

# Factors associated with subsistence participation and wage employment among Inupiat, and related lifestyle aspirations

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## Introduction

The transition from a traditional, subsistence-based economy to one characterized as “mixed” – characterized by both wage work and participation in harvest/herding activities has been occurring among native groups in the U.S. and elsewhere for decades.

Specifically, Native Inupiat residing in Northern Alaska continue to depend upon subsistence activities such as hunting, fishing, whaling, and herding while increasingly relying upon wages and transfer payments.<sup>1</sup>

Using the multi-national Survey of Living Conditions in the Arctic (SLICA),<sup>2</sup> I seek a more nuanced understanding of factors associated with employment and subsistence patterns within the physical, social, and economic constructs of Northern Alaska.

This project investigates factors associated with the maintenance of a mixed economy through an examination of employment and subsistence participation and through a preliminary look at aspirations to continue or take part in subsistence activity.

## Research Questions

- Do differences in aspirations for subsistence participation emerge among groups?
- What factors are associated with increased participation in traditional subsistence activities?
- Conversely, what factors are associated with increased wage hours?



Figure 1. Photograph of Barrow, Alaska. (Courtesy of JK Robertson)

## Areas of Study

### North Slope Borough

*n* = 212  
Regional hub: Barrow

### Northwest Arctic

*n* = 204  
Regional hub: Kotzebue

### Bering Straits

*n* = 247  
Regional hub: Nome



Figure 2. Boroughs of focus.

## Methods

- ANOVA and chi-square methods are used to measure within-variable differences in aspirations.
- Independent variables are then grouped in blocks and added to a model sequentially (Figure 3).<sup>3</sup>
- Ordered logistic regression techniques are employed to test the significance of associations with wage/subsistence participation.



Figure 3. Operational Model.

## Results

- Eighty percent of individuals aspire to participate in subsistence only, or in a mixed subsistence/cash lifestyle.
- Statistically significant differences in aspirations for subsistence emerge – males, and those who are married, older, and living in smaller villages are more likely to desire a subsistence lifestyle over a wage work-only lifestyle.

Figure 4. Percentage of Inupiat who aspire subsistence activity only or mixed cash/subsistence work<sup>4</sup>

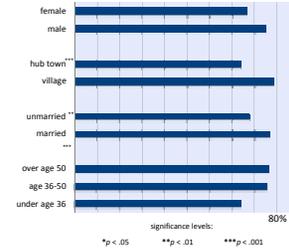


Table 1. Ordered logit regression results

Predictor	Wage Employment Hours		Subsistence Participation	
	Full-model coefficient (SE)	Reduced-model coefficient (SE)	Full-model coefficient (SE)	Reduced-model coefficient (SE)
Marriage	-.169 (1.187)		.573*** (1.165)	.591*** (1.152)
Gender (female)	-.563** (2.011)	-.653*** (1.74)	-1.37*** (1.74)	-1.39*** (1.64)
Age cohort	-.421*** (1.130)	-.441*** (1.124)	-.226 (1.16)	
Town/village location	.501** (1.81)	.431* (1.68)	-.669*** (1.79)	-.665*** (1.54)
Education	.600*** (1.122)	.649*** (1.117)	.200* (1.101)	.345*** (.091)
Father's education	-.124 (0.68)		-.096 (0.60)	
Health	.116 (1.76)		.326* (1.59)	.455** (1.48)
Subsistence participation	.074 (0.86)			
Occupational importance	.412*** (1.107)	.445*** (1.103)	.161 (1.118)	
Participation in native storytelling	.017 (1.192)		.979*** (1.175)	1.00*** (1.159)
Native language ability	-.304*** (0.74)	-.270*** (0.70)	.196** (0.72)	.158** (0.60)
Political knowledge	-.326** (1.110)	-.348*** (1.01)	-.366*** (1.110)	-.346*** (1.06)
<i>f</i>	11.90	17.82	17.22	29.36
<i>n</i>	588	591	565	648

Significant results found in the reduced model:

- Being female is associated with decreased wage hours and subsistence activity.
- Possessing more education is associated with both increased wage hours and subsistence activity.
- Smaller village residence, good health, and connections to other activities rooted in traditional lifestyle matter – subsistence participation is likely to be higher.
- Marriage is associated with increased subsistence participation. Marriage has also been linked to decreased outmigration in previous study.<sup>5</sup>

## Future Research

Previous studies have demonstrated that migration flows are linked to nonrandom demographic and social patterns.<sup>5</sup>

Local and regional governments stand to benefit from additional research on links between “push” and “pull” factors and movement patterns as some Natives choose to leave small places.

Further work on this project will incorporate aggregate village and borough-level data to discern place-to-place variation in wage employment and subsistence aspirations and participation.

Mixed-effects modeling will be used to uncover variation in aspirations for wage work and subsistence participation across communities and boroughs.



<sup>1</sup>See Poppel B, Kruse J. 2008. The Importance of a Mixed-Cash and Harvest Herding Based Economy to Living in the Arctic - An Analysis of the Survey of Living Conditions in the Arctic (SLICA); Condon RG, Collings P, Wenzel G. 1995. The Best Part of Life: Subsistence Hunting, Ethnicity, and Economic Adaptation among Young Adult Inuit Males. *Arctic* 48:31-46

<sup>2</sup>For more information on the SLICA survey, see Kruse, J., Poppel, B., Abruynina, L., Duhaime, G., Martin, S., Poppel, M., Kruse, M., Ward, E., Cochran, P., Hanna, V. 2007. Survey of Living Conditions in the Arctic: Project Overview. In: Poppel, B., Kruse, J., Duhaime, G., Abruynina, L. *Survey of Living Conditions in the Arctic: SLICA Results*. Anchorage: Institute of Social and Economic Research, University of Alaska Anchorage. <http://www.arcticlivingconditions.org/>.

<sup>3</sup>Specific variables included in analyses are available.

<sup>4</sup>Data was weighted using poststratification probability weights in STATA.

<sup>5</sup>See Hamilton LC, Mitsuy AM. 2009. Visualizing Population Dynamics of Alaska's Arctic Communities. *Arctic* 62; Hamilton LC, forthcoming. Footprints: Demographic Effects of Outmigration. In *Migration in the Circumpolar North: Issues and Contexts*, ed. J. Huskey. C Southport, Edmonton, Alberta: Canadian Circumpolar Institute; Huskey L, Berman M, Hill A. 2003. Leaving Home, Returning Home: Migration as a Labor Market Choice for Alaska Natives. *The Annals of Regional Science* 38:75-92.

## Acknowledgments

Data Assistance: Jack Kruse

Statistical Guidance: Lawrence C. Hamilton

Poster Development Assistance: Breanna McLean



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