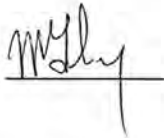




Memorandum

Date: October 4, 2001

From: Michael J. Galvin, Jr., Ph.D., Research Grants Program Officer
Office of Extramural Programs, NIOSH, D30 

Subject: Final Report Submitted for Entry into NTIS for Grant 1 R03 OH003772-01.

To: William D. Bennett
Data Systems Team, Information Resources Branch, EID, NIOSH, P03/C18

The attached final report has been received from the principal investigator on the subject NIOSH grant. If this document is forwarded to the National Technical Information Service, please let us know when a document number is known so that we can inform anyone who inquires about this final report.

Any publications that are included with this report are highlighted on the list below.

Attachment

cc: Sherri Diana, EID, P03/C13

List of Publications

(abstract) Violanti JM, Vena JE: The Buffalo Police Health Baseline Study. *Epidemiology* S7, 2000

NIOSH Extramural Award Final Report Summary

Title: The Buffalo Police Health Study: A Baseline Evaluation
Investigator: John M. Violanti, Ph.D.
Affiliation: University of New York
City & State: Buffalo, NY
Telephone: (716) 829-2975
Award Number: 1 R03 OH003772-01
Start & End Date: 9/30/1998–9/29/2000
Total Project Cost: \$76,986
Program Area: Intervention Effectiveness Research Methods
Key Words:

Abstract:

A major goal of this study was to collect physiological (e.g., blood lipids, blood pressure, body measures) and psychological symptomatology measures from a randomly selected sample of police officers to establish a baseline of health in the Buffalo, New York Police Department. The motivation behind this goal is to isolate high risk health elements in policing that may be reduced by intervention. Data obtained in the present study may then be used in a future prospective study of police to determine both the specific type and effectiveness of intervention required to reduce risk.

A second goal of the study was to assess the risk associated with police health measures compared to non-police control groups. It was hypothesized that there may be health factors among police officers that place them at a higher risk for disease than the regional civilian population. Findings thus far indicate that older officers (40-45 yrs of age and 56-60 yrs of age) had significantly higher LDL/HDL cholesterol ratios than did controls. Additionally, police officers as a group had significantly higher pulse rates, diastolic blood pressure, and Body Mass Index (BMI) scores than controls. Police officers also scored significantly higher on psychological depression measures when compared with population controls.

An important part of this proposed study was to assess health factors of minority and women police officers. To date, there exists very little information on the health status of these groups, let alone any comparisons with controls. Our results thus far indicate that a higher percentage of women officers (72%) had a total cholesterol level of over 200 than did male officers. Women officers, however, had LDL/HDL cholesterol levels on average lower than male officers. Approximately 50% of women officers had a measured BMI of over 25, indicating a possible health risk factor. African-American and Hispanic officers combined had, on average, higher cholesterol levels than white officers and 84% of minority officers had a BMI over 25, compared to 62% of white officers.

A third goal of this investigation was to assess the psychological well-being of the police sample. Police, as a group, scored higher than a standardized norm population on several indices of psychological symptomatology. Among these were discomfort in daily interactions, anxiety, hostility, suspiciousness, and loss of self-worth. Women officers scored significantly higher than male officers in uncomfortable personal interactions,

NIOSH Extramural Award Final Report Summary

depression, anxiety, and feelings of isolation. Minority officers scored significantly higher than white officers on feelings of isolation and suspiciousness.

Publications

(abstract) Violanti JM, Vena JE: The Buffalo Police Health Baseline Study. Epidemiology S7, 2000

**Social and Preventive Medicine
School of Medicine and Biomedical Sciences
270 Farber Hall
State University of New York at Buffalo
Buffalo, New York 14214**

The Buffalo Police Health Study: A Baseline Evaluation

Technical Report

September 29, 2000

**John M. Violanti, PhD, Principal Investigator
John E. Vena, PhD, Co-Investigator**

**National Institute of Occupational Safety and Health
Grant Number 1 R03 OH03772-01**

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Abstract

The Buffalo Police Health Study: A Baseline Evaluation

A major goal of this study was to collect physiological (e.g., blood lipids, blood pressure, body measures) and psychological symptomatology measures from a randomly selected sample of police officers to establish a baseline of health in the Buffalo, New York Police Department. The motivation behind this goal is to isolate high risk health elements in policing that may be reduced by intervention. Data obtained in the present study may then be used in a future prospective study of police to determine both the specific type and effectiveness of intervention required to reduce risk.

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An important part of this proposed study was to assess health factors of minority and women police officers. To date, there exists very little information on the health status of these groups, let alone any comparisons with controls. Our results thus far indicate that a higher percentage of women officers (72%) had a total cholesterol level of over 200 than did male officers. Women officers, however, had LDL/HDL cholesterol levels on average lower than male officers. Approximately 50% of women officer had a measured BMI of over 25, indicating a possible health risk factor. African-American and Hispanic officers combined had, on average, higher cholesterol levels than white officers and 84% of minority officers had a BMI over 25, compared to 62% of white officers.

A third goal of this investigation was to assess the psychological well-being of the police sample. Police, as a group, scored higher than a standardized norm population on several indices of psychological symptomatology. Among these were discomfort in daily interactions, anxiety, hostility, suspiciousness, and loss of self-worth. Women officers scored significantly higher than male officers in uncomfortable personal interactions, depression, anxiety, and feelings of isolation. Minority officers scored significantly higher than white officers on feelings of isolation and suspiciousness.

INTRODUCTION

At present, we have successfully collected data from the stratified random sample of 115 selected Buffalo police officers, with 100% of those selected participating. In addition, we have successfully collected from an existing database a random selection of five regional population controls for each police officer. Controls were matched with officers on age, gender, and ethnic background. The huge volume of data generated from this study is not yet completely coded, and results stated in this report should be considered as preliminary.

The measures employed in this study were:

Physical Measures

1. Demographic Information- date of birth, gender, race, marital status, religion, veteran status, occupational variables (rank, years of police service, year started employment, police duty assignments) police environmental exposures (gasoline, exhaust, radar, radio transmissions, chemicals, lead from firearms, shift work, traumatic work events).
2. Medical screening utilizing a medical history questionnaire
3. Systolic and Diastolic blood pressure- measured in participants at rest.
4. Blood lipid measures
 - a. Chronic disease and nutritional factors – serum total triglycerides, HDL-C, HDL2, HDL3, Oxidized LDL, and total serum cholesterol.
 - b. Routine chemistry – glucose, urea nitrogen, creatinine, uric acid, calcium, total protein, cholesterol, sodium, potassium, total bilirubin.
5. Anthropometric variables
 - a. Weight and Height – The proper measurement of weight and height utilizing standardized procedures by participants and observers (i.e., participants shall be shoeless, wearing only undergarments). Scales were calibrated daily using a known quantity of weight. Calculation of Body Mass Index (BMI) was completed.
 - b. Body circumferences – Measurement of waist and hip circumference and their ratio will provide information on the distribution of body fat in study participants.
 - c. Levels of physical Weight activity – The Beacke Activity survey (Baecke, Burmea and Frijters, 1982) was administered to obtain information regarding habitual physical activity. This survey was used because it considers both work and leisure time physical activities and takes little time to complete.

6. Alcohol consumption- Questions on alcohol use included: (1) beverage-specific quantity and frequency for the past week, month, and year; (2) Frequency of intoxication; (3) occasion for drinking ; (4) social context of drinking (with friends, alone, family, etc.).
7. Dietary intake- Interviewers gathered information on usual diet habits by use of the National Cancer Institute (NCI) diet survey (Potosky, Block, & Hartman, 1990). The NCI survey includes 90 foods and a selection of portion size.
8. Smoking – Measures for smoking included; (1) current and past cigarette smoking, measured in packs per day; and (2) exposure to passive smoke.
9. Lung Function Testing (Forced Vital Capacity) – Lung volume can be influenced by a number of factors resembling health and disease states, and are important tests for determining the physical fitness of the participant. Results can determine obstructions or narrowing of lung functions.

Psychological measures

1. The Derogatis Brief Symptom Inventory (BSI) (Derogatis, 1992) was used to assess psychological symptomatology in participants. The BSI is a 53-item self-report symptom inventory designed to reflect the psychological symptom patterns of psychiatric and medical patients as well as community non-patient respondents. Comparison norms have been established for both non-patients and psychiatric out-patients. The BSI is profiled in terms of 9 primary symptom dimensions and 3 global indices of distress
2. The Center for Epidemiological Studies Depression scale (CES-D) (Ratloff, 1977) was used as a measure of psychological distress in participants. This instrument is primarily for measuring depressive symptomatology, but has been shown to reliably measure psychological distress.
3. The Civilian Mississippi Scale for Post Traumatic Stress Disorder (PTSD) (Keane. et al, 1988) will be used to detect any psychological effect of trauma exposure among the police sample. This scale was employed because police officers are exposed to many traumatic events in the line of duty and may experience psychological after-effects of such trauma.

PRELIMINARY FINDINGS

Blood Lipid Levels

1. As a group, police **cholesterol** levels were lower than the control population (Figure 1).
2. When **LDL/HDL** ratios were calculated, police officers between the ages of 40-45 and 56-60 years of age had higher ratios than the control population, suggesting a possible increased risk for arteriosclerosis in those police age groups (Figure 2)
3. Comparisons between **police officer males and females**: A higher percentage of female police officers (72%) had a total cholesterol level of over 200 (a considered high risk level for cholesterol) than did male officers (43%) (Figure 3), but LDL/HDL ratios were significantly higher among policemen (Figure 4). Policemen thus had higher levels of “bad” cholesterol and lower levels of “good” cholesterol in their blood, even though their total cholesterol levels were on average lower than the women officers. High cholesterol ratios may be a possible heart disease health risk factor.

