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POLICE OFFICER RETIREMENT:

THE BEGINNING OF A LONG LIFE

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ACQUISITIONS

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ABSTRACT

Police officers retired from the Illinois State Police (ISP) appear to be living as long as other retired state employees. This contradicts assumptions held by police that officers die soon after leaving their career. Findings derive from an analysis on 732 ISP officers who have retired from the agency since 1957. Information available from Arizona, Kentucky, and Ohio state patrols show life expectancies similar to those for Illinois State Police retirees. The only exception is the Ontario Provincial Police. Here, deaths appear to occur at an earlier age than normal. Because research on this subject is scarce, reasons for these findings are not clear. Physiological and psychological studies of police retirees would be useful to help describe why they live longer than the population as a whole.

POLICE OFFICERS RETIREMENT: THE BEGINNING OF A LONG LIFE

INTRODUCTION

"The average police officer dies within five years after retirement and reportedly has a life expectancy of twelve years less than that of other people".[1] Still another author states, "police officers do not retire well. This fact is widely known within police departments."[2] These statements (which are without supporting evidence) reflect a commonly held assumption among police officers. Yet, a search of the literature does not provide published studies in support. Two suggested sources, the Los Angeles City Police and Massachusetts State Police, have provided data which also appear to contradict these assumptions. Reported in this paper are results from a mortality study of retired Illinois State Police (ISP) officers. It suggests that ISP officers have as long, if not longer, life expectancy than the population as a whole. Similar results also arise when examining retirees from the Ohio Highway Patrol, Arizona Highway Patrol, and Kentucky State Police. The exception rests with the Ontario Provincial Police. Their data show less than normal life expectancy.

That a shorter than expected life for police officers is assumed may arise from the substantial body of work dealing with police stress including that of Goolkasian,[3] Kroes,[4] and a Department of Health, Education and Welfare (HEW) report.[5] Police work includes threats, boredom, and conflicting expectations from society. These can contribute strongly to stress. Several studies link stress to officers

with higher than normal incidents of health disorders.[6] Yet, comparative studies of serious health disorders between police and other occupations do not appear to exist.

Police also are said to have higher than normal rates for divorces and suicides. The HEW volume contains several studies which reach those conclusions.[7] On the other hand, Davidson and Vero's review of research on divorces suggested that no differences exist between police and other occupations.[8] Chandler found lower than expected rates for Illinois State Police officers.[9] Likewise, Dash and Reiser concluded that police have below average rates of suicide.[10] Dispute as to the effect of police stress on life style suggests that the findings of this paper also may be valid. Police officers may live longer after retirement than the population as a whole.

FINDINGS AND METHODS

To test the hypothesis, Illinois State Police (ISP) officers have a life expectancy similar to the population as a whole, a comparison was made between 732 ISP retirees and the actuarial tables used for retired Illinois state employees. The officers retired between 1957 and 1986. More than 89 percent remain alive. Table 1 shows a distribution by status (living or dead) in 5-year increments. Large changes in the number of retirees since 1975 reflect the addition of 300 officers in 1957, not surges in retirement. The ages of officers at retirement has ranged from 45 to 73; the average is 55 years. They have served an average 26.4 years.

TABLE 1

DISTRIBUTION OF RETIREES
FROM ISP 1957 - 1986

Retirement Years	Total	Status in 1987: Alive n	Alive Percent	Dead n	Dead Percent
1955 - 59	2	1	50.0%	1	50.0%
1960 - 64	7	3	42.9	4	57.1
1965 - 69	30	14	46.7	16	53.3
1970 - 74	92	79	85.9	13	14.1
1975 - 79	168	139	82.7	29	17.3
1980 - 84	296	279	94.3	17	5.7
1985 - 86	137	137	100.0	0	0.0
TOTAL	732	652	89.1%	80	10.9%

Available for analysis were the tables used by the Illinois State Employees' Retirement System.[11] These provide life expectancies for male state employees; they are more precise than those provided in U.S. Census tables. Table 2 shows a comparison between the ISP retirees and the standard table. Ages at retirement and possible years lived have been aggregated in this example. Only for those who have retired between ages 50 and 54 are the percent of officers remaining alive less than that projected. This disparity appears for the other three U.S. agencies.

