

# Stemming the Revolving Door: Teacher Retention and Attrition in Arctic Alaska Schools

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## Abstract

Limited research is available concerning teacher retention and teacher attrition in Arctic Alaska. This paper reports survey research findings, which identify factors related to teacher retention and attrition in Alaskan Arctic Native communities. Teacher retention rates (2009-2013) vary widely over time showing no significant trends. Results confirm that teacher turnover in rural districts is higher than in urban school districts. The authors recognize that teacher retention and attrition are multidimensional issues recommending that better communication patterns and shared responsibilities between rural school districts, local administrators, teachers, community members, and university-based teacher preparation programs be established.

## Key Words

Teacher retention, teacher attrition, turnover, rural education, teacher preparation, Arctic Alaska, Alaskan Arctic Native Communities

## Introduction

Recent research confirms that a stable and quality teacher workforce is directly related to student achievement (Darling-Hammond, Newton, & Wei, 2013; Henry, Bastian, & Fortner, 2011; Winters & Cowen, 2013). Teacher attrition has been an issue of concern for policy makers and educational stakeholders for many

years (Borman & Dowling, 2008). Nationally, about a third of new teachers leave the profession within five years (Darling-Hammond, Chung, & Frelow, 2002; Ingersoll, 2001). The

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turnover rate can be considerably higher in high-poverty schools as compared to more affluent ones (Ronfeldt, Loeb, & Wyckoff, 2013). Schools in Arctic Alaska, which are typically located in high-poverty communities, are no exception to this phenomenon. They experience high rates of overall teacher attrition and low rates of retaining quality teachers (Hill & Hirshberg, 2014; Kaden, Patterson, & Healy, 2014).

The popular media often portrays Arctic Alaska as a homogeneous locale. The resulting depiction sometimes presents the area as being populated by Eskimos who live in igloos, truckers, gold miners, rabid politicians, and marooned polar bears. The fact is that Arctic Alaska is not as uniform, austere, or foreboding as it is so often made out to be. It is a highly unique area, encompassing a very diverse landscape and populated with a variety of life forms and people (Nordic Council of Ministers, 2010).

Arctic Alaska can be roughly defined as the northern region of Alaska that is on or close to the Arctic Ocean. Four distinct geographic regions constitute the area: the Arctic coastal plain, the Brooks Range, the Bering Strait, and northern portions of the boreal forest (Ritter, 2009). Indigenous people, in particular Inupiaq Eskimo, Siberian Yup'ik Eskimo, and Athabascan Indian, have lived in the regions of Arctic Alaska for millennia. With the arrival of a larger influx of Western cultures in the late 1800s, which continues to grow even today, Arctic Alaska is now a merging of ethnicities and backgrounds where the Alaska Native groups are the majority in that region yet a minority within the state. Although Arctic towns and villages can vary in size from 200 to over 4000 residents, most are small, off the road system and require boats or aircraft to access them.

One critical challenge facing Arctic Alaska is access to quality education. This includes a stable and qualified teacher workforce and academic curricula that promote Indigenous

cultures, languages, and ways of thinking and behaving (Eppley & Corbett, 2012; Faircloth, 2009; Kaden, Patterson, & Healy, 2014; White, 2008). Teaching students in Arctic Alaska in ways that allow them to keep their cultural identity is vital for student motivation, curriculum relevance, and ultimately community and cultural stability (Castagno & Brayboy, 2008). Maintaining an effective and stable teacher workforce that understands and embraces the powerful local contexts of Alaska's rural Native villages is critical for healthy and resilient communities (Barnhardt, 2014; Kaden, Patterson, & Healy, 2014).

Substantial research documents that teachers choose to leave schools serving large percentages of poor, low-performing and non-white students, when opportunities arise (Eppley, 2009; Mueller, Carr-Stewart, Steeves, & Marshall, 2013). Past high turnover rates of more than 23% in rural schools in Alaska support those findings. In addition, more than 70% of newly hired teachers are not from Alaska and less than 5% are Native teachers (Hill & Hirshberg, 2014). Teachers new to Arctic Alaska often learn about the local cultures, Arctic lifestyles, and differentiating instruction only to leave after a year or two (Munsch & Boylan, 2008). Excessive teacher turnover can be costly and detrimental to student achievement and engagement in education (Ronfeldt et al., 2013). Often, under such circumstances students and community members resign themselves to a revolving door of teachers.

As the importance of well-qualified teachers for student achievement has become increasingly clear, the disruptions associated with low retention rates has become difficult to justify and ignore, especially in rural Alaska (Kaden & Patterson, 2014). As a result, many policies and sporadic programs, such as the Alaska Statewide Mentor Program (ASMP), orientation camps about Native cultures for new teachers, and retention bonuses, have aimed to

reduce detrimental teacher attrition in Alaska. However, without more detailed contextual understanding of why teachers leave, current approaches may not be as effective as they could be at reducing teacher turnover. Limited research-based information currently available to policymakers and teacher education programs on predictors of teacher turnover in Arctic Alaska schools restricts the ability to intervene in this phenomenon in a strategic manner.

This study contributes to the understanding of teacher attrition by researching the influence of school and community contextual factors on teacher retention including: work conditions and teaching responsibilities; community integration and living conditions; teaching assignments; elements of job satisfaction; and teachers' plans for the future. Using survey data and archival data sets, we document the complexity, and interaction of multiple factors influencing teacher retention and confirm that solutions are not simple. In the following sections we briefly review the historical context of Alaska's schooling, cite literature that motivated our research, describe the study design and methods, and present results. In the last section, we discuss recommendations, future research, and limitations of the study.

