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TIME UTILIZATION IN THE ARMY DENTAL CORPS

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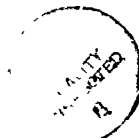
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EXECUTIVE SUMMARY

Part I. SURVEY OF ARMY DENTAL PRACTICE

Data from a survey of 1359 Army dentists were compared with the American Dental Association Survey of Dental Practice. More Army dentists reported they used four-handed dentistry techniques than civilian dentists. Army dentists also said they had more assistants than did civilian solo dentists. Fiber optic handpieces and panoramic X-ray units were used by more Army dentists while electrosurgical and nitrous oxide analgesia units were used by more civilian dentists. Civilian dentists schedule a greater number of patients; however, the number of patients treated by general dentists was about the same for both modes of practice. More Army dentists reported that they were overworked than did civilian dentists.

Part II. PRACTICE PROFILES OF ARMY DENTISTS

Procedure "overhead" (general procedures plus diagnostic procedures), the cost in time for making ready to treat, accounted for 37% of all dentists' time. Both removable prosthodontists and oral surgeons spent 39% of their time in general procedures. In the case of removable prosthodontists, they account for much of their interim pre- and post-prosthetic treatment time with procedures in the "general" category. In the case of oral surgeons, half of the general procedures (such as hospital ward rounds and cellulitis treatment) are more related to what an oral surgeon does than to any other specialty.

Pedodontists spent a greater proportion of time in prevention than any other specialty. Orthodontists spend more time doing procedures in their specialty category than any other specialist. Since general dentists (63A) comprised the largest group of dentists, they accounted for the greatest amount of time spent in most procedure categories. On the other hand, specialists accounted for a greater amount of time spent doing difficult procedures.

Fixed prosthodontists achieved the highest productivity measured in both weighted work units (WWUs) and "dollar" value. The fact that other specialists would have had to increase their weighted work units by an average of 38% and their "dollar" output by 88% to equal fixed prosthodontists, indicates an apparent inconsistency in the procedure weighting process. WWUs are a less distorting measure of productivity.

Commanders and clinic chiefs are only slightly less productive than other specialists. Board eligible specialists were more productive than board certified specialists.

Generally, Army dentists spent more time treating active duty personnel than any other patient category. The exceptions were removable prosthodontists, pedodontists, orthodontists, and oral pathologists.

Specialists generally were faster doing specialty procedures, with the exception of oral diagnosis. The variation in procedure times was large.

I. SURVEY OF ARMY DENTAL PRACTICE.

INTRODUCTION

A strong element of similarity exists between military and civilian dental practice; however, differences do exist. The typical civilian dentist is self-employed and provides care in a private practice on a fee-for service basis. In contrast, the Army dentist is an employee, providing care in a group practice for a salary. In addition, the Army dentist has dual roles as a clinician and a military officer.** The American Dental Association provides current information on civilian practice.¹ The same type of information has not been available for Army dental practice. Previous studies have focused on military specific problem areas.²⁻³ The purpose of the Survey of Army Dental Practice was to obtain data with which to compare civilian and Army dental practice.

METHODOLOGY

During May 1984, all Army Dental Corps officers were requested to complete a Survey of Army Dental Practice (Appendix C). This survey, in optical mark-read format, was patterned after the 1982 American Dental Association Survey of Dental Practice.

** The Army dentist is involved in mandated military duties.⁴ An example is the training he receives each year to prepare to live and work under field conditions and to provide acute trauma life support to augment the physician's efforts during mass casualty periods. This time is not included in the comparisons made between civilian and Army dental practice.

The completed forms were read and analyzed using an SPSS statistical package. For the purposes of this paper, the term "general dentist" refers to a "general practitioner," a dentist without residency training. Dentists who have had a two-year general dentistry residency are referred to as general dentistry specialists. The term "solo practitioner" was defined in the ADA survey as a dentist who worked in a "solo dental practice." An "independent dentist" was defined "as one who is an owner, full or in part, of a private practice."¹

RESULTS

Seventy seven percent (1359) of Army Dental Corps officers responded to the survey. Because the distribution of dental officers is highly skewed toward recent graduates (Figure 1), median values are be to used to characterize Army dental practice in Part 1. Comparisons of Army and civilian dental practice, in Part 2, are made on the basis of means since this is how the data were reported in the ADA survey.

PART 1: ARMY DENTAL PRACTICE

A profile of Army dentists is given in Table 1. It shows that the "typical" Army general dentist is 31 years old, has had no civilian practice experience, and has had four years of military practice. He has moved twice, and has 16 more years to a 20 year retirement.

The "typical" Army specialist is 40 years old, and like the general dentist, has had no civilian practice. He has had 13 years of military practice, seven years experience in his specialty, moved six times, and has eight more years to retire.

As seen in Figure 2, virtually all Dental Corps officers who have more than 10 years of service are dental specialists.

The proportion of Army dental specialists is shown in Figure 3. Thirty-one percent have achieved diplomate status. Three percent have received special "professorial-level" recognition from the Surgeon General for their professional achievements (Figure 4).

Professional activities of Army general dentists and dental specialists are shown in Figure 5. Eighty four percent of Army general dentists have at least one state license, 75% belong to a professional organization, and 95% reported attending at least one dental meeting during the past year. Figure 5 also shows that specialists are more likely than the general dentists to have more than one state license, belong to more than one professional organization, and to have published in a professional journal.

The distribution of Army dentists' primary duties is shown in Figure 6. The majority of dental officers listed "clinical dentist" as their primary duty assignment. (Table 2) On the other hand, more specialists cited other categories such as "clinic director" or "program director" which require greater experience and training.

Army Dental Corps officers are frequently assigned additional administrative duties (Table 3). After "other duties," "preventive dentistry officer," was listed more often by general dentists as an extra duty, while more specialists indicated "mentor." Additional data on Army dental officers is

given in Appendix D.

PART 2: ARMY DENTAL PRACTICE VERSUS CIVILIAN DENTAL PRACTICE.

Comparisons between the Army survey and the ADA survey were made on the following items:

- . year of graduation
- . hours per week in selected activities
- . percentage of time treating patients by type of procedure
- . number of auxiliary personnel per doctor
- . equipment included in practice
- . patient scheduling
- . perceived practice busyness

The average Army dentist officer graduated in 1974, approximately ten years after his civilian counterpart in private practice (Figure 1). How dental officers spend their practice time in comparison to civilian dentists is presented in Tables 4 and 5. Table 4 contains estimates for time spent in practice activities, and Table 5 gives the proportion of treatment times spent in performing selected dental procedures. Army dentists reported they spend 33.4 hours per week treating patients, while the ADA Survey reported that civilian solo dentists and independent dentists spend 32.0, and 32.4 hours per week, respectively. Army general dentists had the longest amount of patient treatment time: 35.4 hours versus 32.4 for the independent civilian dentist and 32.1 for the solo civilian dentist. Army specialists report spending slightly less time per

week treating patients (30.3 hours) than either solo specialists (31.3 hours) or independent specialists (31.7 hours). Professional reading accounted for 4.7 hours of the Army specialist's week, almost twice as much time spent than either the solo specialist or the independent specialist (2.4 and 2.5 hours respectively). All categories of Army dentists reported spending more time in administrative and clerical activities than their civilian counterparts. Army dentists said they spent an average of 3.2 hours per week completing records compared to independent dentists who reported 1.9 and solo dentists who reported 1.8 hours per week filing pre-payment forms and bookkeeping.

Army dentists reported spending more time in diagnosis and less time in preventive activities (10.8% and 3.6%) than did the solo civilian (9.6% and 9.5%) or the independent civilian dentist (9.6% and 8.6%). Civilian dentists reported spending more time in operative dentistry (38.0% and 37.5%) than Army practitioners (27.7%). Dental officers spent more time in prosthodontics (17.6%) than either category of civilian dentist (14.4% and 14.8%). The same trend was evident in the practice of oral surgery with Army dentists spending more of their time in surgical procedures (11.0%) than both categories of civilian dentists (6.5% and 6.5%). Army specialists reported spending almost twice as much time in diagnostic procedures: 14.3% versus 7.5% and 7.9% for the solo and independent specialists.

Table 6 makes comparisons for number of chairside assistants, types of equipment available, number of operatories utilized, and work simplification techniques. Army dentists

report having slightly more dental assistants than do civilian solo dentists (1.5 versus 1.2 respectively). More Army dentists report using "four-handed dentistry" techniques (62.4%) than either solo or independent dentists (54.2% and 57.3%), although Army dentists also reported they had fewer operatories available to them (1.8) than did their civilian counterparts (2.6 and 3.2).

There was little difference between civilian and military dentists in the use of light cured composite restorations. More Army dentists, however, use fiber optic handpieces and panoramic X-ray units than civilian dentists. On the other hand, fewer Army dentists use electrosurgical units and nitrous oxide analgesia than do their civilian counterparts.

Table 7 compares the number of patients seen per week by civilian and Army dentists. Although Army and civilian dentists spend about the same amount of time per week treating patients (Table 6), Army dentists see a larger number of non-scheduled patients than either civilian category; Army dentists also schedule fewer patients per week than solo and independent dentists (43.4 versus 58.1 and 58.9). Civilian specialists reported scheduling twice as many patients per week within virtually the same amount of treatment time as Army specialists: 90.4 and 91.0 for solo and independent specialists versus 40.4 for Army specialists. Civilian patients wait only half as long as Army patients for an appointment (7.7 days versus 18.2 days). Patients waiting time in the reception room after arriving for an appointment is about the same for both modes of practice.

Dentists' perceptions of practice busyness are compared in Figure 7. Fifty-nine percent of all Army dentists said they were too-busy or over-worked versus 15.4% of the solo and 14.6% of the independent dentists (Table 8). Army specialists rate their practices even busier: 65.4% said they were too busy or overworked versus 7.8% and 7.5% for solo and independent specialists, respectively.

DISCUSSION

A comparison of the ADA survey with the Army survey shows that while these two modes of practice are similar, differences do exist. The Army Dental Corps has more recent graduates than civilian practice. This is not surprising for two reasons: a greater proportion of graduates choose working for the Federal services initially,⁵ and Army dentists are precluded from serving more than 30 years in the Dental Corps. Certain types of equipment such as panoramic X-ray units were used by more Army dentists. One would expect that where patient volume is large enough, such as in an Army dental clinic, there would be greater justification to purchase such equipment. On the other hand, fewer Army dentists use electrosurgical units and nitrous oxide analgesia than civilian dentists. This is due to a credentialing process which limits access to these treatment modalities to those especially trained to use them. Civilian practitioners typically schedule more patients per week than Army practitioners and their patients have a shorter time to wait for an appointment. However, the number of patients treated per week by general dentists is about the same for both modes of practice. Civilian specialists schedule twice as many patients within

virtually the same amount of treatment time as Army specialists. A logical inference is that Army specialists choose to schedule longer appointments. Appointment scheduling behavior within the civilian sector probably is the result of practice marketing strategies. Given a relatively fixed treatment period, seeing more patients in shorter appointments both reduces patients' waiting times for appointments and may increase consumers' acceptance of the dental fee if they are seen often and the charges are not too great per dental visit. A consequence of more frequent appointments is increased patient handling time resulting in decreased efficiency and increased cost of dental care in the long run. Army specialists reported spending almost twice as much time in diagnostic procedures as the civilian specialist. This may be partially explained by the fact that one out of every five Army specialists is involved either as a program director or mentor in a dental postgraduate training program. Finally, nowhere is the gulf between military and civilian dentists wider than their antipodal attitudes towards practice busyness: the civilian responses clustering about "not being busy" and the military responses clustering about "being too busy." Army dentists may feel they are too busy because they have a seemingly never ending patient pool seeking their services and also no matter how hard they work, their remuneration remains constant. On the other hand, civilian dentists may feel that their patient pool is limited and they would like to be busier since their income is based on a fee for service rendered.

CONCLUSIONS

Our results suggest that while both Army dentists and civilian dentists practice the same profession, there are differences based on practice management strategies which affect both patient scheduling behavior and perceptions of busyness. Training needs of the Army Dental Corps also influence how Army specialists practice. Constraints imposed by individual dentists credentialing limits access to certain modalities of treatment within the Army Dental Corps.

II. TREATMENT PROFILES OF ARMY DENTAL PRACTICE

INTRODUCTION

The final part of the study describes practice profiles of Army dentists. Selected demographic variables from the Survey of Army Dental Practice were examined to determine their relationships to distribution of dental treatment, categories of patients, time to perform dental procedures, and dental productivity.

METHODOLOGY

Provider characteristics from the Survey were related to dental procedure data. Procedure data were collected in Health Services Command dental treatment facilities 1 - 31 May 1984 for a period of 22 working days. These data included patient category, the time the patient entered and left the treatment area, procedure code for treatment, time interval for each procedure, the level of ancillary support, and perceived treatment difficulty (Appendix E). Real-time measurements were not made during dental treatment but rather recorded time intervals were based on dentists' ability to recall estimated treatment times at the end of the appointment.

Unless otherwise indicated, the following data exclude students and dentists in specialties with fewer than 10 members (Oral Medicine n=3, Public Health n=5, and Oral Pathology n=9).

RESULTS

During the study period, 896 dentists recorded 200,939 patient encounters and time measurements on 858,000 dental

procedures. The encounter and survey data bases were merged by specialty skill identifier (SSI) and social security number (SSN). Data on forms containing invalid SSI or SSN fields were omitted resulting in a loss of approximately 100,000 procedures (12%).

DISTRIBUTION OF TREATMENT TIME

The distribution of all categories of dentists' treatment time by procedure group is shown in Figure 8. Restorative procedures accounted for the greatest use of treatment time (30%). General procedures (20%) and diagnostic procedures (17%) add up to 37%. Preventive procedures accounted for eight percent of the time.

The practice patterns of general dentists and general dentistry specialists are similar (Figure 9). Where differences exist, they are in diagnostic and restorative time. General dentistry specialists spent more time in diagnosis (19% versus 15%) and less in restorative procedures (31% versus 39%) than general dentists. The specialist also spent slightly more of his time in prosthetics, but they spent equal time in prevention (7%) and surgery (6%). Reported orthodontic procedure time was less than one percent for both groups.

Treatment time of periodontists and endodontists is compared in Figure 10. The most striking differences are in preventive, restorative and surgical procedures. Periodontists report seven times more preventive time and five times more oral surgical time. On the other hand, endodontists report five times more treatment time spent in restorative procedures. Both spent about

the same amount of time in oral diagnosis (26% and 25% respectively).

How prosthodontists allocate their treatment time is shown in Figure 11. The most prominent feature is the difference in time spent in diagnostic and general procedures. Removable prosthodontists spent 58% of their time in these two categories, versus 37% for fixed prosthodontists. Both spent about the same proportion of time in preventive procedures. Fixed prosthodontists spent a greater proportion of time in restorative (17% versus 8%) and periodontic procedures (10% versus 6% for removable prosthodontists). Fixed prosthodontists also reported spending two percent of their time in removable prosthodontics and one percent in endodontics. The practice profile of oral surgeons is shown in Figure 12. They spent 39% of their time doing adjunctive general procedures (the same as removable prosthodontists), which is more time than they spent on oral surgery procedures (31%). Diagnosis accounted for 23%, and periodontics and orthodontics each accounted for one percent. Five percent of the oral surgeons' time was devoted to preventive dentistry.

Figure 13 shows how pedodontists and orthodontists divide their practice time. Orthodontists spent 56% of their time in their specialty, a larger proportion of time than other specialists. They also spent less time in adjunctive general procedures (14%) than other specialists. Nineteen percent of an orthodontist's time was in diagnosis and 10% in prevention. Periodontics procedures accounted for one percent.

The largest amount of the pedodontists' time was spent in preventive related procedures (24%), followed by adjunctive general procedures (22%), and restorative procedures (21%). Orthodontics accounted for eight percent, fixed prosthetics for six percent, periodontics and oral surgery each accounted for two percent, and endodontics for one percent of pedodontic time.

TREATMENT TIME IN SPECIALTY-COMMON PROCEDURE GROUPS

Figures 14-17 give the percentage of time each group of specialists spent in diagnostic, preventive, restorative and general procedure groups. Oral medicine specialists, oral pathologists and public health dentists spent most of their treatment time in oral diagnosis and periodontists, endodontists and oral surgeons spent about one-fourth of their time in diagnosis (Figure 14). Pedodontists, periodontists, and orthodontists each spent over 10% of their time in preventive procedures; endodontists spent the least amount of time in prevention (Figure 15). Both general dentists and general dentistry specialists each spent over 30% of their time in restorative procedures (Figure 16). Removable prosthodontists and oral surgeons each spent almost 40% of their time in general procedures (Figure 17).

TREATMENT PROFILE BY PROCEDURE GROUP

The following data show how procedure group treatment time is apportioned among the dental specialties. The data are sensitive to the numbers of dentists within each group. Since general dentists (63A) comprise the largest group (n=543), they accounted for the largest proportion of time spent within many of

the treatment categories. An illustration of this is the distribution of diagnostic time in Figure 18 which shows that general dentists accounted for almost twice as much of the diagnostic time (55%) as all categories of dental specialists put together (29%).

Figure 19 shows that 57% of the time spent in preventive procedures was accounted for by general dentists. General dentistry specialists (n=120) and pedodontists (n=23) each accounted for 10%, periodontists (n=53) for seven percent, and removable prosthodontists (n=44) four percent. Fixed prosthodontists (n=42), orthodontists (n=24) and oral surgeons (n=40) each accounted for three percent and endodontists (n=38) one percent.

Figure 20 shows that virtually all the time spent doing restorative dentistry was spent by general dentists: 63A (81%) and 63B (12%). Fixed prosthodontists and pedodontists are next, each with two percent, followed by endodontists and removable prosthodontists, each with one percent.

A breakdown of endodontic time is shown in Figure 21. Both categories of general dentists together accounted for twice as much of the endodontic time as endodontists (66% versus 33%). Fixed prosthodontists and pedodontists each accounted for one percent of the time. Figure 22 shows a profile of selected endodontic procedures. More time was spent doing bleaching and one-canal root canals by general dentists than by endodontists. On the other hand, more time was spent by endodontists doing molar root canals than by general dentists and general dentistry specialists.

The distribution of periodontic time is shown in Figure 23. Most time in periodontics was spent by general dentists (51%) followed by periodontists (32%) and general dentistry specialists (11%). Figure 24 shows that most of the periodontic practice time of general dentists was spent scaling and doing occlusal adjustment while most periodontists' time was spent in root planing and surgical periodontics.

Forty-two percent of the time in removable prosthodontists was accounted for by removable prosthodontic specialists versus 38% for general dentists (Figure 25). General dentistry specialists accounted for 14% and fixed prosthodontists five percent of the time. Fixed prosthetics time distribution is shown in Figure 26. Both categories of general dentists (63A and 63B) accounted for 67% of time spent in prosthetics versus fixed prosthodontists which accounted for 27% of the time. General dentists provided almost twice as much fixed prosthetic treatment time as prosthodontists.

Distribution of surgical time is shown in Figure 27. General dentists accounted for approximately three times more oral surgery time than oral surgeons. General dentistry specialists accounted for 12%. Figure 28 shows which surgical procedures general dentists (63A and 63B) spent most of their time doing. Both categories of general dentists accounted for 47% of simple extraction time and 43% of complicated extraction time versus 10 and nine percent respectively, for oral surgeons. Time spent doing impactions was almost equally divided between the two categories of general dentists and oral surgeons while

50% of all "other" oral surgery time was spent by oral surgeons compared to 22% and 29% for 63As and 63Bs respectively.

General adjunctive procedure time was apportioned in the following manner: General dentists 58%; general dentistry specialists 12%; removable prosthodontists and oral surgeons, eight percent each; periodontists and pedodontists, each three percent; and endodontists and orthodontists, two percent each (Figure 29).

PROCEDURES ON CHILDREN

The profile of selected dental treatment done on children is shown in Figures 30-32. Fifty-four percent of uncomplicated extraction time on children was spent by general dentists. Pedodontists accounted for 24%, general dentistry specialists for nine percent and oral surgeons for 12% (Figure 30). The picture changes somewhat when the profile of impacted extractions is examined. Oral surgeons accounted for most of the impacted extraction time (57%) versus 35% for the general dentists. General dentistry specialists accounted for 10% and pedodontists accounted for only one percent of impacted extraction time on children.

Figure 31 shows that most one-surface amalgam time was spent by general dentists while most deciduous pulpotomy time was spent by pedodontists, and about an equal amount of periodontal scaling time was accounted for by general dentist and pedodontists. Orthodontists accounted for more periodontal scaling time than periodontists or general dentistry specialists. A profile of selected orthodontic procedures is shown in Figure 32. Although

there are five times as many general dentists as there are general dentistry specialists, the former accounted for 10 times more simple hawleys, space maintenance appliances, and banding time as general dentistry specialists. Orthodontists spent more time in banding and simple hawley appliances, while pedodontists spent more time in space maintenance appliances.

PROCEDURES NOT PERFORMED

Twenty-six procedures were not recorded on the patient encounter forms during the study period. A list of these procedures is given in Appendix F. General procedures, restorative, endodontics, periodontics, and orthodontics each accounted for one, oral surgery for three, and removable prosthetics accounted for 17 of the non-used procedures. Appendix G lists 137 procedures that were performed infrequently ($n = <100$).

