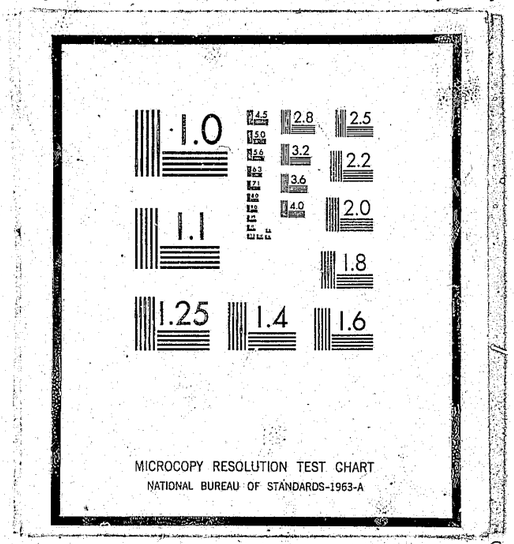

Portland (Or) –

ANALYSIS OF ASSAULTED AND NON-ASSAULTED OFFICERS BY HEIGHT, WEIGHT, TENURE AND ASSIGNMENT

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INTRODUCTION

This study was initiated to investigate some of the factors found to be associated with assaults against uniformed Patrolmen and Sergeants during the first eleven months of 1972. As is evident throughout the study, the one particular factor, HEIGHT OF THE OFFICER ASSAULTED, is emphasized. Due to the current social and legal pressures associated with the height standard of the Portland Police Bureau, it was decided that any factual information concerning height and the safe exercise of police duties was most relevant.

SOURCES OF DATA

A General Order from the Chief of Police on December 28, 1971 instructed any officer assaulted after the date of January 1, 1972 to complete two copies of the Assaulted Officer form. The General Order defined an occurrence of an assault as when: 1) someone deliberately injures the officer, or 2) someone accidentally injures the officer while attempting to injure someone else, or 3) someone attempts to injure the officer, but no injury results (such as throwing a brick at the officer, but missing).

The Assaulted Officer form (attached) provides the information employed in this study. A total of 409 separate assaults upon officers were filed between January 1, 1972 and December 4, 1972. Reports involving policewomen, plainclothes detectives and reports giving unclear or undistinguishable information numbered 41 and were eliminated from the analysis, because of the desire to keep as homogenous a sample as possible. This then left a final total of 368 reported incidents involving 100 officers in Central, East and North Precincts and Traffic Division.

Current heights (without shoes) and weights (in street clothes) of all patrolmen and sergeants in these units were gathered by general order at the precinct and division level and forwarded to the Planning and Research Division. Tenure was measured as the number of months from the date of appointment to the Bureau

to December, 1972 and was gathered directly from the Bureau Personnel Roster.

General Sample Population

Police candidates must be a minimum height of 5'9" to be appointed to the Bureau. A part of the selective battery (clinical psychological screening) causes less personality variance than the average population.

The Portland Police Bureau is divided into four uniformed areas: East (E), North (N), and Central (C) Precincts, each serving a geographical area of the City; and a Traffic Division (T), which operates city-wide.

Precinct assignments occur by choice of officer, command, or chance, with the latter mode being most predominant during low-tenure years.

Shift assignment is generally by seniority. Four shifts exist, but for the purpose of this study, afternoon and evening shifts were combined. The three then, are Morning (M), Afternoon (A) and Night (N). Shift hours usually follow a pattern of 8 hour increments: M = 8am to 4pm, A = 4pm to 12 midnight, N = 12 midnight to 8am.

METHODS AND RESULTS

A sample of 100 non-assaulted officers was randomly selected from the Bureau Personnel Roster of all uniformed patrolmen and sergeants (Central, East, and North Precincts and Traffic Division). After selection, these officers were compared with assaulted officers on a number of factors including height, weight, mass (weight/height), and tenure.

A t-test was performed to determine if any differences between the groups might be significant. The results are presented in Table I.

ASSAULTED OFFICER REPORT

OFFICER'S NAME_____ BADGE #_____

PREC/DIV_____ DIST/DETAIL_____ RELIEF_____

DATE OF ASSAULT_____ TIME_____ LOCATION_____

TYPE OF ACTIVITY (CHECK ONE)

- [ ] 1. Responding to "Disturbance" calls (family quarrels, etc.)
- [ ] 2. Burglaries in progress or pursuing suspects
- [ ] 3. Robberies in progress or pursuing suspects
- [ ] 4. Attempting other arrests
- [ ] 5. Civil Disorder
- [ ] 6. Handling, transporting custody of prisoners
- [ ] 7. Investigating suspicious persons or circumstances
- [ ] 8. Ambush - no warning
- [ ] 9. Mentally deranged
- [ ] 10. Traffic pursuits and stops
- [ ] 11. All other

TYPE OF ASSIGNMENT (CHECK ONE)

Patrol Officer

- ☐ Two Man Car
- ☐ One Man Car - alone
- ☐ One Man Car - assisted

Detective

- [ ] Alone
- [ ] Assisted

Other Officer

- [ ] Alone
- [ ] Assisted

TYPE OF WEAPON
(Check first one that applies)

- [ ] Firearm
- ☐ Knife or other cutting instrument
- ☐ Other dangerous weapon
- ☐ Hands, fists, feet, etc.