## Historical Context

Little is written about the pre-contact education systems of Alaska's Native people (Barnhardt, 2014). However, in order to survive the challenging environments of Alaska as well as pass on the rich cultural heritage of its Indigenous people, methods of transferring knowledge had to be in place. Traditional forms of knowledge among Indigenous people are typically expressed through, legends, folklore, ceremonies, songs, visual art, and laws (Barnhardt, 2014).

The evolution of the Western educational system in Alaska is better documented. When

Alaska was purchased from the Russian Empire in 1867, only a few schools operated by the Russian Orthodox Church existed. Later, a patchwork of schools slowly developed sponsored by the Bureau of Indian Affairs (BIA), and state and local governments to varying degrees. Additionally, a series of boarding and day schools were established for Native Alaskan children. Those boarding schools were often operated by the Bureau of Education, the Bureau of Indian Affairs, or through contracted missionary groups (Barnhardt, 2014).

The Meriam Report, published in 1928, represents a benchmark in the education of American Indians and Alaska Natives (Meriam, 1928). The report was commissioned by the Institute for Government Research and funded by the Rockefeller Foundation. The intent of the report was to examine living conditions of American Indians in reservations and boarding schools across the country. Variables such as health, education, economy, and family and community life were examined. Although the survey upon which the Meriam Report was based did not include Alaska and its Indigenous people, the report did reflect the status of Native life and education within the Alaska territory.

The Meriam Report examined the growing phenomena of boarding schools. The report concluded that boarding schools, many of which were mandatory and separated families, were frequently overcrowded, dependent upon a rigid Western curriculum, provided students with poor diets, and delivered little medical care. Although the report drew attention to the quality of educational services offered to Indigenous people in the United States, boarding schools remained in vogue for five more decades (Meriam, 1928).

The 1970s was a significant period for schools in Alaska influencing current education policies, schools and school district structure. The outcome of a 1972 lawsuit *Tobeluk vs. Lind* (commonly known as the Molly Hootch Case)

curtailed mandatory boarding schools for Native Alaskan children and resulted in a building boom of local schools and educational services, even for communities in very rural and isolated areas. Currently, Alaska serves about 124,000 children in its preschool to grade 12 public school system, which consists of 54 school districts and 530 schools (Alaska Department of Education and Early Development, 2014).

### **Perspectives on Arctic Alaska Schools and Motivation**

Access to quality education for all Alaskans is critical to sustaining healthy and vibrant communities in a rapidly changing global context (Barnhardt, 2014; Kisker et al., 2012). The education system can become a player in the cultural and economic well being of communities or it can amplify and accelerate the process toward losing cultural integrity, contact with nature, and community viability (Corbett, 2009). Lowe (2010) indicates that there is a sizable migration of rural residents into urban areas in Alaska. Factors precipitating such movement include employment, educational opportunities, and the rising cost of living. Thus, a significant factor for healthy, resilient Arctic communities can be schools (Corbett, 2009; Eppley, 2009; Kline, White, & Lock, 2013). In these areas, schools exceed the single role of education facility, often functioning as places where people meet, interact, and strengthen their social networks. Schools can become community halls or sports centers where a variety of events take place, such as greatly anticipated basketball tournaments (Nordic Council of Ministers, 2010). Schools can also be perceived as the key institution that threatens Native culture, language and community identity (Barnhardt, 2014; Strange, 2011).

Access to quality education involves a stable, well prepared, and culturally responsive teacher workforce that is integrated into the

community life (Burton, Brown, & Johnson, 2013; Howley & Howley, 2010). Currently, approximately 60% of Alaska's teachers leave the Arctic region after less than two years, informally citing a list of reasons, many of which are tied to school and community relations (Alaska Department of Education and Early Development, 2014). Teacher turnover impacts student achievement, contributes to a school climate of instability, and redirects funds for recruitment that might be better spent towards student learning (Barnes, Crowe, & Schaefer, 2007). Research on teacher attrition shows that a number of variables can affect teachers' intentions to leave the profession or change schools and districts. For example, organizational characteristics (e.g., locale, school size), types of students served, and working conditions (e.g., workload, administration) have been linked to attrition (Goldhaber & Cowan, 2014; Hughes, 2012; Ladd, 2011). Research further indicates that schools and districts with greater percentages of low-performing and minority students, poor resources, and unsupportive school climates have more difficulties in retaining teachers (Burton, Brown, & Johnson, 2013; Cochran-Smith et al., 2012; Hancock & Scherff, 2010; Henry, Bastian, & Fortner, 2011; Ingersoll, 2001; Ondrich, Pas, & Yinger, 2008). Teachers' career intentions are also associated to personal background characteristics including gender, race/ethnicity, age, years of experience, education level, subject specialty, and academic ability (DeAngelis, Wall, & Che, 2013). Compared with White peers, turnover and transfer rates are lower among African American and Hispanic teachers. Teachers are more willing to teach in schools with more same-race students (Boyd, Lankford, Loeb, Ronfeldt, & Wyckoff, 2011; Ingersoll, 2001). Teachers at both ends of the age and experience distributions have higher average rates of turnover (Ingersoll, 2001).