Because the entire population of retired officers has not died, these are "censored" data. Standard statistical tests are not applicable. Of value with these data is a non-parametric approach using a Wilcoxon test as developed by Gehan and described in Kendall and Stuart.[12] The analysis of data in this report derives from the SAS "Proc Lifetest" found in the SAS User's Guide: Statistics.[13] The procedure compares two or more samples of data which may be

TABLE 2

COMPARISON OF EXPECTED LIFE
OF ISP RETIREES TO STANDARD TABLES

Age at Retirement	n	Possible Years Lived Since Retirement	Percent Remaining Alive ISP Retirees	Standard Tables
45 - 49	5	0 - 4	100.0%	99.1%
		5 - 9	100.0	96.7
		10 - 14	100.0	92.8
		15 - 19	100.0	86.5
		20 - 24	100.0	76.7
50 - 54	293	0 - 4	97.5%	98.5%
		5 - 9	87.5	94.7
		10 - 14	81.1	88.3
		15 - 19	100.0	64.5
		20 - 24	40.0	48.0
		25 - 29	0.0	31.2
55 - 59	329	0 - 4	98.2%	97.8%
		5 - 9	91.4	91.4
		10 - 14	86.3	81.1
		15 - 19	77.0	66.7
		20 - 24	81.8	49.7
60 - 64	86	0 - 4	97.4%	95.8%
		5 - 9	96.2	85.7
		10 - 14	91.9	70.6
		15 - 19	61.0	52.6
		20 - 24	81.3	34.1
		25 - 29	100.0	18.5
65+	19	0 - 4	95.9%	91.8%
		5 - 9	85.6	74.5
		10 - 14	83.0	53.4
		15 - 19	52.1	33.2
		20 - 24	0.0	17.1
		25 - 29	0.0	6.9

censored. It produces a chi square based on a Wilcoxon test of differences. Age is accounted for as one of the parameters. The 732 observations from ISP retirees when compared to the 1986 Projected Experience Table (annuity) for males showed retirees had an above

normal life expectancy with a chi square of 1.3 (one degree of freedom). This difference was not significant.

When the data were restricted to officers age 55 and older at retirement (which is the earliest that an officer can retire and collect benefits), the life expectancy was significantly longer. There were 727 officers in this sample. The chi square of differences was 6.1, significant at the 0.01 level.

Other data were sought to determine if the findings from Illinois may have been an exception. Responses came from Arizona, Kentucky, and Ohio state patrols, and from the Ontario Provincial Police (OPP). Table 3 summarizes findings from these other four departments. Arizona Highway Patrol has the earliest average retirement age at 48.1 years; OPP has the oldest at 59.5 years. Because of the spread in average age at retirement, differences in life expectancies among departments is not obvious.

TABLE 3

RETIREES FROM STATE AND
PROVINCIAL POLICE AGENCIES
ANALYSIS OF LIFE EXPECTANCIES

	RETIREMENT IDENTIFIER														
	OHIO HP RETIREES			ARIZONA HP RETIREES			(ONTARIO PROVINCIAL POL.			KENTUCKY HP RETIREES			ALL		
	AGE AT RETIREMENT		ACTUAL YEARS OF LIFE	AGE AT RETIREMENT		ACTUAL YEARS OF LIFE	AGE AT RETIREMENT		ACTUAL YEARS OF LIFE	AGE AT RETIREMENT		ACTUAL YEARS OF LIFE	AGE AT RETIREMENT		ACTUAL YEARS OF LIFE
YEAR OF RETIREMENT	N	MEAN	MEAN	N	MEAN	MEAN	N	MEAN	MEAN	N	MEAN	MEAN	N	MEAN	MEAN
1950-1954	2	54.5	16.5	.	.	.	.	.	.	.	.	.	2	54.5	16.5
1955-1959	16	53.9	19.8	1	66.0	0.9	.	.	.	.	.	.	17	54.6	18.6
1960-1964	55	52.9	19.1	10	59.6	19.3	.	.	.	1	55.0	23.6	66	54.0	19.2
1965-1969	69	52.8	17.1	2	61.0	18.3	4	63.3	16.1	6	55.0	19.1	81	53.7	17.2
1970-1974	61	52.7	13.2	32	49.3	13.5	89	59.6	11.1	7	54.9	15.4	189	55.4	12.5
1975-1979	82	52.9	9.4	83	47.4	9.4	147	59.1	8.7	44	54.5	9.1	356	54.4	9.1
1980-1984	73	52.5	4.8	96	46.7	4.4	105	58.3	5.9	114	51.7	5.0	388	52.4	5.1
1985-1989	37	49.7	1.6	59	47.3	1.3	.	.	.	93	50.0	1.5	189	49.1	1.4
ALL	395	52.5	11.6	283	47.9	6.9	345	59.1	8.5	265	51.7	5.1	1288	53.1	9.4

To compare expectancies, the data were combined by age and by possible years of life after retirement. These data are summarized in Table 4. All five agencies including Illinois are compared to the Illinois State Employees' Retirement System mortality tables. The younger retirees, ages 40 to 54 at retirement, do not appear to be living as long as expected. On the other hand, all retirees age 55 and older live at least as long or longer as expected.

