EMPLOYMENT TURNOVER AMONG ALASKA NATIVE AND NON-NATIVE VILLAGE PUBLIC SAFETY OFFICERS

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ABSTRACT

Employment turnover in the Alaska Village Public Safety Officer (VPSO) Program has been a problem since its beginnings in the early 1980s. This paper uses principal component analysis methods to identify factors from the responses of 113 VPSOs to a survey of about officer stress, the demands of rural policing, isolation, career motivation, salary, and organizational and community support. The factors identified in the principal component analysis are then used in a Cox regression model to predict the likelihood of turnover. Comparisons are made between the factors associated with turnover among Alaska Native and non-Native VPSOs.

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INTRODUCTION

In its earliest days, the designers of Alaska's Village Public Safety Officer (VPSO) program intended for local public safety services to be provided by Alaska Native village residents. These administrators believed this was necessary to instill a level of local support and control over the provision of law enforcement services. Since the 1980s, however, this facet of the program has been in decline. Today, a sizeable minority of VPSOs are non-Alaska Native outsiders from the lower-48 states or the more populous areas of Alaska.

This development has been, at least in part, the result of very high rates of employment turnover in the VPSO program. An examination of VPSO personnel records shows that the typical VPSO serves for less than two years in the program and that annual employment turnover rates over 50 percent have been common since the program first began. In order to arrive at a solid understanding of employment turnover among VPSOs, a survey of currently and formerly serving officers was conducted. Based upon data gathered in that survey, this paper provides the results of multivariate statistical analyses performed to examine the separate effects of different causal factors upon officer attrition. In doing so, it will show that the original ideal of the VPSO program — the ideal that village public safety services should be provided by local, Alaska Native residents — was well conceived in terms of what it takes to ensure any degree of employment longevity among its officers. This paper will also show that aside from effect of Alaska Native heritage upon officer turnover, there were few differences between the explanations of reasons that Alaska Native and non-Native VPSOs discontinued their employment with the program.

Before examining the possible reasons for VPSO attrition, this paper will first provide a description of the VPSO program. It will then give further attention to the amount of turnover in the program. Then, after describing the research methods employed for this study, the paper will finally turn to the results of the principal components analysis and Cox regression to examine the effects of the different factors upon VPSO turnover.

THE VPSO PROGRAM

Providing police and public safety services to the isolated Alaska Native villages spread across the state is a daunting challenge. With rates of intentional and accidental violent death much higher than those found in urbanized areas of Alaska and the U.S. (Angell, 1979; Berman & Leask, 1994; Lee, 1988;

Sealock, 1997; Stanton, 1997) these villages certainly do require a police and public safety presence. However, difficult terrain, a harsh climate, the lack of a road system interconnecting rural areas, along with relatively small village population sizes make the provision of "traditional" methods of law enforcement and public safety unsuitable. Instead, the VPSO program has been developed over the past 20 years as a localized response to the broad range of public safety needs in Alaska Native villages. VPSOs — whose five-part task bundle includes law enforcement, fire fighting, water safety, emergency medical assistance, and search and rescue — can be best thought of as public safety "jacks-of-all-trades."

Each VPSO is assigned to a specific village that he or she is responsible for meeting the aforementioned public safety services in and closely around. In their day-to-day duties, VPSOs patrol on foot or all-terrain vehicle. They serve as the first response to any criminal offenses or other emergencies that may arise. As they presently operate, VPSOs serve in basically a "trip-wire" function (Hippler, 1982). While they are trained and equipped to handle the smaller problems that arise in their communities, they are forced to broker larger emergencies to the specially equipped state agencies (such as the Alaska State Troopers) to deal with.

In its development over the years, the VPSO program has received a good deal of support from within the Alaska Native community. Interviews with Alaska Native residents of two villages served by program indicated a broad level of support (Marenin, 1994). In 1998, the Alaska Federation of Natives passed a resolution calling for the state to increase funding for the program and to expand it to cover Alaska Native villages located on the state's highway system.

From its outset, the VPSO program was designed to deal with the broad range of public safety issues facing Alaska Native villages and to instill within the program a level of support for, and local control over, the provision of law enforcement and public safety services to communities. The management structure of the program has been heralded for an organization that allows Alaska Native leaders in each village to make day-to-day decisions about delivering public safety services to their communities. Administration of the VPSO program is divided between three different levels: Alaska Native villages, regional non-profit corporations, and the Alaska State Troopers. Each level has specific responsibilities when it comes to selecting, training, equipping, supervising, and paying VPSOs.

Local Alaska Native village control over the VPSO program comes from two different sources. First of all, the villages have the choice of whether to participate in the program. Villages that would like to have a VPSO request one from their non-profit (see below), which in turn, requests funding from the state for the position. Once funding becomes available, the village will receive its VPSO. Given this arrangement, there is no way that a village can have a VPSO imposed upon it. With a recent cutback in the

number of positions in the program, however, the number of villages that would like to have a VPSO outnumbers the villages that are actually afforded one. The other source of village control over the VPSO program is their power to select and terminate officers. Although hiring and firing of VPSOs is generally conducted in consultation with the non-profits and the Troopers (Marenin & Copus, 1991), the villages have the ultimate discretion over who becomes their VPSO and whether that officer is retained or dismissed. Given their inadequate resources, the local villages' responsibilities to the VPSO program are limited. They are responsible for providing office space, telephone service, and a holding cell for the VPSO. They are also responsible for obtaining any equipment above and beyond that provided by the Alaska State Troopers.

The regional non-profit native corporations, which handle the day-to-day managerial functions of the VPSO program, are the agencies which are considered to be the actual employers of the individual officers. As these 'non-profits' are unique to Alaska, a bit of explanation of what they are is in order. In 1971, when the Alaska Native Claims Settlement Act was enacted, twelve regional for-profit Native corporations were created across the state for the purpose of investing funds received from land claims. Coinciding in area with these for-profit corporations are an equal number of regional non-profit Native corporations (Case, 1984). These non-profits play a significant role in the lives of Alaska Native village residents. They fill many of the service delivery functions normally left to local governments by actively competing for state and federal grant funds to provide services such as health, housing, education, and employment counseling. Given their administrative experience over government-funded programs combined with a local awareness of the specific needs of the areas to be served, these regional non-profit corporations are thought to be particularly well situated to support the VPSO program (Marenin, 1989a). Each non-profit has a VPSO Coordinator who administers the program for the corporation. The duties of these VPSO Coordinators include the the management of payroll and insurance and retirement plans as well as for record-keeping regarding personnel files and the expenditure of grant funds. The VPSO Coordinators also assist the villages and the Troopers in the process of recruiting, hiring, and terminating VPSOs.

The Alaska State Troopers, whose policing jurisdiction is basically all areas in the state that lack municipal police services, play a major role in the administration of the VPSO program. Apart from their role as trainers and issuers of some equipment, the Troopers' main duty toward the program is the field supervision of VPSOs. Each VPSO is assigned an 'Oversight Trooper' (a commissioned Alaska State Trooper in a central location that is, in some cases, 300 miles away from the VPSO posting) who acts as a mentor and provides technical assistance and on-the-job training. In high risk or complex situations,

including all felony cases, the VPSO stays in communication with the Oversight Trooper and takes immediate action as prescribed by the Trooper to keep the situation under control until the Trooper arrives generally by air or snow machine.

With its unique organizational structure and the officers' multiple task bundle, the VPSO can be thought of as what the former VPSO program coordinator for the Alaska State Troopers, Captain John Stearns, referred to as "community policing at its rawest" (Associated Press, 1992). Four different aspects of the VPSO program make it a prime example of a community policing program:

1. policing authority is decentralized at the community level;

2. responsibilities to state law and to traditional social controls require officers to go beyond meeting minimal legal requirements and encourage them to employ problem-solving techniques to perform with effectiveness;

3. the generalist conception of the policing role stresses the complexities of public safety and social order to address all causes of disorder and threats to welfare; and

4. the participation of the community is built into the organizational structure of the program with the involvement of local village councils and regional non-profit corporations in personnel and operational decisions (Marenin, 1990).

In short, the VPSO program is organized to provide a community-based response to the distinct needs of modern-day Alaska Native villages.