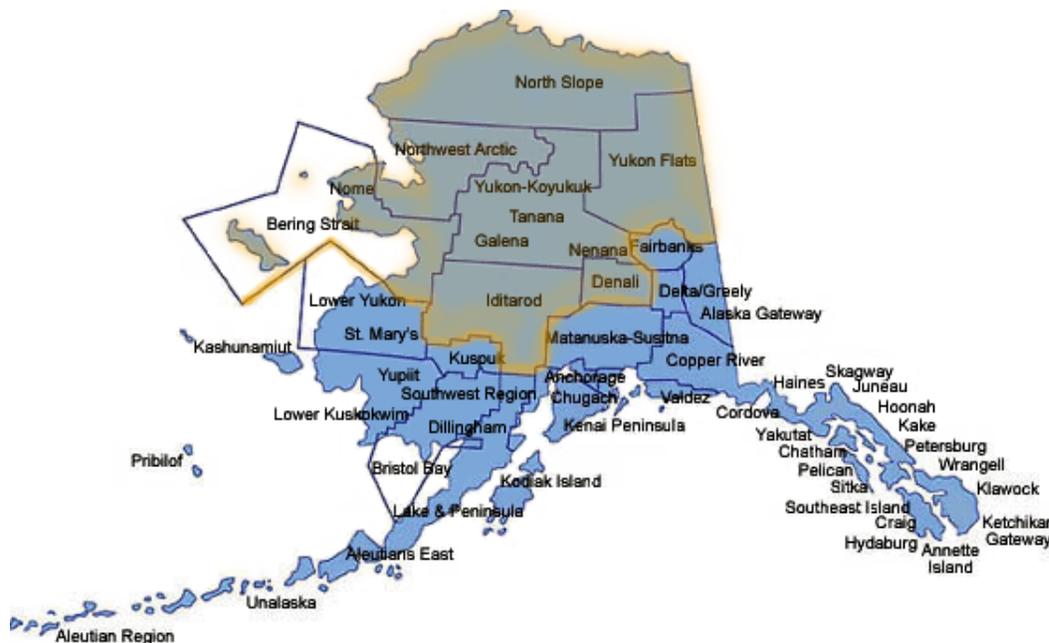
The underlying objective of this study was to identify factors that can be linked to teacher retention in rural Arctic school districts. Rural locations for this study are defined as small communities, which are considerable distances away from other communities, often are only reachable by airplane or boat, and with different local languages and heritages inclusive of Native cultures (Howley & Howley, 2010; Slack, Bourne, & Gertler, 2003). In such communities, Indigenous people have particularly strong connections to cultural, environmental, and spiritual practices (Corbett, 2009). In the literature on turnover and retention, “the general term *turnover* is used to describe the departure of teachers from their teaching jobs” (Ingersoll, 2001, p. 500). For the purpose of our article, teacher retention is defined as remaining in the same school district as a classroom teacher from one school year to the next.

The research questions for this paper are part of the larger study and focus on:

1. What are the trends in current teacher retention rates (2009-2013) in Arctic school districts?
2. What contextual factors are related to the teacher retention and attrition trends?

### Study Design, Instrumentation and Participants

This study used a mixed methods approach to identify and understand factors that contribute to current teacher retention and attrition in rural Alaska’s public K-12 schools (Creswell, 2007; Kleinsasser, 2000; Miles & Huberman, 1994). Archival data were retrieved from the Alaska Department of Education & Early Development (2014), analyzed by descriptive statistics to document teacher retention in 10 rural school districts (Figure 1) between 2009-2013, and compared to data of three Alaskan urban districts (Table 2).



**Figure 1.** The 10 Research School Districts in Alaska (Bering Strait, Denali, Iditarod, Nenana, Nome, North Slope, North West Arctic, Tanana, Yukon Flats, Yukon-Koyukuk)

Survey research methodology was used to gather further quantitative and qualitative descriptions about the perceptions and opinions of teachers concerning contextual local factors that contribute to retention and attrition. The educator survey was based on the Schools and Staffing Survey (SASS) developed by the National Center for Education Statistics (2010) and implemented in 2007-2008 targeting workforce issues. We supplemented the questions based on research literature (Allensworth, Ponisciak, & Mazzeo, 2009), previous implemented surveys by the University of Alaska Anchorage Institute of Social and Economic Research (ISER), and through discussions with stakeholders. For example, we included sections on community integration, living conditions, and place-relevant cultural training as suggested by teachers from Native communities. This survey instrument was tested for reliability and validity. The survey included 57 Likert-scale 5 point questions and open-ended questions concerning variables related to teachers' decisions to stay or leave. Our paper focuses only on a subset of survey data and is part of a larger study on teacher retention and effectiveness in rural Alaska.

### **Participant Sample**

Institutional approval and participant informed consent were obtained prior to data collection. All certified teachers (N=820) from ten rural Alaska school districts were identified from the current district employee database and cross referenced with the Alaska National Education Association (ANEA). The survey was administered using the online platform Qualtrics

and the survey link was e-mailed to all teachers between April of 2013 and again in April of 2014. Two issues prompted the second launch. In spring 2013 there were some difficulties with the accuracy of e-mail addresses. For this reason, and perhaps others, there was a smaller response rate than desired. The combined response rate was 57%. No changes to the survey occurred from 2013 to 2014. Using descriptive statistics we assessed teachers' responses to survey questions.

Survey participant demographics are reported in Table 1. Most of our respondents (84%) grew up in the U.S., but not in Alaska and 78% received their teacher preparation training outside of Alaska. This confirms the fact that Alaska imports most of its teachers (Hill & Hirshberg, 2014). Only 12% of teachers grew up in rural Alaska. Nearly one quarter of teachers had three years or less of teaching experience. Less than 10% of the respondents were Alaska Native Teachers.