Physical Measures And BMI (Body Mass Index):

1. Police officers as a group had significantly higher **diastolic blood pressure** and **pulse count** than did population controls. Officers were also higher in **average weight and waist size** (Figure 5).
2. Male and female officers: Male officers had **higher diastolic and systolic** blood pressure, higher average weight and a **higher pulse rate** than female officers. Waist sizes were comparable (figure 6).
3. 68% of police officers as a group had a **BMI** of 25 and over, compared to 35% of the population controls, suggesting a health risk for these officers (Figure 7). Body mass index is a measure the ratio of weight by height and BMI's over 24 have been noted as a health risk factor.
4. 84% of **police males** had a BMI of over 25, as compared to 50% of the females, suggesting that more male officers than female officers are at health risk (Figure 8).
5. 84% of **African-American and Hispanic police officers** compared to 62% of white officers had a BMI of over 25, suggesting that more minority than white officers are at health risk (Figure 9).
6. **Male officers** at HIGH risk for health problems: The National Heart, Lung, and Blood Institute (1998) stated that a person with a BMI of 24 or over and a waist size of 40” should be considered at high risk for health problems. When the police as a group were compared with population controls, 18% of the police compared to 14% of the general population fell into this high risk category (Figure 10).

Psychological Distress

1. Police as a group experienced distress at a **higher** level than population norms on the following dimensions (Figure 11):

- a. Interpersonal sensitivity- marked discomfort in their daily interaction with others, and negative expectancies of outcomes of those interactions.
- b. Depression and anxiety slightly higher than the population, but not a clinical level
- c. Hostility which indicted a negative affective state of anger.
- d. Feeling of isolation, suspiciousness, and loss of self-worth.

2. Female officers scored significantly **higher** in interpersonal sensitivity, depression, anxiety, hostility, and feelings of isolation and suspiciousness than did male officers (Figure 12).

3. **Minority** officers scored similar to white officers, but scored significantly higher on feelings of isolation and suspiciousness (Figure 13).

4. An additional measure was used (CES-D) to measure distress and police were compared with the general population . Results indicated that police officers as a group scored significantly **higher** in depression than did population controls (Figure 14).

USEFULNESS OF FINDINGS

Given the variety of exposures in this occupation, it is important for police agencies to monitor officers for physical fitness and good health. Persons who enter police work are generally part of a healthy work population, but appear to deteriorate physically and psychologically as years of police service increase (Violanti, 1983). Intervention which may help officers deal with the exposures of policing are often lacking. Price, et al (1978) reported that approximately 14% of police agencies in the United States have any programs for maintaining the physical and psychological health of officers. Recent estimates report that approximately 20% of police departments have health maintenance programs (Pollack, et al, 1986). These authors also found that approximately 33% of departments required any type of physical examination for their officers. Such exams were given only if officers were injured on duty and not as a matter of health maintenance.

One of the important aims of this study was to establish a baseline for future effective intervention in the police workplace. This goal was addressed through collection of data and completion of analyses. Data obtained during this proposed study will lay the foundation for future studies that can investigate a number of important scientific issues. For example, the

question of whether an intervention in the workplace has any impact can only be addressed by longer term prospective analyses resting its foundation on a provided baseline. An equally important issue of precisely which intervention to employ also requires a starting point. Our study has already provided such a point. For example, we found that police BMI levels are significantly higher than controls, which would call for nutrition counseling or education at the worksite to reduce weight. We know, for example, that the police very seldom eat nutritiously during work hours, going from one call to another without time for a good meal. Generally, meals are high-fat fast foods consumed on the move (Violanti, 1985). Our results also indicate that police officers score significantly higher on depression and psychological distress scales than do non-police populations, indicating the need for mental health interventions. Such symptoms appear to be even more prevalent among policewomen and minority officers.

Another important consideration for establishing a baseline for future prospective work is the obvious lack of such work. At present, there are no studies which address the prospective nature of health in policing. It is believed that the job of policing has an often deleterious impact on officers over time (Paton & Violanti, 1996), and this exposure needs to be examined and analyzed prospectively.

Once the entire study is completed, we will present the information to the department. In future work, we hope to establish, implement and evaluate interventions in the police department, and positively influence the health of officers where it is most needed. This present research may provide a starting point for intervention as well as valuable information for conducting a successful future prospective analysis of the effectiveness of such interventions.

SCIENTIFIC REPORT

Research Design And Methods

The sample site for this study was the Buffalo, New York Police Department. The breakdown of sworn police personnel in the department is as follows:

	Caucasian	African-American	Hispanic	Native American	Total
Male	515 (68.7%)	157(21%)	73 (.8%)	4 (0.5%)	749 (80.2%)
Female	120 (64.9%)	62 (33.5%)	3 (1.6%)	0	185 (19.8%)
Total	635 (68%)	219 (23.5%)	76 (8.1%)	4 (0.4%)	934 (100%)*

* As of June 1, 1998

A personnel list of all officers in the department and their present status was obtained from the Commissioner. 115 police officers were randomly selected from the master police roster using a computer-generated random number table. This was to ensure that all officers in the population had an equal probability of being selected for the study. Officers who were on vacation, personal leave or sick leave were included in the sample selection. Sampling was stratified by age, race and gender to ensure a good representation of minority and women subgroups in population. There is no specific criteria for inclusion in the study, other than the participant must be a sworn police officer and willing to participate in the study.

Collection of Data

Data was collected at the Center for Preventive Medicine, State University of New York at Buffalo School of Medicine and Biomedical Science, Buffalo, NY. This center has been used in numerous epidemiological studies in the past and observers are well trained in health data collection processes. Laboratory services utilized are certified on a continual basis by the U.S. Department of Commerce National Institute of Standards and Technology. Quality control of data at this facility is enhanced by a daily use of detailed Manual of Operations for all procedures, systematic training of the staff, monitoring of the lab internal control with internal standards, and periodic testing and maintenance of instruments.

Civilian Population Control Group

The data collected from our law enforcement sample was compared to an established civilian control group which has been reliably utilized in past epidemiological investigations. Controls were developed by The Center for Clinical and Medical Epidemiology of Alcohol (1993). Establishment of the control group was as follows:

1. Controls were first stratified by age, gender, race and county of residence. After stratification, controls were randomly selected from the general population.
2. The Department of Motor Vehicles (DMV) drivers license rolls were utilized as a sampling frame. DMV records indicate that 95% of residents of Western New York have a driver's license. The final control group numbered 2,770 randomly selected participants. Demographic, blood pressure, blood lipid measures, occupation, medical history, smoking, diet, physical activity, and alcohol consumption data were collected from controls.

Statistical Analysis

1. We have thus far conducted the following analyses:
 - a. Descriptive frequency characteristics of police participants were compared to those in the civilian control group matched on age, race, and gender. Univariate analyses was used to describe participants and identify possible covariates to be included in further multivariate analyses.
 - b. We have conducted mean difference and statistical significance calculations on indices collected thus far.
2. We plan to conduct logistic regression analyses with meaningful dependent and independent variables in order to establish odds-ratios, 95% confidence intervals, and significance levels. Odds-ratios will be completed between the police and civilian control population, as well as between internal groups within the police (e.g., women and minority officers). Our strategy is to analyze each risk factor separately utilized as the dependent variable and other study variables as independent variables (e.g. age, race, gender, smoking, physical activity, etc).

Strengths and Limitations

1. Strengths- This study has the potential to provide very detailed information regarding many aspects of police lifestyle and physical health. Likely, for the first time, we will be able to examine associations between police occupation, lifestyle, disease risk factors, and comparisons with a non-police control and a known disease group. In addition, this study can provide us with information on minorities and women in policing, groups for which there is presently very little of any type of information. This study has the potential to more accurately identify possible police risk factors and thus identify focused worksite interventions. Lastly, this study provides a baseline for future prospective studies of police health and testing over time of interventions selected.
2. Limitations – The police sample size is limited due to resources available. With the inclusion of previously established control groups, however, the total sample size has an established statistical power of .92. Additionally, one of the intents of the sample was to serve as a baseline for future studies, where new participants can simply be added unto its present size.

PUBLICATIONS/PRESENTATIONS

Conference Presentation - Violanti, J.M., Vena, J.E., Pierino, K. (2000 August). Presentation: The Buffalo police health study: Preliminary findings. International Society for Environmental Epidemiology, Twelfth Conference, Buffalo, New York.

Publication – Violanti, J.M. & Vena, J.E. (2000). The Buffalo police health baseline study. Abstract, Epidemiology, 11, July, S7.

Anticipated publications: We plan to prepare papers for additional scientific conferences as well as The American Journal of Epidemiology, The American Journal of Industrial Medicine, The Journal of Occupational Medicine, and police occupationally related journals.

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APPENDIX A

FIGURES 1-14

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RESPIRATORY SYMPTOMS AND VENTILATORY CAPACITY IN METAL POLISHERS**TANVEER HUSAIN, RASTOGI S, GUPTA B, MATHUR N.** Sanjay Gandhi Post Graduate Institute of Medical. EMail: tanv99@yahoo.com

To evaluate the long-term effects of metal dusts on the bronchopulmonary system and the synergistic effect of cigarette smoke, a comparative study of spirometric measurements in 104 polishers and 90 unexposed controls was carried out in 25 brass and steelware polishing industries at Moradabad in northern India. The two groups were comparable in terms of age, height, smoking habit and socio-economic status. A total of 58.6% of the polishers had one or more respiratory symptoms, compared to only 25.5% of the controls ($P < 0.05$). Chronic cough was present in 21 polishers (20.2%) as compared to 11.1% of the controls. However, this difference was insignificant. Chronic phlegm was nearly three times as frequent among the polishers as among the controls (17.5% vs 4.4%) ($P < 0.005$). The prevalence of dyspnoea of varying grades was also significantly higher (16.3% as opposed to 4.4%) among the exposed groups. Chronic bronchitis (6.7%) and occupational asthma (4.8%) were found to be confined to polishers. The polishers also experienced acute respiratory symptoms during the work shift. The prevalence of acute respiratory symptoms was recorded for cough in 19 workers (44.1%) followed by dyspnoea in 14 workers (32.5%) and throat irritation in 11 workers (25.5%). Comparison of the mean values of pulmonary function parameters in the polishers and the controls showed significant differences in the smoking and non-smoking groups ($P < 0.001$). The polishers exhibited significantly greater acute reductions in various lung functions over the work shift, particularly for forced expiratory flow over the 25–75% portion of the spirogram (FEF 25–75%) FEF 25% and FEF 50% than did the controls. Among the exposed group, the acute changes in lung function were found to be significantly larger in the smoking than in the non-smoking polishers. The duration of exposure showed a direct correlation with the acute fall in lung function. Polishers who were exposed to dusts of various metals for more than 10 years showed a significantly greater acute reduction in all the pulmonary function ($P < 0.001$) thereby indicating that occupational exposure to multimetals in the work environment of the polishing industry had deleterious respiratory effects.