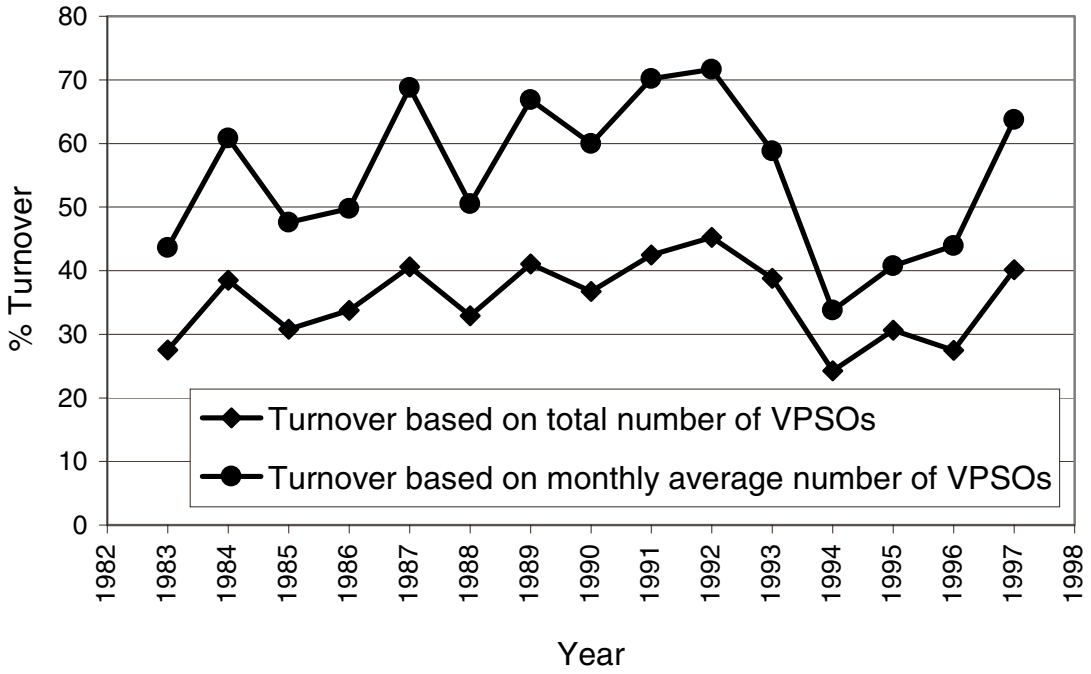
VPSO TURNOVER

Despite the innovations built into the VPSO program, the officer attrition problem has hindered the program in much the same way it affected earlier efforts at providing police services to Alaska Native villages. Basically, those individuals who are responsible for policing Alaska Native villages do not have particularly long careers doing so.

The turnover of police officers working in rural, remote Alaska villages has been a problem ever since statehood. An extreme example of turnover occurred in the Barrow Police Department in the 1970s. Between 1975 and 1976 there were 8 different chiefs of police hired by the city of Barrow and the officer turnover rate of police officers was 500 percent per year (Moeller, 1978). Although not as extreme as those of Barrow, the VPO program (an earlier effort to provide police services to Alaska Native villages) also had particularly high turnover rates. For instance, Angell (1979) reported a 120 percent turnover rate among VPOs in 1977. These rates were so high that Angell (1978, p. 67) lamented the possibility of "entire village populations [that] may eventually be trained as village police officers in the continuing effort to keep trained officers in each village."

An examination of personnel rosters provided to the author (for the period 1978 through 1999) by the Alaska State Troopers shows that officer employment turnover is still a problem in the VPSO program. Generally speaking, the typical village has a VPSO for no more than a year. Even though transfers between villages do occur, the average VPSO still spends less than 12 months in the program. When the turnover rate is computed as a percentage in which the number of terminations in a year is divided by the total number of VPSOs employed in a year, the VPSO turnover rate has averaged 35 percent per year for the years 1983 through 1997. Rates using this measure have been as high as 45 percent per year (in 1992). Calculating turnover rates as the proportion of the number of terminations in a period over the average number of employees in a period, VPSO rates of attrition averaged 55 percent per year over the period 1983-1997. This rate is at least 10 times greater than what is experienced by metropolitan police departments in Alaska and the U.S. (see Figure 1) and is similar to rates found in retail trade or personal services economic sectors (Ryscavage, 1995).

Figure 1: Yearly VPSO Turnover Rates Computed as a Percentage of the Mean Number of Positions at Mid-Month and as a Percentage of the Total Number Employed During Year, 1983 to 1997.



Aside from the obvious costs of hiring and training new officers (estimated to be $6,200 per), VPSO turnover is problematic for the void left in a village when an officer leaves. An examination of VPSO personnel records shows that the time between when one VPSO quits and another takes his or her place is more than four months (138 days). During this time the village is without local VPSO service.

Even when a replacement is made, new VPSOs will, on average, serve in a village for an additional five months before completing the training academy. When these two time periods are combined, the average village losing a VPSO will wait for nine months for its new officer to be hired and complete training.

METHODS AND MEASURES

A self-administered survey of current and former VPSOs was conducted to obtain individual level measures of factors thought to be associated with officer turnover. The questions in this survey were based upon a number of theoretical perspectives on officer attrition including general police research which focuses upon job stress and the effects of satisfaction with salary and benefits upon police turnover, research on the effects upon turnover of the problems faced by rural police officers, and research regarding the difficulties of policing Native communities using Native officers.

As the most cost-effective way to gather the views of the VPSOs scattered across Alaska and the Lower-48, the questionnaire was administered by mail. The primary difficulty involving the use of mail surveys, as it threatens to bias the generalizability of results, is the problem of low response rates. This problem was dealt with by the use of a letter of introduction stressing the importance of the study and guaranteeing the anonymity and confidentiality of responses, a self-addressed stamped envelope for the return of the survey instrument, and the encouragement of Oversight Troopers and the non-profit corporations' VPSO Coordinators. Cash incentives for survey completion, follow-up reminder letters to non-respondents, and an opportunity to win a $500 Wal-Mart gift certificate were also used to boost survey returns. All together, these methods were successful in helping to arrive at an adequate response rate. Out of the 184 surveys originally administered, 113 were returned for an overall response rate of 61 percent. The response rate was much higher for current VPSOs (61 out of 75 returned / 81 % rate) than for former VPSOs (52 out of 109 returned/ 48 %). The only statistically significant difference found between respondents and non-respondents when a sub-sample of the latter was contacted by telephone was that those former VPSOs who did not return a survey were more likely to have grown up in an Alaska Native village. Other than that one difference, the group responding to the survey appeared to be representative of VPSOs as a whole.

Given the large number of variables available from the officer survey, it was necessary to reduce the number of measures to a level that would be meaningful in the multivariate analysis. The data reduction process used for this study involved two basic steps. First of all, principal components analysis was conducted to examine intercorrelations between similar survey measures to (1) identify underlying theoretical constructs and (2) to assess the unidimensionality of scale items included in the survey.

Principal components analysis allows for the reduction of a large set of correlated variables into a smaller set of uncorrelated variables that represents most of the information from the original larger set of variables (Dunteman, 1989). According to Williams (1979), a common use of principal components analysis "is where the researcher wishes to see if a relatively large number of measures can be reduced to few, more basic, underlying variables, as in how items on a test of some type may represent fewer variables than the items themselves" (p. 167). Once the original survey measures were reduced to a more manageable number of composite variables, the internal consistency (i.e., reliability) of the measures making up the composite variables were then examined to determine if they indeed measured a single trait.[1] In the remainder of this section of this paper, the theoretical bases for the survey questions will be explained and the variables generated through the data reduction process will be considered. To begin with, the paper turns to the issues of officer stress and job satisfaction.

Questions about Stress and Job Satisfaction

A few studies (DeLey, 1984; McIntyre et. al., 1990) have considered stress and job satisfaction as influences upon the turnover of police officers. Some officers in McIntyre et. al's (1990) survey of Vermont police officers, for example, said that the stress of police work influenced their decision to leave their department. Four different conceptualizations of stress were operationalized in the survey of VPSOs. *Role ambiguity*, the lack of clear, consistent information about the set of activities to be performed and the methods of their performance (Kelling & Pate, 1975), is the first possible source of VPSO stress examined by the survey. Given the limits on VPSOs' authority to use force or make felony arrests combined with their five-part task bundle, it is reasonable to expect that many would experience such role ambiguity in their jobs. The degree to which VPSOs experienced role ambiguity was measured by three Likert-type questions suggested by Kahn, et al. (1964). *Role conflict*, "the simultaneous occurrence of two (or more) sets of pressures such that compliance with one would make more difficult compliance with the other," was the second source of stress examined in the survey using four Likert-type questions recommended by Kahn, et al. (1964, p. 19). The differing expectations among oversight troopers, non-profit coordinators, and

[1] The internal consistency of the variables with high correlations on each of the factors was assessed by examining the value of Cronbach's alpha reliability coefficient for those variables. With a range from 0 to 1.0, Cronbach's alpha indicates whether a group of variables are measuring the same thing (Cronbach, 1970). For the purposes of deciding which factors have enough internal consistency, this study employed an alpha score cut-off of .60. Those groups of variables with an alpha score above that value were considered to be internally consistent and therefore reliable indicators. Although this cutoff is .10 below what is commonly used, use of a reduced value was reasonable given the small number of variables used to compute the reliability coefficients. As shown by a number of authors (Carmines & Zeller, 1979; Cronbach, 1970; Kline, 1993), the value for Cronbach's alpha increases as the number of variables included in its computation increases. For instance, when the variables correlated with the income assistance factor are each used twice (for a total of four variables) to compute the reliability coefficient, the value of alpha increases from .58 to .85.

village government representatives leave the VPSOs with many "bosses" to please, making it difficult for the officer to know whom he or she is actually working for and what their expectations are (Marenin, 1994).[2] A third set of questions was developed to measure the VPSOs' personal *physiological effects* of stress. Likert-type questions modeled after those used by Kiev & Kohn (1979) were put to the VPSOs with the expectation that those with a greater number of physical signs of stress would be less likely to remain with the program. The survey also contained questions about *officer safety* to gauge its effect as a stressor upon VPSO attrition. VPSOs are often the only law enforcement presence in their communities, they are also expected to be the first response to violent and hostile situations all while not having the benefit of a firearm, and the support of other police to deal with dangerous situations can be hours, if not days away. Two Likert-style questions were used to gauge the officers' perceptions that they are put into dangerous situations with the potential for injury. A series of 'yes-no' questions were also included in the survey instrument to find out about the VPSOs actual experiences with injury and dealing with armed perpetrators.