EXTENT OF INJURY
(Check first one that applies)

- [ ] Fatal
- [ ] Hospitalized
- [ ] Treated & Released
- [ ] First Aid
- ☐ No treatment
- [ ] No injury

WAS ASSAILANT ARRESTED?_____

APPROVED BY:

_____

DISTRIBUTION:
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60.46

A t-test is a statistical procedure used to determine if the difference between two means (averages) is large enough not to have occurred by chance alone. A formula using the difference between means, along with the amount of variation (how much the scores within a distribution differ, on the average, from the mean or average of this distribution) within the two distributions, is used to determine the "t-value". The "t-value" is associated with a degree probability (given in statistical tables) which tells what the chances are (probability level) that the difference between the two means can be attributed to chance alone. Generally, a difference with a probability (p) of less than .05 (5 out of 100) that it can be attributed to chance is called significant. In other words, we can be 95% sure that the difference between the two means is not just a chance fluctuation or a result of our sampling technique.

TABLE I

COMPARISON OF ASSAULTED OFFICERS WITH A RANDOM SAMPLE OF NON-ASSAULTED OFFICERS

	Assaulted (N = 100)		Non-Assaulted (N = 100)		
	Mean	S.D.	Mean	S.D.	t
Ht. (in.)	71.25	1.77	71.61	1.65	1.5
Wt. (lbs.)	182.5	19.37	188.91	21.76	2.21*
Mass (wt/ht.)	2.58	.25	2.66	.28	2.12*
Tenure (mos.)	69.81	58.86	159.71	111.22	7.18**

*significant at .05 level
**significant at .001 level

As can be seen in Table I, the two groups differ significantly in weight, mass and tenure. A significant difference was not found between the mean heights of the two groups. That differences were found on weight and mass can probably be directly attributed to the difference in tenure, with older officers by nature being heavier than younger officers. One should <u>not</u> draw the conclusion that

tenure and a tendency not to be assaulted are directly related. Assaults are largely shift dependent, and higher tenured officers are most likely to be assigned to the low assault shift (days). 80% of all assaults occur during the Afternoon shift; seniority prevails in shift assignment, with the day shift being most desirable in the eyes of the higher tenured officer.

ISOLATING VARIABLE OF ASSIGNMENT

To isolate any possible effects associated with Precinct and/or Relief (Morning, Afternoon or Night) all assaulted officers were compared on one measure, height, with all non-assaulted officers in similar precincts and reliefs. Some shifts, in certain areas, showed only small numbers of assaults and were therefore dropped from this analysis.

Data from North-Afternoon and North-Night were combined, since the proportion of assaulted officers was identical in the two reliefs; thus a suitable sample was obtained to hold the effect of relief constant.

Means and standard deviations for each of the groups were computed and are presented in Table II, along with the results of t-tests for the significance of difference between mean heights.

As Table II shows, only two assignments demonstrated significant differences in height; North-Morning and Central-Afternoon, with the mean height of assaulted officers being less than that of non-assaulted officers. The difference between the two groups in North-Afternoon and Night approached significance at the .10 level but neither East relief (Afternoon or Night) came close to significance. The significant results indicate that assaulted officers, as a whole, are shorter than or of equal physical stature as their fellow non-assaulted officers. In no instance were assaulted officers shown to be significantly taller than non-assaulted officers.

TABLE II

COMPARISON OF ASSAULTED WITH NON-ASSAULTED OFFICERS WITHIN SELECTED PRECINCTS AND RELIEFS

Precinct/ Relief	Assaulted Mean	S.D.	N	Non-Assaulted Mean	S.D.	N	t
N/							
A	71.58	1.82	33	72.8	2.78	5	1.43
N	71.61	2.06	19	72.5	.87	3	
M	69.75	.8	8	71.27	1.60	13	2.67*
C/							
A	70.3	1.83	10	71.63	1.37	20	2.25*
E/							
A	71.62	1.6	13	71.57	2.06	38	.08
N	71.57	1.9	7	71.21	1.24	24	.61

*significant at .05 level

In other words, any significant differences between assaulted and non-assaulted officers show assaulted officers to be shorter than non-assaulted officers.

COMPARISON OF PROPORTIONS WITHIN HEIGHT RANGES: ASSAULTED OFFICERS/ALL OFFICERS

In a further analysis of the effect of height on the tendency of police officers to be assaulted, several analyses were performed using percentages or proportions of assaults and assaulted officers within particular height ranges. One method was to compare, for each height range, the proportion of assaults accounted for by officers within that height range with the percentage one would expect, given the proportion of all officers within that height range. It was found, for example, that assaulted officers 69 to 69.5 inches tall comprised 19% of all assaulted officers, while accounting for 12.9% of the total of all officers.

The height range of 69 to 69.5 inches accounted for a larger share of assaulted officers than it should, according to its proportion of all officers. The particular analysis employed in this study attempts to determine whether such an overall trend is present in all the height ranges.

A brief explanation of the particular methods employed, the groups included in the analysis and the results follow by sections:

The proportion of assaulted officers in particular intervals of height was compared with the proportions of the total population of uniformed officers associated with those same intervals of height, using the chi-square (X^2) test.

> The X^2 test is a statistical analysis which tells whether two variables are related beyond a particular level of probability. The X^2 test uses data that have been assigned to categories, as these data have been. X^2s are associated with different degrees of probability, as is the t-test used in the former analyses. Generally, any statistic such as "X^2" or "t" associated with a probability level of .05 or lower (.01, .001, etc.) is regarded as significant, that is, the chances that that particular statistic occurred through chance is 5 in 100 or below. Thus, even though the magnitude of an X^2 reflects the strength of a relationship between two variables, that relationship is called significant only if chances are less than 5 out of 100 that the magnitude of the relationship has occurred through chance variation.