PATIENT CONTACT TIME

Daily contact hours, the time actually spent performing dental treatment is shown in Figure 33. The greatest amount of treatment time was by pedodontists, who provided 4.5 hours of direct patient care followed by general dentists who provided four hours. The other specialists' times ranged from 3.0 to 3.4 treatment hours with an average of 3.5 hours of direct treatment. The effect of additional duties is shown in Figure 34. Dentists who are not assigned extra duties average 3.8 hours in direct treatment. Mentors in a training program and clinic directors spent slightly less time treating patients (3.3 and 3.4 hours respectively). A commander of a dental activity was able to

spent only one-fourth of the patient contact time as a dentist not assigned additional duties (0.9 versus 3.8 hours per day).

PRODUCTIVITY

Weighted work units ⁶ per contact hour is shown in Figure 35. Fixed prosthodontists produce 11 weighted work units (WWUs) per direct contact hour, followed by periodontists and removable prosthodontists who each produce nine WWUs per hour. All other specialty groups produce eight WWUs except for endodontists who average seven WWUs per hour. Daily weighted work units are shown in Figure 36. Fixed prosthodontists produce 38 WWUs per day followed by pedodontists who produce 35 WWUs per day. General dentists, general dentistry specialists, and removable prosthodontists are next with 31, 27 and 27 WWUs, respectively. Oral surgeons produce 26 WWUs per day followed by endodontists and orthodontists who each produce 25 per day. The fewest (23 WWUs per day) was produced by periodontists.

Figure 37 shows "dollars"⁶ produced per contact hour by dental specialty. Fixed prosthodontists produce 229 "dollars" for each hour of direct patient treatment. They are followed by periodontists and removable prosthodontists who produce 158 and 141 "dollars" per hour respectively. Next are endodontists with 128, oral surgeons with 122, general dentistry specialists with 119, pedodontists with 105, and general dentists with 100 dollars per hour. The smallest amount of "dollars" per hour was produced by orthodontists (89 per hour). Dollars produced per day by specialty are shown in Figure 38. Fixed prosthodontists produce 764 "dollars" per day. Periodontists and pedodontists

are next with 508 and 469, respectively. Endodontists and removable prosthodontists produce 429 and 425, respectively. Next are general dentists with 409, general dentistry specialists with 388 and oral surgeons with 386 per day. The least amount (298 "dollars") was produced by orthodontists.

Figure 39 gives the percentages by which the other dental specialties would have to increase their daily contact hours to equal the number of weighted work units and "dollars" to equal that produced by fixed prosthodontists. Orthodontists would have to increase their patient contact hours by 156% (a factor of 2.56) to equal the "dollar" amount and 48% (a factor of 1.48) to equal the WWUs produced per day by fixed prosthodontists. General dentists would have to work 128 percent more time and 47% more time to equal fixed prosthodontists' WWUs and "dollar" output. The average percentage increases for the other specialists are 88% and 38% for "dollars" and WWUs.

The productivity of commanders and clinic chiefs versus specialists is shown in Figure 40. Commanders and clinic chiefs, who are assigned additional administrative duties, average about 60 "dollars" less productive output than other specialists. The only exception was orthodontists who produced the same amount. The productivity of non-mentor board certified and board eligible specialists is shown in Figure 41. Board certified specialists averaged 116 "dollars" less productive output. The only exception were board certified pedodontists who averaged 65 "dollars" per day than their board eligible counterparts. The productivity of all specialists versus mentors is shown in Figure

42. Mentors, which included full as well as part time mentors, averaged 123 "dollars" less productive output per day than non-mentors. However, mentors in periodontics, removable prosthodontics and orthodontics produced more than non-mentors.

PATIENT CATEGORIES

The distribution of treatment time provided different patient categories by each dental specialty is shown in Figure 43. The distribution of patient categories treated is shown in Figure 44.

General dentists and general dentistry specialists spent 61% and 62% of their time treating active duty soldiers and soldiers also make up 62% and 64% of the patients they treat. Fixed prosthodontists spent the largest amount of time treating soldiers (69%) who comprise 70% of the fixed prosthodontists' practice. Removable prosthodontists spent more time treating retirees (45%); however, they treat a larger proportion of soldiers than retirees (43 versus 36 percent). Public health dentists spent 80% of their time treating soldiers, who made up 92% of their practice. Pedodontists' and orthodontists' time was almost all taken up treating children (96 and 89%) and 96% and 89% of the patients treated by pedodontists and orthodontists were children. The specialists who came closest to spending an equal amount of time on each patient category were oral pathologists (34% active duty; 36% dependents; and 27% retired).

PROCEDURE TIMES

Average procedure times by years of practice is shown in Figure 45. In general, up to 15 years, the average time per procedure remained fairly constant at about six minutes; from 16 to 23 years the average time increased to seven minutes; and later decreased to 5.5 minutes after 24 years of practice. The overall average was 6.3 minutes. Average procedure time by specialty is shown in Figure 46. Prosthodontists spent the most time per procedure (7.9 and 7.8 minutes for removable prosthodontists and fixed prosthodontists, respectively); next were periodontists with 7.4 minutes. Specialties which spent the least time per procedure were orthodontists (5.0) pedodontists (5.5), oral surgeons (5.8) and general dentistry specialists who spent an average of 5.9 minutes per procedure. Generally, when performance times for specialty procedures by specialists were compared to both categories of general dentists, specialists were faster. The exception was oral diagnosis where oral medicine specialists and oral pathologists took more time to do oral examinations. General dentists' and specialists' times to perform selected procedures are shown in Table 9. The coefficients of variation associated with the procedure times averaged 105% (2.9% - 435.8% range [Table 10]).

DISCUSSION

The data presented do not account for the dentists' total time but rather are the sum of procedure times or "hands-on-treatment time" only. Since the study was conducted during one month rather than the entire year, a secular bias was introduced. May is a month when many dental officers are preparing for a change of duty station and attempting to complete treatment on their patients. An additional distortion was introduced in that, at times, there were only one or two specialists in a particular year group.

Although a record was made of the dentists' perceived procedure difficulty and the amount of ancillary support provided at each procedure, the summary data presented do not take into account these two variables. Not all dentists had the same level of ancillary support or the same access to multiple operatories. A greater level of ancillary support and more operatories allow dentists to do more. A particular procedure may vary in degree of difficulty and a harder procedure takes longer. Estimates of the difficulty of a procedure are largely subjective and depend to a great extent on the skill level of treating dentist. Caution dictates that more difficult cases are treated by specialists. In addition, time intervals for procedures were not adjusted for repeated procedures. A procedure which is repeated would normally take less time since the provider increases his speed doing repetitive tasks. Neglecting the analysis of these variables tends to introduce a greater variation in time recording. This is demonstrated by the large coefficients of variation associated with procedure times which averaged 105%.

A loss of approximately 12% of the procedure data was encountered when patient encounter data were merged with Survey data. If the procedure loss was distributed in a random manner it would have little effect on the proportions in the descriptive statistics. For this reason, the report examined relationships between groups in their profiles of dental practice.

General procedures and diagnostic procedures for all dentists totaled 37%. In accounting terms these two categories would be considered overhead, or the time cost of making ready to provide treatment. The least amount of time recorded for all dentists was for fixed prosthetics and orthodontics.

A comparison of the general dentist and general dentistry specialist shows that the general dentistry specialist spent more time in diagnosis. Since much of the residency training he receives is in oral diagnosis, it follows that he might place greater emphasis on a thorough history and examination in treatment planning his patients. Also by virtue of his training, the general dentistry specialist is sent the more difficult cases at the initial dental triage. Although the general dentistry specialist does slightly more prosthetics than the general dentist, a proportionately greater time is not similarly spent in endodontics, periodontics, or surgery. This would indicate there is less need for the general dentistry specialist to fill the role of a surrogate specialist in these fields.

In the comparison of periodontists' and endodontists' time it can be seen that the proportion of a specialist's time depends on the treatment modality characteristics which distinguish that

specialty. Periodontists spent more time in prevention because good patient oral hygiene plays an immediate role in the success of periodontal treatment. Also, there is a continuity between periodontal surgery and oral surgery procedures so periodontists spent more time doing oral surgery. Generally, an endodontically treated tooth needs a restoration, so endodontists spent more time doing restorations.

The fact that removable prosthodontists spent more time in diagnosis and general procedures than fixed prosthodontists may be due to a greater dependence on patient compliance for successful outcome of treatment. More than most other patients, denture patients have to learn to tolerate and care for their removable appliances so patient compliance may be a greater factor in the success of removable prosthetics. It follows that where patient selection, education, and motivation are essential treatment elements, a greater proportion of the provider's time will be spent in diagnosis and general procedures. A large proportion of time spent in general procedures by both types of prosthodontists is mandated by an accounting system which gives credit for prosthetic appliances and restorations only at insertion. In order to account for interim pre- or post-treatment time, general procedures, such as post operative treatment, dental cast, or diagnostic mounting procedures are taken. Fixed prosthodontists spent more time doing restorative and periodontal procedures since both of these treatment modalities are prerequisites for successful fixed prosthetic treatment.

At least half of adjunctive general procedures, such as hospital ward rounds and cellulitis treatment, are more related to what an oral surgeon does than to any other specialty. So it is not surprising that a large proportion of time (39%) was spent in general procedures.

Unlike other specialties, pedodontists do not have a specialty-unique procedure category, so their time was divided between other specialty procedure categories. Pedodontists spent a greater proportion of time in preventive related activities than all other specialists which may indicate either a greater emphasis on prevention for the child dental patient or a greater need by children for preventive procedures. Pedodontic practice has been characterized as general practice on children. However, a comparison with that of general dentists reveals that the practice patterns are different. Besides the large proportion of time spent in prevention, the most apparent differences are the lesser amount of time given to restoring teeth and the greater amount of time spent doing orthodontic procedures. It is noteworthy that general procedure time, which includes patient handling, part of which is dealing with behavioral problems, was similar for both pedodontists and general dentists.

The fact that orthodontics accounts for 56% of orthodontist's time and the fact that most other specialists do not spend time in orthodontics, indicates either that orthodontic treatment has less dependence on other specialties for a successful outcome or that the treatment plan has specified that patients' other dental needs have been met prior to initiating orthodontic treatment.

Since general dentists comprise the largest group, they accounted for the greatest amount of time spent in most procedure categories, however, specialists accounted for a greater amount of time doing difficult procedures; e.g., molar root canal treatment, surgical periodontics, impactions, space maintainers and banding procedures.

Fixed prosthodontists achieved the highest productivity measured in both WWUs and "dollar" value. The fact that other specialists would have had to increase their weighted work units by an average of 38% (1.38 times) and their "dollar" output by 88% (1.88 times) to equal that of fixed prosthodontists, indicates an apparent inconsistency in the dollar weighting process. It would appear that WWUs are a less distorting measure of productivity.

Commanders and clinic chiefs are only slightly less productive than other specialists. Board eligible specialists were generally more productive than board certified specialists. In five of the specialties mentors produced less than non-mentors, while in three specialties they produced more.

In general, active duty personnel made up the largest proportion of patients treated and accounted for most treatment time within each specialty category. The exceptions were removable prosthodontists who spent more time with retirees, but treated more soldiers; pedodontists and orthodontists who treated mostly children; and oral pathologists who treated almost an equal number of retirees, dependents, and active duty soldiers.

Average procedure times by years of practice showed some increase after the 15th year and a decrease after the 23rd year. This difference could be due both to differences in practice experience as well differences in mix of treatment procedures within each year group. Differences in average procedure time by specialty reflected the fact that removable prosthetic procedures take more time and that orthodontic procedures take less time than other specialty procedures. Specialists generally were faster doing specialty procedures with the exception of oral diagnosis.

Several points need to be stressed in the interpretation of the procedure time data. The first is that it is difficult to assess how accurate they are. Although instruction was given to participants that times were to be recorded at the end of each patient encounter, there are anecdotal reports of participants estimating the times at the end of the day. The practice of retrospective estimation could account, in part, for the large variations in the reported procedure times. In addition, procedure times are sensitive to other factors such as the difficulty of the procedure, number of repetitions, the level of ancillary support and the experience of the dentist. Only a multivariate analysis, incorporating these variables and interactions among variables, and weighting their effects, at a minimum, could possibly make sufficient adjustment to make the procedure times comparable.

RECOMMENDATIONS

fr-1473 1. The Survey of Army Dental Practice provides valuable information on demographics of the Dental Corps. A survey of this type should be repeated, either on an regular or on an as needed basis.

2. Practice profile information obtained in the current study provides useful management information on procedure practice and patient category mix of each dental specialty. These data should be made available to dental managers for personnel and facilities planning.

3. Procedure time intervals collected within this study were subject to great variation. Post-treatment self reporting of time intervals, differences in experience and training, differences in level of ancillary support, and lack of an objective measure of procedure severity were possible sources of variation. Studies on dental procedure times need to minimize these confounding variables either directly, or if possible, factor out their effects to allow comparisons. A similiar management study on procedure times should be done when a non-invasive real-time procedure reporting system, utilizing direct computer data entry (voice, touch screen, etc.), is available. This will eliminate retrospective procedure time estimation.

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2. Schumaker, C.J. Selected Measures of Dentists' Productivity: Self-reported. Health Studies Task Force Report. Washington DC, Office of the Assistant Secretary of Defense (Health Affairs), 1979.

3. Schumaker, C.J. Dentist Survey 1979: Summary Report. Health Studies Task Force Report. Washington DC, Office of the Assistant Secretary of Defense (Health Affairs), 1979.

4. Memorandum for the Assistant Surgeon General, Chief, Army Dental Corps. Subject: Availability of Treatment for Dental Corps Officers. 17 April 1985.

5. House, D.R. Occupational choice and labor supply decisions: the case of the licensed dentist. In Brown, L.J, and Winslow, J.E. Proceedings of a Conference on Modeling Techniques and Applications in Dentistry. Washington D.C., U.S. Department of Health and Human Services, DHHS Publication NO. (HRA) 81-8, 1981.

6. Uniform Chart Of Accounts For Fixed Military Medical And Dental Treatment Facilities (Change No. 4). Office of the Secretary of Defense, Assistant Secretary of Defense (Health Affairs). Department of Defense Publication System. June 17, 1983.