There are special stressors connected to the environment of rural policing that, because not generally applicable to officers working in larger departments, can make officers working in rural departments more prone to turnover. According to Weisheit, Wells, and Falcone (1999), rural officers' work is often done alone without a police backup system to respond to calls for assistance within a reasonable amount of time. Despite the fact that rural police usually work by themselves covering great distances, there is a general lack of privacy in their lives making it difficult to remove themselves from the police officer role (Griffiths, Saville, Wood, & Zellerer, 1995). Two different types of questions were used in the survey to examine the effects of the stresses of rural law enforcement upon an officer's tenure with the VPSO program. First of all, four different Likert-type questions were constructed to capture the officers' perceptions regarding *village expectations* that officers be available at all times of the day and on all days.

An additional problem specific to Native police officers, a problem that is somewhat related to their duty to remain in the community to respond to calls for service, is the difficulties they have in being able to take time away from work to hunt and fish for subsistence. The time demanded by their job is time not spent in these culturally relevant activities that are of great significance to the Alaska Native people both symbolically and economically. Three Likert-type questions measuring the officers' *difficulties of participation in subsistence* hunting and fishing were included in the survey instrument. An inverse

[2] A similar lack of clearly defined expectations between the Royal Canadian Mounted Police (RCMP) and the local community was said to have led to confusion and low morale among their Indian Special Constables in the 1970s (Griffiths & Yerbury, 1984; Van Dyke & Jamont, 1980).

relationship was expected between reported difficulties in being able to participate in subsistence activities and the length of service as a VPSO.

A second type of question constructed to examine the effects of the rural policing environment upon VPSO turnover looked at the impact of the *lack of backup* as an influence of attrition. While only one village served by the program had more than one VPSO posted, not all VPSOs work without the support of an additional public safety presence in the village. A single 'yes-no' question was included in the survey instrument to find out if the presence of VPOs or tribal police in the village had any impact upon VPSO turnover.

Seven different measures for use in the final proportional hazards regression model of VPSO turnover were identified when principal components analysis was used to examine the intercorrelations between the set of variables dealing with VPSO stress. Included were variables measuring role ambiguity, role conflict, the health effects of stress, the difficulties associated with VPSO duties, and the issues of officer safety. Using a factor loading[3] limitation of .50,[4] the results of the varimax-rotated principal components analysis shown in Table 1 indicated that six different factors accounted for the variation in the 21 variables dealing with VPSO stress. Except for the sixth factor, the interpretation of the factors is fairly straightforward because the variables loaded along the lines of the conceptual framework outlined above. The first of these factors was most strongly associated with the variables that measure the difficulties officers face off the job because of their position. Each of the variables, including the variable dealing with the perceptions of villagers' '24-7' service expectations which loaded just below the .50 criterion, were considered to be indicative of the *duty demands* of the VPSO position. The second factor identified by the principal components analysis loaded on the four variables that were included in the survey in order to measure the physiological or *health effects of stress*. Factor three was most closely associated with the variables included in the survey to measure *role ambiguity* while the strongest loadings on factor four were with the variables designed to measure *role conflict*. The remaining two factors isolated in the principal components analysis deal with issues of officer safety. Two different variables loaded on the fifth factor which appeared to capture the extent to which officers *feel unsafe on the job*. The strongest factor loadings on the sixth factor were with the measure of whether the officer had been injured making an arrest and with the measure of whether the officer worked in a village where other law enforcement agents were also

[3] Factor loadings are the correlations between the variable of interest and a factor identified in the principal components analysis (Williams, 1979).
[4] As suggested by Merenda [1997] for the sake of simplicity in interpreting the meanings of the factors.

stationed. This factor could be interpreted as being an objective measure of officer safety, which might be more briefly termed the *objective safety* factor.

Table 1: Principal Components Analysis Factor Loadings of Variables Associated with VPSO Stress

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Clear about what to do as VPSO			.899			
Clear about limits of authority			.900			
Clear about others' expectations			.807			
Role conflict of others' differing views of how to do job						
Role conflict of Local Govt. vs. Troopers				.813		
Role conflict of Local Govt. vs. Non-Prof.				.866		
Role conflict of Non-Prof. vs. Troopers				.793		
Trouble sleeping because of job		.750				
Health adversely affected because of job		.670				
Difficulty relaxing because of job		.828				
Suffered headaches because of job		.815				
Difficult to participate in village activities because of duty	.742					
Difficult to get vacation because of duty	.655					
Village expects 24-7 service	.481					
Difficult to spend time w/ family because of duty	.633					
Hunting difficult because of duty	.751					
Couldn't get away for a week to hunt	.774					
Felt lucky not to be injured					.847	
Feared for life in danger					.612	
Ever injured making arrest						.805
VPO or Tribal Police in village						.558
Eigenvalue	3.11	3.04	2.44	2.40	1.47	1.31
Percent of Total Variance	14.8	14.5	11.6	11.4	7.0	6.2

Seven different variables for use in the proportional hazards regression model were drawn from these six factors and an assessment of their internal consistency. The first five of these variables were scales developed from the groups of variables isolated by the first five factors shown in Table 1. These scales included the *health effects of stress*, the *demands of duty*, *role ambiguity, role conflict*, and *feeling unsafe on the job*. The alpha coefficients of reliability for these scales were .85, .80, .86, .82, and .64, respectively. All but one of these scales appeared to be strongly internally consistent; the exception was the *feeling unsafe* scale which had an alpha coefficient just above the .60 criteria outlined previously. When the inverse of the *role ambiguity* scale was used, we would expect a positive relationship between

the likelihood of a VPSO leaving the program and the scores on all of these scales. The other two variables dealing with VPSO stress to be included in the model were the variables which most strongly loaded with the *objective safety* factor. Although these two variables were conceptually associated with officer safety, their alpha coefficient of .18 indicates that they were not measuring the same thing. Rather than discarding the variables, each was instead used individually in the proportional hazards model. A positive relationship was expected between the variable measuring whether the officer had ever been *injured making an arrest* and the likelihood of the officer leaving the program. An inverse relationship was expected between the variable measuring service in the *presence of VPOs or Tribals* and the likelihood of leaving the program.

Pay, Expenses, and Housing

Besides stress, the general police literature on turnover looks to job satisfaction as an influence upon officers' decisions to leave the occupation. McIntyre, et al.'s (1990) study of Vermont municipal police is typical in this regard in that officers' dissatisfaction with salary, benefits, retirement packages, and opportunities for advancement were most often reported to be reasons for quitting.

In order to determine its effect upon turnover, questions associated with job satisfaction were also included in the VPSO survey. First among the questions dealing with job satisfaction are Likert-type questions dealing with VPSOs' *satisfaction with their pay*. Compared to the typical income for paid positions in Alaska Native villages and the salaries of police officers in Alaska's larger cities, the VPSOs can be considered to be underpaid. Other questions were included to gather a more objective indication of *officer poverty*. Three 'yes-no' questions asking officers whether they had to rely on welfare, food stamps, or supplementary employment to support themselves and their families were included in the survey. It was expected that those VPSOs who were dissatisfied with their pay and who had to turn to additional means of support would be more likely to leave the program. Other Likert-style questions regarding job satisfaction used in the survey included measures of officers' satisfaction with *promotional opportunities* and *housing*. Inverse relationships were expected between each of these measures and VPSO turnover.

The results of the principal components analysis shown in Table 2 suggest that there were five different dimensions to the larger set of variables dealing with job satisfaction and pay and expenses. The first factor in Table 2 loaded on five different variables related to how well the VPSO felt he or she was paid, to the proportion of the salary going to housing, and to the officers' views on housing and hunting expenses. This factor, referred to as the *pay factor score*, clearly could be interpreted as being representative of the officers' view of their pay and how well it met expenses. With an alpha coefficient of .74, this variable met the criteria of reliability for inclusion in the model. High values on the pay factor

score were indicative of high levels of dissatisfaction with pay and expenses; a direct relationship was expected between the pay factor score and the likelihood of turnover.