Again, the officers were grouped by precinct and relief when the number of cases was sufficient to permit this type of analysis. The intervals of height employed in this analysis were as follows: 69 - 70.5 inches, 71 - 72.5 inches, 73 - 74.5 inches, and 75 inches or above. In several cases, the last two intervals were combined to obtain a satisfactory number of cases for this type of treatment. The results of this analysis for North Afternoon and Evening,

Central Afternoon, East Afternoon and East Night with X^2s and probability levels are included in Table III.

TABLE III

PROPORTIONS OF ASSAULTED OFFICERS VS. PROPORTIONS IN TOTAL POPULATION OF OFFICERS

Prec./ Relief	Ht. Range	Assaulted Officers No.	Assaulted Officers %	All Officers No.	All Officers %	Difference	X^2
N/ A N	69-70½	18	34.6	19	31.7	+2.9	.72
	71-72½	21	40.4	25	41.7	-1.3	
	73-74½	10	19.2	13	21.7	-2.5	
	75+	3	5.8	3	5.0	+ .8	
		52		60			
C/ A	69-70½	7	70	10	33.3	+36.7	61.14**
	71-72½	2	20	15	50.0	-30.0	
	73-74½	1	10	5	16.7	- 6.7	
	75+						
		10		30			
E/ A	69-70½	3	23.1	12	23.5	- .4	.47
	71-72½	5	38.5	21	41.2	-2.7	
	73-74½	5	38.5	18	35.3	+3.2	
	75+						
		13		51			
E/ N	69-70½	2	28.6	9	29	- .4	23.14**
	71-72½	3	42.8	18	58.1	-15.3	
	73-74½	2	28.6	4	12.9	+15.7	
	75+						
		7		31			

**significant at .001 level

The X^2 test, in this case, tests the null hypothesis that the proportions of assaulted officers in these height ranges is the same as the proportions of all officers in these same ranges, signifying that officers are assaulted regardless of their height.

The X^2 statistic also gives us a rough estimate of the strength of the relationship between height and the chances of an officer being assaulted at least once. In two groupings, Central-Afternoon and East-Night, the proportion of assaulted officers was definitely shown to be dependent upon height, with shorter officers in Central-Afternoon contributing more than their share of the total of all assaulted officers. The two remaining groupings, North-Afternoon and Night and East-Afternoon do not demonstrate any significant dependency.

These analyses consisted of the proportion of assaults against officers accounted for by the same height ranges as in the preceding analysis compared to the proportion in the total population of officers associated with those same ranges. The results of this analysis for North-Afternoon, North Evening, Central Afternoon, East-Afternoon and East-Night with X^2, and probability levels are included in Table IV.

In this case, the X^2 test tests the null hypothesis that the number of assaults upon officers is independent of or not related to height. As can be seen from Table IV, the number of assaults is significantly related to height in North-Afternoon, Central-Afternoon and East-Night, but not so in North-Evening or East-Afternoon. In most cases, shorter officers accounted for more than their share of assaults, with the exception of East-Night, where taller officers accounted for more than they should. It should be noted, however, that less than 3% of all assaults occurred in East-Night, whereas more than 60% of all assaults occurred in North-Afternoon.

In the final analyses of this type, similar approaches were taken as those preceding, but using the total population of uniformed officers to assaulted officers, and number of assaults, using a larger number of height ranges. The full data plus the results of the associated X^2 tests are presented on Table V.

TABLE IV

PROPORTIONS OF NUMBER OF ASSAULTS AGAINST OFFICERS VS. PROPORTIONS IN THE TOTAL POPULATION OF OFFICERS

Prec./ Relief	Ht. Range	Assaults No.	Assaults %	All Officers No.	All Officers %	Difference	X^2
N/A	69-70½	110	48.2	12	31.6	16.6	15.37*
	71-72½	73	32.0	17	44.7	-12.7	
	73-74½	22	9.6	6	15.8	6.2	
	75+	23	10.1	3	7.9	2.2	
		228		38			
N/E	69-70½	20	35.7	7	31.8	3.9	2.16
	71-72½	22	39.3	8	36.4	2.9	
	73-74½	14	25.0	7	31.8	-6.8	
	75+						
		56		22			
C/A	69-70½	13	81.25	10	33.3	47.92	103.54**
	71-72½	2	12.50	15	50.00	-37.50	
	73-74½	1	6.25	5	16.67	-10.42	
	75+						
		16		30			
E/A	69-70½	5	25	12	23.5	1.5	1.24
	71-72½	9	45	21	41.2	3.8	
	73-74½	6	30	18	35.3	-5.3	
	75+						
		20		51			
E/N	69-70½	3	33.3	9	29.0	4.0	43.74**
	71-72½	3	33.3	18	58.1	-25.2	
	73-74½	3	33.3	4	12.9	20.4	
	75+						
		9		31			

*significant at .01 level
**significant at .001 level

TABLE V

COMPARISON OF PROPORTION OF ASSAULTED OFFICERS AND ASSAULTS AGAINST OFFICERS WITHIN HEIGHT RANGES WITH PROPORTION OF THE NUMBER OF OFFICERS IN TOTAL GROUP