APPENDIX A

FIGURES

POPULATION % BY YEAR OF GRADUATION

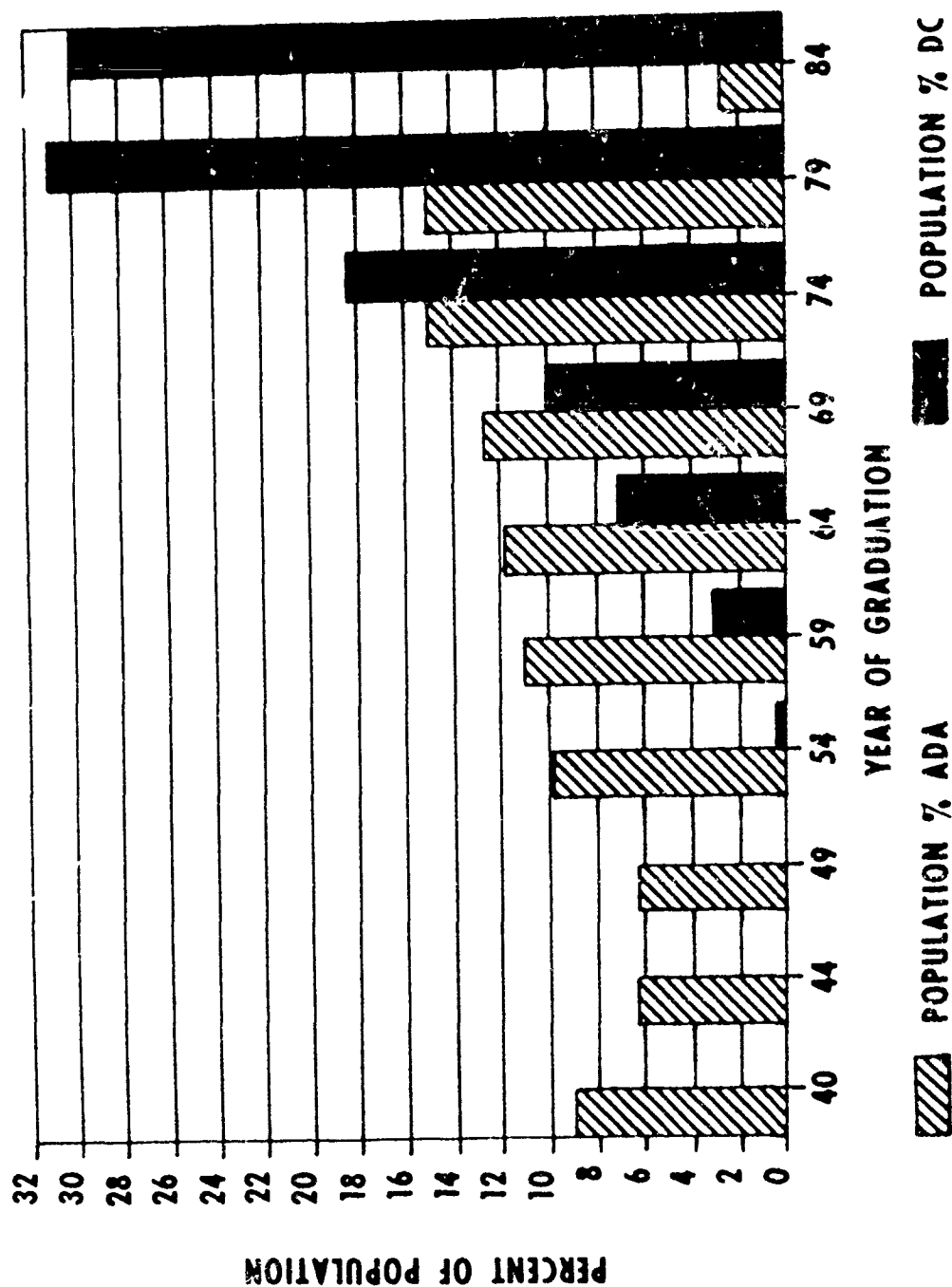


FIGURE 1

RESPONDENTS YEARS OF MILITARY PRACTICE

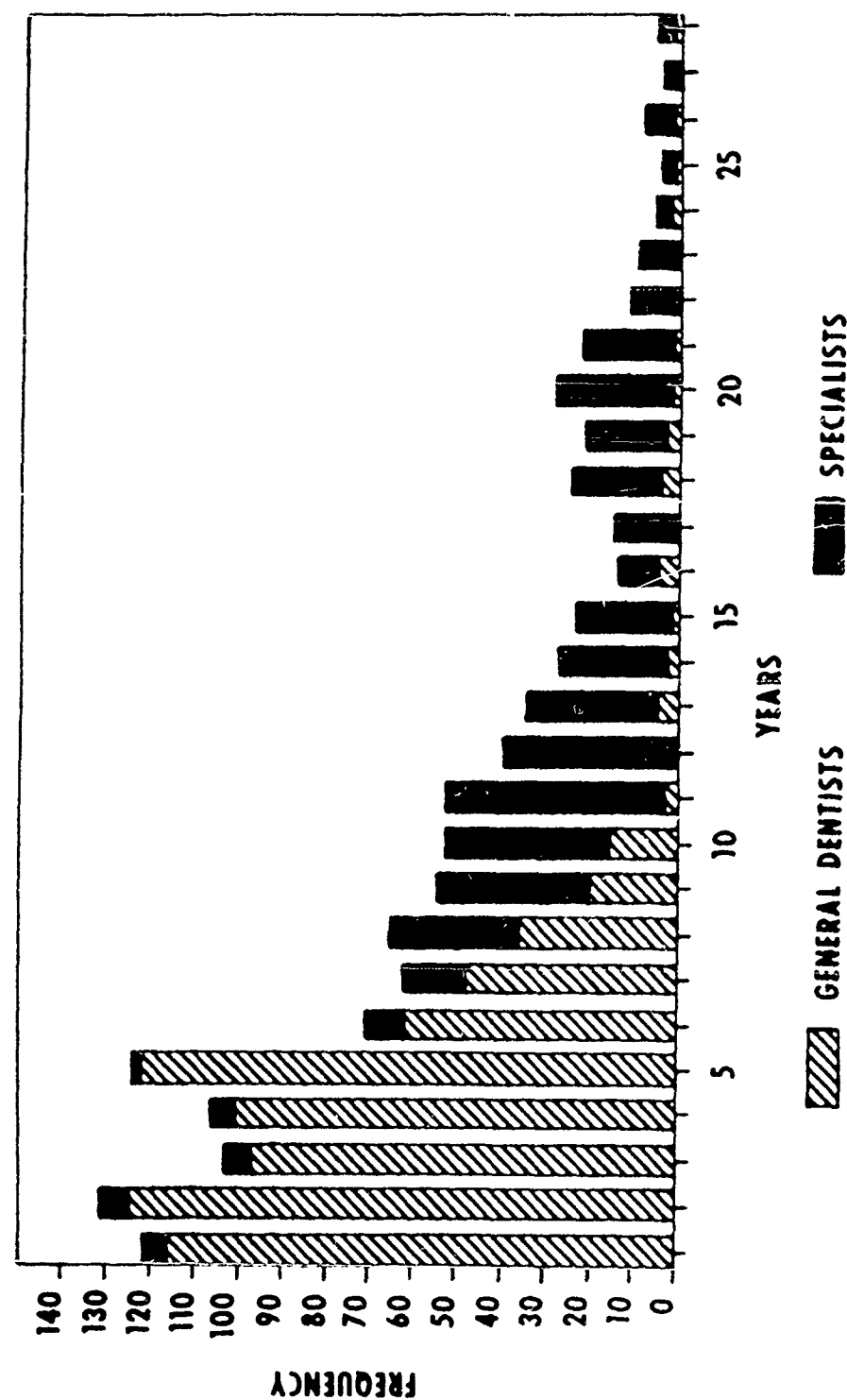


FIGURE 2

RESPONDENTS LEVEL OF TRAINING

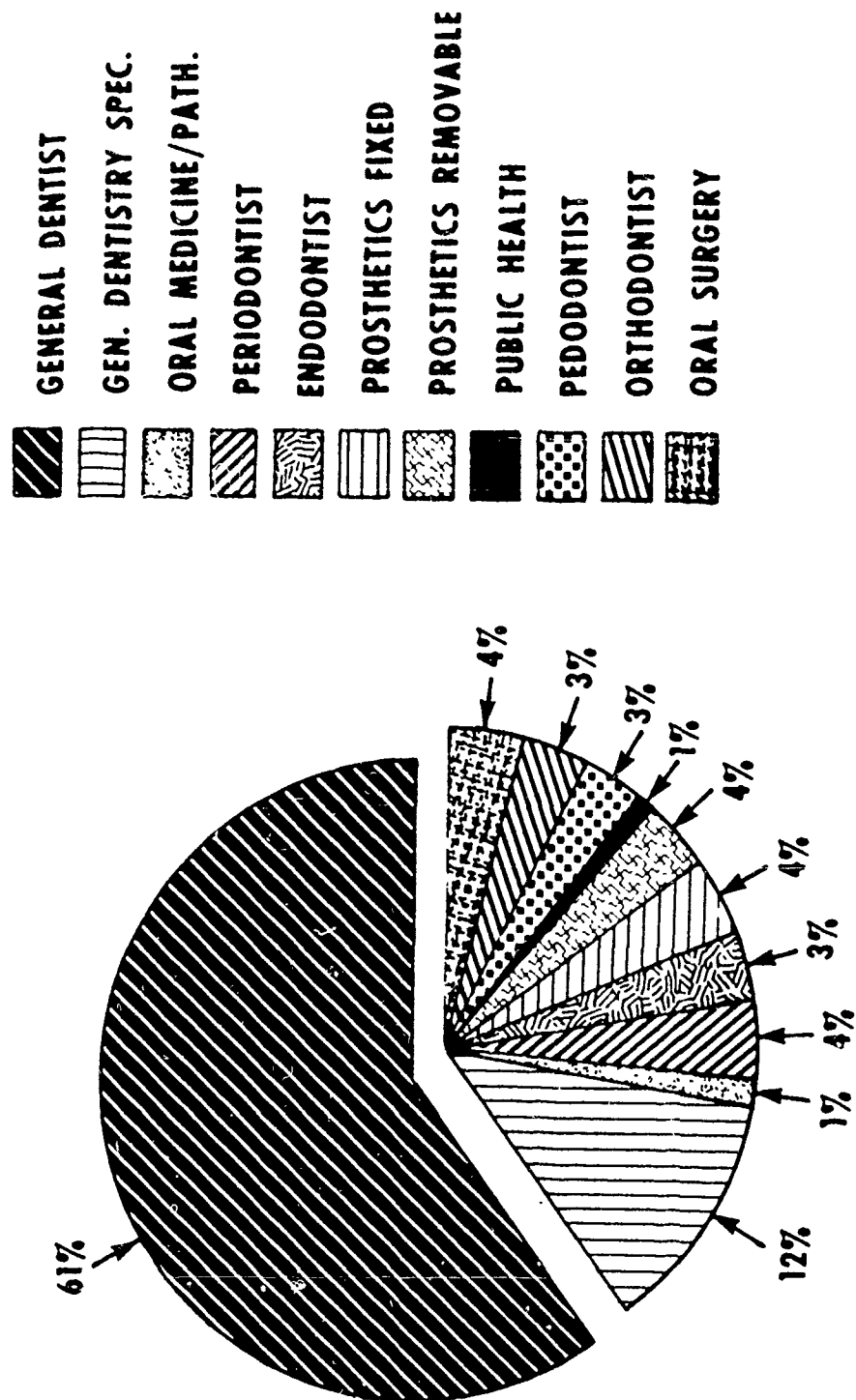
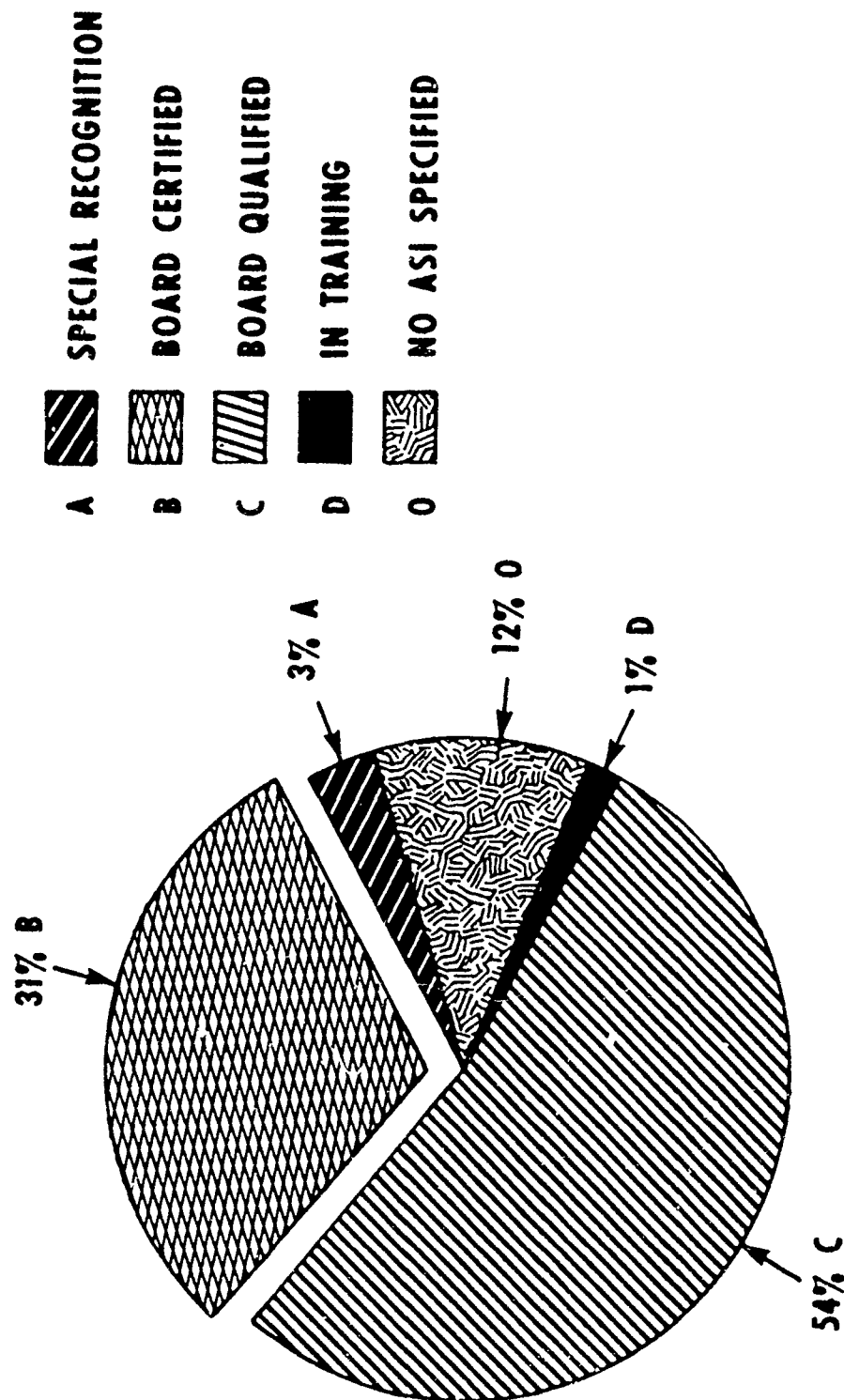


FIGURE 3

SKILL LEVELS OF ARMY DENTAL CORPS SPECIALISTS



PROFESSIONAL ACTIVITIES OF GENERAL DENTISTS AND SPECIALISTS

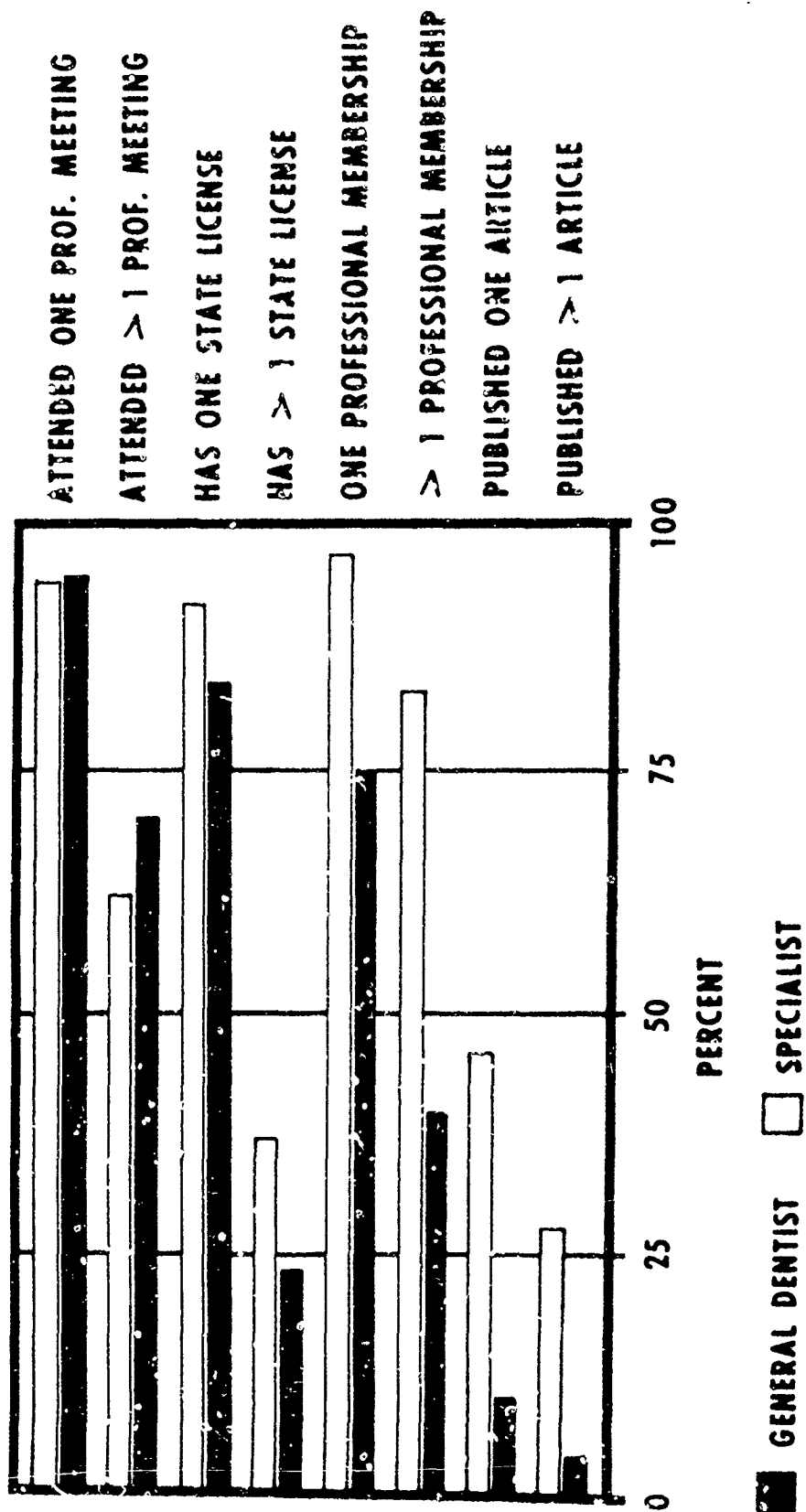


FIGURE 5

PRIMARY DUTIES OF RESPONDENTS

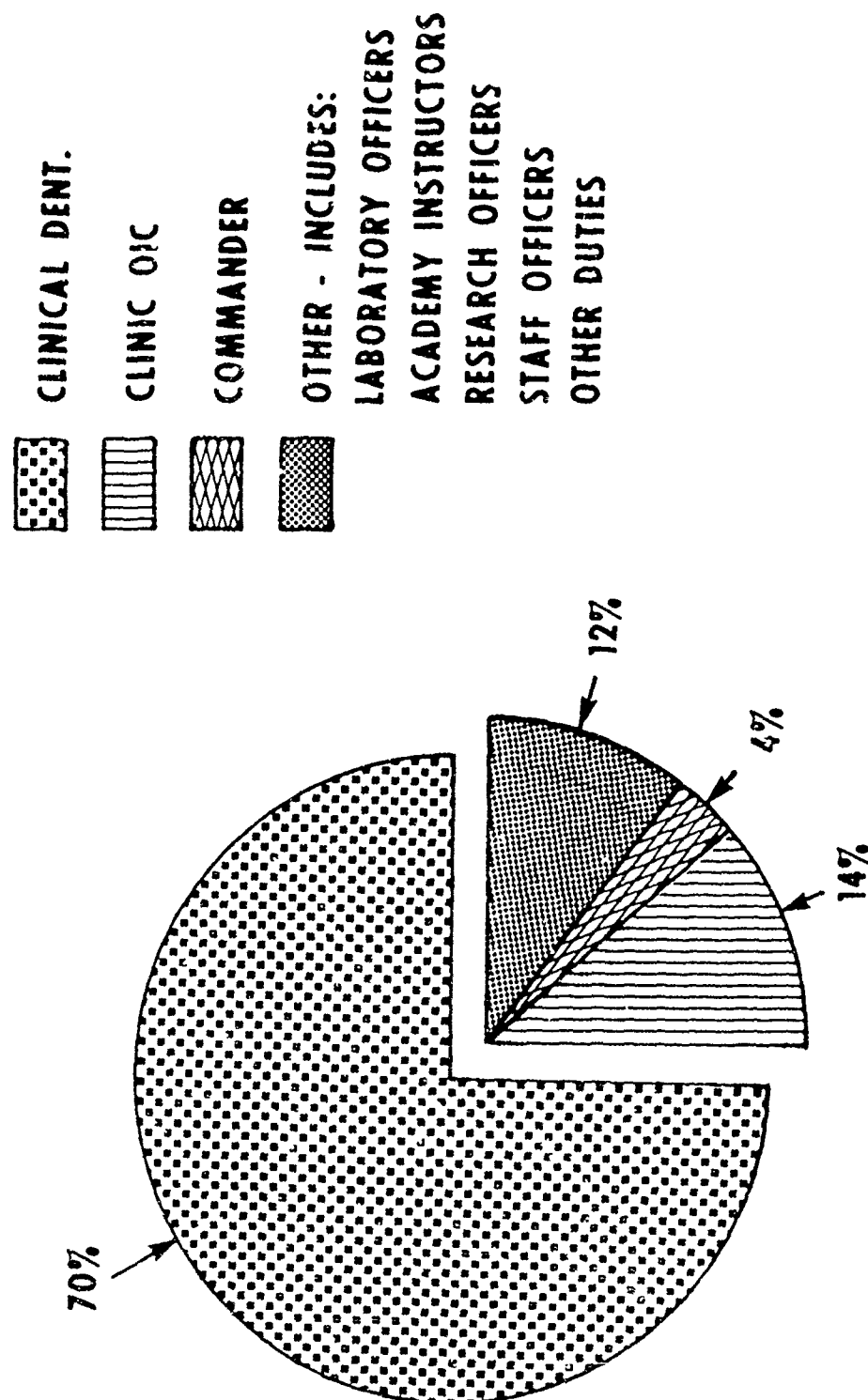


FIGURE 6

FIGURE 7

PERCEPTIONS OF DENTAL BUSYNESS

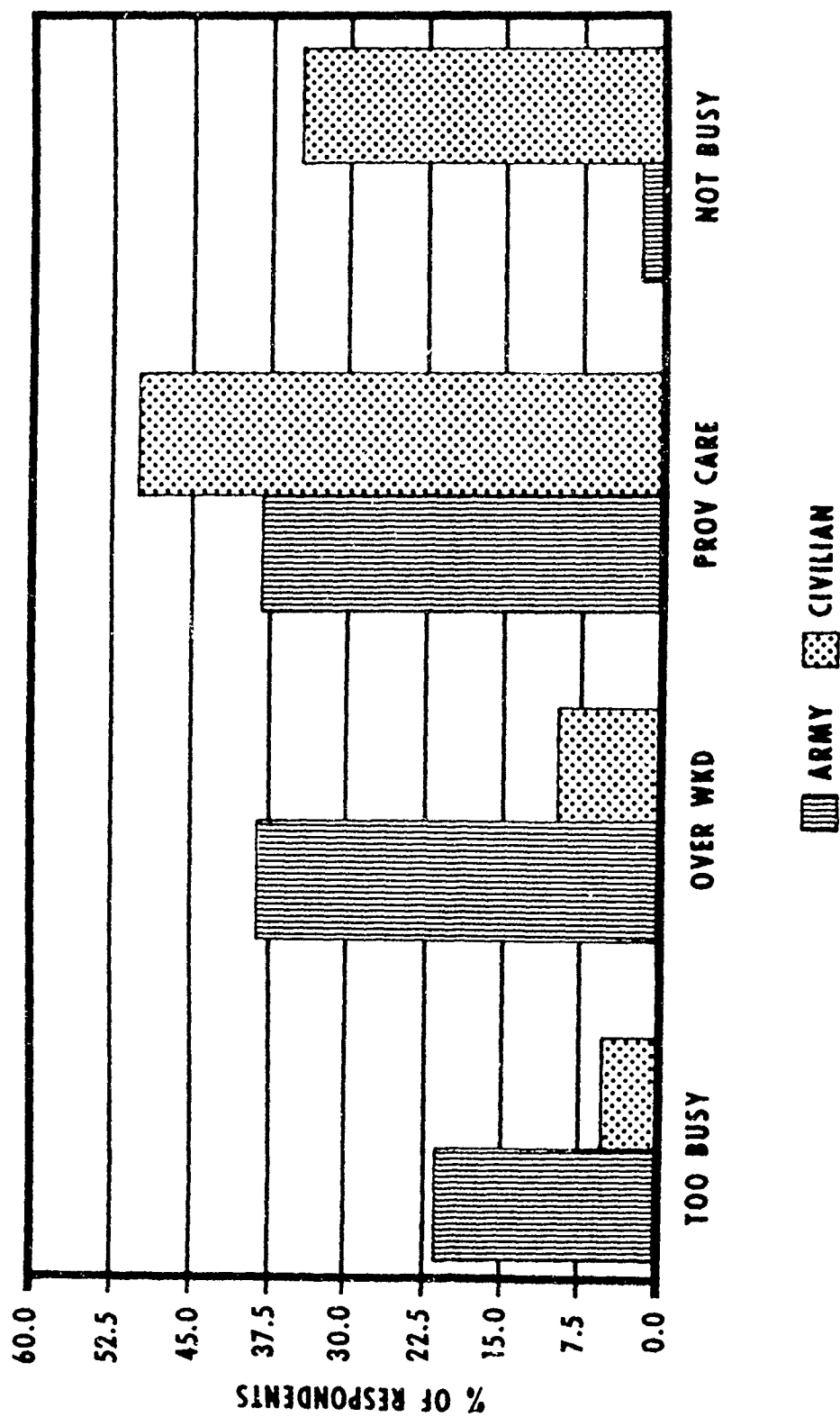
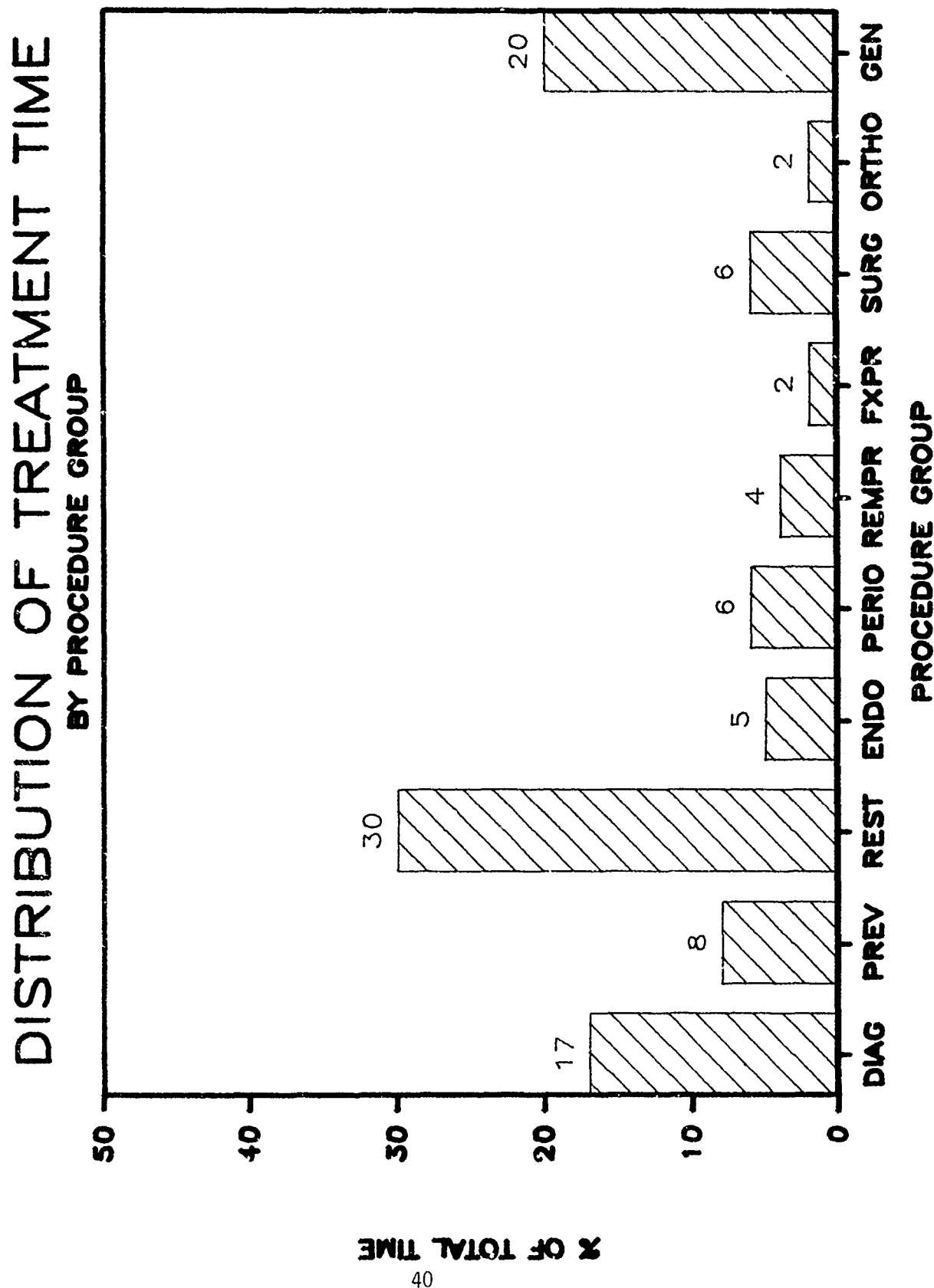