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MALE GENITAL SYSTEM CANCER. COULD IT BE OF OCCUPATIONAL ORIGIN?**KAMAL FOUAD KAMEL, NADER SALAMA.** Faculty of Medicine-Alexandria University. EMail: kamal@usa.net

Occupational risk factors of male genital system cancers is not adequately studied in the literature, although some researches have studied some occupations as risky of developing cancer prostate. The present work aimed at investigating the possible occupational risk factors which might play a role in the causation of male genital system malignancies. Eighty two subjects suffering from male genital system cancers (62 cases suffered from cancer prostate, 16 cases were victims of cancer testis and four cases were suffering from penile cancers) were studied, throughout twelve months, in Alexandria Main University Hospital, equal number of non cancer cases were selected from the same hospital and during the same period and matched with the cases for age sex and socioeconomic standard, were used as controls. Matched case control study has shown that agriculture workers were at high risk of developing cancer prostate (OR=3.6, 95%CI=1.5–9.5, X²MC=6.81), also a statistical significant excess risk of cancer prostate was associated with exposure to various chemical agents (OR=2.2, 95%CI=1.2–5.8, X²MC=4.65), none of the other studied exposures or occupational categories have shown an association with increases risk of cancer prostate. Regarding cancer testis, a statistical significant excess risk occurred among production workers (OR=1.9, 95%CI=1.2–3.3, X²MC=4.51). Due to the small number of studied penile cancer cases, no significant association existed with any of the occupation categories found nor any of the hazardous exposures. Broad occupation categories and exposures were only analysed to prevent fragmentation of the small sample size resulting from analysis of separate occupations or exposures. It could be concluded that a significant association exist between working in agriculture or being exposed to chemicals and developing cancer prostate, also production workers whatever the type of production were at higher risk of developing cancer testis. These findings encourage further researches, based on larger number of cases (larger sample size), to allow detailed examination of specific occupations at risk and the exact incriminated hazardous exposures.

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THE BUFFALO POLICE HEALTH BASELINE STUDY**JOHN VIOLANTI, VENA J. SUNY** Buffalo. EMail: jimv@mail.rit.edu

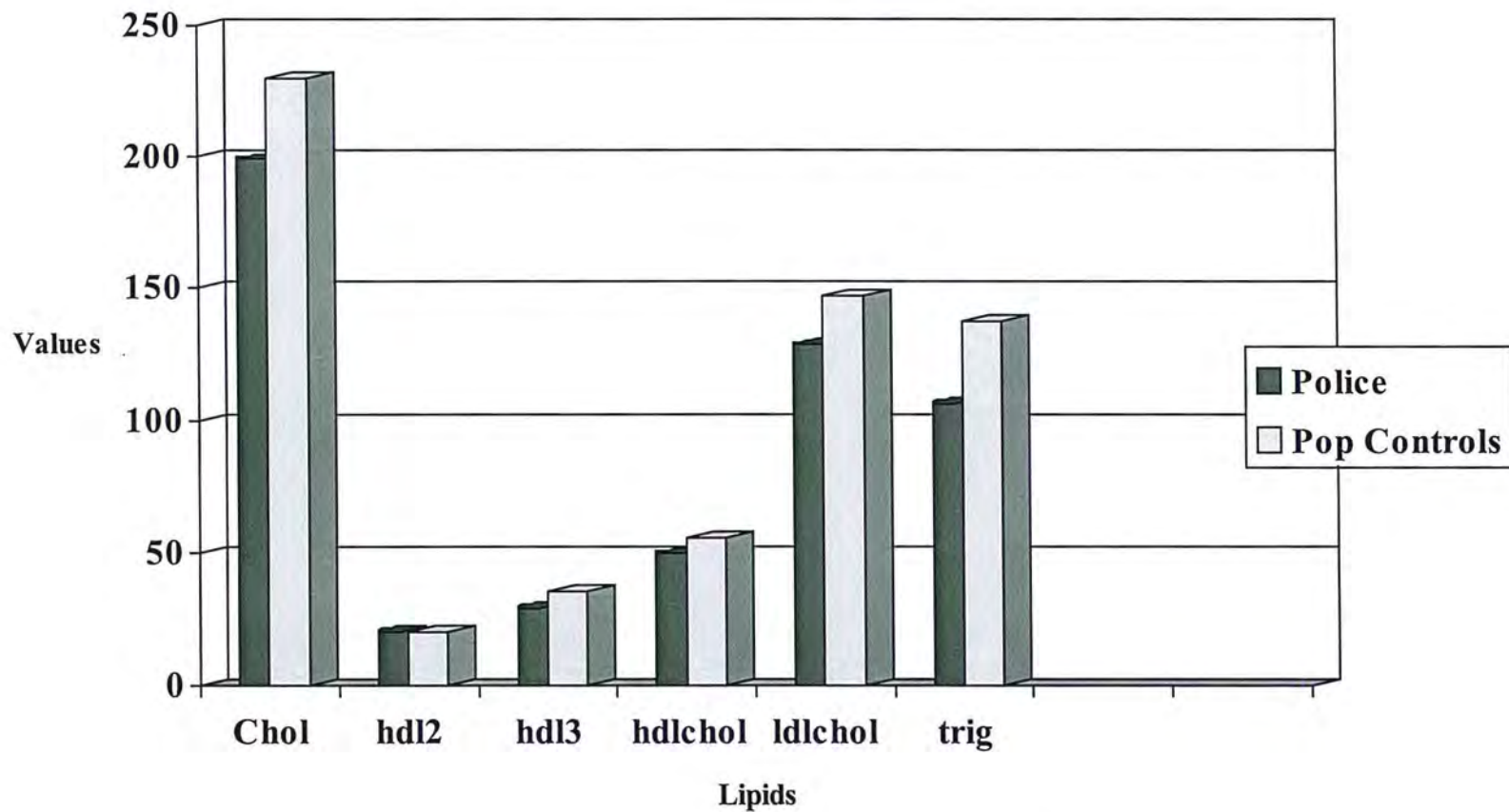
The police occupation is often obscure in terms of attitudes and practices relative to physical and psychological well-being among officers. While there is agreement that the need for good health exists in such a dangerous and highly stressful occupation, it appears that many American police departments fail to provide meaningful intervention. We conducted a study to establish baseline data for physical and psychological health in the police profession and provide information for a future long-term prospective study on health intervention in the police workplace. Participants in the study were screened for existing factors and their association with possible disease outcome to determine where effective future intervention should best be focused. Screening included demographic status, blood pressure, blood lipid analysis, body measurement, lung function, physical exercise patterns, shift work, dietary practices, smoking, alcohol consumption, medical history, and psychological symptomatology. Preliminary results of the study are discussed.

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CANCER PROMOTION BY RADIOWAVE EMISSIONS**WILLIAM MORTON, DAVID, PHILLIPS.** Oregon Health Science University. EMail: jsmorton@worldnet.att.net

In the Portland-Vancouver metropolitan area, an unusual focus of endometrial adenocarcinoma incidence in a region containing most of the area's radio and television broadcast towers led to utilization of an EPA broadcast radiowave density survey to study the geographic pattern by census tract of leukemia, breast cancer, and lung cancer incidence, as well as pancreatic cancer, ovarian cancer, and lymphoma mortality. Other environmental exposure indices included occupation and socioeconomic status. By far the strongest environmental risk determinant for every cancer studied was occupation, but radiowave density levels showed significant positive correlations with leukemia incidence and breast cancer incidence. For the total 15 year period the significant correlation between leukemia and radiowave density was restricted to non-lymphatic leukemia, but, when considered for separate five year periods, there were significant correlations during periods of peak incidence of either lymphatic or non-lymphatic leukemia and not at other times. These correlations persisted when cases with high-risk occupations were excluded. Breast cancer incidence did not manifest cycles of case frequency. Of the three radiowave bands for which we were provided with census tract density estimates, two were for VHF-TV broadcasts and one was for FM radio broadcasts. FM density levels were notably higher than the VHF density levels, so that it was a surprise to find that the VHF density levels and not the FM density levels were the ones correlated with the leukemia and breast cancer incidence. The synchronization pulses included in the VHF broadcast signals were judged to have made them more biologically potent. We conclude that radiowave exposures are significantly associated with occurrence of certain cancers, particularly when pulsed at low frequency modulations, and that, when there is a cyclic pattern to the cancer incidence, such an influence may be perceptible only during incidence peaks.