The factor loadings for three different variables on the second factor in Table 2 were above the criterion of a .50 factor score value. These included whether the officer felt VPSOs were paid much less than the job is worth, whether the officer was satisfied with promotional opportunities, and whether the officer thought that the VPSO position was a dead-end job. The second factor, which can be interpreted as being the "job value," is indicative of the value the officer puts on the VPSO position. As each of these variables originated from Likert-type questions, a scale measuring *job value* was calculated for use in the proportional hazards model. With an alpha reliability coefficient of .68, high values on this scale were associated with feelings of dissatisfaction with the value of the VPSO position. A positive relationship between the job value scale and the likelihood of leaving the VPSO program was expected.

Only two variables — whether the officer used food stamps while a VPSO and whether the officer used welfare while a VPSO — were correlated with the third factor above the .50 level. Although this factor can be interpreted as representing the officers' use of income assistance benefits, a reliability coefficient below the .60 cut-off point (α = .58) indicates that the two questions are not necessarily measuring similar phenomena. As such, the individual variables — whether the officer used food stamps while a VPSO and whether the officer used welfare while a VPSO — were instead included in the model. It was expected that the officers who used food stamps or welfare would be more likely to leave the VPSO program when compared with those officers who did not use either form of income assistance.

The three variables with factor loadings above the .50 level for the fourth factor (comparative housing quality, satisfaction with housing quality, and home ownership) in Table 2 can be seen as representing the officers' views of housing quality. For the purposes of the proportional hazards regression analysis considered below, this is considered the *housing quality factor score*.[5] For this factor score, high values were indicative of a situation of poor housing quality. A direct relationship was expected between the housing quality factor score and the probability of a VPSO leaving the program.

The fifth and final factor shown in Table 2 was correlated only with the variable measuring whether the officer *took an extra job* while a VPSO. Because it did not 'load' with any other variables, this variable is used by itself in the proportional hazards regression analysis. It was expected that those officers who reported taking on a extra job while employed as a VPSO would have a greater chance of leaving the VPSO program.

[5] With an alpha coefficient value of .61, there is sufficient interitem reliability for us to believe that these three variables are measuring a similar phenomena.

Table 2: Principal Components Analysis Factor Loadings of Variables Associated with VPSO Pay and Expenses

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Not paid very well	.586				
Paid more than others in village					
No problem making ends meet on VPSO pay					
Paid much less than job worth		.625			
Used food stamps when VPSO			.789		
Taken other job when VPSO					.692
Used welfare when VPSO			.728		
Hunting too expensive on VPSO salary	.748				
Housing very expensive	.715				
Pay more than others in village for housing	.637				
Poor housing condition compared to others				.679	
Satisfied with housing quality				-.702	
Home owner when VPSO				-.703	
More than 1/3rd of salary went to housing	.670				
Satisfied with promotional opportunities		-.853			
Thought VPSO is a "dead end" job		.764			
Eigenvalue	2.65	2.05	1.87	1.74	1.48
Percent of Total Variance	16.6	12.8	11.7	10.8	9.3

Officer Training and Support

The next type of questions included in the survey pertained to the issues surrounding the training of VPSOs and the support they received. For example, one set of questions asked VPSOs if they felt that they were supported by the community and whether the village appreciated the job they were doing. An inverse relationship between perceived *village support and appreciation* and attrition. Another set of questions included in the survey considered the officers' views of the training they received as VPSOs. A direct relationship between the officers' *satisfaction with training* and their likelihood of turnover was expected. Similar questions were put to the officers regarding their *satisfaction with equipment* they were provided to do their job; an inverse relationship with officer attrition was expected for these measures.

The final type of questions included in the survey to examine the difficulties of rural policing upon VPSO turnover considered the effects of *occupational isolation*. Given that VPSOs are usually the primary public safety presence in Alaska Native villages, one might expect that a lack of contact with their policing superiors would make them more likely to want to leave the program. Likert-type questions were included

in the survey to gauge the frequency and regularity of VPSOs contact with their Oversight Troopers to measure this isolation. Additional questions included in the survey to measure occupational isolation examined the distance and time of travel to the nearest Alaska State Trooper posting.

When subjected to principal components analysis, the 18 variables associated with the officers' perceptions of support and training were reduced to 6 non-correlated factors (see Table 3). As with the factors associated with officer stress, the interpretation of the factors in Table 3 was fairly clear-cut because the factor loadings of the variables corresponded with the theoretical constructs previously identified. The six different factors identified in the principal components analysis of the measures of support and training are all used as variables in the proportional hazards regression analysis to follow.

Table 3: Principal Components Analysis Factor Loadings of Variables Associated with VPSO Support and Training

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Felt well trained	.716					
Felt training did not prepare for many things	-.655					
Felt VPSO academy prepared officer	.847					
Not satisfied with training	-.817					
Oversight Trooper called just to check in				.513		
Oversight Trooper visited only in emer. or invest.				-.592		
How often phoned Oversight Trooper				.703		
How often saw Oversight Trooper in person				.757		
Miles to nearest Trooper posting					.889	
Time by air to nearest Trooper posting					.892	
Felt village supported officer		.678				
Believes village expressed appreciation		.839				
Village asked officer to continue to as VPSO		.788				
Felt as if not equipped to do job			.866			
Received little help to get equipment			.872			
Felt office space is adequate						
Felt treated like an outcast						.750
Felt treated as if less of an Alaska Native						.815
Eigenvalue	2.86	2.11	1.95	1.80	1.72	1.51
Percent of Total Variance	15.9	11.7	10.8	10.0	9.6	8.4

The first of these variables was a scale measuring *training satisfaction*. This scale[6] includes all of the variables that were most closely associated with factor 1 in Table 3. High scores on the training satisfaction scale indicated a high level of satisfaction whereas low scores indicated a low level of satisfaction or, in other words, dissatisfaction. An inverse relationship was expected between this variable and the likelihood of turnover.

A second variable drawn from the principal components analysis in Table 3 was a scale measuring community appreciation and support. This scale,[7] referred to as *community support* in the analysis, aligned most strongly on the second factor. Low scores on this scale are associated with officers' low levels of perceiving that the community supported them and appreciated their efforts. An inverse relationship were expected between the community support variable and officer attrition.

Most strongly associated with the third factor in Table 3, a third variable identified for the proportional hazards regression was a scale[8] that measured the officers' *dissatisfaction with* [their] *equipment*. The officers who expressed high levels of dissatisfaction on this scale were expected to have a greater chance of leaving the program.

The fourth variable drawn from the principal components analysis corresponded with the factor scores for the fourth factor isolated there. This one dealt with the frequency and circumstances of contact the VPSOs have with their Oversight Troopers. In the proportional hazards model this variable[9] was referred to as *Oversight Trooper contact*. An inverse relationship was foreseen between this measure and the likelihood of leaving the VPSO program. Those officers with poorer contact with their Oversight Troopers should not last as long in the program when compared to those officers reporting better contacts.

The fifth variable dealing with VPSO training and support identified in the principal components analysis was a measure of the distance that VPSOs were from Oversight Troopers. Termed *Oversight Trooper distance* for the proportional hazards analysis, this variable used the inverse of the factor scores for the fifth factor[10] shown in Table 3. The inverse of this factor score corresponded with the distance to the Oversight Trooper; higher factor scores indicate further distances and *vice versa*. In terms of its relationship to officer turnover, it was expected that the officers further from oversight would have a greater chance of leaving the program.

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[6] The internal consistency coefficient for this scale was .73.
[7] The alpha coefficient of reliability for this scale was an acceptable .73.
[8] The alpha coefficient of reliability for this scale was a strong .86.
[9] The alpha reliability coefficient was .61 for the four variables most closely associated with this factor score.
[10] The alpha reliability coefficient was .78 for the two variables most closely associated with this factor score.

The final variable associated with VPSO support and training isolated in the principal components analysis was a measure of whether the officers felt shunned in their villages because of their position. Referred to as the *treated as outcast* scale[11] in the proportional hazards regression, this measure combined the final two variables shown in Table 3. A direct relationship was expected between this scale and the likelihood of leaving the VPSO program. All things equal, those VPSOs who felt like they were treated as outcasts probably were not going to remain as long as those who did not have such feelings.

Alaska Native Heritage

Aside from the general effects of stress, the problems associated with dissatisfaction over pay and benefits, and the difficulties that arise when officer support and training are deficient, there are difficulties that are specific to applying non-Native policing arrangements to Native communities using Native employees that might have an impact upon officer attrition. The rejection and isolation Native police officers sometimes encounter in the community and their need to go against fundamental cultural precepts to fulfill the police role are additional factors likely to be associated with VPSO attrition.