FIGURE 8



DISTRIBUTION OF TREATMENT TIME BY PROCEDURE GROUP

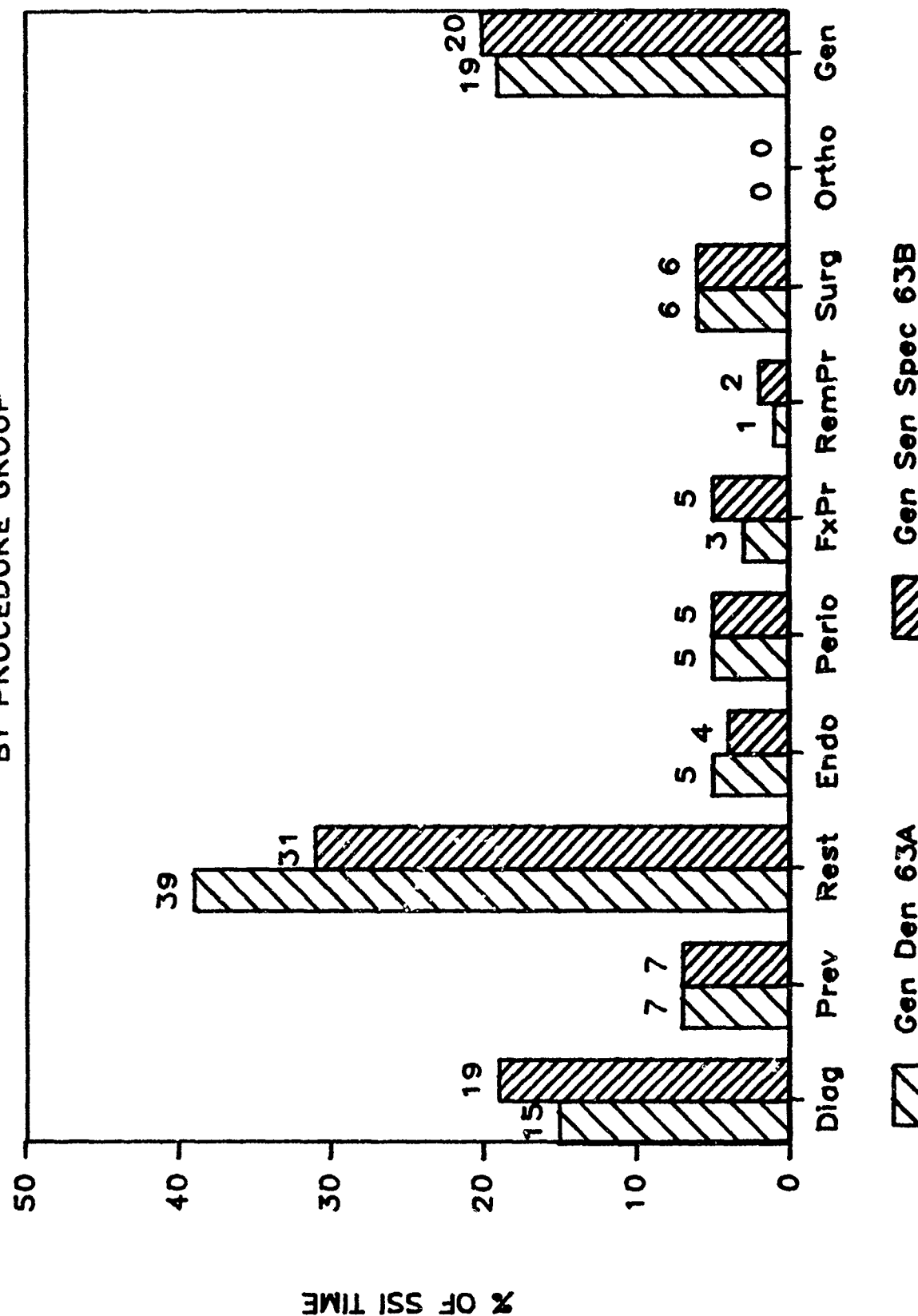


FIGURE 9

FIGURE 10

DISTRIBUTION OF TREATMENT TIME BY PROCEDURE GROUP

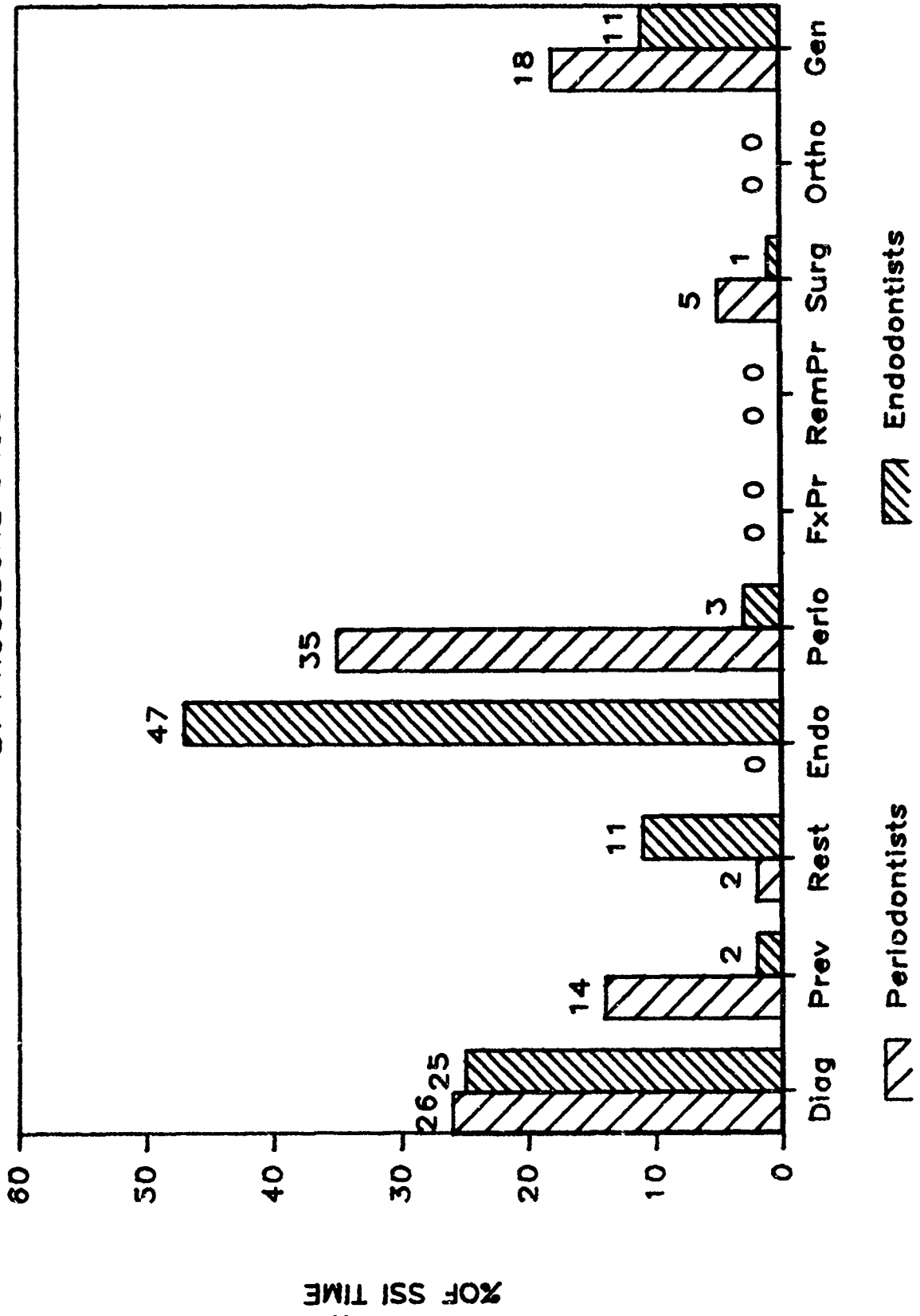


FIGURE 11

DISTRIBUTION OF TREATMENT TIME BY PROCEDURE GROUP



FIGURE 12

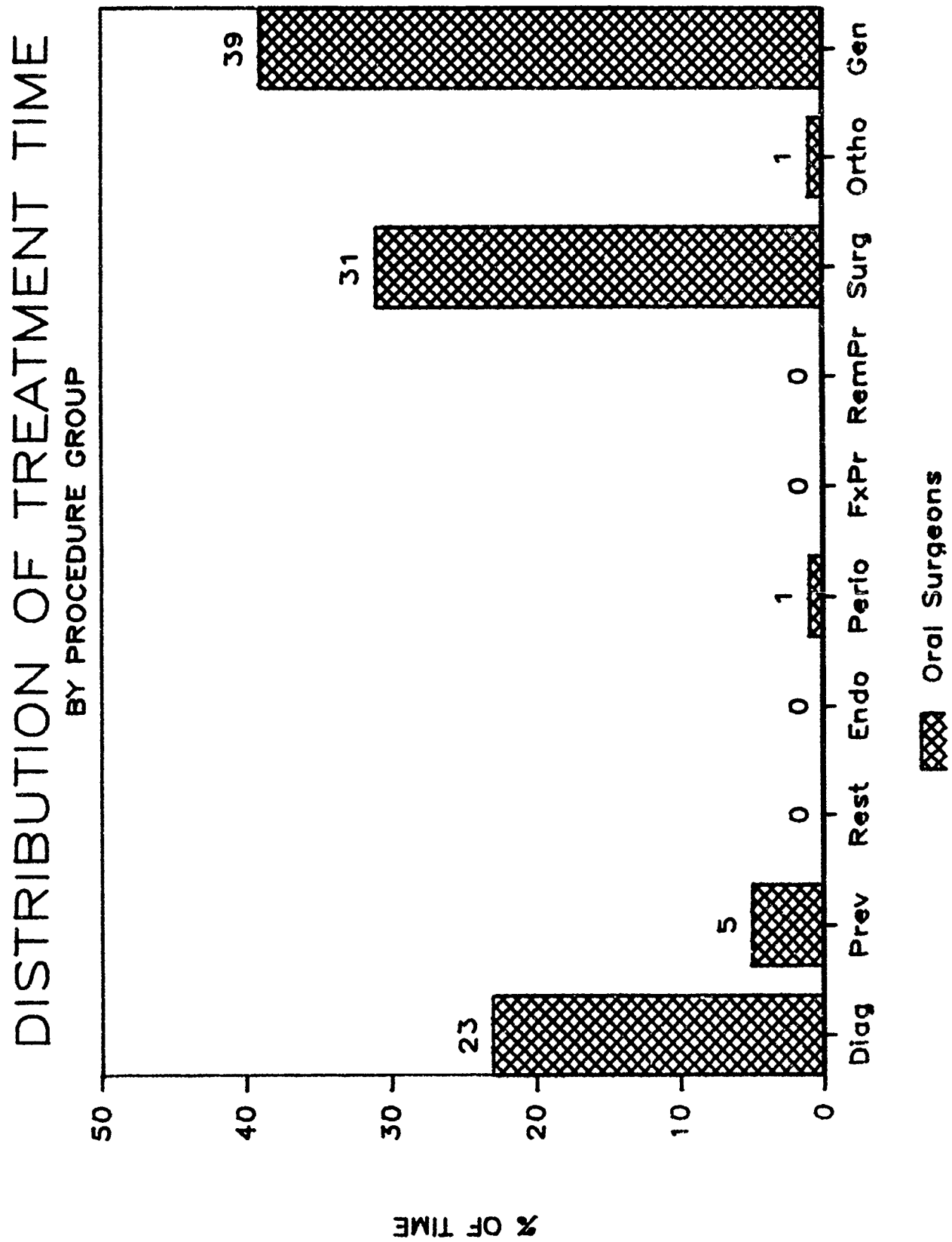


FIGURE 13

DISTRIBUTION OF TREATMENT TIME

BY PROCEDURE GROUP

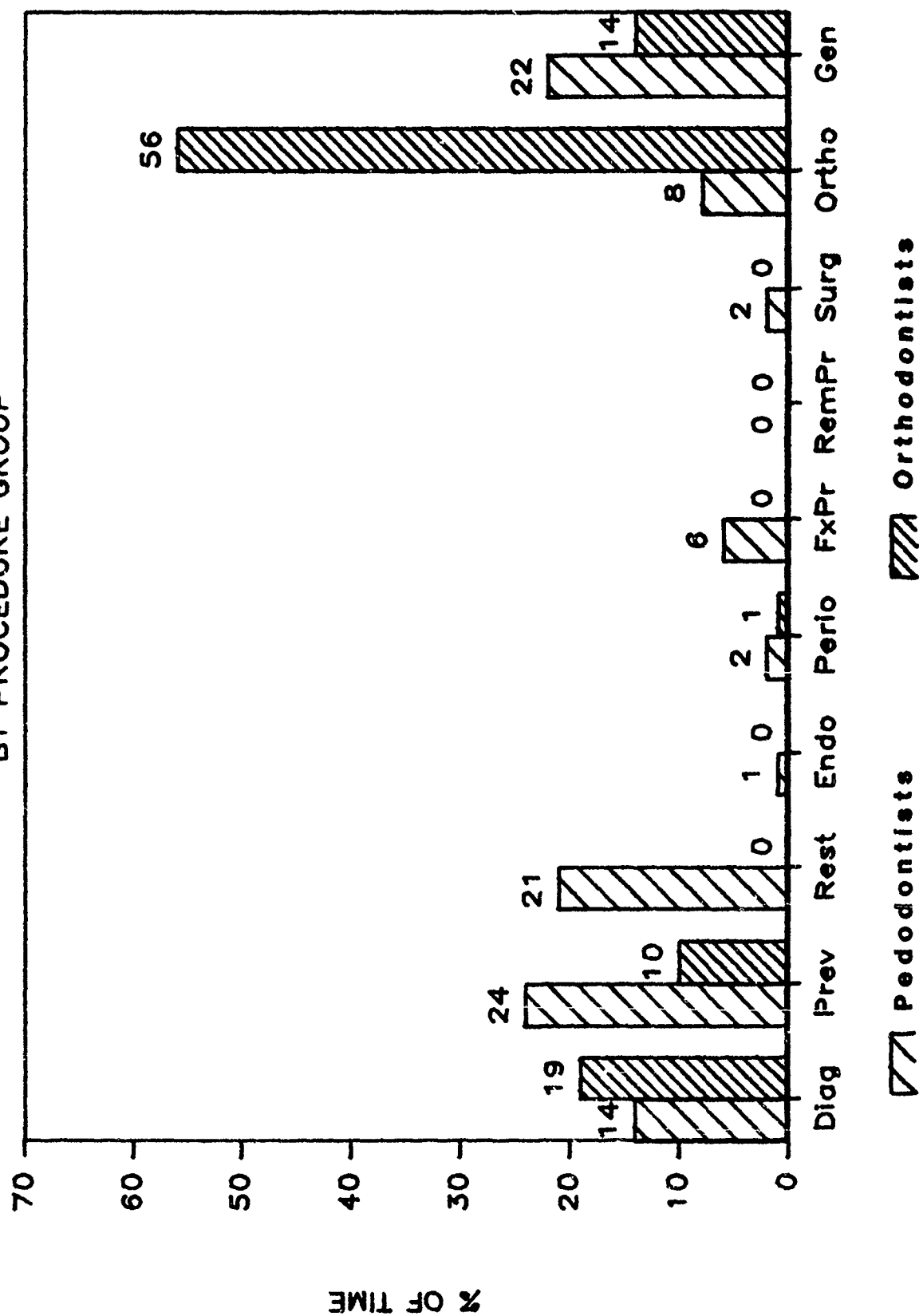
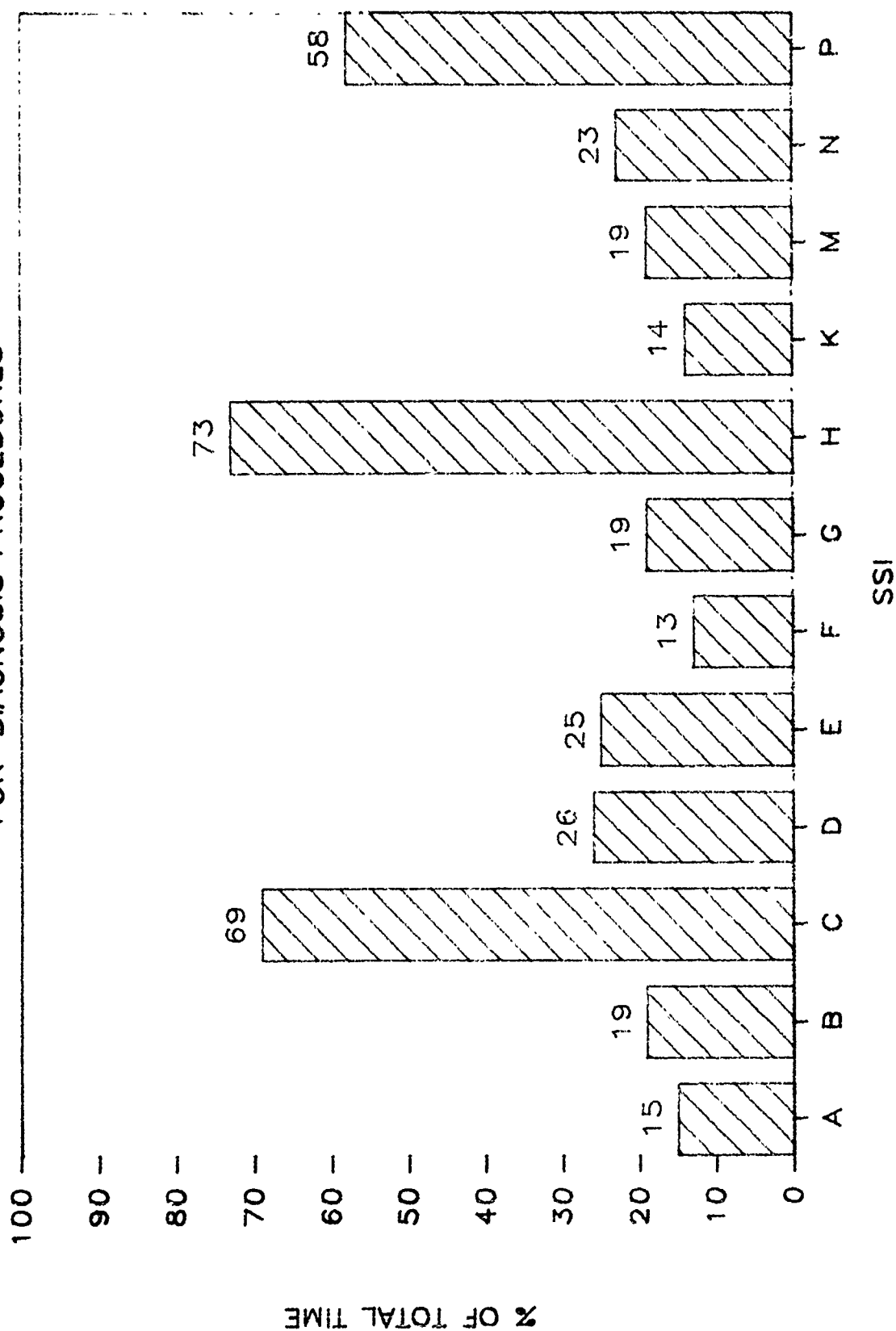