### **Stakeholder Input**

Stakeholders for this research included a wide range of education related groups such as Alaska Native Elders, community members, parents, educators from across the state, and other researchers working with Indigenous populations. Throughout the process of data collection, several check-ins with stakeholders were conducted to ensure researchers were working responsively and to verify that preliminary results were aligned with the stakeholders' perceptions. The stakeholder input increased validity and reliability of the study (Creswell, 2007).

**Table 1.**  
Descriptive Statistics for Educator Survey as a Percentage of the Sample

| <i>Descriptive Characteristic</i>  | <i>Responses</i><br>( <i>N</i> = 469) |
|--|---------------------------------------|
| <i>Sex</i>   |                                       |
| Male   | 32.0                                  |
| Female   | 68.0                                  |
| <i>Ethnicity</i>   |                                       |
| White  | 82.8                                  |
| AN/AI  | 9.4                                   |
| Hispanic   | 2.5                                   |
| Other  | 5.0                                   |
| <i>Highest Level of Education</i>  |                                       |
| Bachelors  | 53.1                                  |
| Masters  | 45.4                                  |
| Doctoral degree  | 1.5                                   |
| <i>Age</i>   |                                       |
| 20-34  | 28.8                                  |
| 35-54  | 47.4                                  |
| 55 and older   | 23.8                                  |
| <i>Teaching Experience</i>   |                                       |
| 1 to 3 years   | 24.7                                  |
| 4 to 10 years  | 28.2                                  |
| >11 years  | 47.1                                  |
| <i>Education level completed</i>   |                                       |
| Bachelor's degree  | 10.8                                  |
| Some graduate work   | 23.4                                  |
| Master's degree  | 55.9                                  |
| Specialist degree  | 7.2                                   |
| Doctoral degree  | 2.7                                   |
| <i>Mobility (Where did you grow up?)</i>   |                                       |
| Alaska   | 15.8                                  |
| US and outside of Alaska   | 84.2                                  |
| <i>Teacher Preparation (Where did you receive your initial teacher license?)</i> |                                       |
| Alaska   | 22.3                                  |
| US and outside of Alaska   | 77.7                                  |

## Results

### Teacher Retention Rates Comparison

Archival data presented in Table 2 and Figure 1 indicate that average teacher retention rates of the ten rural districts (< 77%) are significantly lower than average retention rates in the three

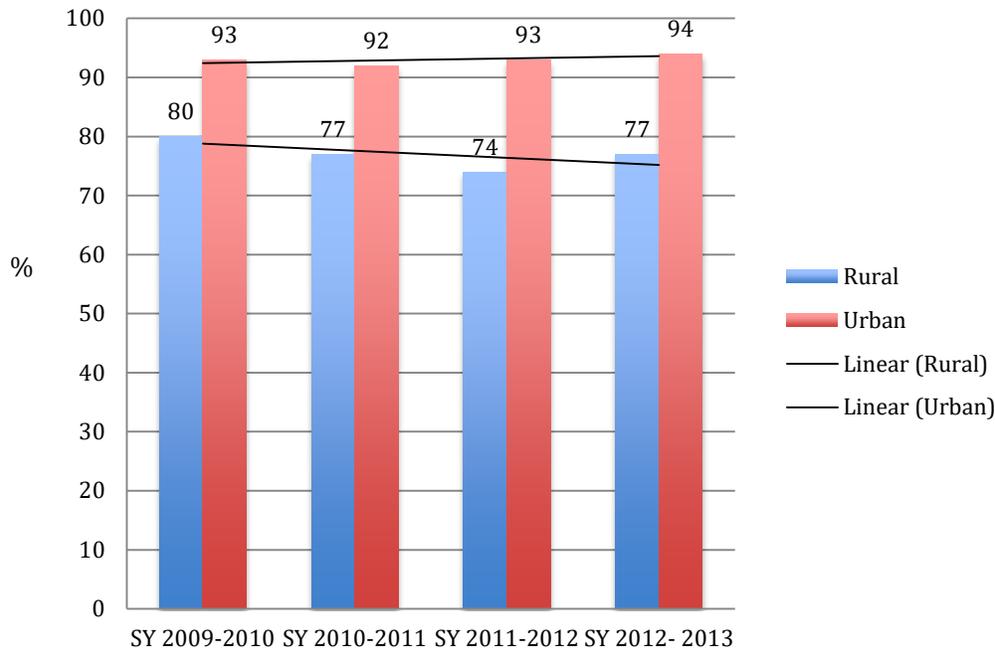
urban districts (> 94%). In addition, the rural district retention rates varied significantly (see SD) by school year. There was also a small negative trend uncovered in the average retention rates of the rural districts ( $R^2 = 0.4$ ).