Figure 1. Lipid Values -Police and Population Controls



All Indices except HDL2 Means Sig. < 0.05 level

Fig 2 . LDL/HDL Cholesterol Ratios – Police and Controls

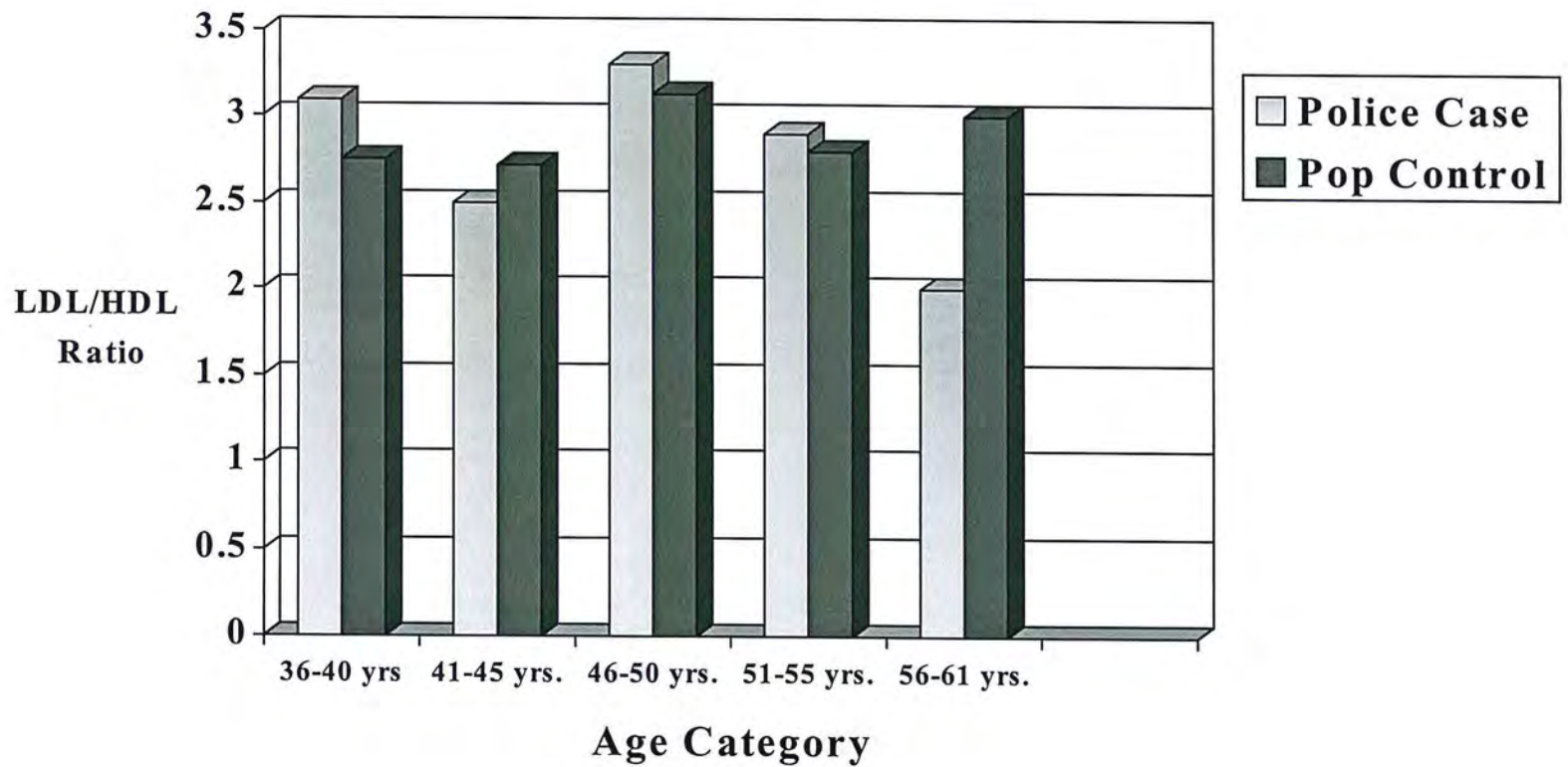
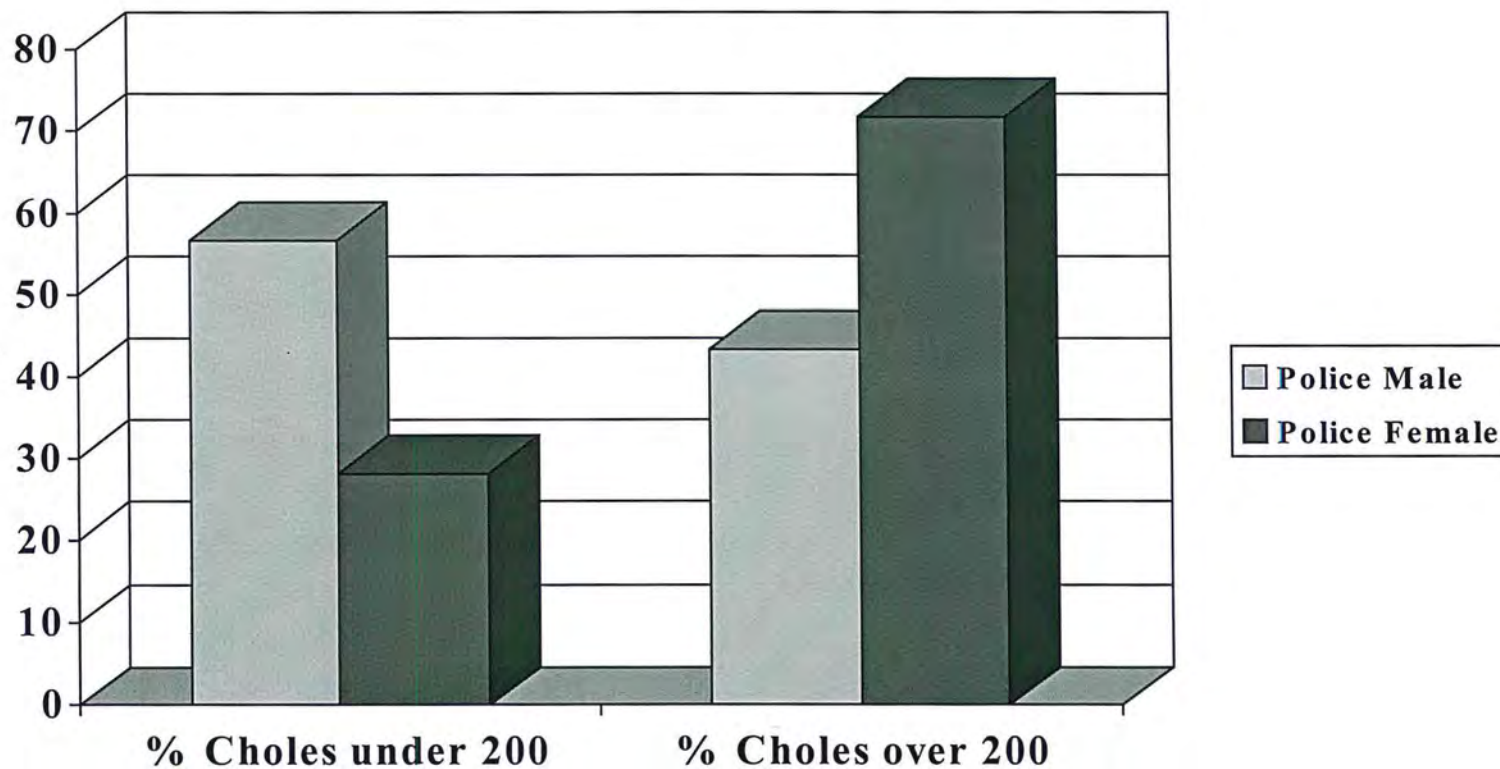
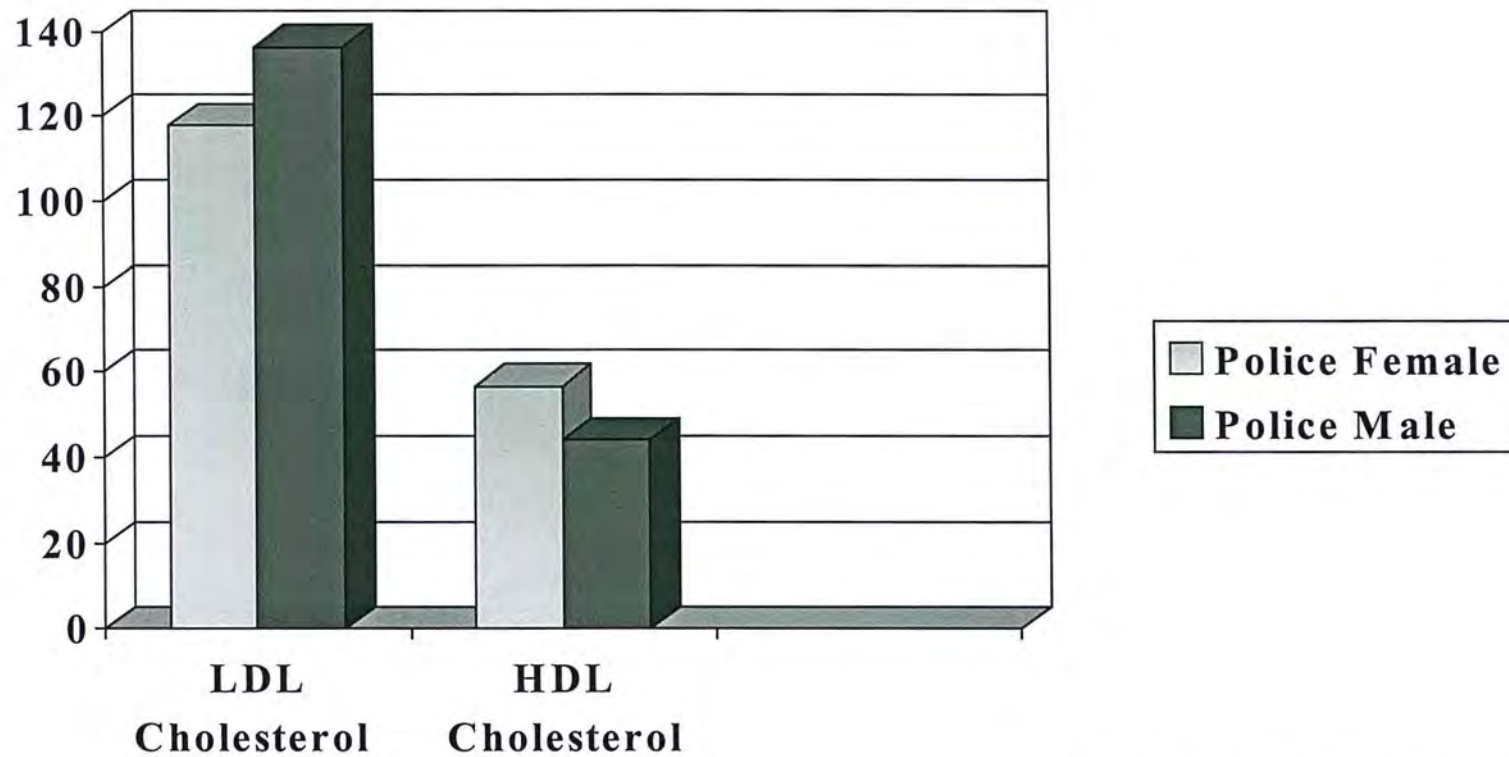