Ht. Inches	I % Assltd Off.	II % of All Off.	III Diff. (I-II)	IV % of All Asslts.	V Diff. (IV-II)
69-69½	19	12.9	+6.1	15.2	+2.3
70-70½	21	16.4	+4.6	30.4	+14.0
71-71½	22	23.8	-1.8	16.6	-7.2
72-72½	17	20.3	-3.3	17.9	-2.4
73-73½	9	10.6	-1.6	6.8	-3.8
74-74½	9	10.4	-1.4	6.25	-4.15
75-75½	1	2.7	-1.7	3.3	+ .6
76-76½	0	1.6	-1.6	0	-1.6
77-77½	2	1.4	+.6	3.5	+2.1
		$X^2 = 8.20$ P <.40		$X^2 = 22.73$ P <.01 (significant)	

The results of this particular analysis demonstrate that although assaulted officers do appear to compose a larger percentage of the lower height ranges than they should, the X^2 obtained does not indicate that this tendency is significant.

In applying this analysis to the proportion of total assaults accounted for by these height ranges, the X^2 does indicate that there is a very significant dependency of the proportion of assaults upon height range.

In simpler terms, height was not shown to be a factor in whether an officer is assaulted or not, but was shown to be a factor in how many times he was assaulted. If this seems confusing, it should be remembered that an officer was considered assaulted whether he received one assault or twenty the past year. It is entirely conceivable that some assaults an officer received are entirely due to circumstances and have nothing to do with his height. On the other hand, if officers of particular height ranges seem to account for more than

their share of assaults, that is, more than their proportion in the population of all officers, it follows that height would have something to do with the number of assaults. The number of assaulted officers in the lower height ranges (69 - 70.5 inches) for example, is not abnormal, but the number of assaults upon these officers is abnormal.

SUMMARY OF TABLES

Tables VI and VII give a summary of X^2 analyses of: the proportion of assaulted officers within certain height ranges vs. proportions of the number of total officers in these same height ranges; the proportion of the number of assaults upon officers within these height ranges vs. the proportions of the number of total officers in these same height ranges.

TABLE VI

PROPORTION OF ASSAULTED OFFICERS WITHIN CERTAIN HEIGHT RANGES VS. PROPORTION OF THE NUMBER OF OFFICERS OF THE TOTAL GROUP WITHIN THESE HEIGHT RANGES

Prec./ Relief	Number Assltd Off.	X^2	P
N/ A and N	52	.72	<.80
C/ A	10	61.14	<.001*
E/ A	13	.47	<.80
E/ N	7	23.14	<.001*
Total Group	100	8.20	<.40

*statistically significant

TABLE VII
SUMMARY

PROPORTION OF ASSAULTS AGAINST OFFICERS WITHIN CERTAIN HEIGHT RANGES VS. PROPORTION OF THE NUMBER OF OFFICERS OF THE TOTAL GROUP WITHIN THESE HEIGHT RANGES

Prec./ Relief	No./Asslts.	X^2	P
N/ A	228	15.37	<.001*
N/ N	22	2.16	<.40
C/ A	30	103.54	<.01*
E/ A	51	1.24	<.75
E/ N	31	43.74	<.001*
Total Group	368	22.73	<.01*

*statistically significant

Although for the total group of assaulted officers, the proportions of assaulted officers in the height ranges are not significantly different from what one would expect from the proportion in these height ranges in the total population of all uniformed officers, there are some Precinct-Relief combinations where there was a relationship between number of officers assaulted and height, namely Central-Afternoon and East-Night.

In the comparison for the total population of number of assaults against officers of a particular height range with the proportion of officers within those height ranges, the X^2 statistic obtained was found to be significant beyond the .01 level. But again, exceptions to the general trend were found within certain

precinct-reliefs. North-Night and East-Afternoon did not show this relationship to a significant degree.

Both these types of analysis give some estimate of the relationship between assaults upon officers and height of officers. The first analysis does not take into consideration the number of assaults upon officers, but rather whether they were assaulted or not. This analysis gives some estimate, then, of whether an officer was assaulted or not dependent upon his height. The second analysis does take into consideration the number of assaults against officers and gives some estimate of the dependency upon height of the number of assaults.

Conceivably, there are four possibilities to be considered in looking at the results of these two analyses in the precincts-reliefs considered: 1) height is a factor in whether an officer is assaulted and in the number of assaults against officers, 2) height is a factor in whether an officer is assaulted but not in the number of assaults, 3) height is not a factor in whether an officer is assaulted but is a factor in the number of assaults and 4) height is not a factor in either whether an officer is assaulted or not or in the number of assaults. With these possibilities in mind, the summary of these analyses are presented in Table VIII.

In all groups, except East-Afternoon, height was a factor in either whether an officer was assaulted or not, or the number of assaults upon an officer. Overall, it should be noted that there are exceptions in specific groups to general trends in the total picture, but that height is a definite factor in the analyses when one considers either the comparison of height to number of officers assaulted, or number of assaults as a valid procedure in determining the relationship between assaults upon officers and the height of the assaulted officer.