FIGURE 14

DISTRIBUTION OF TREATMENT TIME FOR 'DIAGNOSIS PROCEDURES



DISTRIBUTION OF TREATMENT TIME FOR 'PREVENTIVE' PROCEDURES

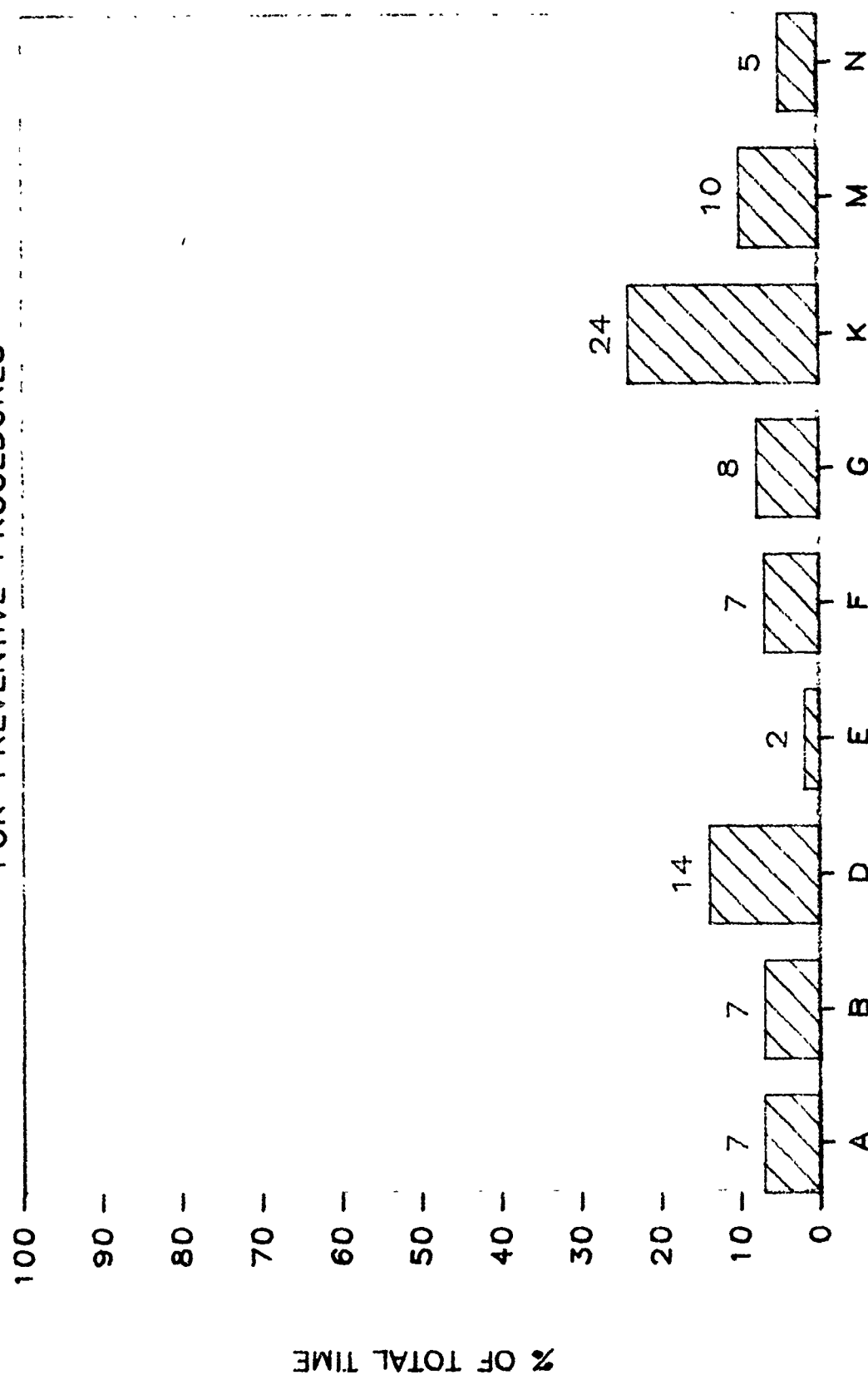


FIGURE 15

DISTRIBUTION OF TREATMENT TIME FOR RESTORATIVE PROCEDURES

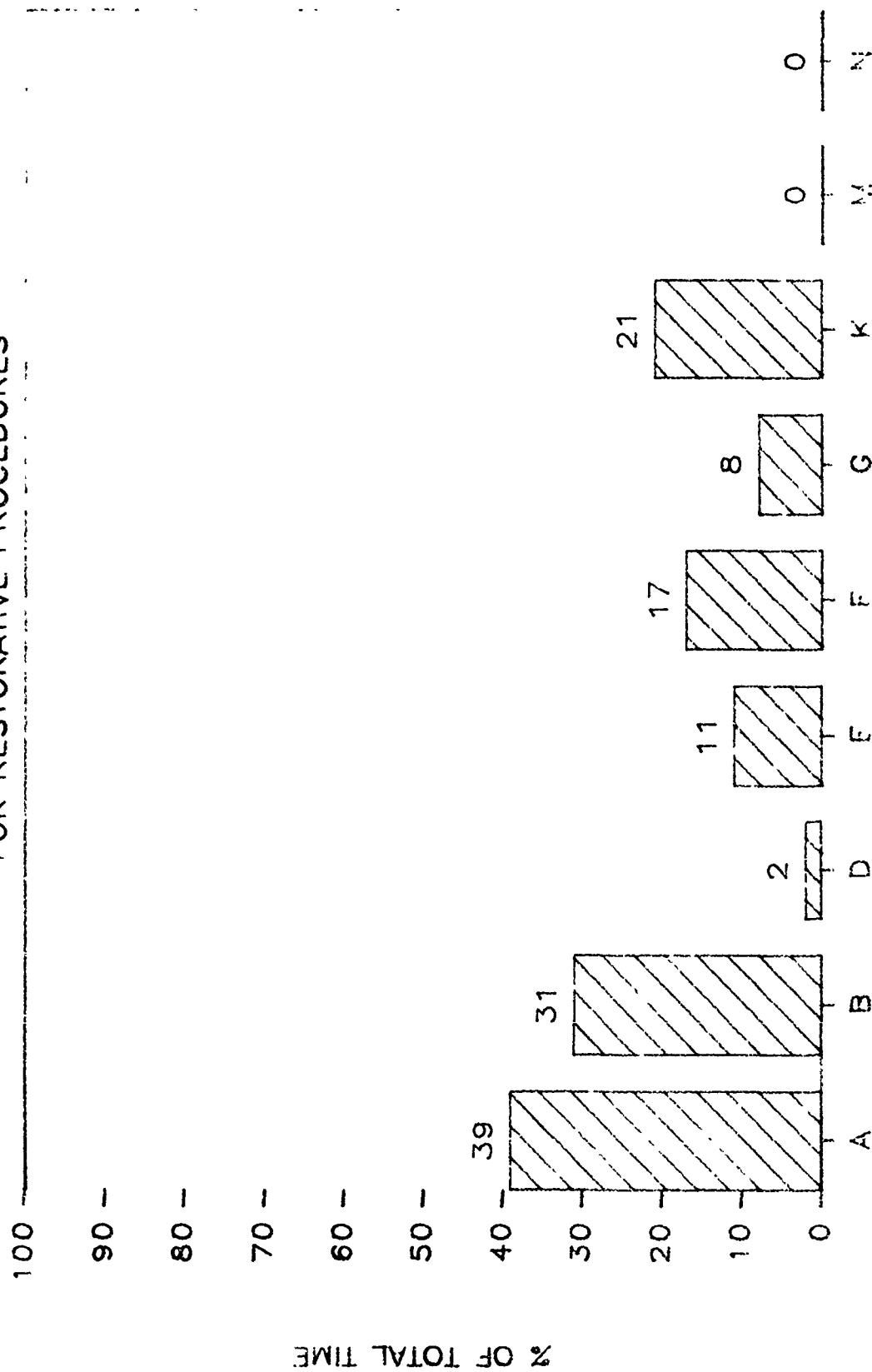


FIGURE 16

DISTRIBUTION OF GENERAL TIME

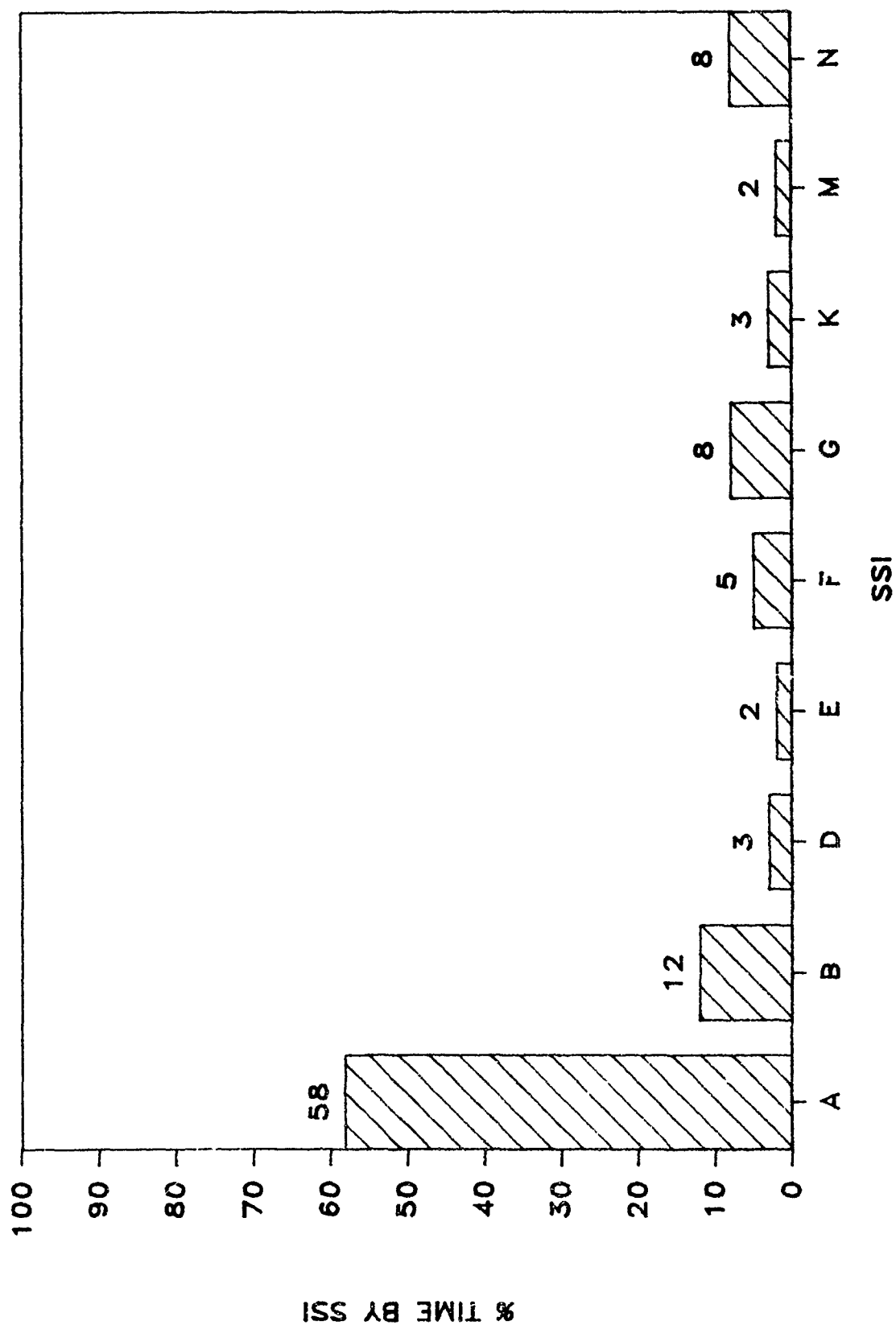


FIGURE 17

DISTRIBUTION OF DIAGNOSTIC TIME

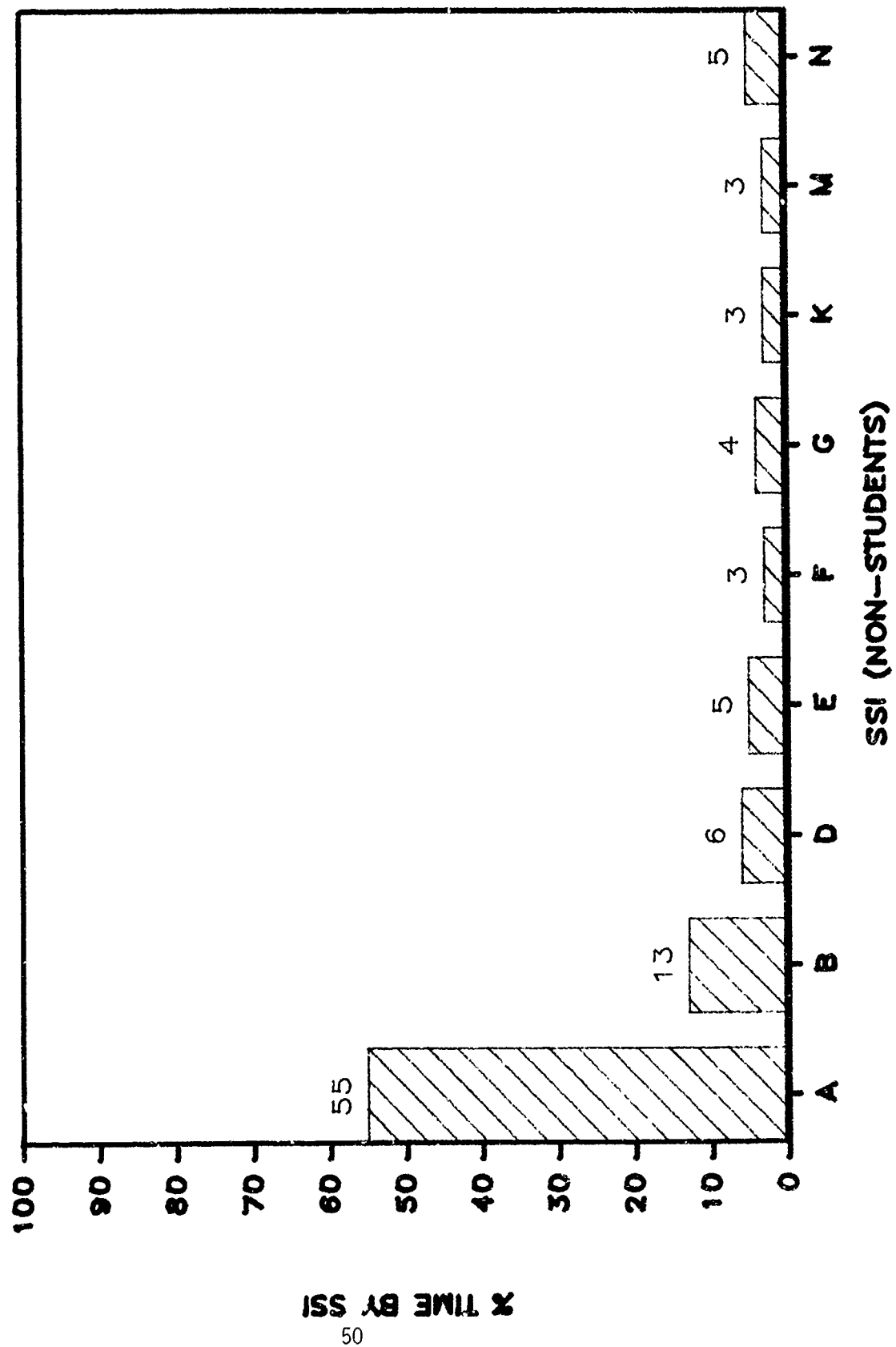
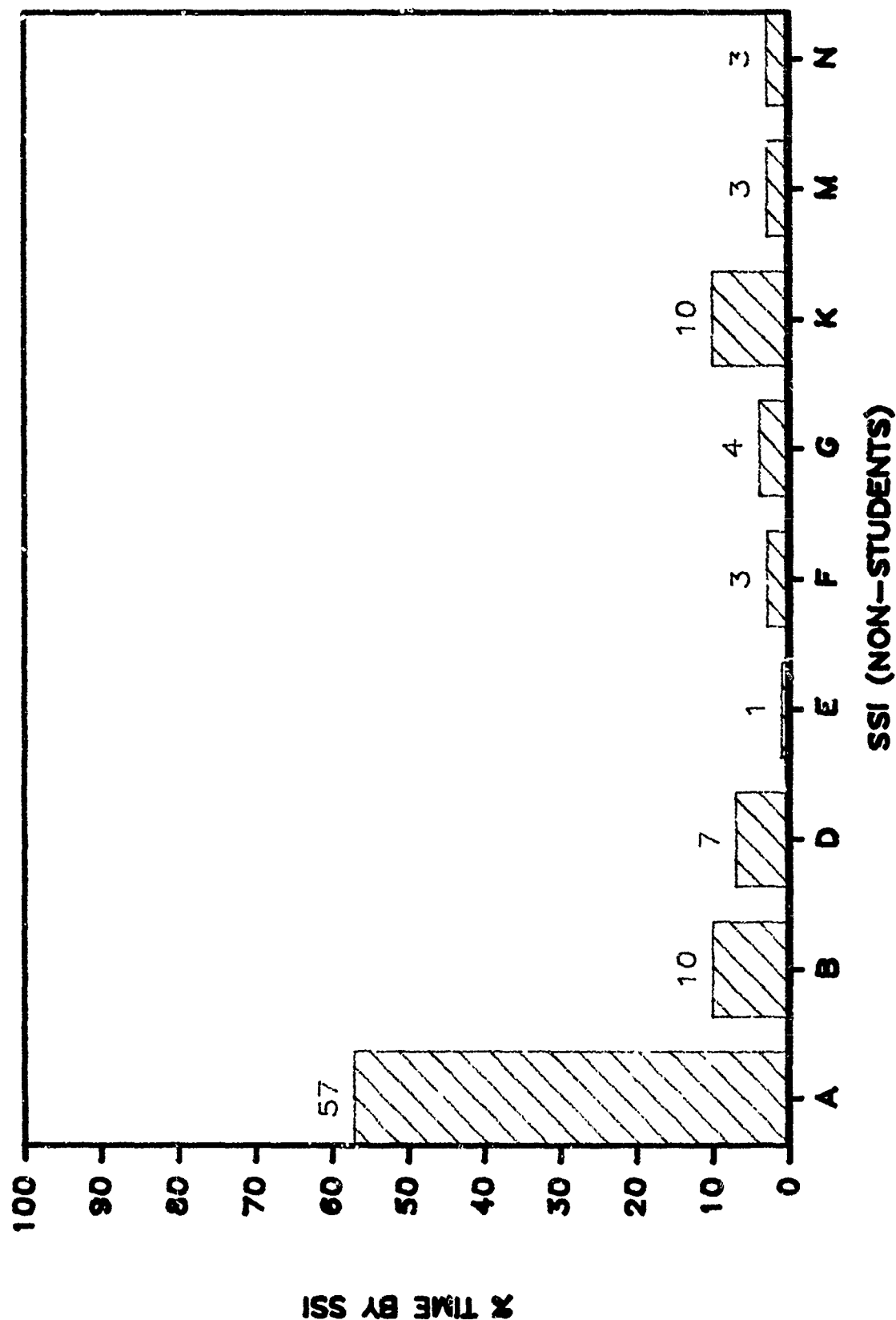