Fig 3. Cholesterol Levels - Buffalo Police Male and Females



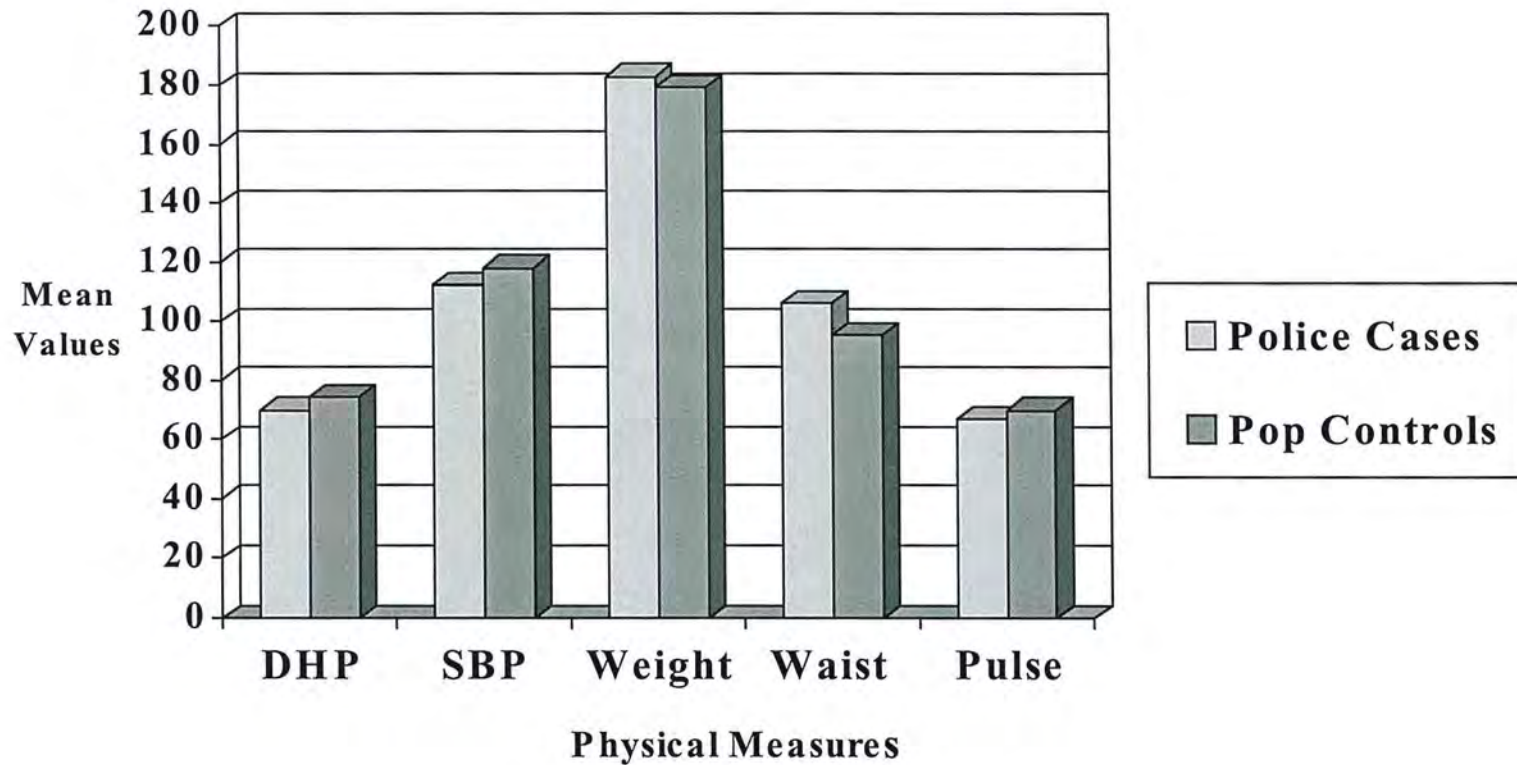
Fisher's Exact = .011 (2-sided)