Some (Marenin & Copus, 1991; Wood & Trostle, 1997) have suggested that VPSOs face internal turmoil from having to enforce the law against those they are related to.[12] It was expected that officers who reported difficulties dealing with offending relatives would have an increased likelihood of attrition. Four different Likert-style questions were included in the survey instrument to gauge the VPSOs perceptions of *difficulties of policing relatives*. Other questions regarding the policing of friends and family included in the questionnaire asked the VPSOs if they had *ever arrested a relative* and if so, the nature of that relationship.

The inappropriateness of the policing role in Alaska Native cultures is another possible source of turnover for the VPSOs. The internal turmoil many local Native police officers have faced could also originate in their being in a role that violates core values of their people. According to Moeller:

> the mores of the Iñupiat people prohibit giving an individual the authority and power to take direct steps at enforcing community standards. Tradition has dictated a system of consensus by a group of elders as the means of enforcing community standards. There is immediate conflict, then, between an individual, even with support from state or municipal law, and his village (1978, .p 19).

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[11] The coefficient of reliability for this scale was .70.

[12] Canadian research has also identified great personal costs paid by local Native police that have enforced the law against those they know. According to Griffiths and Yerbury (1984), many Native communities were hostile to their members that chose to become RCMP Indian Special Constables. Such individuals were often rejected and faced "numerous recorded instances in which the Special Constables and their families had been threatened and harassed by members of the community" (Griffiths & Yerbury, 1984, p. 151; see also Murphy & Clairmont, 1996; Van Dyke & Jamont, 1980).

Since the job entails acting in a fashion contrary to deeply-held cultural norms (i.e., being "bossy" in ordering another person to do something) it is reasonable to expect that those VPSOs who are unable to make demands of others might not last as long as those who are able to do so. This ability to make demands of others was operationalized using an eight-item *directiveness* scale developed by Lorr and More (1980) which measures an individual's "disposition and ability to lead, direct, or influence others in problematic interpersonal situations calling for initiative, decision, and/or assumption of responsibility" (p. 127). An inverse relationship between an officer's score on the directiveness scale and his or her tenure in the VPSO program was expected.

The need to utilize the data reduction technique of principal components analysis was especially apparent when the correlations between the variables dealing with the officers' upbringing in an Alaska Native village and family, their familial relationships with village residents, and whether the existence of difficulties in dealing with relatives as a VPSO were examined. The correlations between these variables were all quite strong; with correlations upwards of .94, it was especially necessary to use principal components analysis to separate the effects of the individual variables for use in the proportional hazards regression analysis.

Two factors were identified in the principal components analysis of the eight variables associated with the officers' Alaska Native heritage. The first factor identified in Table 4 was most strongly associated with six of the eight variables analyzed. Together, these six variables could all be seen a measure the strength of the VPSOs' *Alaska Native heritage* in that the factor[13] captures the degree to which an officer was entrenched as an Alaska Native in an Alaska Native village. For the proportional hazards regression analysis conducted below, the factor scores for this first factor were used because of the high inter-correlations between these variables make it impossible to sort out the effects of any one of the individual variables. This factor score is referred to as the *Alaska Native heritage* variable in the proportional hazards regression analysis. The higher the score on this variable, the more likely the officer was to be Alaska Native, to be related to village residents, to serve in their home village, and to have been raised in an Alaska Native family or village.

The two variables most strongly associated with the second factor shown in Table 4 dealt with the officers' perceptions of the difficulties of policing relatives. While it was reasonable to expect that they would be strongly related, the interpretation of the .09 value for the alpha reliability coefficient for these two variables indicates that each was not necessarily measuring the same phenomenon. As such, each of

[13] The alpha reliability coefficient for the six variables comprising this factor was a very high .94 indicating that they all measure a similar phenomena.

the variables was used individually in the proportional hazards regression analysis. It was expected that the officers who reported *difficulties policing relatives* and who reported being *pressured by relatives* would be most likely to leave the VPSO program.

Table 4: Principal Components Analysis Factor Loadings of Variables Associated with VPSO Alaska Native Heritage

Variables	Factor 1	Factor 2
Related to village residents	.887	
Arrested relative	.794	
Village was hometown	.829	
Not pressured by relatives to be lenient		-.786
Felt policing relatives was difficult		.643
Was Alaska Native	.915	
Raised in Alaska Native family	.913	
Raised in Alaska Native village	.838	
Eigenvalue	4.56	1.07
Percent of Total Variance	60.0	13.4

Dependent Variable

The measure of job attrition used in this analysis was the months of continual service in the VPSO program by an officer. This measure was computed using the officer's date of hire and, for those officers who had left the program, the date of departure. The date of August 30, 1999 was used as the date of departure for those officers still in the program. The months of service of VPSOs who transferred from one community to another were counted as continual. Only the dates of the latest posting for those officers who once quit the program to return to it later were used to compute the dependent variable for this analysis.

A continuous time measure of service as a VPSO, rather than a dichotomous measure of whether the VPSO was still employed, was used in this study because the latter measure does not allow for an examination of factors related to why some VPSOs left the service after only a few months while others have remained employed for many years. The length of time that officers who responded to the survey remained with the program varied greatly from a minimum of 1.05 months to a maximum of 228 months before leaving. Half of the officers responding to the survey who left the VPSO program remained for 35.6 months. This was about two years longer than the median for all officers serving in the program from 1980 through 1998. The mean number of months worked before leaving the program for the officers who

responded to the survey was 46.5 months. The mean value for the all officers serving in the program since 1980, was about half that (22 months) for the officers responding to the survey.

RESULTS

A proportional hazards regression model was used to estimate the relationships between the predictor variables and the period of time that the VPSOs remained employed in the program. Also known as "Cox regression," proportional hazards regression models the hazard rate (i.e., the probability of departure over time) based on the influence of multiple variables of prediction (Luke, 1993; Morita, Lee, & Mowday, 1993). When applied to the turnover of employees, "hazard rates represent the percentage of the sample at risk (i.e., who have stayed to a given point) who leave at the next interval" (Somers, 1996). A prime benefit of employing a proportional hazards model rather than one estimated by ordinary least squares or logistic regression is that proportional hazards regression allows for an estimation of the effect of censored cases (i.e., those that have not reached the terminal event, which, in this study, were those still remaining in the VPSO program) (Allison, 1984).

Three different proportional hazards regression models were examined to determine the effect of the various independent variables upon VPSO turnover. The first model examined the effects of the independent variables upon the likelihood of leaving the VPSO program for all of the VPSOs surveyed. A second model looked at the effects of the independent variables upon the likelihood of turnover for the Alaska Native officers surveyed. The third model considered the effects of the independent variables upon the likelihood of turnover for the non-Native VPSOs that responded to the survey.

The Turnover Model for All VPSOs

Results of the proportional hazards regression analysis for all VPSOs are shown in Table 5. Interpretation of these results was a fairly straightforward process. The coefficient estimates presented in the middle column of Table 5 were interpreted much like unstandardized regression coefficients (Allison, 1984). The direction of the sign attached to each coefficient indicates the direction of the effect of the independent variable upon the hazard rate (Luke, 1993). A more useful interpretation of the effects of individual explanatory variables is shown in the far right hand column of Table 5; as pointed out by Allison (1984), exponentiation of the coefficients (taking their antilogs) provides for a more intuitive interpretation of the results. Doing so allows for the calculation of the percentage change in the hazard rate for each unit change in the explanatory variable (Allison, 1984; Luke, 1993). For dichotomous variables, the

exponentiated coefficients are treated as an indication of the relative risk associated with the variable (Norušis, 1994).

Table 5: Proportional Hazards Model of Individual Variables, Factors, and Scales Upon Likelihood of Leaving the VPSO Program for all VPSOs Surveyed (n = 112).

Type	Variable	B	Sig	Exp(B)
Factor	Alaska Native Heritage	-.399	.041	.671
Indicator	Not Pressured by Relatives	.225	.257	1.252
Indicator	Difficulties Policing Relatives	.032	.826	1.033
Scale	Directiveness	.035	.393	1.035
Scale	Training Satisfaction	-.159	.007	.853
Scale	Community Support	.007	.914	1.007
Scale	Dissatisfaction with Equipment	.035	.634	1.036
Factor	Oversight Trooper Contract	.163	.231	1.178
Factor	Oversight Trooper Distance	-.229	.118	.795
Scale	Treated as Outcast	.146	.197	1.158
Factor	Pay	-.221	.214	.802
Scale	Job Value	-.084	.213	.920
Factor	Housing Quality	.135	.335	1.145
Indicator	Used Food Stamps When VPSO	1.663	.000	5.275
Indicator	Gone on Welfare When VPSO	-1.182	.167	.307
Indicator	Taken Other Job When VPSO	-1.258	.000	.284
Scale	Health Effects of Stress	-.002	.971	.998
Scale	Demands of Duty	-.015	.708	.985
Scale	Role Ambiguity	.014	.815	1.014
Scale	Role Conflict	-.040	.476	.961
Scale	Feeling Unsafe on Job	-.085	.320	.919
Indicator	Ever Injured Making Arrest	.010	.976	1.010
Indicator	VPOs or Tribals Also in Village	-.739	.021	.478
Indicator	Not Married	.712	.031	2.038
Indicator	Age At Start of Latest Position	-.009	.577	.991

Global P^2 = 67.897, 25 d.f., p = .0000

Overall, the combination of the 25 explanatory variables in the proportional hazards analysis shown in Table 5 yielded a model statistically significant below the .001 alpha level. Of the four broad categories of independent variables — dissatisfaction with pay and expenses, stresses of village policing, support and training, and Alaska Native heritage — each had variables that made a statistically significant contribution to the model.