FIGURE 18

FIGURE 19

DISTRIBUTION OF PREVENTIVE TIME



DISTRIBUTION OF RESTORATIVE TIME

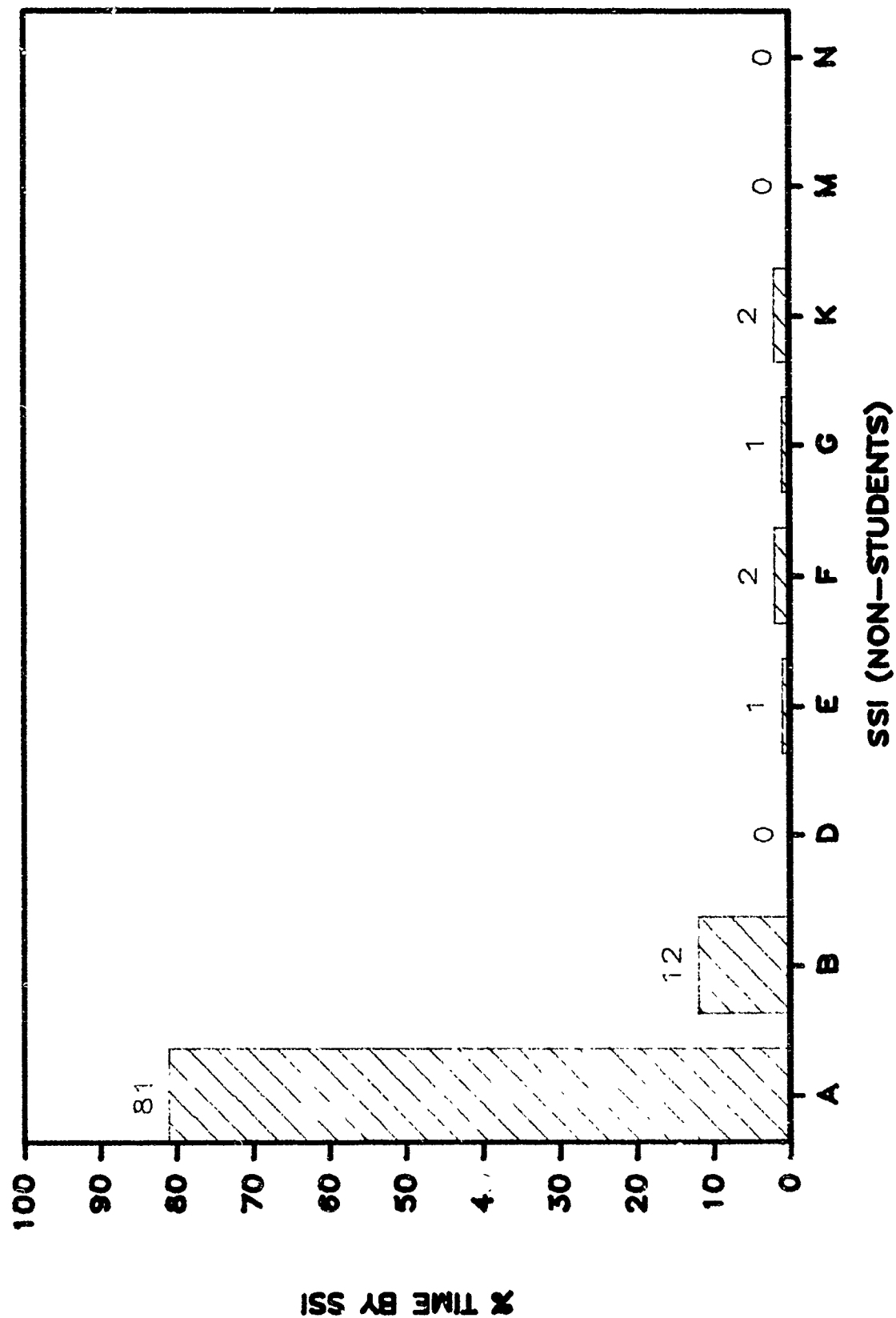


FIGURE 20

% TIME BY SSI

DISTRIBUTION OF ENDODONTIC TIME

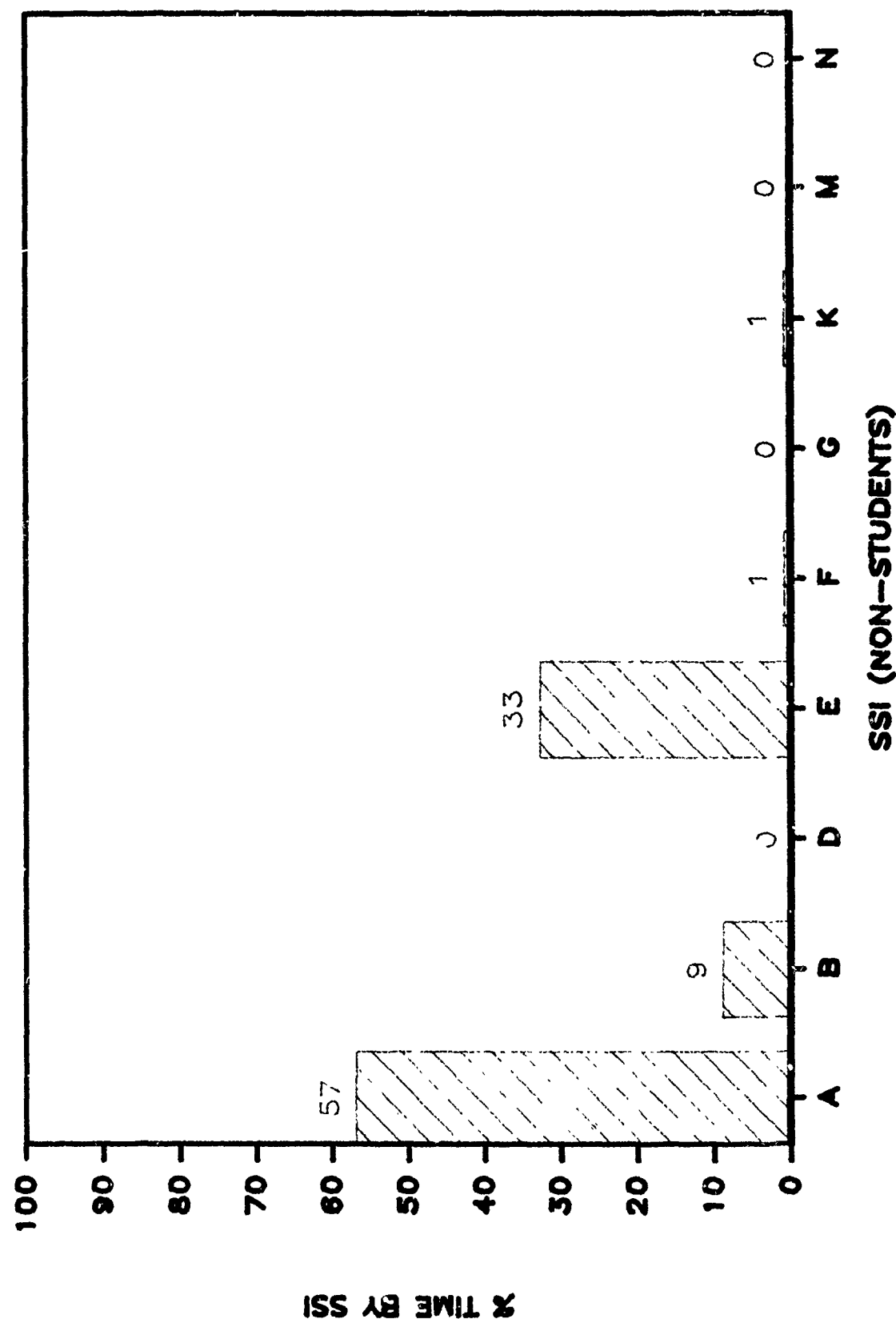


FIGURE 21

FIGURE 22

PROFILE OF SELECTED PROCEDURES

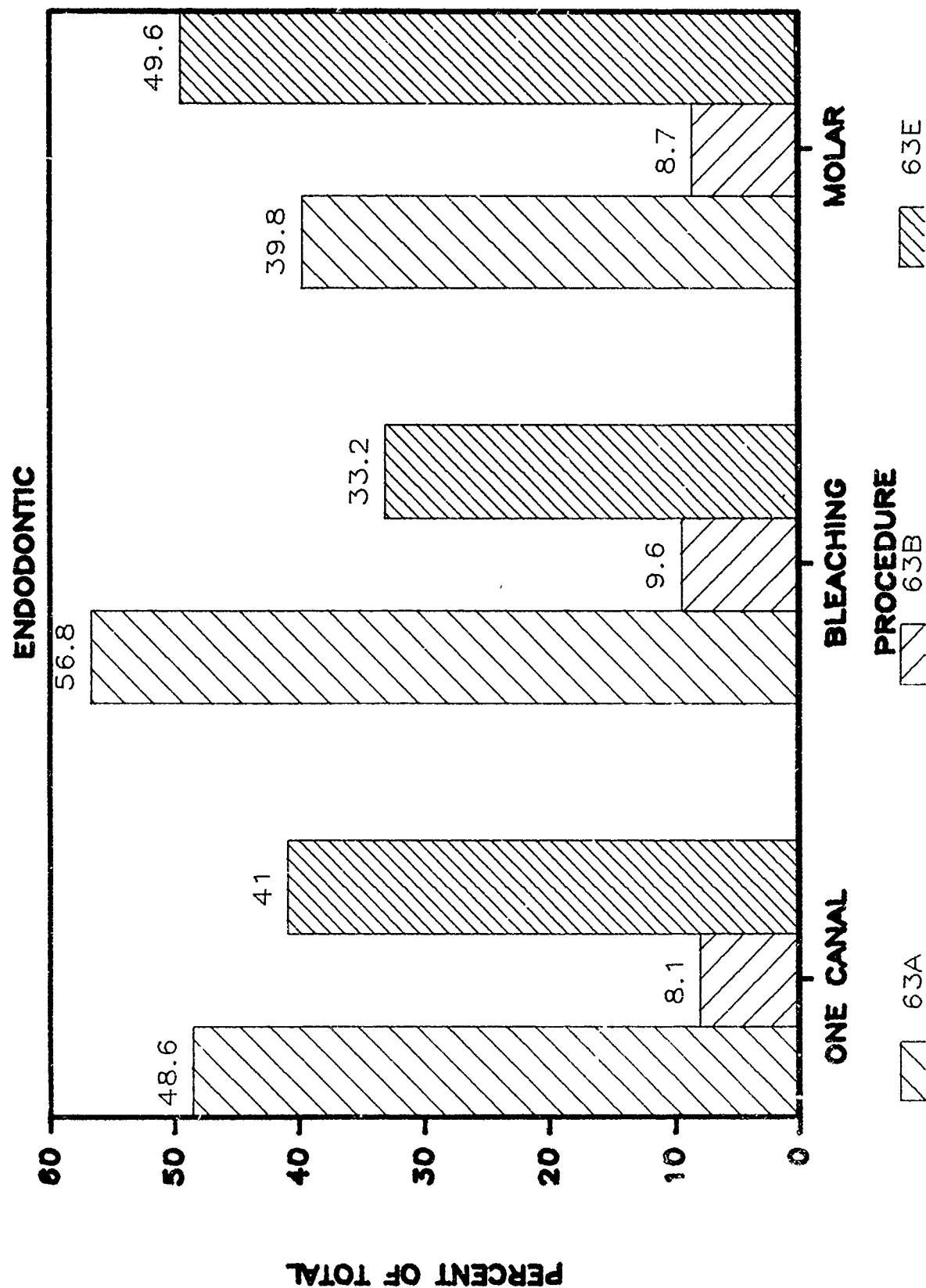
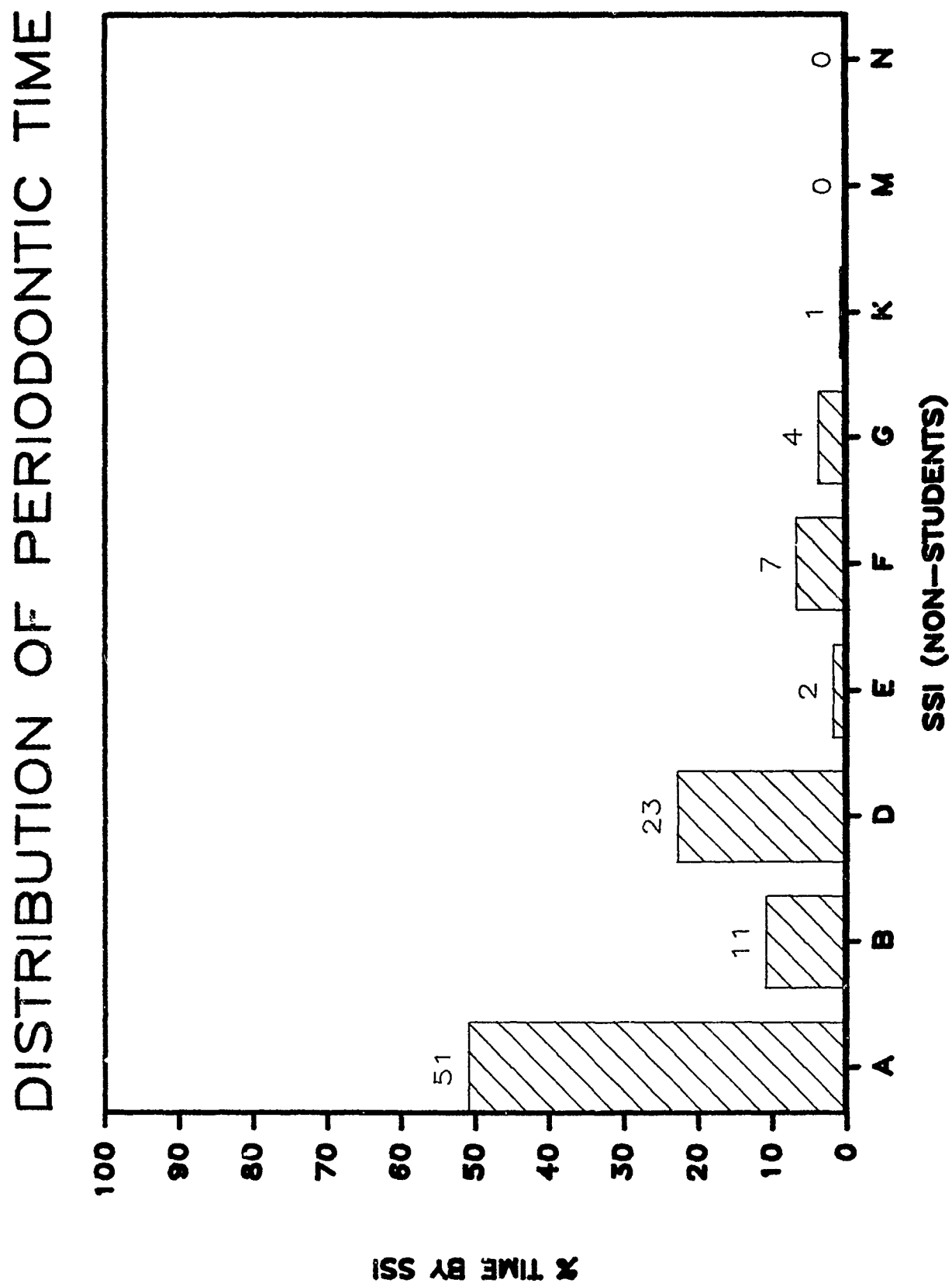


FIGURE 23



DISTRIBUTION OF TREATMENT TIME FOR PERIODONTAL PROCEDURES

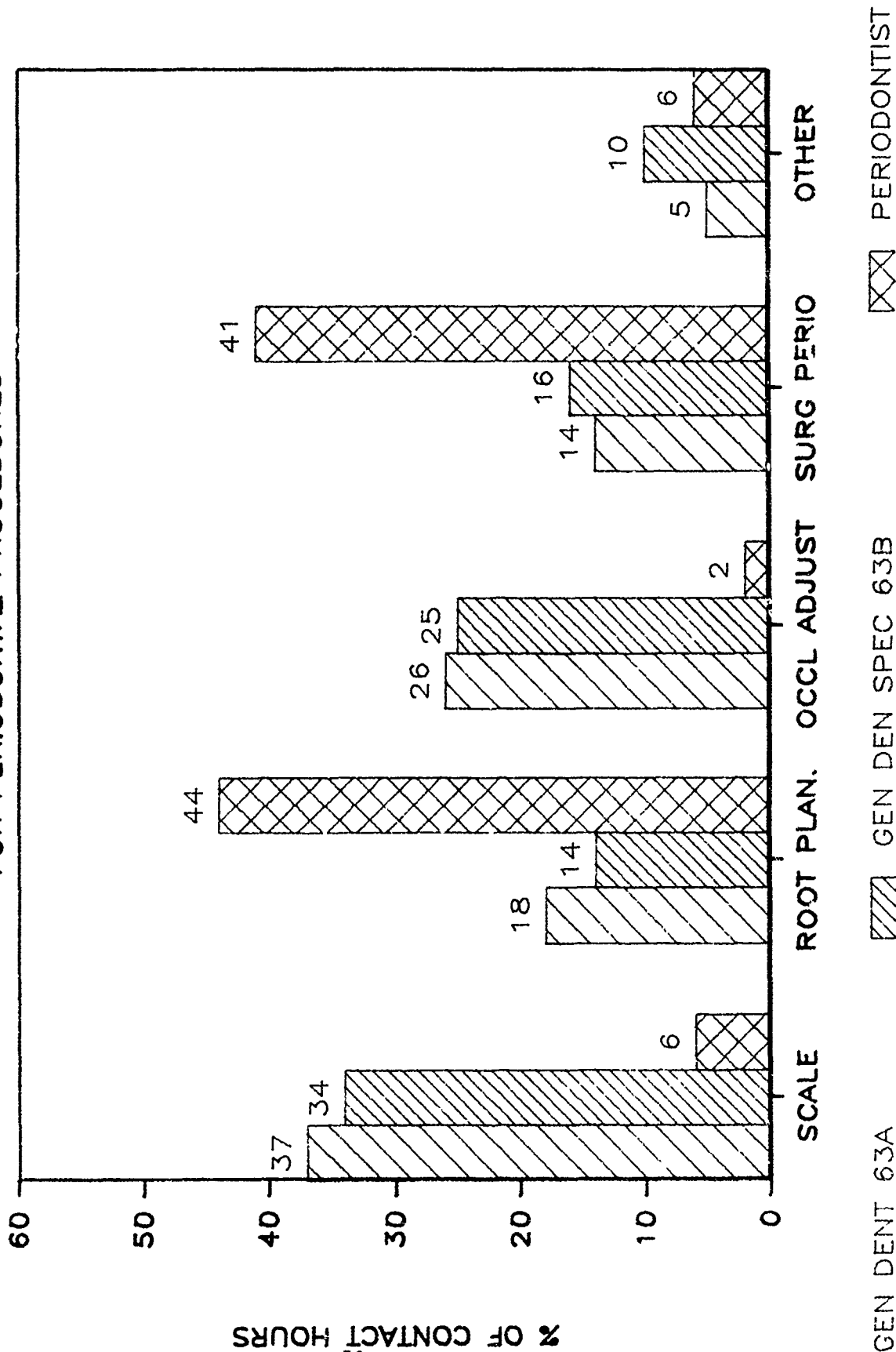
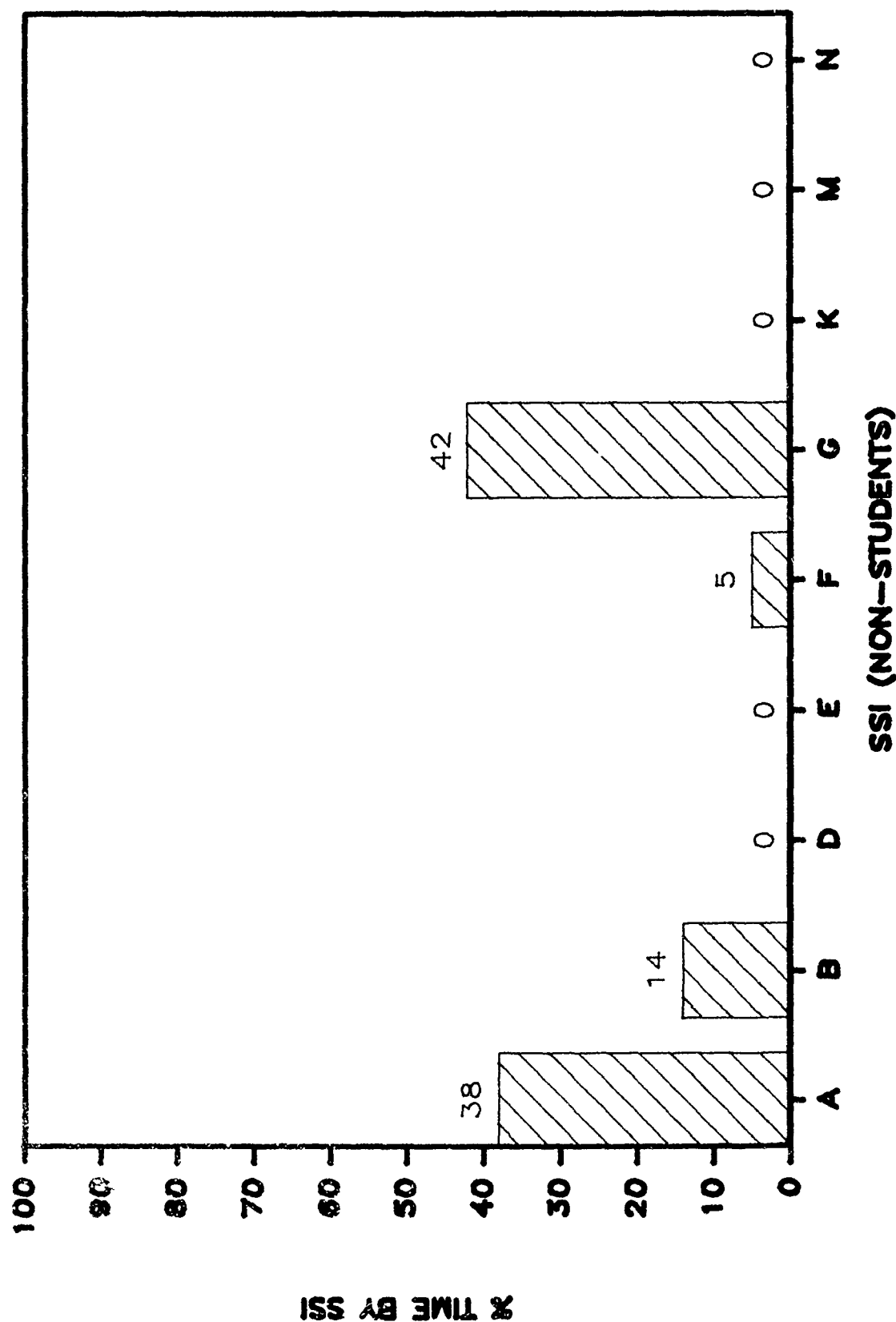