**Table 2.**

Teacher Retention Rates between School Years (SY) 2010 to 2013

| District         | Teacher<br>Count<br>(N) | %<br>Average<br>Retention | SD   | %<br>SY09-<br>10 | &<br>SY10-<br>11 | &<br>SY11-12 | &<br>SY12-<br>13 |
|------------------|-------------------------|---------------------------|------|------------------|------------------|--------------|------------------|
| <b>Rural</b>     |                         |                           |      |                  |                  |              |                  |
| <b>Districts</b> |                         |                           |      |                  |                  |              |                  |
| Bering Strait    | 234                     | 68                        | 2.6  | 65               | 70               | 70           | 66               |
| Denali           | 33                      | 86                        | 9.5  | 97               | 80               | 90           | 76               |
| Iditarod         | 30                      | 66                        | 9.5  | 78               | 56               | 67           | 61               |
| Nenana           | 26                      | 91                        | 10.5 | 92               | 100              | 76           | 96               |
| Nome             | 56                      | 83                        | 7.9  | 93               | 80               | 74           | 83               |
| North Slope      | 168                     | 80                        | 2.1  | 77               | 79               | 80           | 82               |
| Northwest Arctic | 153                     | 77                        | 7.3  | 85               | 80               | 72           | 69               |
| Tanana           | 5                       | 74                        | 18.9 | 60               | 60               | 75           | 100              |
| Yukon Flats      | 34                      | 69                        | 9.0  | 75               | 74               | 59           | *-               |
| Yukon-Koyukuk    | 56                      | 78                        | 12.0 | 81               | 91               | 78           | 62               |
| <b>Urban</b>     |                         |                           |      |                  |                  |              |                  |
| <b>Districts</b> |                         |                           |      |                  |                  |              |                  |
| Anchorage        | 3142                    | 94                        | 1.2  | 93               | 94               | 93           | 95               |
| Fairbanks        | 926                     | 92                        | 1.5  | 93               | 90               | 91           | 92               |
| Matsu            | 913                     | 95                        | 2.0  | 93               | 93               | 97           | 96               |
| <b>Mean</b>      |                         |                           |      |                  |                  |              |                  |
| Rural Mean       | 80                      | 77                        | 2.4  | 80               | 77               | 74           | 77               |
| Urban Mean       | 1660                    | 94                        | 0.8  | 93               | 92               | 93           | 94               |
| Alaska Statewide | 8862                    | 82                        | 2.3  | 90               | 89               | 89           | 90               |

\* Unreported

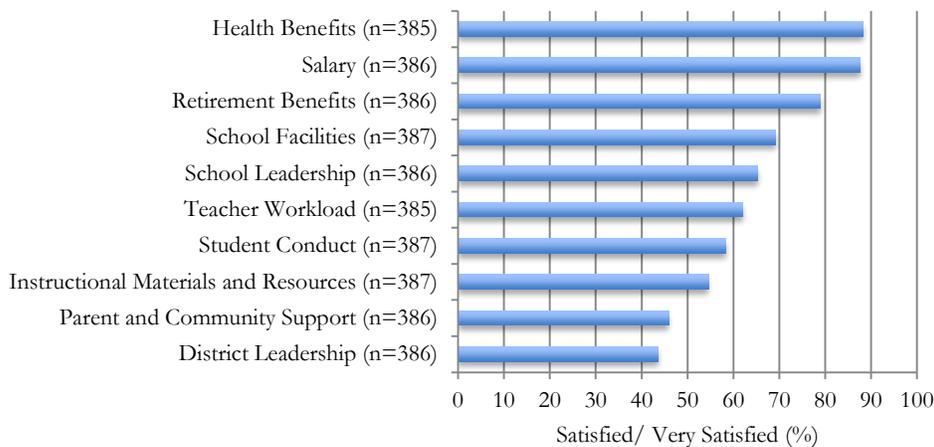


**Figure 2.** Average Rural and Urban Teacher Retention Rates 2010-2013

**Working Conditions, Jobs Satisfaction, and Teaching Responsibilities**

Factors influencing work conditions and job satisfaction are reported in Figure 3. On a 5-point Likert scale (very satisfied to very dissatisfied) more than 80% of the respondents were satisfied/very satisfied with health benefits

and salaries, and retirement benefits. Only 62% of participants were satisfied/very satisfied with their teacher workload. Less than half of the respondents were satisfied or very satisfied with parent and community support (46%) and the least satisfaction was reported on district leadership (44%).



**Figure 3.** Work Conditions and Job Satisfaction

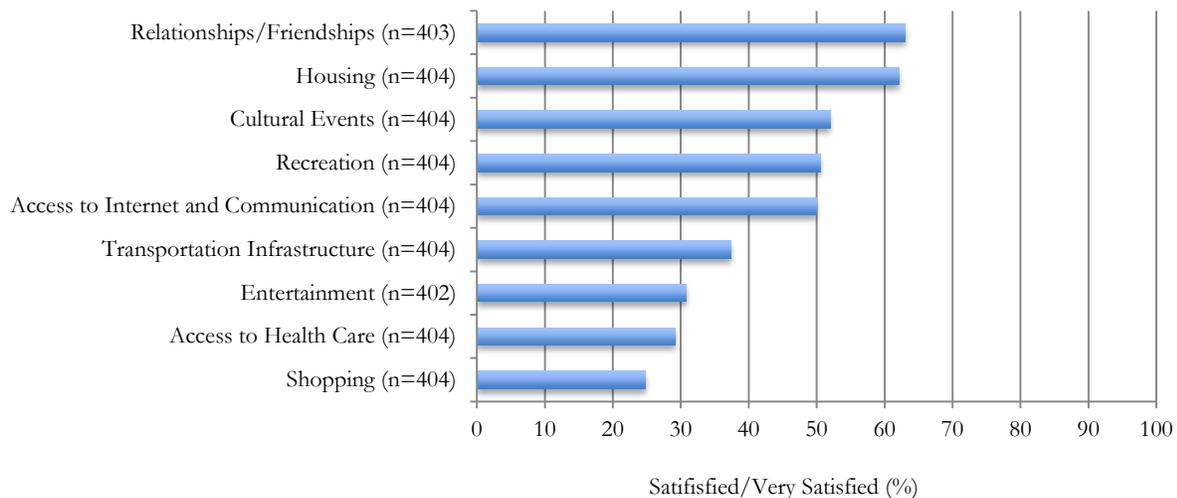
In our survey we also asked participants about teaching responsibilities as part of overall job satisfaction, especially about multi-grade level teaching and multi-subject area preparations. Over two-thirds (69%) of survey respondents taught at least one multi-grade level class. Only 31% of the rural teachers taught exclusively single- grade level classes. Furthermore, only 13% of respondents stated that they have to prepare for only one subject area; whereas a majority (56%) reported having to prepare for anywhere from 4 to 7 courses or grade levels on a regular basis. Nearly one in ten teachers (9%) prepared for 10 or more classes or grade levels on a regular basis.