TABLE VIII

SUMMARY OF FOREGOING X^2 ANALYSES

Height significant +, Height not significant -,

Prec./ Relief	No. of Assaulted Officers	No. of Assaults
North/ Afternoon		+
North/ Night		-
North/ Afternoon and Night	-	+
Central/ Afternoon	+	+
East/ Afternoon	-	-
East/ Night	+	+
Total Group	-	+

EXTENT OF INJURY/USE OF WEAPONS

The Assaulted Officer reports, from which most of this data was gathered, give information about such things as extent of injury to the officer and the type of weapon used in the assault. Extent of Injury was dichotomized according to seriousness, with Fatal, Hospitalized, and Treated and Released reflecting a serious injury, and First Aid, No Treatment and No Injury reflecting a less serious injury. Type of Weapon was dichotomized according to dangerous weapon or no dangerous weapon with Firearm, Knife or other cutting instrument and Other dangerous weapon comprising the dangerous weapon category; Hands, fists, etc. comprising the non-dangerous weapon category.

Relationships between these dichotomous variables and other variables of interest were analyzed using the X^2 test and are presented by the following sections. A statistic, ϕ, or phi-coefficient is used to estimate the strength of relationship between the variables being compared. The phi-coefficient is derived from the X^2 statistic, and ranges from 0 to 1, with 0 signifying no relationship and 1 signifying complete dependence.

- Extent of Injury by Type of Weapon

  As would be expected, extent of injury was found to be dependent upon the type of weapon used. A disproportionate number of serious injuries resulted when a dangerous weapon was used in the assault. A X^2 of 11.67 was computed with significance beyond the .001 level of probability. A phi-coefficient of .14 reflects a weak, but significant relationship between these two variables.

- Extent of Injury by Height

  A X^2 of 4.17 was computed, associated with a .15 level of probability reflecting a slight tendency for tall officers to be injured more seriously. This tendency was not found to be statistically significant, however. A phi-coefficient of .11 reflects this slight relationship between height and degree of injury.

- Extent of Injury by Weight

  A X^2 of 9.803, significant at the .01 level of probability was computed, with officers weighing more receiving more serious injuries. A phi-coefficient of .16 reflects only a weak relationship between these two variables, however.

- Extent of Injury by Mass (Weight/Height)

  A X^2 of 10.52, significant at the .05 level of probability was computed, with officers of a greater mass receiving more serious injuries.

A phi-coefficient of .17 again reflects only a weak relationship between these variables.

- Extent of Injury by Relief

  A computed X^2 of 11.46, significant at the .01 level of probability, reflects the tendency of officers assigned to the Afternoon relief to receive a disproportionate amount of serious injuries. Again, a phi-coefficent of .17 does not indicate even a moderate strength of relationship between these variables.

- Type of Weapon by Height

  A X^2 of 2.11 associated with a probability level of .10, is not significant, although a phi-coefficient of .08 does reflect a slight tendency of taller officers to be assaulted by a dangerous weapon.

Another statistic reflecting the amount relationship is a point-biserial correlation, r_{bs}, which like the phi-coefficient reflects the strength of a relationship between two variables, but unlike ϕ, reflects the direction of the relationship also. This correlation coefficient varies from +1 to -1. A negative coefficient reflects an inverse relationship and a positive coefficient, the opposite. For example, a correlation of -.80 between length of skirts and the Dow-Jones average would reflect the tendency of the length of skirts to go down when the stock market is up, and to go up when the stock market is down. A positive correlation of .80 between suicides and the Dow-Jones average reflects the same degree of tendency of the number of suicides to go up and down with the stock market. Thus, the magnitude of a point-biserial correlation reflects strength of a relationship; and whether it is a positive or negative reflects the direction of the relationship in mind. Point-biserial correlations were computed between those variables on which this type of analysis was possible. These correlations are included in the summary of results in Table IX.

TABLE IX

SUMMARY OF X^2 ANALYSES AND MEASURES OF STRENGTH OF RELATIONSHIP BETWEEN VARIABLES OF INTEREST

Variables Compared	X^2	r_{bs}	ϕ
Extent of Injury/ Weapon	11.67**	.12	.14
Extent of Injury/ Height	4.17	.21	.11
Extent of Injury/ Weight	9.80*	.19	.16
Extent of Injury/ Mass	10.52*	.12	.17
Extent of Injury/ Relief	11.46**	--	.17
Type of Weapon/ Height	2.11	--	.08

*statistically significant at .01 level
**statistically " at .001 level

SUMMARY OF TABLE IX

A. There is a significant tendency for more serious injuries to be inflicted by dangerous weapons.
B. This is a slight tendency, though insignificant, for taller officers to be more seriously injured. The results of part "F" indicate that this may be due, in part, to the tendency of taller officers to be assaulted with dangerous weapons, which, according to part "A" is related to more serious injury.
C. There is a significant tendency by officers of medium weight to be injured more seriously in assaults against their person.
D. There is a significant tendency of officers with greater mass (or larger weight to height ratio) to be more seriously injured.
E. There is a significant tendency for officers on duty during afternoon relief to be assaulted more often and injured more seriously than during any other relief.
F. There is a slight tendency, not statistically significant, for taller officers to be assaulted by a more dangerous weapon.

SUMMARY AND CONCLUSIONS

This study was an attempt to determine the influence of some of the factors which contributed to assaults against Portland Police officers during the first 11 months of 1972. Particular emphasis was given to height of the officer in view of recent legal and social pressures upon the Bureau to change its height requirement. Undoubtedly, there are numerous factors associated with assaults against officers, many of which are uncontrollable or unable to be identified. The personality of the officer, for example, is one variable that is now being studied. Nonetheless, there are some definite conclusions which can be drawn from this study.