FIGURE 24

FIGURE 25

DISTRIBUTION OF REM PROS TIME



% TIME BY SSI

FIGURE 26

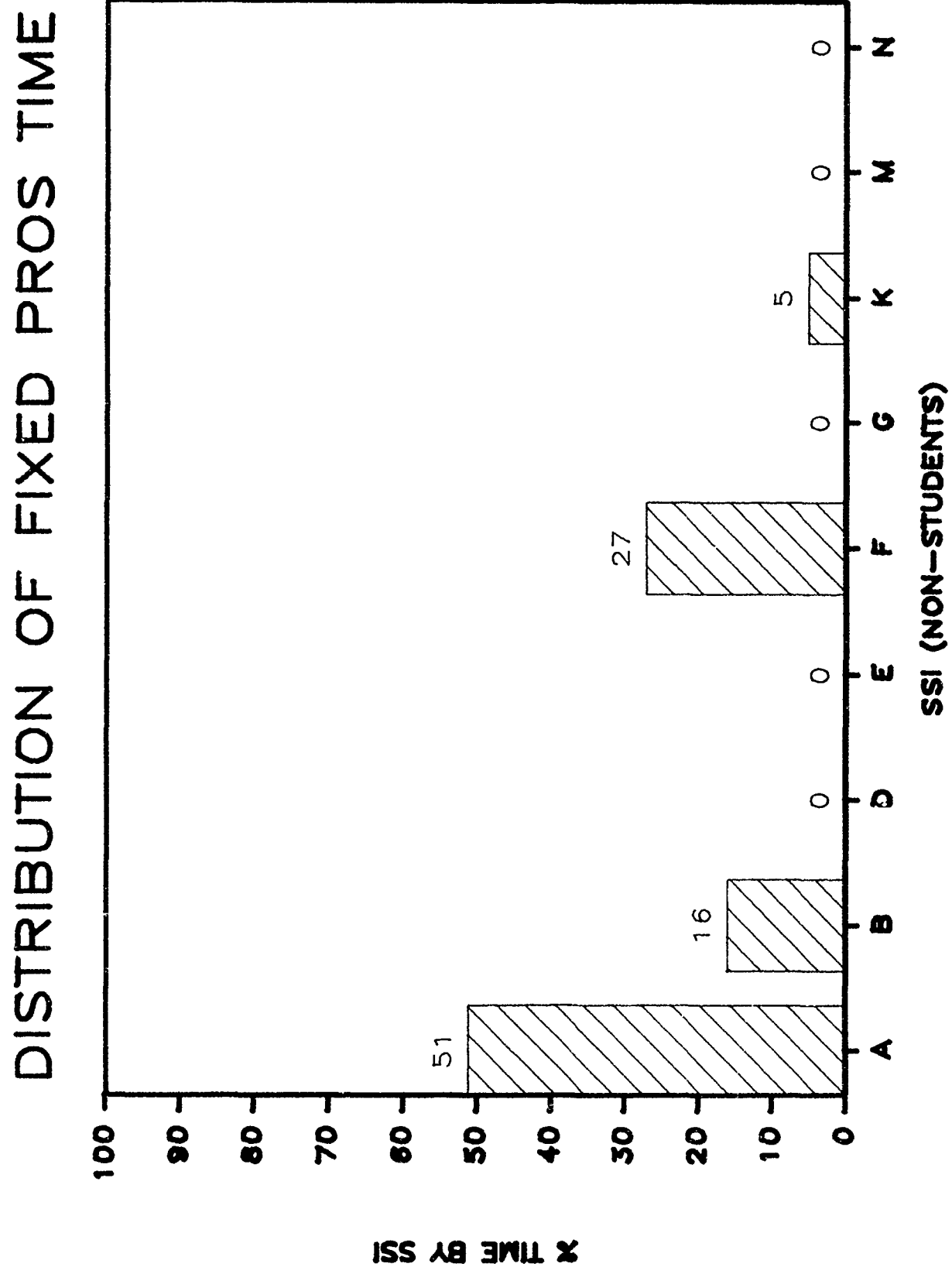
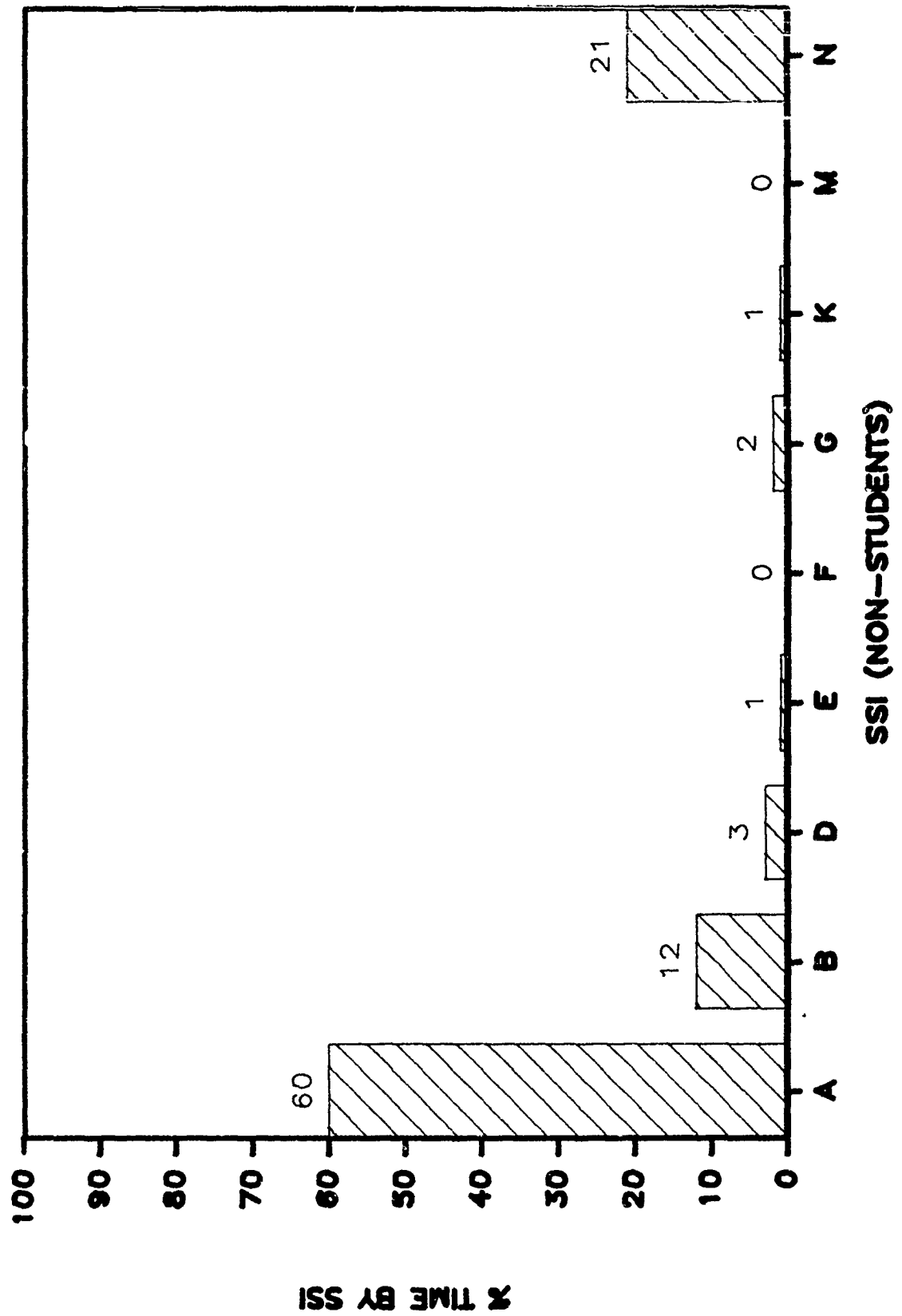


FIGURE 27

DISTRIBUTION OF SURGICAL TIME



DISTRIBUTION OF TREATMENT TIME FOR SURGICAL PROCEDURES

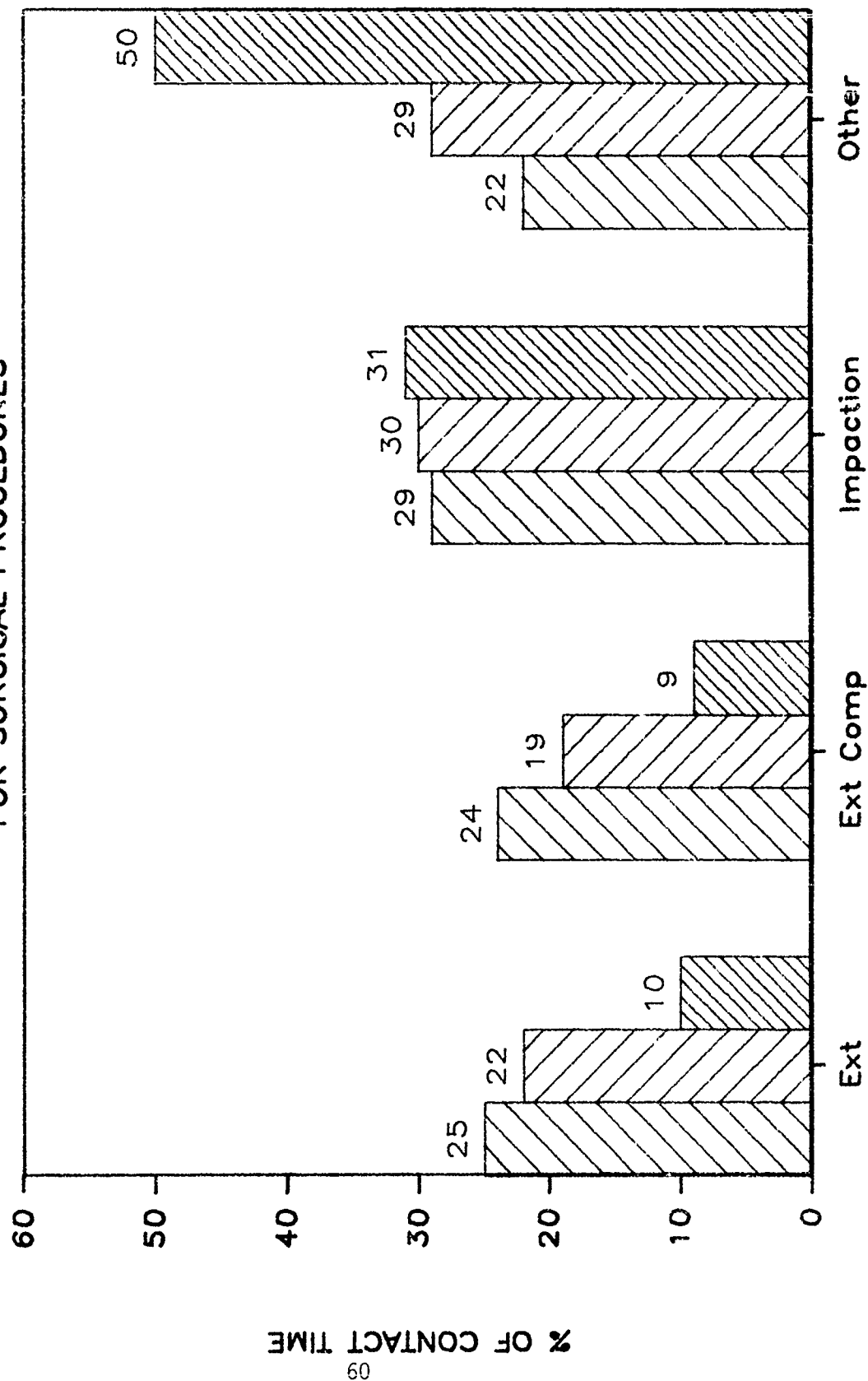


FIGURE 28

GEN DEN 63A GEN DEN 63B ORAL SURGEONS

DISTRIBUTION OF GENERAL TIME

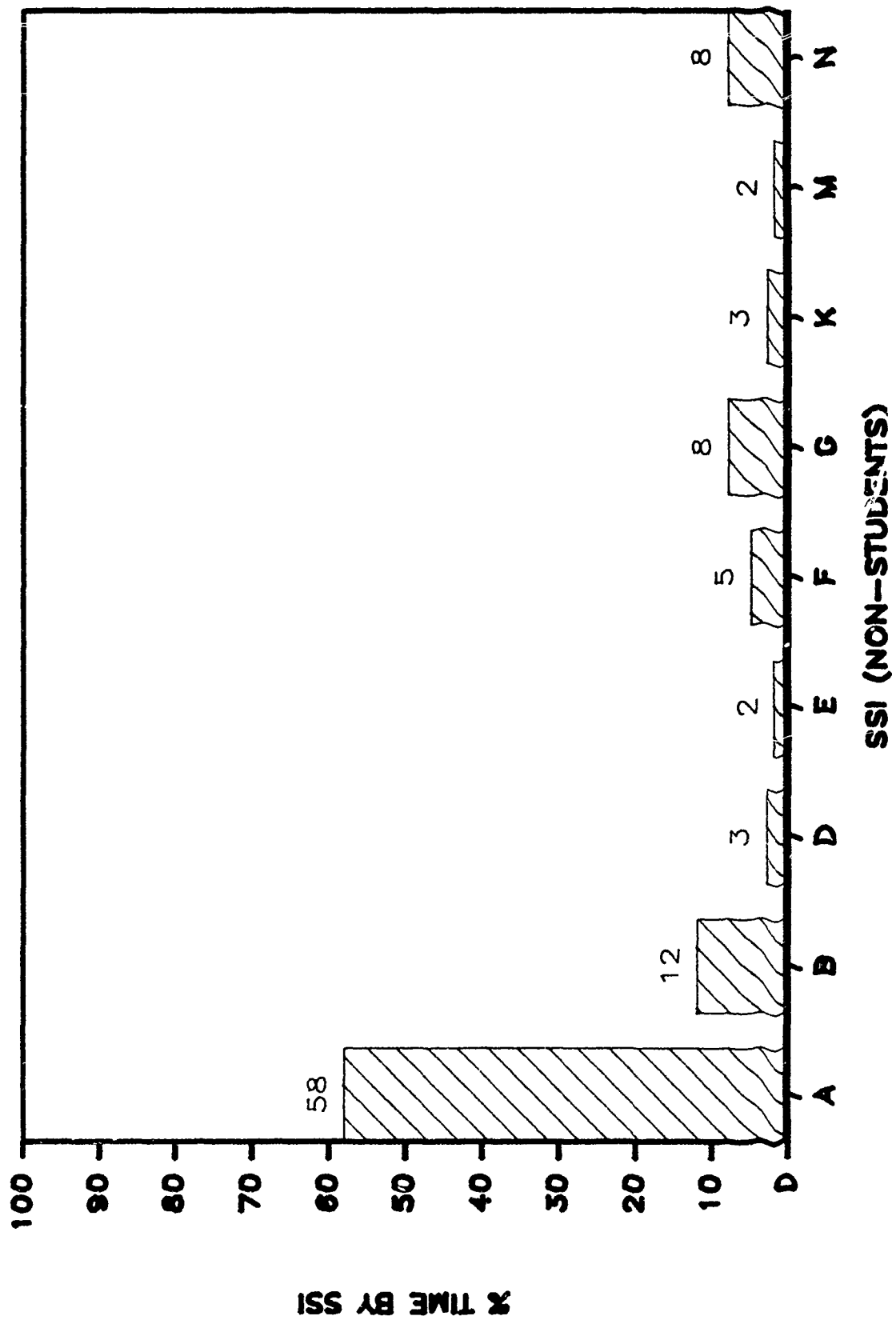


FIGURE 29

FIGURE 30

TOOTH REMOVAL ON CHILDREN

BY NON STUDENTS

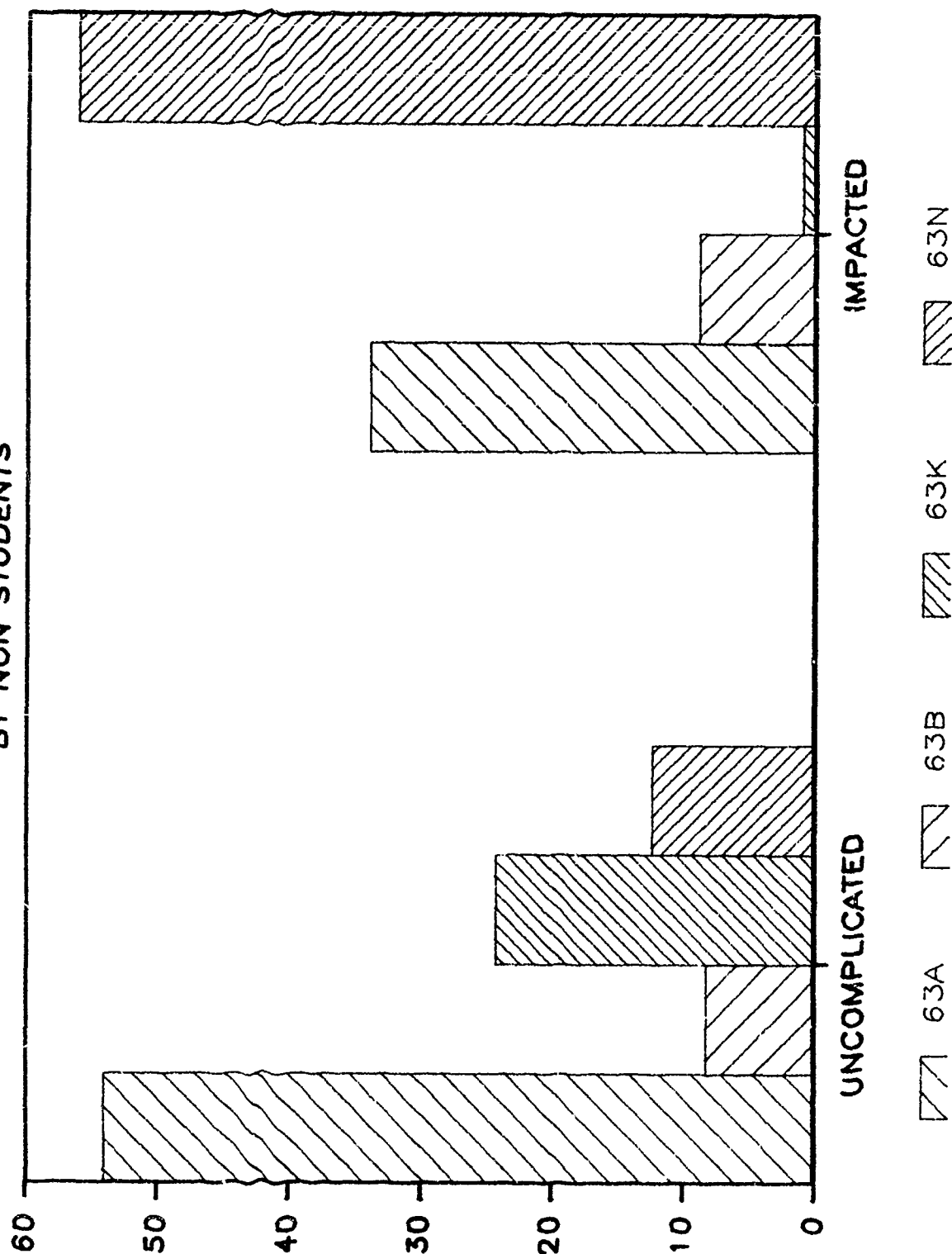
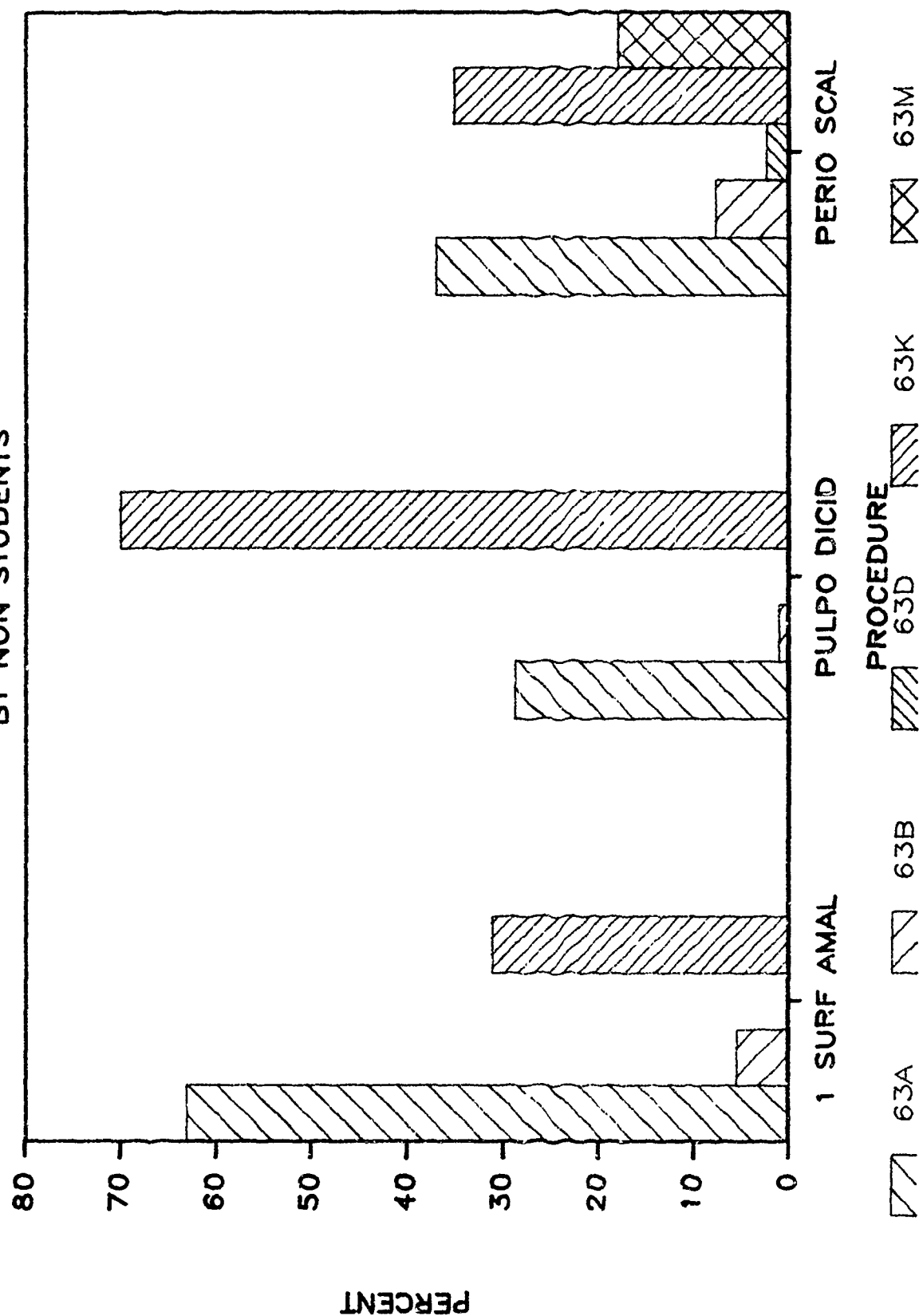