### Community Integration and Living Conditions

Community integration and living condition indicators are reported in Figure 4. Over 60% of

the respondents were satisfied or very satisfied with relationships/friendships, and housing. Only half of the participants were very satisfied with access to cultural events, recreation, and access to the Internet. The community aspects with the lowest satisfaction ratings included transportation, entertainment, shopping, and access to health care.

Participants were also asked how integrated in the community they felt, based on participation in events, cultural meetings (e.g., potlatch), or governance and decision making processes (Table 3). Feeling integrated into the community of the schools location is identified as an important factor in determining retention decisions by our study. A little less than half of the respondents (48%) felt integrated into their communities.



**Figure 4.** Community Integration and Living Conditions

**Table 3.**  
Percentages of Community Integration (N=404)

| % of Integration | Frequency | %    |
|------------------|-----------|------|
| 0                | 9         | 2.2  |
| 25               | 81        | 20.0 |
| 50               | 122       | 30.2 |
| 75               | 136       | 33.7 |
| 100              | 56        | 13.9 |

**Table 4.**  
Professional Plan in Two or More Years (N=388)

|   | Frequency | %    |
|---|-----------|------|
| Teach at my current school  | 177       | 45.6 |
| Teach in a different school in my district  | 25        | 6.4  |
| Teach in a different district in Alaska   | 37        | 9.5  |
| Teach outside Alaska  | 28        | 7.2  |
| Leave teaching and start a different career in the education field in Alaska      | 8         | 2.1  |
| Leave teaching, leave Alaska, and start a different career in the education field | 2         | 0.5  |
| Leave teaching and start a non-education career                                   | 16        | 4.1  |
| Retire  | 30        | 7.7  |
| Unsure of plans   | 65        | 26.7 |

### **Future plans on staying or leaving**

Less than half of the respondents (46%) planned to continue teaching in their current school two years from the time of the survey, while 27% were still unsure about their plans (Table 4). About 16% had some plans to continue teaching in Alaska. Another 13% of teachers planned to retire within that timeframe. Only 4% planned to leave the profession entirely and about 10% of the participants planned to stay in education but are likely to leave Alaska.

### **Discussion and Recommendations**

The first research question addressed the trends in teacher retention rates between 2009-2013 in

ten rural Arctic districts. Our results (Table 2) indicate that teacher retention rates in the rural school districts of this study vary widely over time and that there were no statistically significant trends to those rates. Years of higher and lower attrition appear to have been random events for rural districts (see SD). Average teacher retention rates in urban school districts were about 15% higher than in rural school districts. The percentage of Alaska Native students served in rural school districts of this study is much higher (> 85%) compared to Alaska Native students served in urban districts (<10%). Teacher attrition at some rural school districts is high enough to disrupt instructional

cohesion most likely resulting in low student achievement (Mueller, Carr-Stewart, Steeves, & Marshall, 2013; Ronfeldt et al., 2012).

Frequent departure of a considerable portion of its teachers takes a heavy toll on the functionality of Alaska's rural schools and the ability to deliver quality education to students. Those schools with frequent high turnover rates are also least equipped to support new teachers. Institutional knowledge is lost and already low performing schools become even more ineffective. High rates of teacher turnover disrupt trust and collaboration between school, teachers, students, and community members. The absence of structure and stability frustrates teachers and perpetuates the cycle of turnover (Burton et al., 2013; Goldhaber & Cowan, 2014; Ronfeldt, Loeb, & Wyckoff, 2013).

The second research question addressed possible factors related to the teacher retention and attrition trends. Only 9.4% of survey respondents were Alaska Native teachers: most teachers were White and female. As such, most teachers were not of the same cultural background or ethnicity of the student population they taught in rural districts where more than 85% of students are Alaska Natives. Recruiting underrepresented, racial-minority teachers to the profession, and in rural community schools with students from similar racial backgrounds may add to better student achievement and predict career trajectories (Dee, 2004). In addition, the high number of teachers "imported", who received their teacher education from institutions outside of Alaska, seems to contribute to attrition. Multiple studies have found that female teachers are more likely to leave than male teachers (Mills, Martino, & Lingard, 2004). Similarly, teachers that enter the profession at a young age have also higher attrition rates than older entrants (Imazeki, 2005; Quartz et al., 2008). Both conditions

(high number of female and new to the job teachers) characterize Alaska rural teacher demographics (Table 1).