The following description of the average or typical assaulted officer emerges from the results of this study:

> The average assaulted officer is about 5'11¼" tall, about ¼" shorter than the average height of all officers. He weighs about 182 lbs. and has been on the force about 5 years and 10 months, with his non-assaulted fellow officer having about 7½ years more experience as a police officer. The average non-assaulted officer weighs about 189 lbs, about 7 lbs. more, probably due to his being older.
>
> The assaulted officer is most often found on duty during Afternoon relief, and most probably assigned to North Precinct. He is not much shorter, on the whole, than non-assaulted officers, but if he is from 5'9" to 5'10½" tall, he is assaulted much more often than he should be. He is also assaulted more than would be normally expected if he is over 6'5". If he is of medium weight, there is a tendency for him to be more seriously injured from an assault. There is also a slight tendency for him to be injured more seriously if he is taller, as there is a tendency for him to be assaulted with a dangerous weapon more often, which significantly increases the chances for serious injury.

This summary is presented on Table X.

TABLE X

A SUMMARY OF RESULTS

Assaulted Officer (averages)	
Height: 5 [illegible]"	-¼" shorter than average
Weight: 182 lbs.	-7 lbs. less than non-assaulted officers
Tenure: 5.8 yrs.	-7½ years less than non-assaulted officers.
Heights prone to assault: -5'9" - 5'10½" 6'5" and above	-both these groups receive a disproportionate number of assaults
Serious injuries: -tall officers	-only a slight tendency
-medium weight	-a weak, but significant tendency
-greater mass	-a weak, but significant tendency
-Afternoon relief	-a significant tendency
-assaulted with dangerous weapon	-a significant tendency
Assaulted with dangerous weapon: -tall officers	-only a slight tendency; probably explains why tall officers are more seriously injured.

Therefore, the major results of this study are briefly: the assaulted officer, on the whole, is not much shorter than average, but if he happens to be 5'9" to 5'10½" tall, his chances of being assaulted significantly increase as they do if he is 6'5" or above. Height, therefore, is a major factor in the number of assaults an officer receives even if it does not distinguish assaulted from non-assaulted officers.

It should be pointed out that the data from this study are based on reported assaults against officers. There are likely some assaults which go unreported, since police officers undoubtedly differ in their willingness to fill out forms such as the Assaulted Officer Report. Also, any conclusions drawn from a study of this type should not be applied to any other group of persons which differ in any way from the group used in this study. One can deal only in trends when looking, for example, at a group of officers in this study, and then only with a good deal of caution.

RESULTS OF SIMILAR STUDIES

Other studies comparing proportions within height ranges of assaulted/injured officers with total group of officers have been conducted in a number of police agencies across the country. Data from Seattle/King County, Metropolitan Police Agency of the District of Columbia, and Los Angeles Police Department were available in a format similar to that employed in this study, although in some cases percentages had to be computed from raw data. The results from these agencies follow.

TABLE XI

RESULTS OF SIMILAR STUDIES

SEATTLE/KING CO. (4/1/71-3/31/72)

Ht. (in.)	% Assltd. Off. (479)	% All Officers	Difference
69	24.0	15.0	+9.0%
70	23.0	19.0	+4.0%
71	17.0	19.0	-2.0%
72	14.0	18.0	-4.0%
73	8.0	11.0	-3.0%
74	7.0	7.0	0.0%
75	5.0	5.0	0.0%
76	0.6	1.7	-1.1%
77	1.0	0.2	+0.8%

MPDC (DISTRICT OF COLUMBIA) 1971*

Male Officers

Ht. (in.)	% Assltd. Off. (236)	% All (4671) Officers	Difference
67	5.1	2.9	+2.2
68	14.8	9.7	+5.1
69	20.8	14.6	+6.2
70	18.6	15.8	+2.8
71	12.3	17.6	-5.3
72	11.9	17.3	-5.4
73	9.7	9.2	+.5
74	4.2	6.7	-2.5
75	1.3	3.6	-2.3
76	.8	1.8	-1.0
77	.4	.5	-.1
78	0	.1	-.1

LOS ANGELES POLICE DEPT. (1961)*

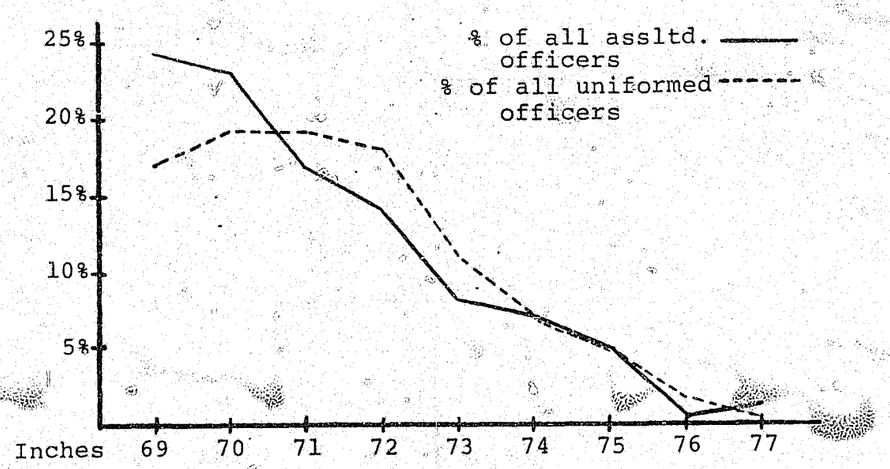
Injured Officers

Ht. (in.)	% Injured Officers	% All Officers	Difference
68-68.5	10.6	3.2	+7.4
69-69.5	19.7	16.9	+2.8
70-70.5	20.0	21.9	-1.9
71-71.5	21.0	19.2	+1.8
72-72.5	10.4	16.5	-6.1
73-73.5	8.2	11.0	-2.8
74-74.5	5.4	6.7	-1.3
75-75.5	2.0	3.0	-1.0
76-76.5	1.5	1.2	+.3
77-77.5	1.3	.4	+.9