Fig 4 . HDL and LDL Cholesterol- Police Females and Males



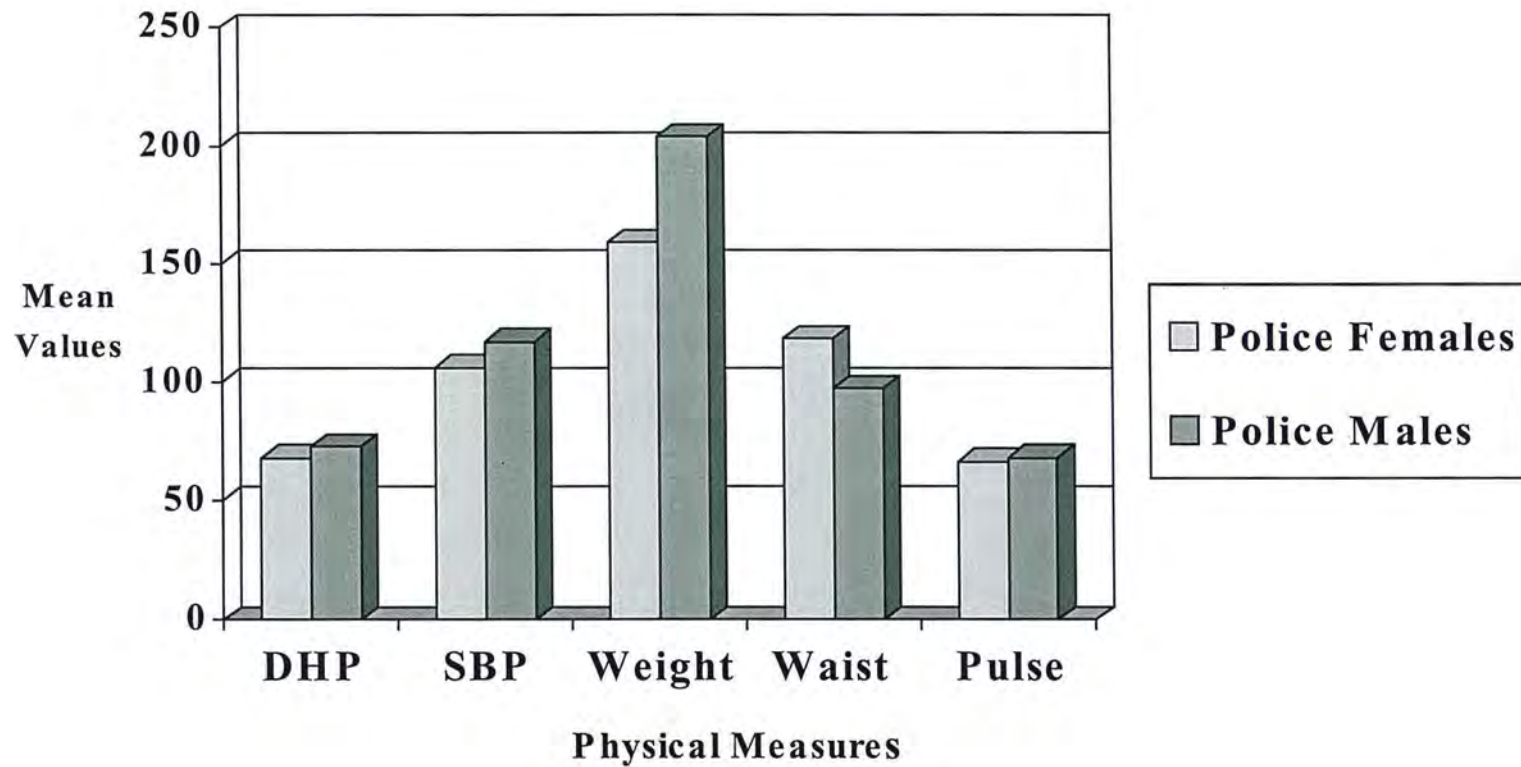
LDL and HDL differences sig. <.05 level

Fig.5 Physical Measures: Police And Controls



Diastolic BP and Pulse Sig. <.05 level

Fig 6 . Physical Measures: Police Females and Males



Systolic BP and Weight Means Sig. <.05 level

Fig 7 . Body Mass Index- Police and Controls

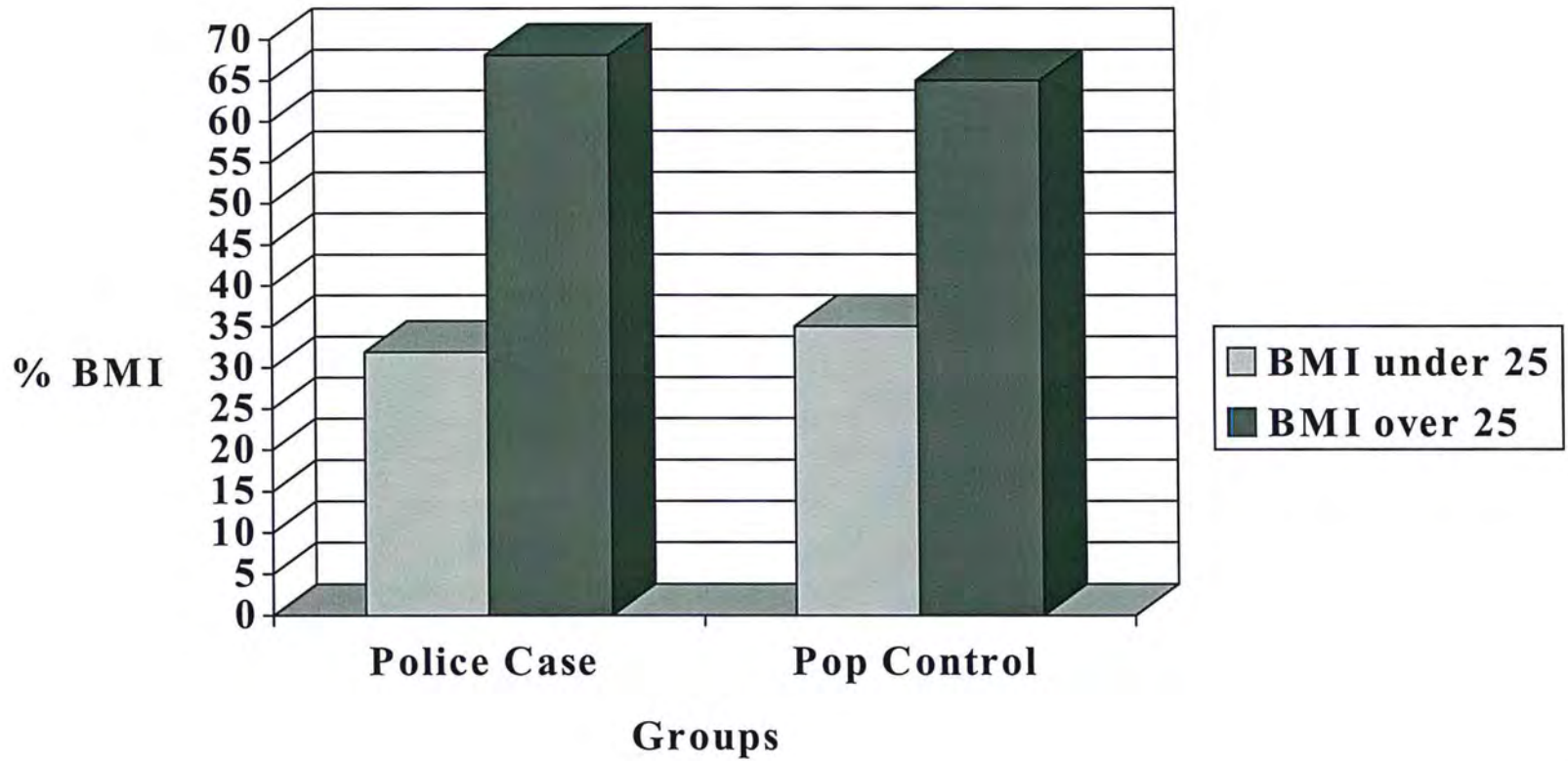
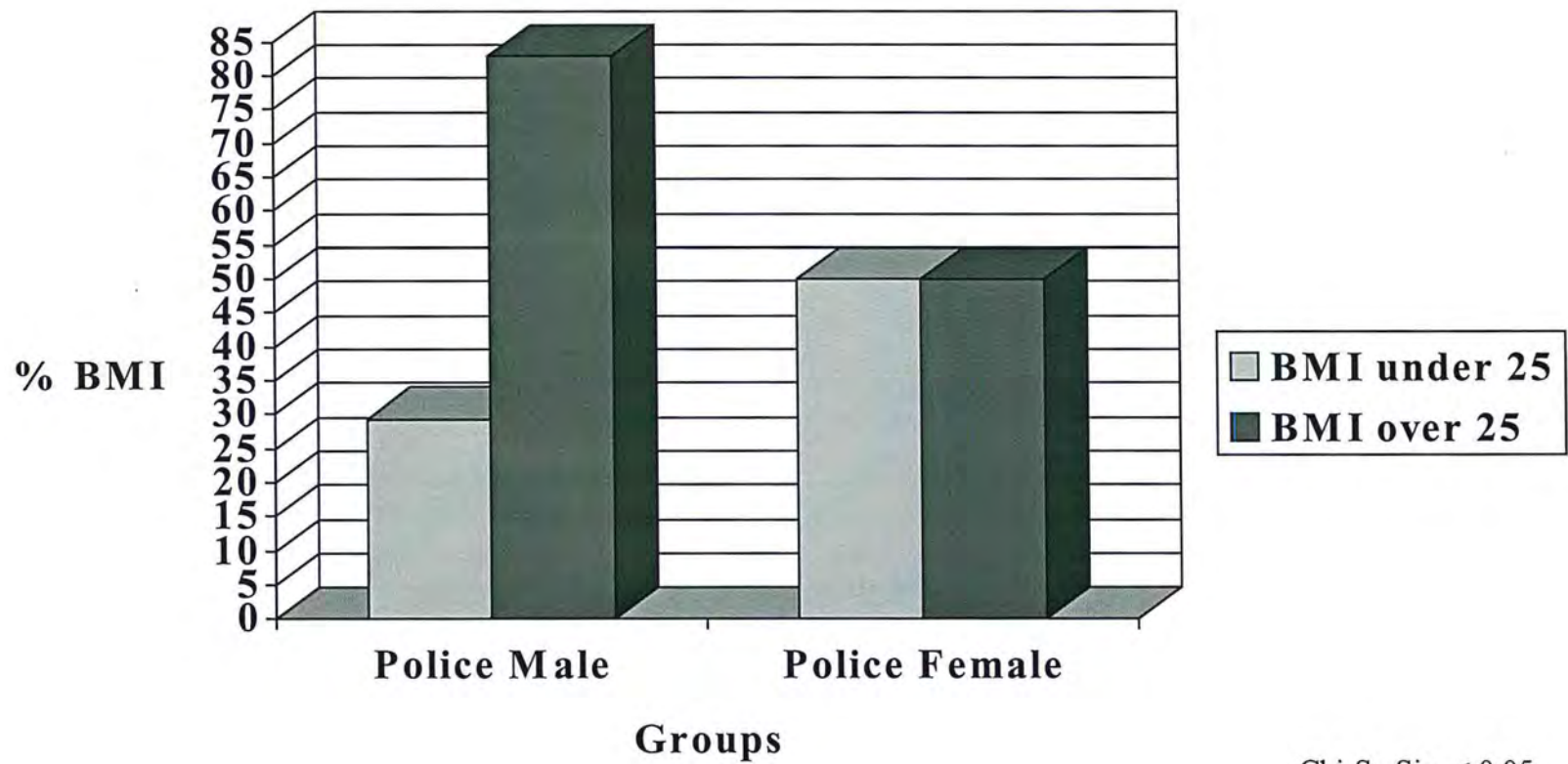


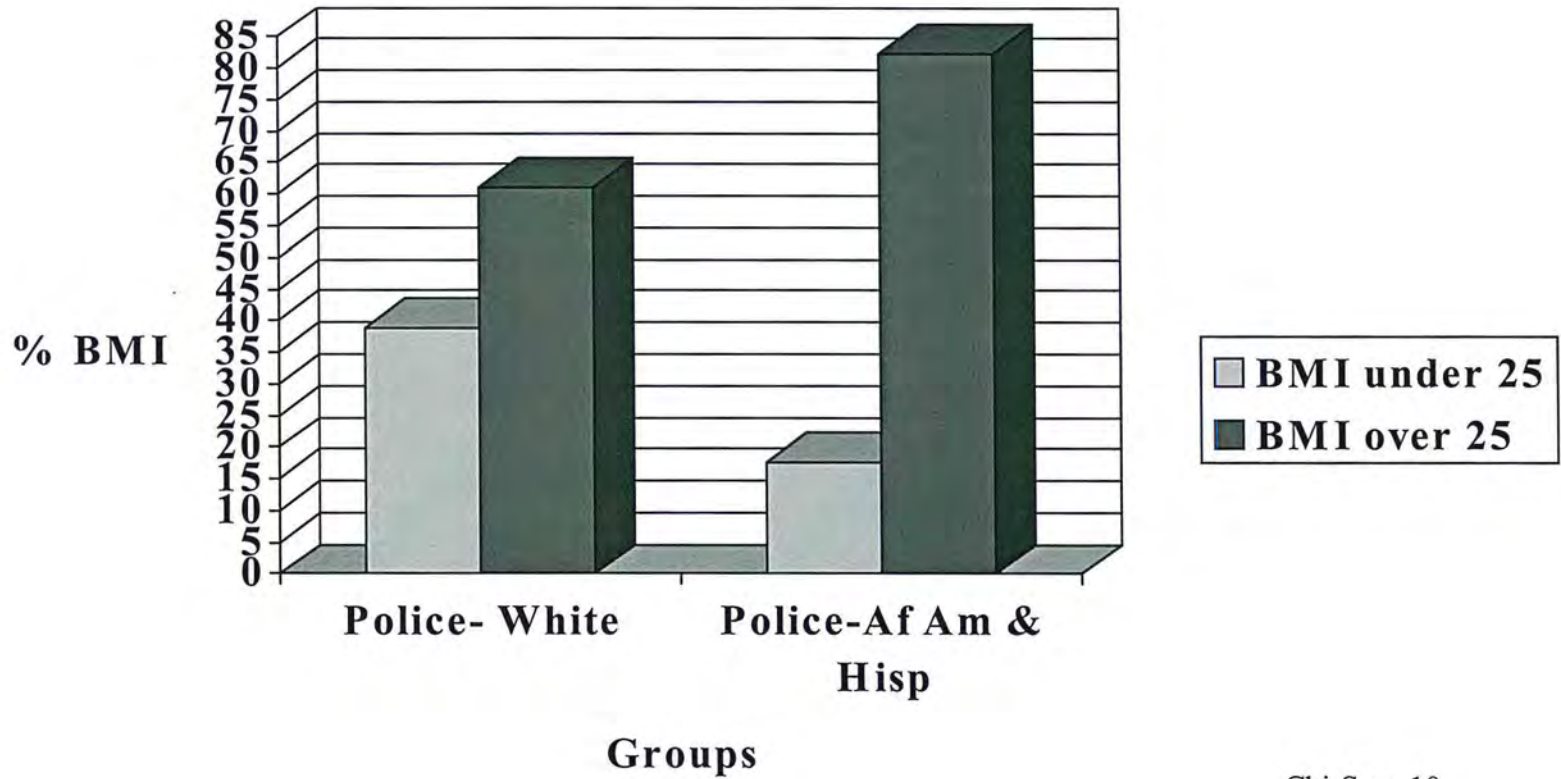
Fig 8 . Body Mass Index- Police Females and Males