Limited knowledge about Indigenous culture, job demands of teaching multi-grade level classes, and living in the Arctic may add to low retention rates. Research on race and ethnicity indicate that minority teachers were more likely than white teachers to stay and that males were slightly more likely to stay (Ingersoll, 2001; Mills, Martino, & Lingard, 2004). Consistent recruitment efforts and modifications to current teacher preparation programs to better serve Native students (e.g., distance learning, mentoring) need to be considered. An understanding of the cultural dimensions of teaching and learning by policy makers is essential and the complexity of cultural influences needs to be acknowledged and not reduced to simplistic assumptions about teachers and their students. Intensified collaborative efforts are needed for a more diverse teaching force.

There is strong evidence that teachers' years of job experience is one of the predictors for retention and attrition (Goldhaber & Cowan, 2014; Ronfeldt et al., 2013; Winters & Cowen, 2013). One of the most consistent findings and of particular concern to policy makers and administrators is that teachers in their first years in the profession have significantly higher attrition rates than teachers with more experience (Borman & Dowling, 2008). Thus, the relatively high number of inexperienced teachers with less than three years of job experience hired for teaching jobs in rural Alaska predicts a higher rate of turnover (Table 1). Increasingly, schools demand that new teachers immediately demonstrate high levels of on-the-job performance resulting in practices of letting teachers go often after only two years in the classroom instead of providing appropriate

support in the process of learning to teach in the specific local context. Special attention is needed to offer induction programs, which support teachers new to the profession, help them to understand the cultural context of their schools, and prepare and support them for specific demands of job assignments in small rural schools that serve Indigenous students.

Overall work conditions (e.g., facilities, workload, student contact, salary/benefits, instructional resources, leadership) affected teachers' job satisfaction and ability to be effective (Figure 3). Especially in Arctic locations, constant attention to functioning heating systems, clean water, and air circulation for both, the school and teacher housing is needed. Additionally, only half of the survey participants were satisfied with instructional materials and supplies. Missing instructional resources, deficient and defective facilities limit instruction. Lack of textbooks, curricula, science equipment, or reliable technology (e.g., internet connections, computer, copy machine, printer) limits how teaching can be done and leads to frustration. Districts need to better understand why these shortcomings occur and how funds can be allocated early in the school year to avoid or mitigate shortages. Better overall communication between teachers and administration concerning working conditions is essential.

The role that compensation plays in teachers' career decisions seems complicated (Burton et al., 2013; Imazeki, 2005; Xu, Özek, & Hansen, 2014). Our data show that more than two-thirds of the teachers surveyed were satisfied with their salaries and benefits. The documented high rural turnover rate, however, indicates that the effects of pay on teacher satisfaction and retention are not independent of overall living and working conditions. In addition, there are differences from district to

district in the salary scales (entering salaries to maximum salaries) and differences in the ways that pay is distributed across the salary scales (e.g., increase increments with years of experiences, acknowledgment of higher degrees and advanced course work). However, there is considerable evidence that individual career decisions especially for beginning teachers are sensitive to salary differences and that beginning salaries should be carefully considered (Imazeki, 2005). Our results further confirm that satisfaction with work and living conditions, teaching assignments, and administrative support played a decisive role in retention (Allensworth, Ponisciak, & Mazzeo, 2009; Loeb, Darling-Hammond, & Luczak, 2005; Ball & Forzani, 2009). Adequate teacher housing and school facilities that are safe and well maintained add to levels of work satisfaction. Pay matters, but higher pay alone is unlikely to retain teachers in rural Alaska if other factors are unsatisfactory. Incentives for effective teachers to stay should be considered including: monetary; increased roles in school leadership; and more autonomy in instructional decisions. Considerable improvements in overall working conditions are needed as well.

Satisfaction with student contact (e.g., discipline, attendance) was less than 60%, which may be an indication of tensions. The diversity in rural Alaska may be unexpected. There may be a lack of preparedness to work with diverse student populations leading to a sense of helplessness, stress, guilt, and low professional self-esteem. Teacher education and induction programs, local mentoring and professional development opportunities should address those shortcomings. Consistent and ongoing cultural training can influence the potential link between teachers' sense of efficacy and retention. Teachers' effectiveness and job satisfaction may increase when they have a prior understanding

of their students' cultures and backgrounds. Parental involvement, and school leadership can be positive influences in this regard as well.

Parent connections and community support received relatively low satisfaction ratings in our survey. Parental involvement can decrease teachers' uncertainties and support their community integration by helping teachers to understand the local culture, parental expectations, and individual students needs. However, when the parties are divided by race, class, status, and power tensions miscommunications may occur (Lipka, Mohatt, & Ilutsik, 2014; McCarty & Nicholas, 2014; Wexler et al., 2013). School leadership and teachers need to acknowledge such tensions and support a respectful, understanding school climate that initiates and sustains parent involvement. Professional development focusing on parent involvement may be helpful.

District leadership was ranked the lowest in the satisfaction rating (less than 43% satisfied). Educational leadership is an interdisciplinary and multidimensional task (Boyed et al., 2010). Educational leaders and school administrators should be aware of and acknowledge the socio-political, cultural, and linguistic context of their schools, districts, and employees. Educational leaders need to support teachers by sharing leadership practices within local and culturally responsive parameters and practicing humility, which includes seeking collaboration and shared decision making with community stakeholders (e.g., Elders, tribal leaders, teachers).