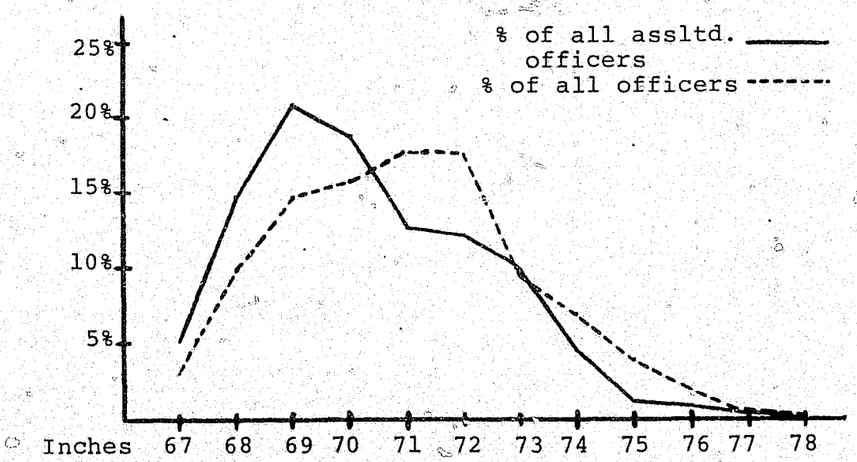
These results can best be interpreted if presented graphically as they are on the following pages.

*From Mary Abrecht, Height of Police Officers and Related Issues, MPDC Training Division, Oct. 1972

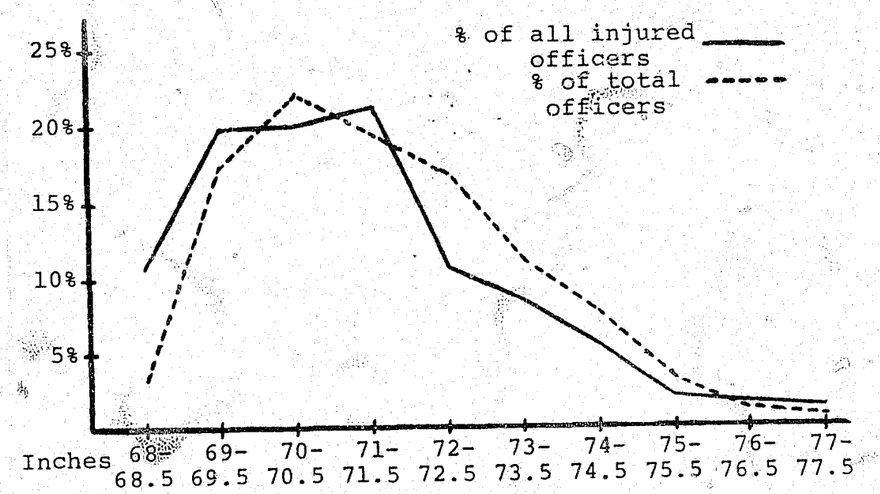
SEATTLE POLICE DEPT. (KING CO.)
4-1-71 to 3-31-72



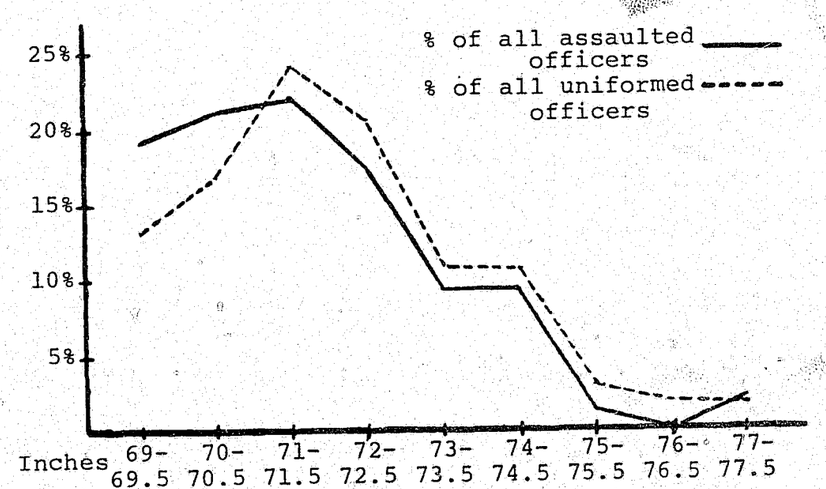
M.P.D.C. (DISTRICT OF COLUMBIA)
1971



LOS ANGELES POLICE DEPT. 1961
(Patrolmen)



PORTLAND POLICE BUREAU
1-1-72 to 12-4-72



As is illustrated in the preceding graphs, the results found within the Portland Police Bureau are not unique. In every case, the general pattern of an excess proportion of assaulted officers in the lower height ranges, and to a lesser degree in the extreme high ranges was evident. It is interesting to note that in all these studies, with the exception of that of the Los Angeles Police Department (which dealt with injured officers) the two lines intersect between 70 and 71 inches, indicating the point at which the proportion of assaulted officers is equal to the proportion in the total population.