Chi-Sq Sig. <.05

N=59

Fig 9 . Body Mass Index- Police Ethnicity

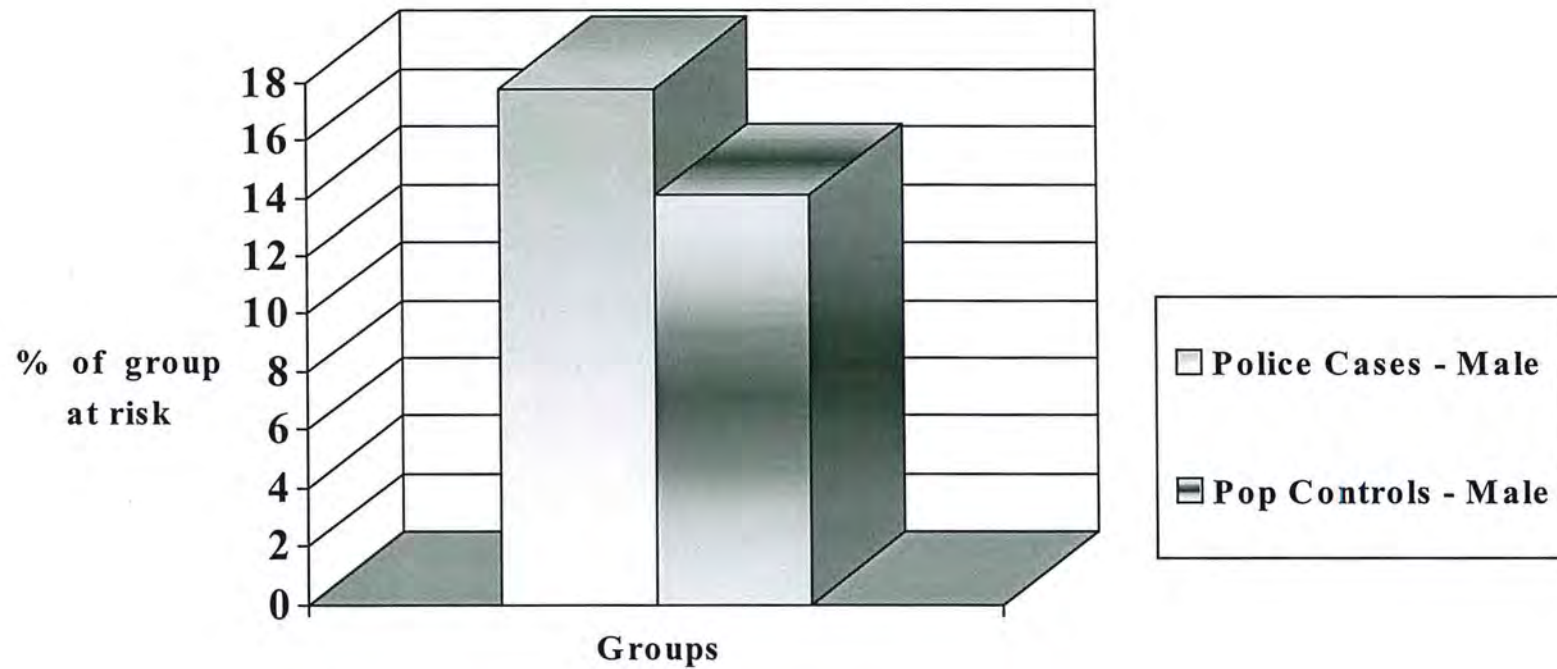


Chi-Sq= .10

N=59

Fig 10. At-Risk Profile: Police and Control Males.

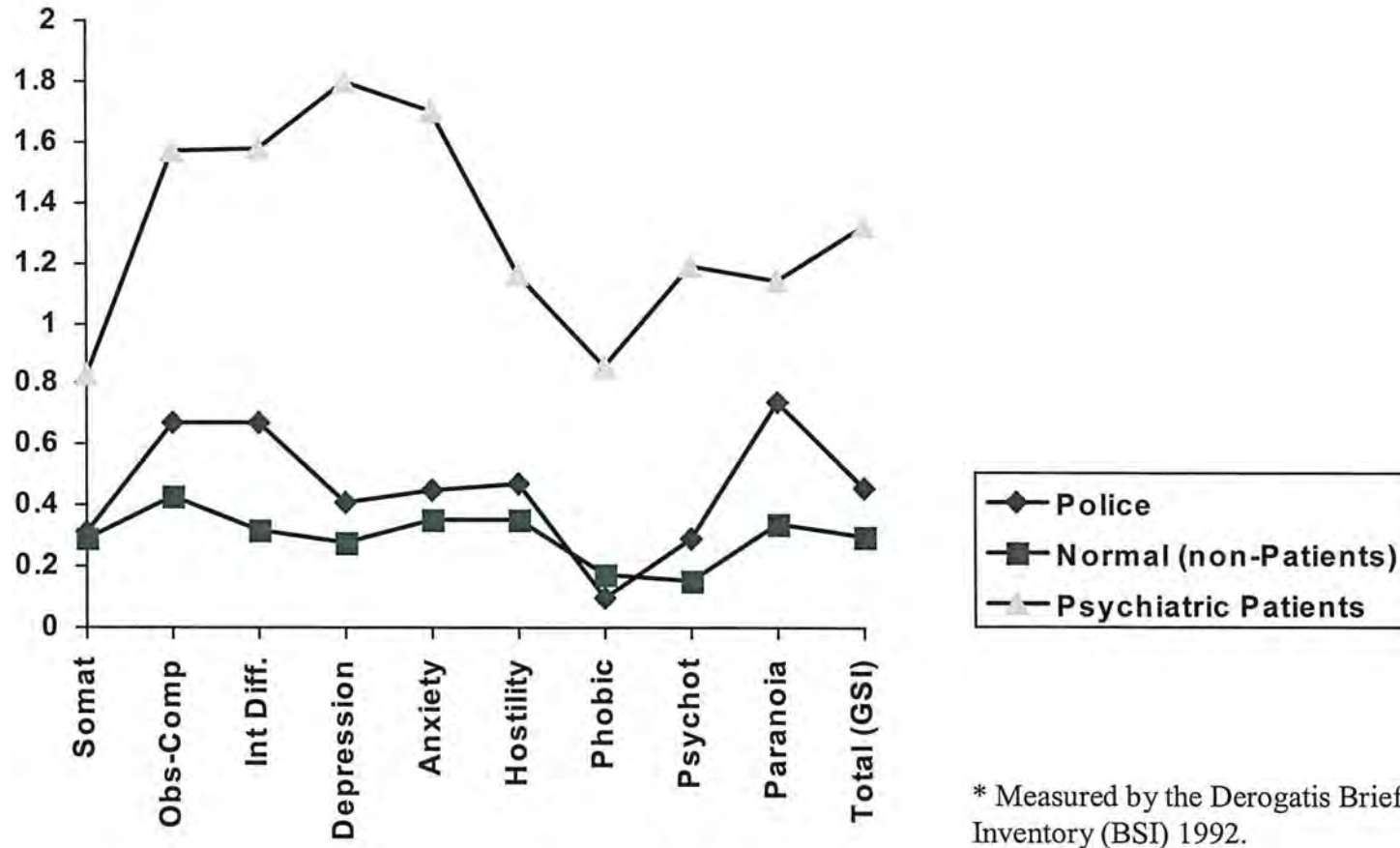
BMI >25 and Waist Size >40” *



* Source: National Heart, Lung, and Blood Institute. June, 1998

Figure 11. A Comparison of Psychological Symptoms: Buffalo Police Officers and Norm Populations *