Satisfaction with job and teaching career is influenced by whether teachers are assigned to teach subjects and grade levels for which they feel prepared and if the assigned workload is fair and manageable (Burton et al., 2013). Excessive workloads are often cited as a reason for leaving the teaching profession (Van Droogenbroeck,

Spryt, & Vanroelen, 2014). Results indicate that the majority of teachers must take on multiple teaching assignments including both multi-grade level and multi-subject preparations. Teacher preparation programs should include courses that address multi-ability classrooms and offer teaching practices in schools with such characteristics. Districts could also consider in-service training, and induction programs with mentoring during the initial year of hire to support new teachers (Feiman-Nemser, 2001; Ingersoll & Strong, 2011; Youngs, 2007).

Results further show that the majority of teachers were satisfied with relationships/friendships, and housing. However, the access to health care and shopping causes dissatisfaction. Some sites within in our research area have only one health aide worker. Physicians only visit periodically, requiring residents to often leave the village for treatment (Rosenblatt, Casey, & Richardson, 2002). Teachers need to be informed during the hiring process about those arrangements in order to buy enough medical supplies prior to starting the school year. Teachers will also have to judge when and if it is necessary to leave the village for medical help and decide what additional insurance (medical evacuation) is necessary. Teachers with complex health concerns may have to reconsider teaching in a remote location. Shopping in the Arctic is often done online or through periodic trips to an urban area. Buying particular items in the rural village may not be possible due to limited selections or may be cost prohibitive (Bohi, 2010). Districts could provide sample monthly shopping lists and addresses of shipping businesses to new teachers making acclimation more expedient.

A high percentage of teachers surveyed indicated that they have not yet made decisions about staying or leaving their current job. This represents good news for efforts to retain

effective teachers. Teachers reported that often there were little or no efforts made by their schools to retain them. Teachers want to know that they are making a difference in students' lives and looking for work conditions and support structures where they can be effective (Boyd et al., 2010). Administrative monitoring of school working conditions by implementing opportunities for shared feedback and addressing concerns in a timely manner can improve teachers' day-to-day job satisfaction (Boyd, Lankford, Loeb, Ronfeldt, & Wyckoff, 2011). Simple actions such as responding to the needs and suggestions of effective teachers, offering career advancement, communicating informal performance evaluations and appreciation of teachers' efforts and success with engaging students in learning activities, and acknowledging effective work with parents or the community may be first steps to retaining quality teachers.

Overall, findings indicate that working conditions, leadership, and community integration separate from student-body characteristics are important factors for teacher retention. Therefore, improving overall working conditions, leadership, and induction programs may be effective at reducing turnover. Teachers with more formal and comprehensive pre-service preparation inclusive of student teaching in rural settings may stay longer (DeAngelis et al., 2013; Goldhaber & Cowan, 2014; Ronfeldt et al., 2013). Investments by teacher education programs and school districts in creating such opportunities need to be made.

In summary, this study is one step towards understanding the complexities of teachers' career decisions and the contextual factors influencing such decisions in rural Alaska. Understanding the career decisions of the educational workforce is essential for designing policies and implementing programs

to keep effective teachers rooted in educational careers that support the most underserved students (Quartz et al., 2008). Our study confirms that in order to become effective educators and to remain at schools, teachers need support (Fry & Anderson, 2011; Kline et al., 2013; Winters & Cowen, 2013). Better communication patterns, honest hiring practices, and shared responsibilities between rural school districts, teachers, community members, and teacher preparation programs need to be established. Apprenticeship experiences for prospective school leaders, rural student teaching experiences for pre-service teachers, and supports for principals and teachers while on the job may be effective in reducing turnover (Feiman-Nemser, 2001; Ingersoll & Strong, 2011; Johnson & Birkeland, 2003). However, we caution against a simplistic approach to raising teacher retention rates regardless of performance and fit of teachers in the cultural context of the community. School leadership needs to develop long-term and strategic retention strategies for successful teachers who respond to the cultural context of the community. Teacher retention, teacher effectiveness, and student achievement are multilayered and complex issues shaped by the socio-cultural context of the schools, state policies, labor market forces, and individual connections with students and communities. To develop and retain effective teachers a collaborative and multifaceted support structure reflecting the local context is needed (Kaden & Patterson, 2014). This study suggests that personal career decisions do not depend on a single factor. Policies will require a systems approach that prescribes a blend of solutions tailored for individual school settings.

## Limitations and Further Research

Archival data are limited to a four-year data collection. Findings may not generalize to settings other than Alaska and continued longitudinal data are needed to predict future trends. The survey approach relies on teachers' self-reports of working conditions and community integration has the potential bias that less satisfied teachers misrepresent working conditions and factors related to community integration (Wilson, Floden, & Ferrini-Mundy, 2002). Such inaccurate self-reporting may bias findings. Results provide evidence of complex interactions of variables that contribute to teacher retention. Follow-up studies especially at the school level are necessary to investigate such variables in more detail to capture the exact percentages of teachers who leave the classroom for administrative positions, to continue graduate school, or because they are dissatisfied with work conditions. There is also a need to address the relationships between teacher retention decisions, teacher evaluation and teacher quality. A teacher may get laid off for low performance or is just a bad match for a specific school context. Certain attrition may actually be helpful for all stakeholders including teachers. Other contextual factors such as professional development, collaborative opportunities and administrative support are not included in this study, yet, are likely to be important to teachers. In addition, it is difficult to control for variables of the study that are time dependent. For example, the teacher survey had to be administered at two points in time and teachers' perceptions about work conditions and career decisions may change during the school year. Survey response rates varied between school locations and reflect individual assessments at a point in time. Thus, explanations and conclusions have to be drawn with caution. Researcher biases may be present despite careful

comprehensive analysis of data and interpretations (Creswell, 2007).

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