TABLE 4

COMPARISON OF PERCENTAGE OF
RETIREES REMAINING ALIVE TO STANDARD
MORTALITY TABLE

Possible Years Lived Since Retirement	Standard Mortality Table	State or Provincial Police Agency				
		Illinois State Police	Arizona Highway Patrol	Kentucky State Police	Ohio Highway Patrol	Ontario Provincial Police
Retirement Age 40 - 54						
0 - 4	99.0%	97.6%	99.3%	100.0%	96.6%	93.1%
5 - 9	96.5	88.1	95.9	94.9	91.3	78.6
10 - 14	92.2	83.3	89.0	70.0	83.1	65.7
15 - 19	85.5	100.0	70.0	100.0	70.4	75.0
20 - 24	75.6	50.0	50.0	--	51.3	--
25 - 29	62.4	--	--	--	26.4	--
n	--	298	243	147	350	29
Retirement Age 50 - 74						
0 - 4	94.3%	97.9%	96.9%	97.7%	100.0	95.0%
5 - 9	81.7	92.3	93.8	93.6	98.4	84.4
10 - 14	65.0	88.0	88.0	91.6	89.1	67.4
15 - 19	47.0	64.0	67.8	81.4	70.1	52.7
20 - 24	30.2	70.0	38.6	60.0	46.9	--
25 - 29	16.7	83.3	0.0	--	36.5	--
30 - 34	8.8	--	--	--	28.1	--
n	--	434	46	118	45	316

The chi square resulting from the use of "Proc Lifetest" confirmed these observations. In general, retirees from the four U.S. agencies had life expectancy equal to or exceeding normal. Even greater differences occurred when the retirement ages were limited to 55 years and older. On the other hand, officers from the Ontario Provincial Police had shorter than expected lives after retirement.

Two other responses to a request for data are noted briefly. First, the Massachusetts State Police (1978) studied 81 officers who had retired between 1940 and 1970 and who subsequently died.[14] This study conducted in 1978 examined the average years of life after retirement until death. It purportedly showed shorter lives for retired officers. However, comparison of data from Illinois and Ohio combined shows that average years lived is no different than that shown for Massachusetts (Table 5).

TABLE 5

AVERAGE YEARS OF LIFE AFTER RETIREMENT - MASSACHUSETTS COMPARED TO ISP AND OHP

Years of Retirement Prior to Study	Massachusetts Mean*	ISP and OHP Mean**
37 - 33	20.0	--
32 - 28	22.8	17.9
27 - 23	17.1	12.5
22 - 18	12.2	11.8
17 - 13	10.2	9.1
12 - 8	7.6	4.2
	n = 81	n = 172

* Mean retirement age - 48.3
** Mean retirement age - 51.6

An urban police department which was supposed to have early deaths was Los Angeles. A 1985 report from the actuaries for the Los Angeles Fire and Police Systems contradicts that supposition. The number of retirees who had died in a five-year period were similar to that expected.[15] During the period from 1979 to 1984, 568 retirees died. (Both police and fire personnel are to be combined.) Using the 1980 Projected Experience Table (similar to the 1986 Table), 585 deaths were expected. Further, deaths of disabled retirees were no different from expected based on disability life mortality tables.

Why these differences occur is not known at this time. Appropriate research on mortality, particularly for any retirees appears scarce. Several searches have been made of various libraries and sources; to date no substantive research has been found except the extensive body of literature devoted to health and stress. None of that literature has examined clearly the relationship of that occupational stress to longevity.

Perhaps the most important outcome of this initial study of longevity is that evidence suggests police are living longer not shorter than the population as a whole. The reasons need to be uncovered. When contributions to this longer life expectancy can be determined, they may assist not only police agencies, but business as a whole. Programs can be designed to help ensure a long life expectancy for retirees.

NOTES

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