Such consistent findings strengthen the belief that height and assaults against officers are, in fact, related. While studies within four police agencies cannot be the basis for a general statement about police officers across the country, the fact remains that not one agency, to our knowledge, has found results contrary to the general trend in these studies.

ADDENDUM

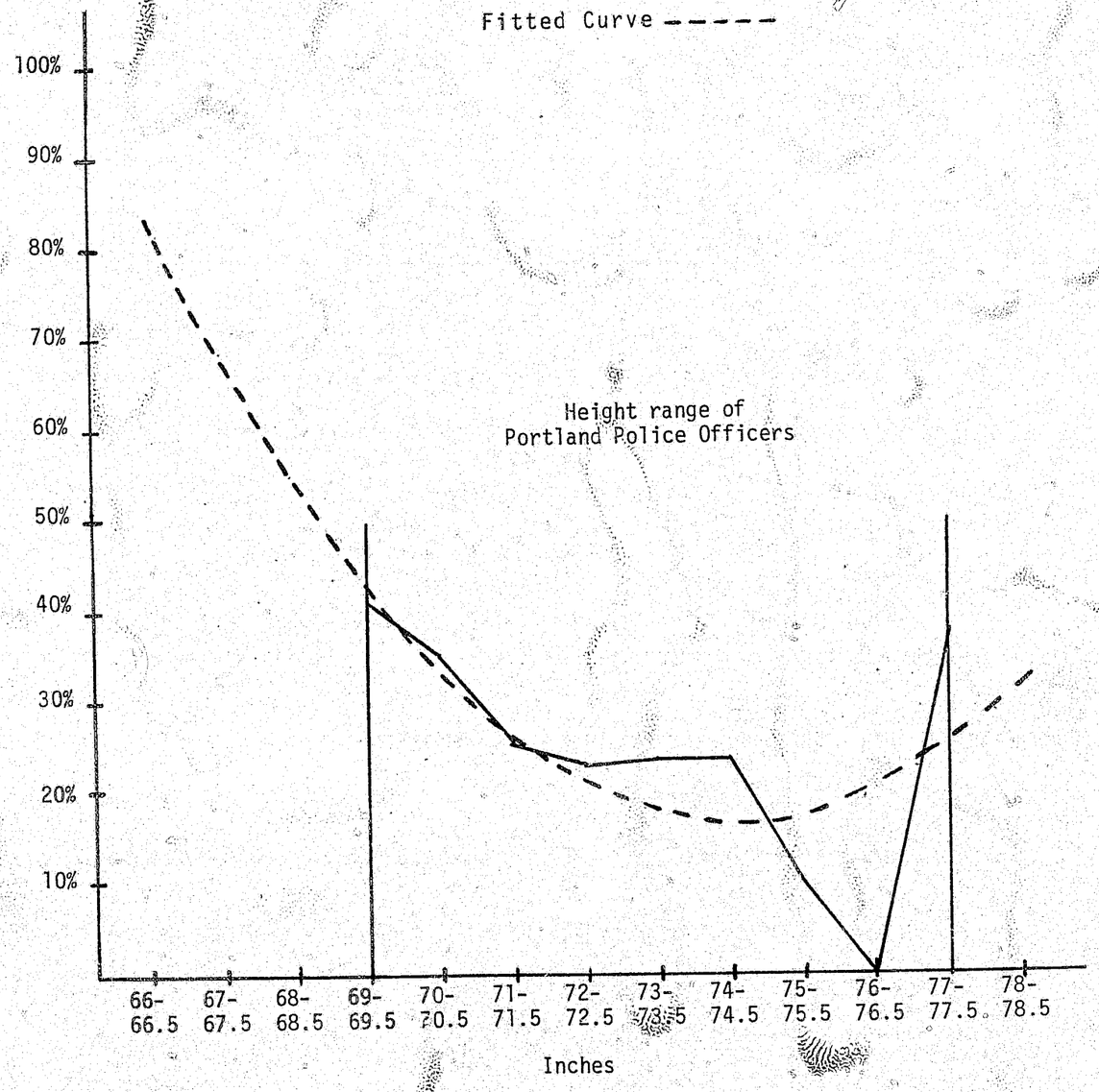
As an additional analysis, the percentage of officers assaulted within height ranges was computed and is represented by the solid line on the graph on the following page. As indicated, the percentage of officers assaulted is highest for the 69-69.5 inch group and generally decreases with each higher group until the 76-76.5 inch group is reached. The 77-77.5 inch group has nearly as high a percentage as the 69-69.5 inch group.

Because of the upturn in percentage in the tallest group of officers, it was obvious that a straight linear relationship was not present, and that simple regression line could not be accurately fitted to the data. A curvilinear analysis was subsequently performed and a curve plotted (represented by dashes) based on the resulting second degree equation. As can be seen from the graph, such a curve better approximates the actual results.

The extension of the curve beyond the height range of Portland Police Officers represents an estimate of the percentage of officers assaulted in other height ranges on which no data exist. It should be noted that although the curve is based on actual data from height ranges 69 to 77.5 inches, caution must be taken in interpreting the curve outside those height ranges. The curve can only be termed a "prediction" or "estimate" based on all available data within the Portland Police Bureau.

CURVILINEAR ANALYSIS OF PERCENTAGE
OF OFFICERS ASSAULTED WITHIN
HEIGHT RANGES

Portland Police Bureau
1-1-72 to 12-4-72



END