quarterly, 33*, 7-37. Retrieved April 2, 2011 from, http://eaq.sagepub.com.

Tickle, B. R., Chang, M., & Kim, S. (2011). Administrative support and its mediating effect on US public school teachers. *Teaching and Teacher Education, 27*, 342-349. Retrieved on December 31, 2015 from ac.els-cdn.com

United States Census Bureau. 2012. Retrieved March 18, 2015 from, https://www.census.gov/compendia/statab/2012/tables/12s0019.pdf

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1967). *Statistics concerning Indian education, fiscal year 1967.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED022610)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1968). *Statistics concerning Indian education, fiscal year 1968.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED032953)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1969). *Statistics concerning Indian education, fiscal year 1969.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED047831)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1970). *Statistics concerning Indian education, fiscal year 1970.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED046569)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1971). *Statistics concerning Indian education, fiscal year 1971.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED067214)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1972). *Statistics concerning Indian education, fiscal year 1972.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED075129)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1973). *Statistics concerning Indian education, fiscal year 1973.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED096094)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1974). *Statistics concerning Indian education, fiscal year 1974.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED141045)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1975). *Statistics concerning Indian education, fiscal year 1975.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED141046)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1976). *Statistics concerning Indian education, fiscal year 1976.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED141047)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1977). *Statistics concerning Indian education, fiscal year 1977.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED202639)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1978). *Statistics concerning Indian education, fiscal year 1978.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED202640)

United States Department of the Interior, Bureau of Indian Affairs, Division of Education. (1979). *Statistics concerning Indian education, fiscal year 1979.* Washington, DC: U.S. Department of Health, Education & Welfare. (ERIC Document Reproduction Service No. ED202641)

United States Department of Interior, Office of Indian Affairs. (2011). *Budget justifications and performance information, fiscal year 2012.* Retrieved February 18, 2011 from, http://www.doi.gov/budget/2012/index_for_2012.html.

Vanek, C. (2016, February 17). Leupp Schools Inc. to lay off 21 in restructure. *Arizona Daily Sun*. Retrieved March 1, 2016 from: http://azdailysun.com/news/local/leupp-schools-inc-to-lay-off-in-restructure/article_03c0e e21-ae7b-5f6c-82ee-6cb656d221fe.html

Vorih, L., & Rosier, P. (1978). Rock Point Community School: An example of a Navajo – English bilingual elementary school program. *TESOL Quarterly, 12,* 263-269. Retrieved July 21, 2007 from, JSTOR database.

Wallace, J. E. (1993). Professional and organizational commitment: Compatible or incompatible? *Journal of Vocational Behavior, 42*(3), 333-349. Retrieved December 12, 2011 from, Elsevier ScienceDirect Complete.

Wauneka, J. D. (2008). The impact of the No Child Left Behind Act on Arizona public schools on the Navajo Reservation. *Dissertation Abstracts International*, *69* (03), (UMI 3304900)

Weiss, E. M. (1999). Perceived workplace conditions and first-year teachers' morale, career choice commitment, and planned retention: A secondary analysis. *Teaching and Teacher Education, 15*, 861-879. Retrieved March 23, 2016 from, http://www.sciencedirect.com.ezproxy.lib.utah.edu/science/journal/0742051X/15/8

Weiss, H. M. (2002). Deconstructing job satisfaction: Separating evaluations, beliefs and affective experiences. *Human Resource Management Review, 12*, 173-194. Retrieved September 12, 2011 from, EBSCOhost Business Source Premier.

Williams, M. L., McDaniel, M. A., & Nguyen, N. T. (2006). A meta-analysis of the antecedents and consequences of pay level satisfaction. *Journal of Applied Psychology, 91*, 392-413. Retrieved November 2, 2011 from, EBSCOhost Business Source Premier.

Wooldridge, J. M. (2009). *Introductory econometrics* (4th ed.). Mason, OH: South-Western Cengage Learning.

Yazzie-Mintz, E. (2007). Voices of Students on Engagement: A Report on the 2006 High School Survey of Student Engagement. Retrieved March 5, 2016 from, ERIC database.