Two of the variables dealing with dissatisfaction with pay and expenses, the measure of whether the officer used food stamps while a VPSO and the measure of whether the officer took a second job while a VPSO, were statistically significant below the .05 level. The positive sign of the coefficient in the middle column of Table 5 for the used food stamps measure is interpreted as showing that officers who used food stamps were more likely to leave the VPSO program than those that did not. The exponentiation of that coefficient, as shown in the far right hand column of Table 5, indicates that the officers who used food stamps were more than five times as likely to leave the program in any one month. While it was expected that the officers using food stamps would be more likely to leave the program, the VPSOs who worked an extra job were actually about 71 percent less likely to leave the program at any one time compared to those not taking an extra job. None of the other variables dealing with the VPSOs' dissatisfaction with pay, expenses, and housing quality had a statistically significant effect upon the hazard rate.

Of the seven variables related to the stresses of village policing shown in Table 5, only one had a statistically significant impact upon the likelihood of a VPSO leaving the program. The variable measuring the presence or absence of other police in the village (i.e., Village Police Officers or Tribal Police Officers) had an inverse, statistically significant relationship with the hazard rate. VPSOs serving in villages where there were other police present were about half as likely to leave the program in any one month when compared to the VPSOs serving in villages without such a presence. The remaining six variables measuring stress had negligible effects upon the hazard rate.

Only one of the six variables shown in Table 5 that measured the VPSOs perceptions of officer support and training had a statistically significant association with the likelihood of officer turnover. The variable that measured the officers' satisfaction with VPSO training had a negative effect upon the hazard rate. As was expected, those officers who were dissatisfied with their training were more likely to leave the program in any given month when compared with those officers that had relatively higher levels of satisfaction with their training. When all else is held equal, a VPSO was 15 percent more likely to leave the program for each one unit reduction in the score on the training satisfaction scale. None of the other five variables concerning officer support and training had statistically significant effects upon the likelihood of VPSO attrition.

As with the measures of stress and of support and training, only one of the four variables associated with the officers' Alaska Native heritage had an impact upon VPSO turnover. Specifically, as shown in Table 5, the Alaska Native factor score had an inverse relationship with the hazard rate; high scores on the Alaska Native factor score were related to a reduced likelihood of turnover. Based upon the variables most closely associated with the Alaska Native factor identified in the principal components analysis presented

in Table 4, it appears as though officers that were Alaska Native, that came from an Alaska Native village and family, that served in their home village, that were related to those they serve, and that had arrested a relative were the officers who were less likely to leave the program. The officers' scores on the directiveness scale as well as their scores on the measures of difficulties policing relatives did not have statistically significant effects upon the likelihood of VPSO turnover.

One of the two control variables included in the model for all VPSOs, the measure of whether the officer was married while in the program, was also statistically significant at the .05 level. Those officers who were not married were slightly more than twice as likely to leave the VPSO program in any given month when compared to the officers who were married. The age of the officer at the start of his or her latest VPSO position did not have an effect upon the chance that an officer would quit.

The Turnover Model for Alaska Native VPSOs

A proportional hazards regression model similar to the one used above, was also calculated for the Alaska Native VPSOs (N = 71) as a group apart from the larger group of all VPSOs. With one exception, the variables in this model are the same as that calculated for all VPSOs. The only difference is that the Alaska Native factor score is not included in the model of Alaska Native VPSO turnover. In its place the model uses a categorical measure of whether the Alaska Native officer served in his or her home village.

Seven different variables in the model had a statistically significant impact upon the chances of Alaska Native VPSOs leaving the program. Four of these variables — training satisfaction, use of food stamps, taken extra job, and not married — had relationships that were similar to those found in the model of turnover among all VPSOs. As shown in Table 6, those Alaska Native VPSOs who were satisfied with their training were less likely to leave the program. The Alaska Native officers who used food stamps while a VPSO were nearly four times as likely to leave the program while those who took an extra job during their service to the program were about 65 percent less likely to leave the program. Officers who were not married left the program at a rate nearly three times that of their married counterparts.

Table 6: Proportional Hazards Model of Individual Variables, Factors, and Scales Upon Likelihood of Leaving the VPSO Program for all Alaska Native VPSOs Surveyed (n = 71).

Type	Variable	B	Sig	Exp(B)
Indicator	Served in Home Village	-2.110	.000	.121
Indicator	Not Pressured by Relatives	-.075	.753	.928
Indicator	Difficulties Policing Relatives	-.237	.236	.789
Scale	Directiveness	.196	.005	1.217
Scale	Training Satisfaction	-.338	.000	.714
Scale	Community Support	.055	.538	1.056
Scale	Dissatisfaction with Equipment	-.018	.905	.982
Factor	Oversight Trooper Contract	.105	.626	1.111
Factor	Oversight Trooper Distance	-.445	.062	.641
Scale	Treated as Outcast	.210	.154	1.234
Factor	Pay	.352	.236	1.422
Scale	Job Value	-.063	.493	.939
Factor	Housing Quality Factor	.251	.316	1.286
Indicator	Used Food Stamps When VPSO	1.359	.015	3.893
Indicator	Gone on Welfare When VPSO	-.885	.422	.413
Indicator	Taken Other Job When VPSO	-1.073	.031	.342
Scale	Health Effects of Stress	.003	.975	1.003
Scale	Demands of Duty	.021	.747	1.021
Scale	Role Ambiguity	.210	.067	1.233
Scale	Role Conflict	-.183	.062	.833
Scale	Felt Unsafe on Job	-.371	.023	.690
Indicator	Ever Injured Making Arrest	-.049	.926	.953
Indicator	VPOs or Tribals Also in Village	-.333	.466	.717
Indicator	Not Married	1.088	.029	2.969
Indicator	Age At Start of Latest Position	-.014	.644	.986

Global P^2 = 61.303, 25 d.f., p = .0001

Three different variables with statistically significant effects in the model attempting to account for Alaska Native VPSO turnover shown in Table 6 were not statistically significant in the model that considered turnover among all VPSOs. First of all, the dichotomous indicator of whether an Alaska Native officer served in his or her home village had an inverse effect upon the chances of turnover. With all else held equal, Alaska Native VPSOs serving their home villages were 88 percent less likely to leave the program compared to those Alaska Native officers not serving their home villages. The directiveness scale variable, intended as a measure of the degree to which officers have personality characteristics that could be seen as being 'bossy,' also had a statistically significant effect upon officer turnover. According to the

analysis presented in Table 6, the more directive an officer is, the greater the chance is that he or she would leave the program. There is a 21 percent greater chance of an officer turning over for every one unit increase on the directiveness scale. The other variable with a statistically significant relationship with the hazard rate was the scale that measured the degree to which the Alaska Native officers felt unsafe on the job. However, the direction of this effect was not as predicted by the literature. The officers that report feeling unsafe on the job were actually less likely to leave the program when compared to those officers who did not report such feelings. For every one unit increase on the "feeling unsafe" scale, the Alaska Native VPSOs were 31 percent less likely to leave the program.

The Turnover Model for Non-Native VPSOs

Given the smaller numbers of non-Native VPSOs (N = 41) that responded to the survey, it was necessary use a stepwise proportional hazards regression procedure to calculate a model of turnover that, as a whole, was statistically significant. With a stepwise procedure, predictor (i.e., independent) variables are selected for inclusion based on the magnitude of their association with the dependent variable to create a prediction model. Rather than attempting to enter all predictors into the equation simultaneously, with the stepwise procedure the predictor variable having the strongest statistical association with the dependent variable is entered into the prediction model first, followed by the second strongest predictor variable, and so forth until no more variables can be added to the model without it ceasing to be statistically significant at the .05 alpha level (Cohen & Cohen, 1983). As this stage of the analysis is largely exploratory, a .50 significance level was used as the cut-off criterion for entry and deletion from the model for each of the individual predictors.

A total of 11 predictor variables endured the stepwise procedure resulting in a model that was statistically significant. The strength and direction of the effects of the 11 individual independent variables upon VPSO turnover are presented Table 7. Four of these individual variables had a statistically significant association with the turnover of non-Native VPSOs. As with VPSOs generally and with the Alaska Native officers in particular, the non-Native VPSOs who were dissatisfied with their training, who did not work an extra job, and who were not married were more likely to leave the program in any given month. Unlike the other two models, however, the age at the start of the officer's latest position had a statistically significant effect upon officer turnover. According to the results presented in Table 7, younger VPSOs were at greater risk for leaving the program. Each extra year of age at the start of the position resulted in a five percent reduction of the chance of turnover.