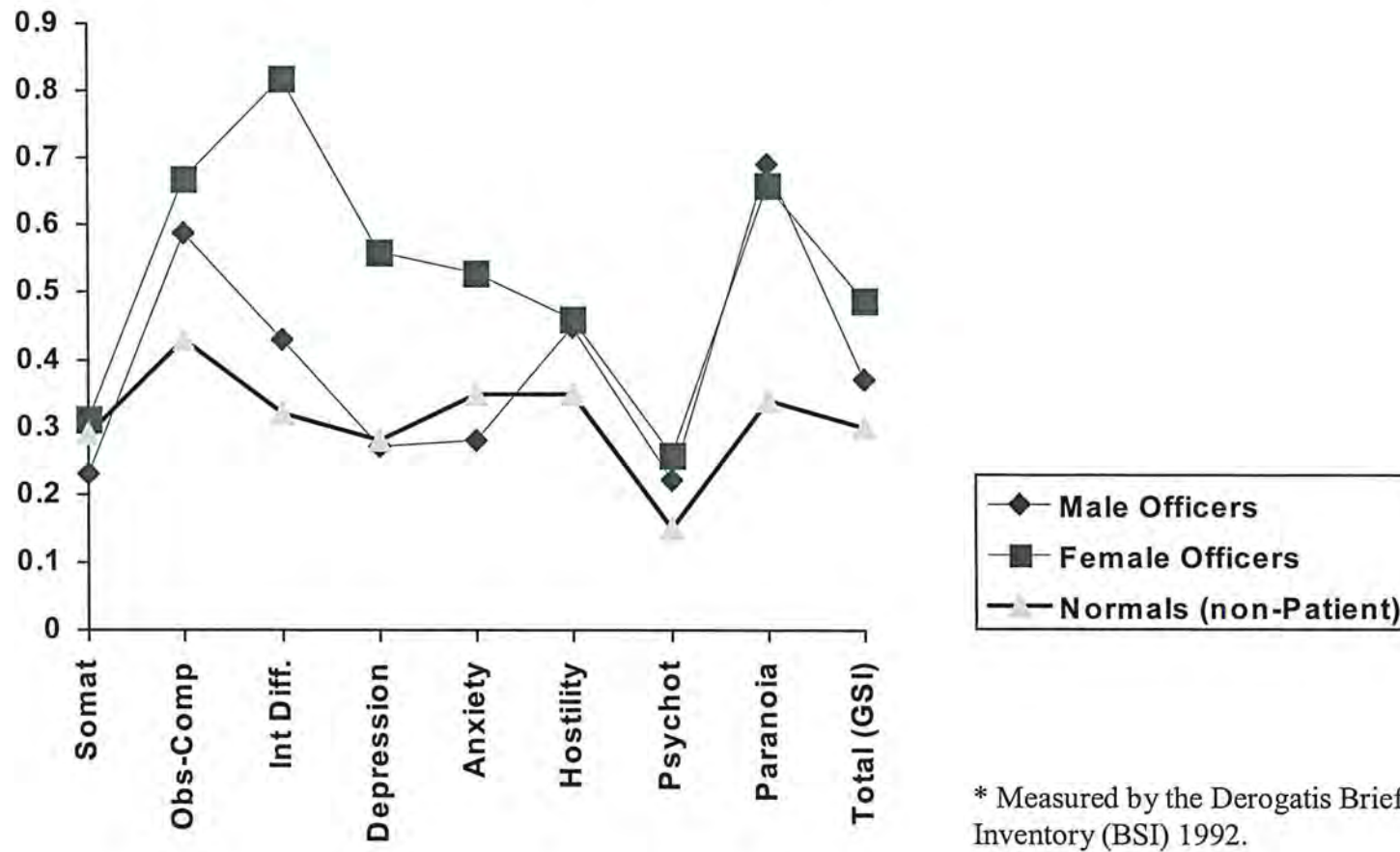
Mean Score



* Measured by the Derogatis Brief Symptom Inventory (BSI) 1992.

Figure 12 . A Comparison of Psychological Symptoms: Female and Male Buffalo Police Officers *

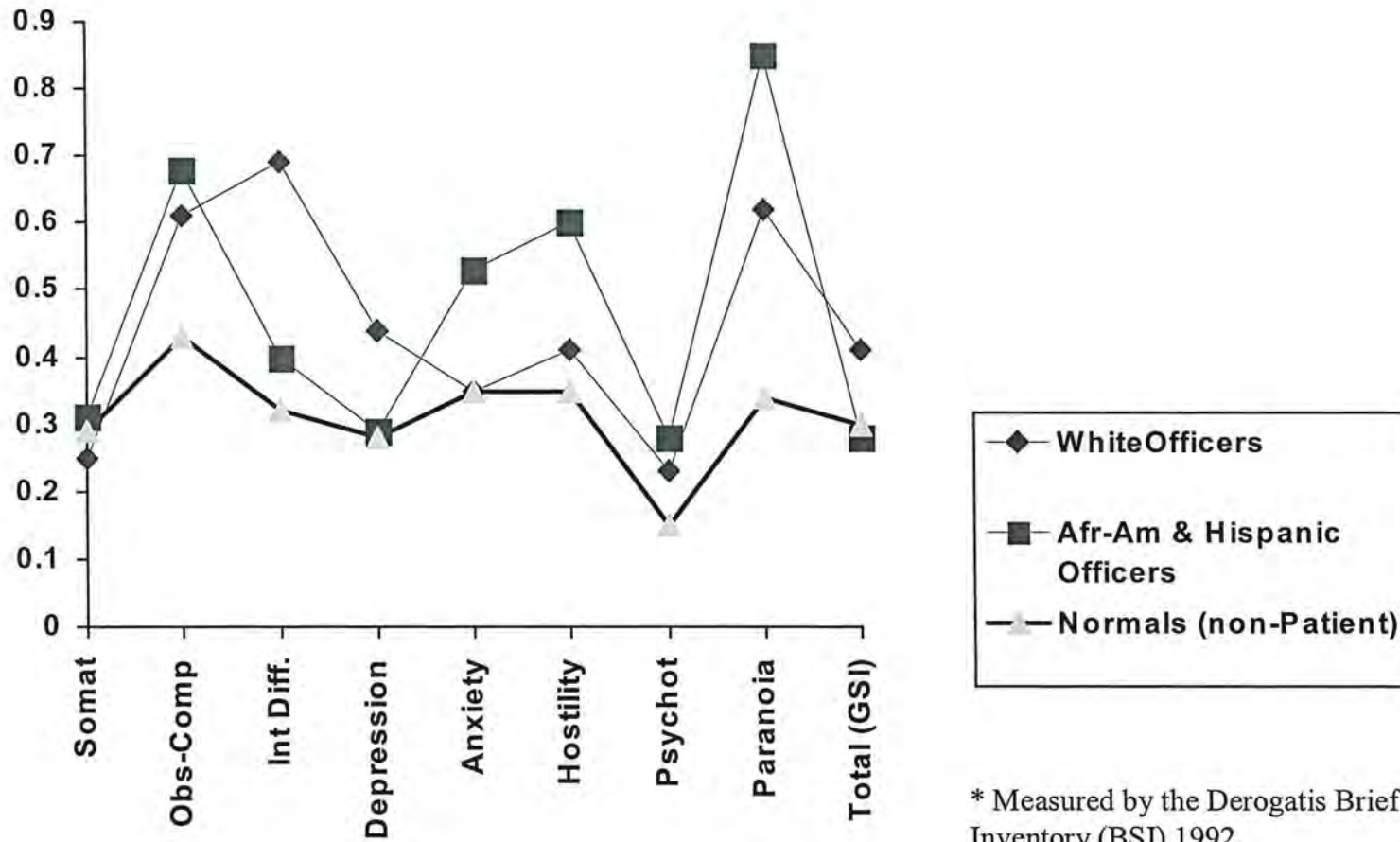
Mean Score



* Measured by the Derogatis Brief Symptom Inventory (BSI) 1992.

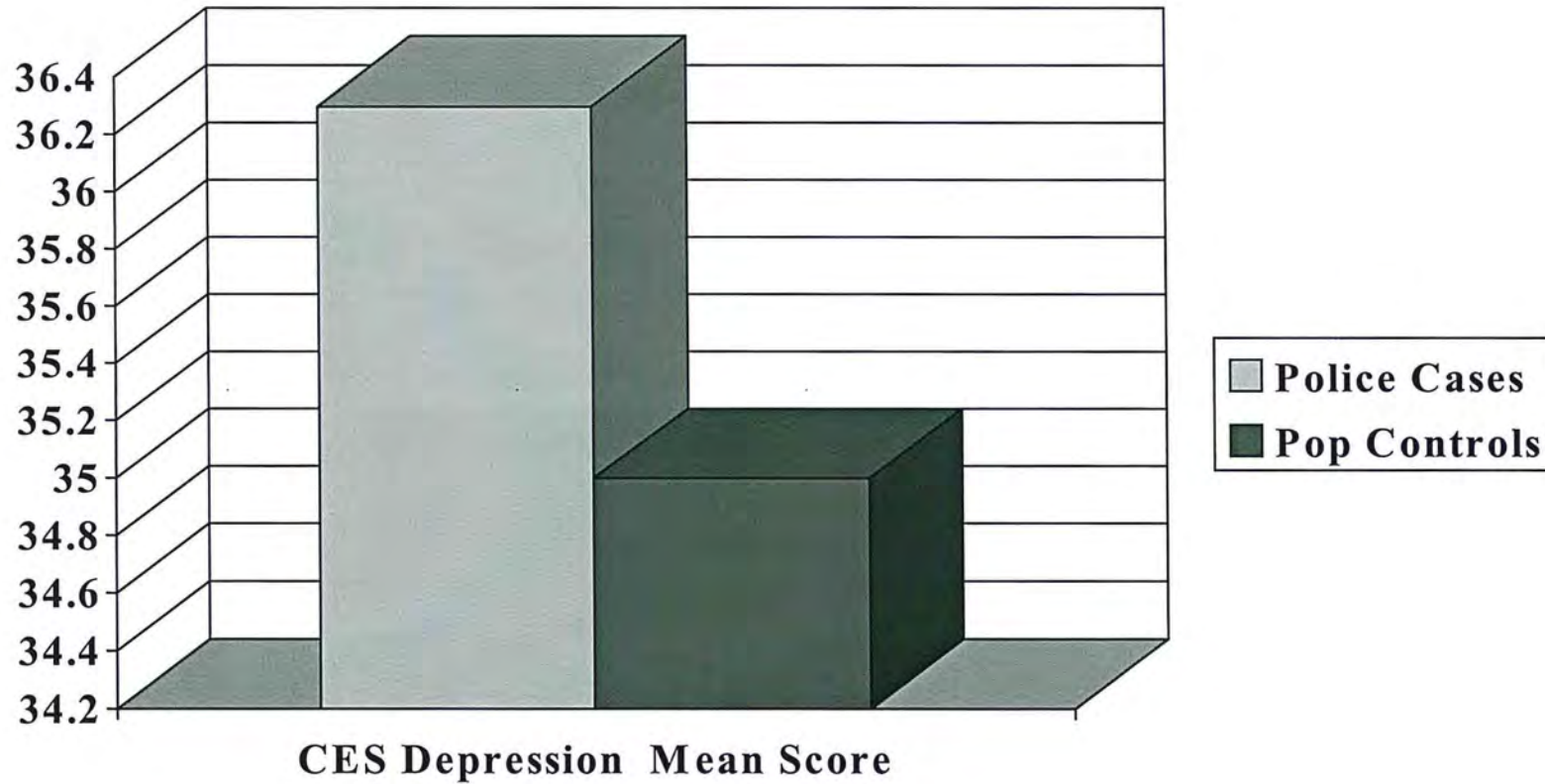
Figure 13 . A Comparison of Psychological Symptoms: Buffalo Police Officer
Ethnicity *

Mean Score



* Measured by the Derogatis Brief Symptom Inventory (BSI) 1992.

Fig 14 . CES Depression Mean Scores-
Police and Population Controls



Sig. @ .05 Level = .059

Total N= 1140

Equipment Inventory

An HP LJ4050T Printer (serial # USCC173063) was purchased on 6/14/00. The total cost was \$1,110.90 and the printer is in excellent condition.