Table 7: Proportional Hazards Model of Individual Variables, Factors, and Scales Upon Likelihood of Leaving the VPSO Program for all non-Native VPSOs Surveyed (n = 41).

Type	Variable	B	Sig	Exp(B)
Scale	Training Satisfaction	-.271	.004	.763
Factor	Oversight Trooper Distance	.327	.228	1.387
Scale	Treated as Outcast	-.292	.235	.747
Factor	Pay	-.356	.265	.687
Scale	Job Value	-.100	.451	.905
Indicator	Taken Other Job When VPSO	-1.244	.031	.288
Scale	Demands of Duty	-.083	.239	.921
Scale	Role Conflict	-.096	.349	.908
Scale	Felt Unsafe on Job	.141	.248	1.151
Indicator	Not Married	1.615	.017	5.026
Indicator	Age At Start of Latest Position	-.052	.029	.949

Global P^2 = 26.362, 11 d.f., p = .0057

DISCUSSION

The results of the proportional hazards regression model allow for the confirmation of the hypotheses regarding the larger classes of explanations including (1) officer pay and expenses, (2) officer stress, (3) training and support, and (4) Alaska Native heritage. No single class of explanations is any more compelling than any other class. Instead, a few hypotheses within each class of explanations appear to have merit while the majority do not (see Table 8). Across all three models a number of factors were found to be closely associated with VPSO turnover. Officers who were dissatisfied with their training, who had not worked an extra job while in the program, and who were not married were more likely to leave the program at any one point in time. Other factors were important only in some of the models. The use of food stamps while a VPSO, for instance, was related to turnover in the models for all VPSOs and for Alaska Native VPSOs. The model for all VPSOs suggests that being of Alaska Native heritage and serving in a village where other police (such as VPOs or Tribal Police) were present makes officers less likely to leave the program. Among the sub-sample of Alaska Native VPSOs, those who did not serve in their home villages, who were more directive, and who did not report feeling endangered on the job appear to have a greater likelihood of quitting or being terminated. Among the non-Native VPSOs surveyed, those who were younger when hired had a greater chance of leaving the program when compared to their more senior counterparts. Below, in greater detail, this paper takes a look at the validity of these hypotheses.

Table 8: Summary of Factors Relevant to Likelihood of Leaving the VPSO Program.

Variable	All VPSOs	Alaska Native VPSOs	Non-Native VPSOs
Alaska Native Heritage	N	n/a	n/a
Served in Home Village		N	
Not Pressured by Relatives			
Difficulties Policing Relatives			
Directiveness		P	
Training Satisfaction	N	N	N
Community Support			
Dissatisfaction with Equipment			
Oversight Trooper Contract			
Oversight Trooper Distance			
Treated as Outcast			
Pay			
Job Value			
Housing Quality Factor			
Used Food Stamps When VPSO	P	P	
Gone on Welfare When VPSO			
Taken Other Job When VPSO	N	N	N
Health Effects of Stress			
Demands of Duty			
Role Ambiguity			
Role Conflict			
Felt Unsafe on Job		N	
Ever Injured Making Arrest			
VPOs or Tribals Also in Village	N		
Not Married	P	P	P
Age At Start of Latest Position			N

Note: P indicates a positive, statistically significant association between the variable and the likelihood of leaving.

N indicates a negative, statistically significant association between the variable and the likelihood of leaving.

Pay, Expenses, and Housing

Both subjective and objective measures of the officers' pay, expenses, and housing were examined as explanations of VPSO turnover. Of these measures, it is the more objective variables which serve to discern the differences between those officers who leave and those who remain with the program. In particular, two objective measures of the economic status of VPSOs serve to distinguish between those officers that remain on the job with those who do not.

The first of these objective measures, whether the officer used food stamps while serving as a VPSO, is directly related to officer turnover. From this measure it is possible to infer that the officers who have a difficult time financially supporting themselves and their families (including the 33 percent of the Alaska Native officers who reported using food stamps while serving as a VPSO) are indeed more likely to quit. According to the proportional hazards regression, those officers using food stamps were five times more likely to leave the program in any one month whereas Alaska Native VPSOs who used food stamps were about four times as likely to leave the program when compared to non-food stamp using Alaska Native VPSOs.

The second objective measure of pay, one which asked VPSOs if they had worked an extra job while belonging to the program, is also clearly associated with the likelihood of VPSO turnover. However, the direction of this relationship is opposite that hypothesized earlier in the research. While it was predicted that the officers who had to take an extra job to make ends meet would be more likely to leave the program, the results show that the 'moonlighting' VPSOs were actually less likely to quit the program. Indeed, the Alaska Native officers who reported working an extra job while serving as a VPSO had a 65 percent smaller chance of leaving the program in any one month. For all VPSOs, as well as for the sub-sample of non-Native VPSOs, those who took an extra job had a 71 percent smaller chance of quitting.

Although these objective measures of pay and expenses suggest insights into why VPSOs leave their positions, the more subjective measures of dissatisfaction with pay and expenses fail to help us understand the likelihood of officer attrition. In all three of the proportional hazards regression analyses the factors measuring officers' satisfaction with pay and with housing, as well as the scale measuring the value the officers place on the job, had negligible effect upon the probabilities of VPSO turnover. This is not to say that the officers' dissatisfaction with their salaries and housing are not important issues but rather that the measures of dissatisfaction taken from the survey of VPSOs do not help us to understand why some officers are more likely to leave the force than are others.

The primary reason for the inability of these subjective measures to predict turnover is that nearly all of the officers — those who stay with the program and those who leave — report being dissatisfied with

their pay and expenses. The top-ranked source of dissatisfaction among officers surveyed from a list of 10 possible sources of dissatisfaction was their low pay. In other words, if everyone is dissatisfied with his or her pay, it is impossible to use that dissatisfaction to predict turnover.

Stress

Based upon the results of the proportional hazards regression analysis, it would seem as though the stresses inherent in the VPSO position do not explain the rather high levels of turnover in the program. When all else is held equal, the stresses of being a public safety officer, including the stresses of serving in isolated rural communities, appear to have little to do with the likelihood of VPSOs leaving the program. This is not to say that the VPSO position is without stress. In fact, the results of the survey indicate that, among other things, most officers report experiencing some physiological effects of stress, having faced dangerous situations, and finding the demands of VPSO duty overwhelming.

Nonetheless, these measures of stress do not appear to be associated with VPSO turnover. In the Alaska Native sub-sample, for instance, the effects of the only statistically significant officer stress variable were opposite those hypothesized. Those Alaska Native officers who reported more stress on the "felt unsafe" scale were actually less likely to leave the VPSO program in any given month. Of the seven different measures of stress among the total sample of VPSOs included in the multivariate analyses, only one was a significant predictor of officer turnover. That variable, which measured the presence or absence of other police in the village (i.e., Village Police Officers or Tribal Police Officers), was originally intended as an indicator of the stresses VPSOs felt because of a lack of backup from other officers. In this sense, it would appear that the VPSOs are more likely to leave the program due to what has been characterized elsewhere as perceptions of a lack of personal security (Sandy & Devine, 1978).

However, an alternative interpretation for the meaning of the measure of the presence or absence of other police in the village can be put forth. Instead of viewing that measure as an indicator of stress, it might be looked at as a measure of the isolation and a lack of camaraderie felt by the officers. As noted by Sandy and Devine (1978), rural police officers are often left without the peer support that is available to police officers in more urbanized areas. Those VPSOs who serve without other police in their village can be seen as facing the worst of this problem. The idea that having someone to work with would make VPSOs less likely to leave is not without merit. Research on the benefits of one-officer versus two-officer patrol cars in San Diego, for instance, certainly made clear that patrol officers would much rather serve in two-officer patrols instead of by themselves (Boydstun, Sherry, & Moelter, 1977; Kaplan, 1979). It is not

too much of a stretch to expect that VPSOs would also be more satisfied when having someone else to work with.

This idea is even more acceptable when one compares levels of stress reported by those officers serving in villages with additional police presence versus those officers serving in villages without additional police presence. When the mean values of three different stress scales for the group of VPSOs serving villages with an additional police presence are compared with the group of VPSOs serving villages without an additional police presence, we find that the group of officers serving where there were other police actually reported higher average scores on the stress scales. A comparison of the scores on individual statements regarding officer stress were also almost exclusively higher for the VPSOs serving in villages with another officer present when compared to those VPSOs serving where no other officer was present. In short, the reported levels of stress were higher for the officers serving where there were other police rather than where there were not other police. Given this, it is more reasonable to see the measure of the presence of other police in the village as being a better indicator of the availability of peer support and camaraderie instead of some measure of stress over a lack of personal security and safety.

Support and Training

Only one of the scales and factors used to measure the VPSOs experiences and perceptions of officer support and training can be seen as being associated with VPSO turnover. Dissatisfaction with VPSO training appears to be one of the leading causes of turnover among the officers surveyed for this study. The scale measuring officers' training satisfaction had an inverse relationship with the likelihood of leaving the VPSO program in the proportional hazards regression analyses for all officers surveyed and for the sub-samples of Alaska Native and non-Native officers. When all other variables are held equal, those officers that were less than satisfied with their training were more likely to leave the program when compared with the officers with a greater level of satisfaction with their training. Whether the officer felt like an outcast or unappreciated by the village does not appear to have an impact upon increasing the likelihood of an officer leaving the program.

It is important to note, however, that the majority of officers surveyed for this study reported being satisfied with the training they had received. Only about one-third of the VPSOs were dissatisfied with their training, more than half felt that they were well trained, and a similar proportion said that the academy had prepared them well for the job at hand. The main negative view of VPSO training held by a strong majority of officers (over two thirds) was that the training did not prepare them for many things they do on

their job. Given the broad range of duties expected of and performed by VPSOs (Wood & Trostle, 1997), it might not be possible to train them for everything they come up against in their day-to-day duties.

Although dissatisfaction with training appears to be a factor strongly associated with VPSO turnover, it is difficult to determine reasons why that dissatisfaction would make officers more likely to leave the program. It is possible that these officers genuinely feel that the training does not prepare them adequately for the job which, in turn, really does make it difficult for them to do their job. In this sense, those in charge of VPSO training would be well advised to examine the actual day-to-day activities of VPSOs and to center the training around those activities. On the other hand, the causal mechanism by which officer dissatisfaction with training leads to turnover might be more circuitous. It is conceivable that VPSO training prepares the officers as well as any training possibly could and that the dissatisfaction with training is more of a reflection of officers' dissatisfaction with, and animosity toward, the program administrators responsible for that training. From the open-ended portions of the survey, as well as from conversations between the researcher and a number of officers, there is anecdotal evidence that some VPSOs feel a great deal of animosity and resentment toward the Alaska State Troopers and the regional non-profit corporations. Because the survey did not ask the officers for their opinions of the troopers or the non-profits, their dissatisfaction with those who supervise them might be indirectly expressed as aversion toward their training.

Alaska Native Heritage

Contrary to the hypothesis put forth earlier in this report, it appears as though the likelihood of turnover among VPSOs of Alaska Native heritage is actually less than it is for non-Native VPSOs. The more entrenched an officer is in the Alaska Native milieu, the less likely the officer is to quit the program. Being an Alaska Native, coming from an Alaska Native village and family, serving in a home village, and being related to other village residents are all characteristics that are associated with remaining in the program.

The effects of the other variables that consider the experiences of Alaska Native VPSOs are more difficult to interpret. For instance, when the results for the entire sample of VPSOs are examined, officers with high scores on the measure of directiveness (i.e., "bossiness") were just as likely to leave the program as were those officers with low scores. However, when that same measure is examined for the sub-sample of Alaska Native VPSOs, being too directive appears to put officers at a greater risk of leaving the program. Another finding that was contrary to what was hypothesized, given the supposed pressures of having to enforce the law against ones' relations, is that the Alaska Native VPSOs who serve their home

villages are actually less likely to turnover when compared with officers from outside the village. However, this finding becomes less surprising when one considers that the likelihood of turnover was not affected by the officers' perceptions of the difficulties of policing relatives.

CONCLUSION: A REVISED UNDERSTANDING OF VPSO TURNOVER

None of the larger classes of explanations — poor pay, officer stress, lack of support, or Alaska Native heritage — provide a compelling explanation for the tremendous amount of turnover in the VPSO program. While each contributes a piece to the puzzle, no one type of explanation helps us to fully understand why so many VPSOs are leaving the program at such a rapid rate. However, when the relationships between turnover and some of the specific variables that do exist are examined, a different perspective emerges. Specifically, these individual relationships point to an overarching explanation of VPSO turnover which argues that the officers who have connections to others and to life in an Alaska Native village are those that are least likely to leave the program.

The relationship between officer turnover and the control variable measuring whether the officer was married is the first to provide support for the argument that higher levels of officer connection are associated with a decreased likelihood of VPSO turnover. In all three of the analyses conducted above, those officers who were not married were much more likely to leave the program at any one time. This finding is of little surprise when one considers that marriage is a good indicator of individual stability and is indicative of attachment to at least one other person.

The second point of support for the assertion that those officers with strong levels of connection will be the ones most likely to remain with the program is the finding that the officers who worked an extra job while serving as a VPSO were actually much less likely to leave the program at any one point in time. The very idea that these officers would be committed enough to do what was necessary to continue to live in the village and to remain with the program that they would take on an additional job can certainly be interpreted as being indicative of a deep sense of connection. Given the perceived stresses of the job, it is fair to assume that there is something attaching the officers that would have them not only remain in the program but also have additional jobs in order to do so.

The finding that VPSOs serving in villages where other police are present also lends credence to the idea that officers with strong connections to others in the village will be less likely to leave. As established in the section above, the reason why VPSOs serving in villages with an additional police presence are less likely to leave the program probably has little to do with the stresses of policing. Instead, these officers who are not the sole police presence in their community are probably more likely to remain with the

program because of the camaraderie and companionship afforded by having someone else to work with. This 'having someone else to work with' can be seen as yet another connection that would make VPSOs much more likely to continue in their positions.

Perhaps the most compelling support for the idea that the VPSOs with the strongest connections to others in their villages will be the ones least likely to leave the program comes from the findings regarding the likelihood of turnover among VPSOs of Alaska Native heritage. Those officers that scored the highest on a measure of Alaska Native heritage were less prone to turnover when compared to those officers with lower scores on that measure. The variables comprising the measure of Alaska Native heritage — whether the officer was Alaska Native, came from an Alaska Native village and family, served in his or her home village, and was related to other village residents — can each be seen as a proxy of the degree to which officers are connected to the village they serve. It is reasonable to presume that, on average, Alaska Native VPSOs would be more connected to the village than non-Native VPSOs. Likewise, those VPSOs who come from an Alaska Native village and family would feel more connected than those officers who did not. The officers serving in their home villages and serving where they are related to others most certainly could be viewed as having stronger connections than other officers. Even among the Alaska Native officers themselves it was shown that those serving in their home villages were much more likely to remain VPSOs when compared to the Alaska Native officers not serving in their home villages.

This tentative interpretation combining the significant relationships identified in the multivariate analysis of officer attrition certainly bears additional examination. Future research on officer turnover, especially that which examines turnover in rural police, should give due consideration to the extent and quality of connections and attachments officers have within their community and primary social groups.

Ultimately, the idea that those officers who have stronger connections within the village and smaller social groupings are the ones most likely to remain with the program adds credence in some ways to the earliest philosophies of the program. As originally conceived, the VPSO program was set up as a local way to provide public safety services in Alaska Native villages. One of the key points of its original philosophy was that local decision making and local control be a cornerstone of the program so that the needs and concerns of individual villages would be best served (Messick, 1979). The idea that the VPSOs who have the strongest connections to the villages they are serving are the ones that are least likely to leave fits well with this original philosophy of the program.

In regards to local control of the program, having VPSOs with strong connections to the villages they serve is beneficial for a number of reasons. First of all, those VPSOs who have a close attachment to their villages are probably more likely to have a good understanding of the leadership structure of the

villages they serve. Multiple jurisdictions (e.g., local, state, and tribal) within each village make it necessary for public servants such as VPSOs to understand the various competing interests held by these jurisdictions. In addition, it is helpful for these public servants to be familiar not only with the formal leaders, but also the informal leaders of the village. Those VPSOs with strong attachments to the villages they serve would be expected to have greater familiarities in both the different types of jurisdictions and leaders. Another reason why closely connected VPSOs help to increase local control over public safety matters is that they have more at stake when exercising their authority and therefore are more likely to make their decisions consistent with the attitudes of local leadership. Because they are closely connected to others in the village through culture, family, or marriage, it is not to their benefit to make decisions that are contrary to the desires of the members of the local power structures. Since these officers will continue to live in the village where they serve, they are probably more likely to make decisions that are for the benefit of all involved rather than based upon external notions of operation. In addition to it being to the officer's own benefit to make decisions that go along with the views of local leadership, those officers with close connections to the village they are serving are also more likely to have respect for local leadership and therefore be more deferential to their viewpoints.

In one sense, this idea that the VPSOs with the greater connections to a village and to others in it will be more likely to remain with the program is a more positive way of looking at the turnover problem. Instead of trying to develop multiple explanations for why VPSOs quit, it is probably more fruitful to turn the issue on its head to try to find explanations for why these officers "hang in there." Doing so helps to show that there are indeed reasons to be a VPSO.

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