FIGURE 31

PROCEDURES ON CHILDREN BY NON STUDENTS



PROCEDURES ON CHILDREN ORTHODONTIC

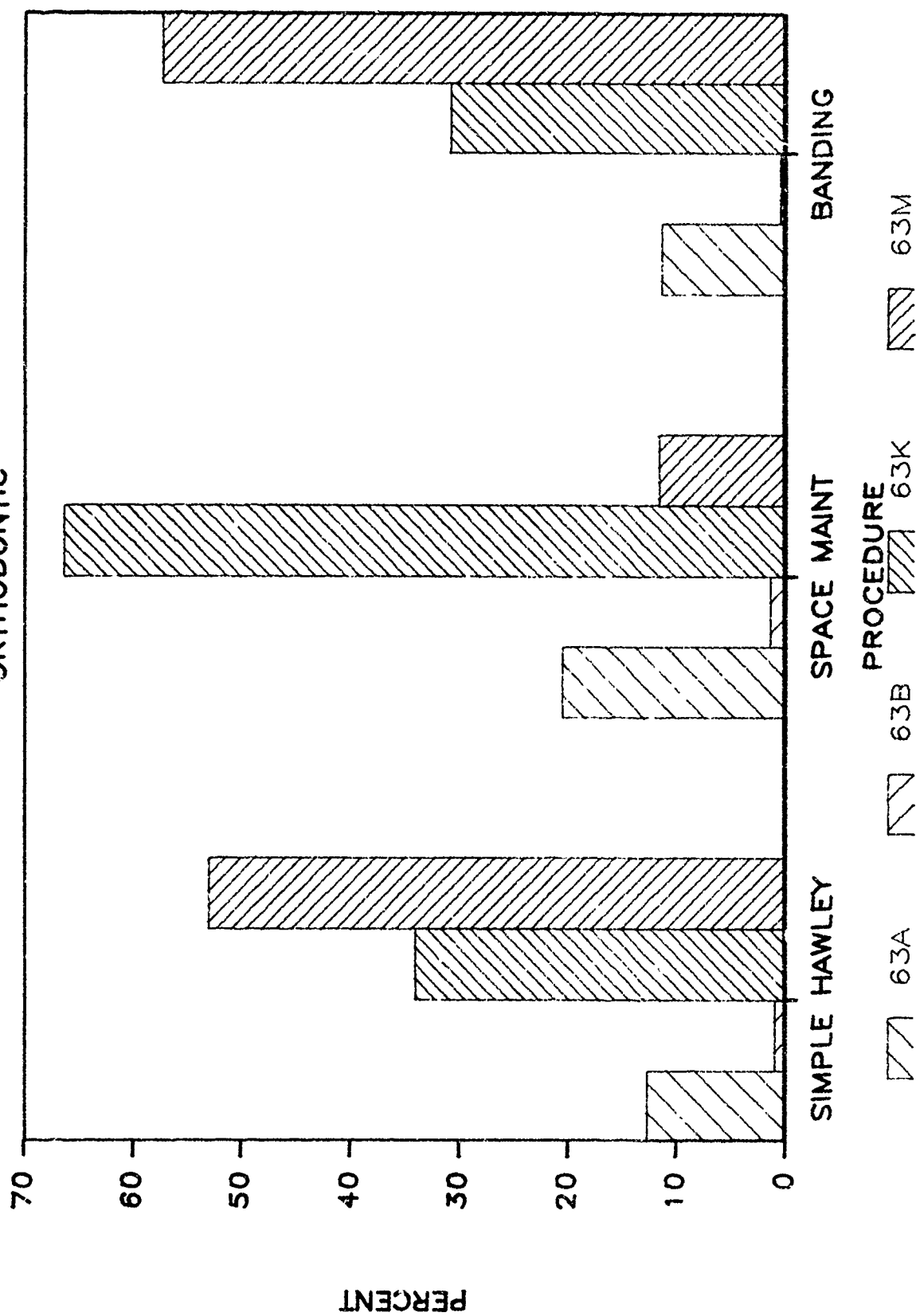


FIGURE 32

FIGURE 33

DAILY CONTACT HOURS PER SSI

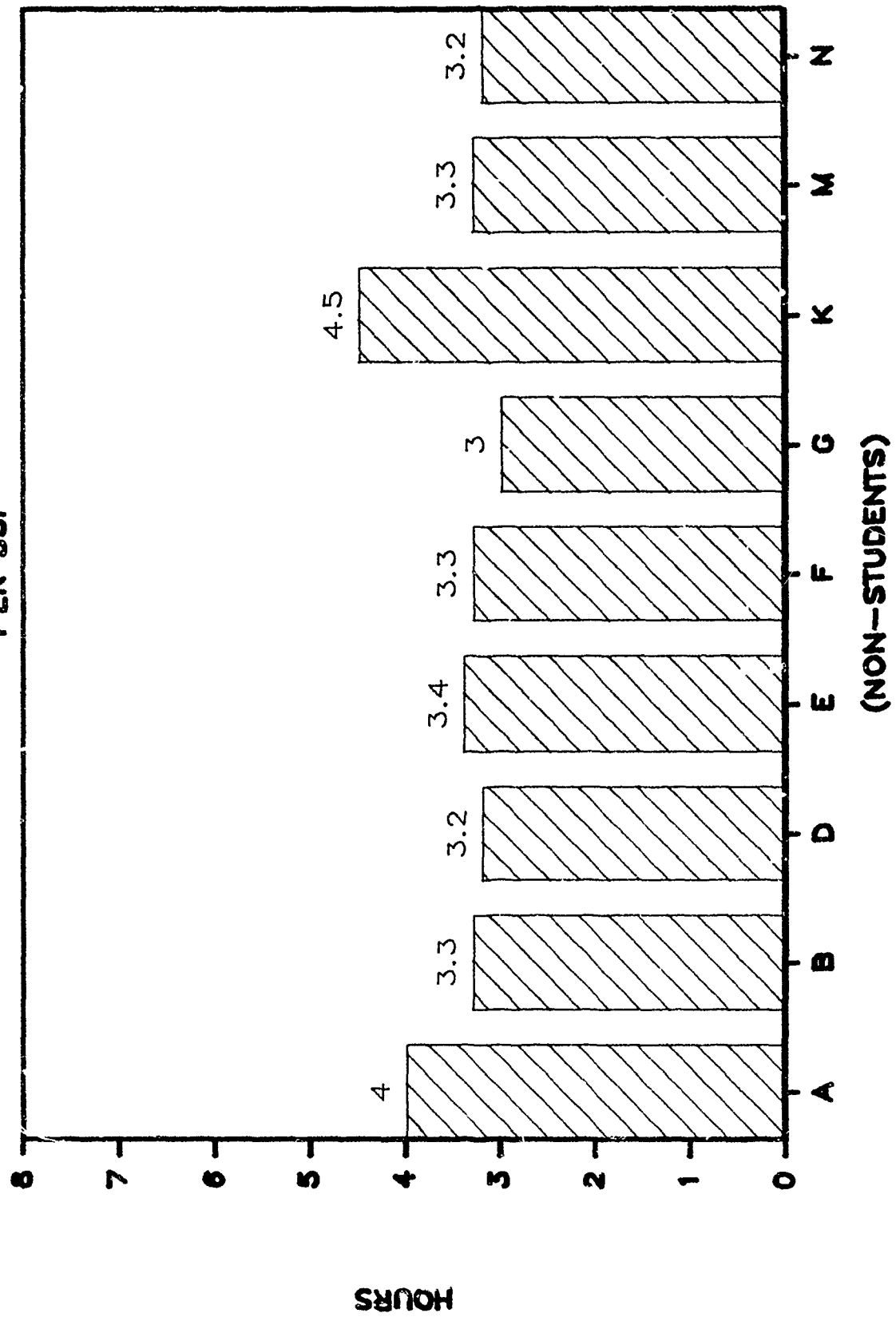
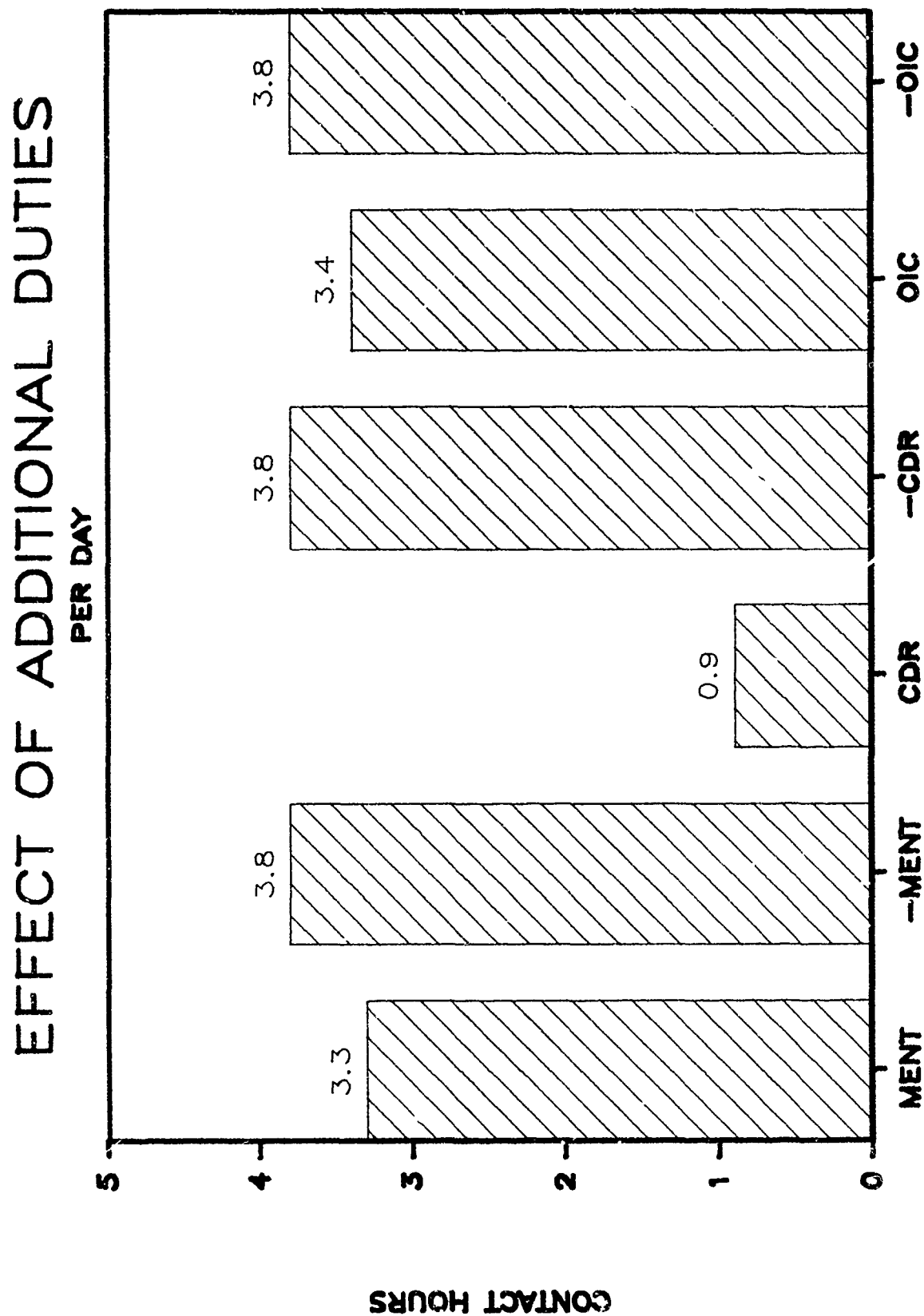


FIGURE 34



CONTACT HOURS

FIGURE 35

WEIGHTED WORK UNITS PER CONTACT HOUR

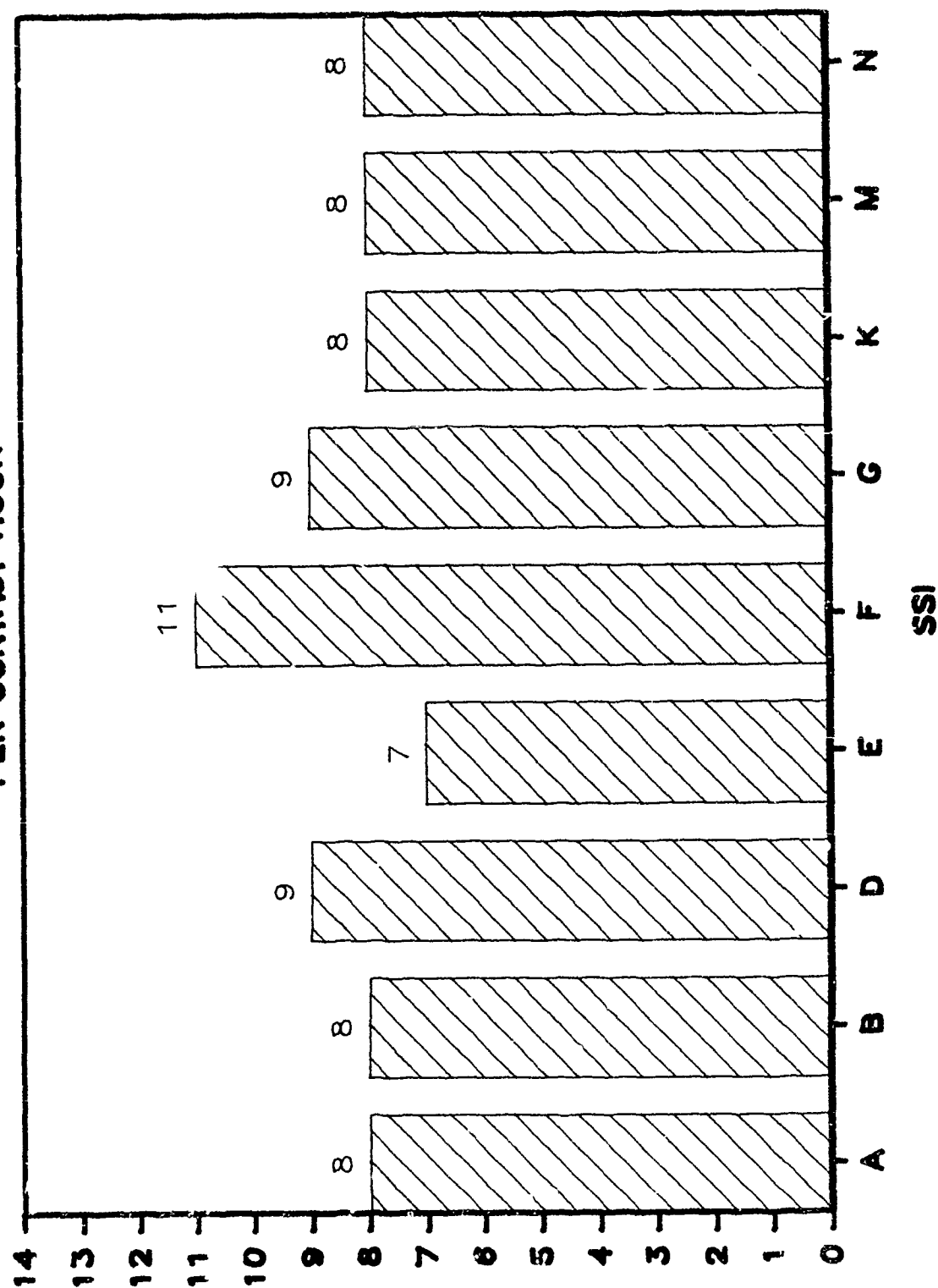


FIGURE 36

DAILY WEIGHTED WORK UNITS PER DENTIST

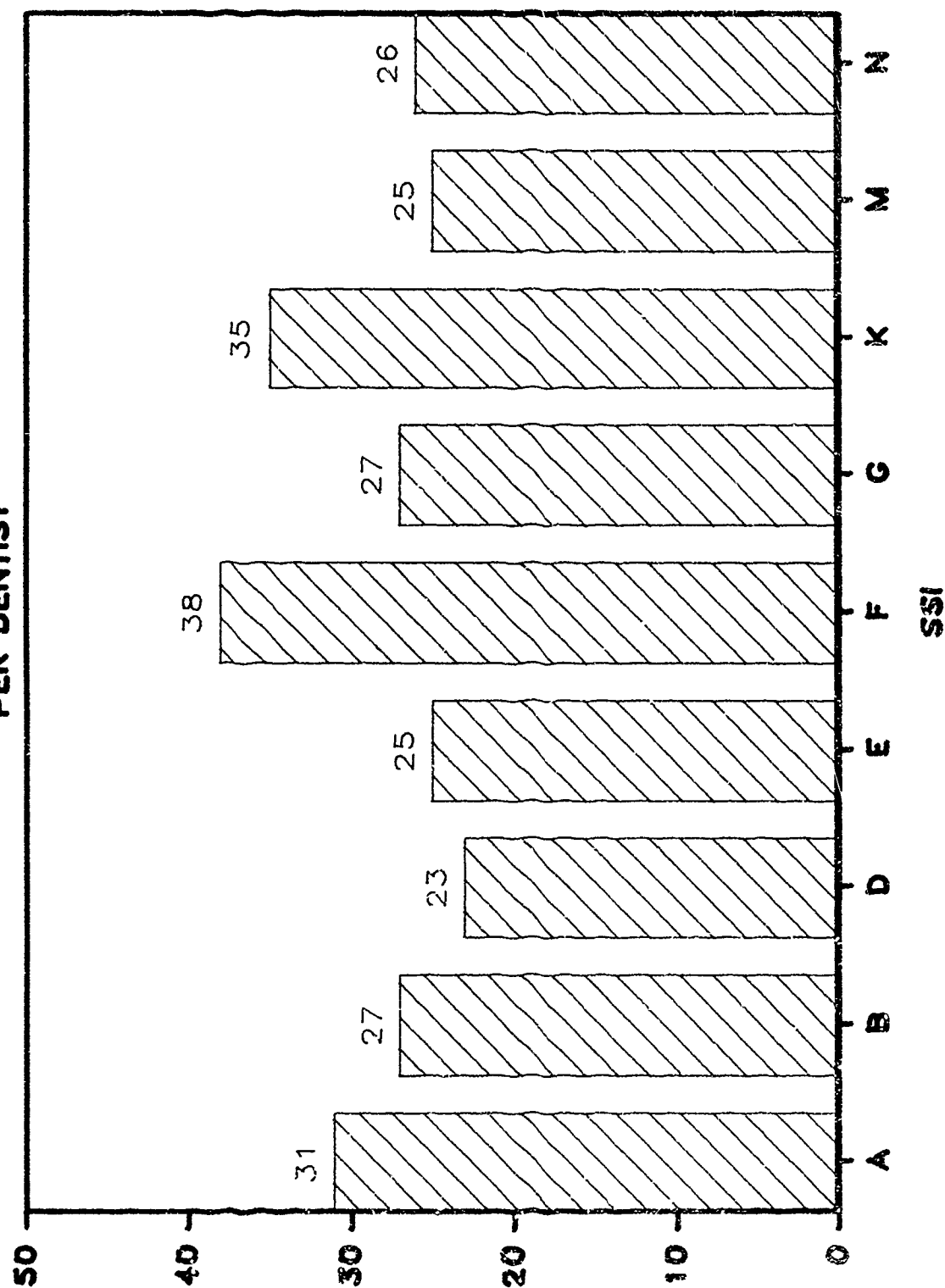


FIGURE 37

DOLLARS PER CONTACT HOUR

PER DENTIST

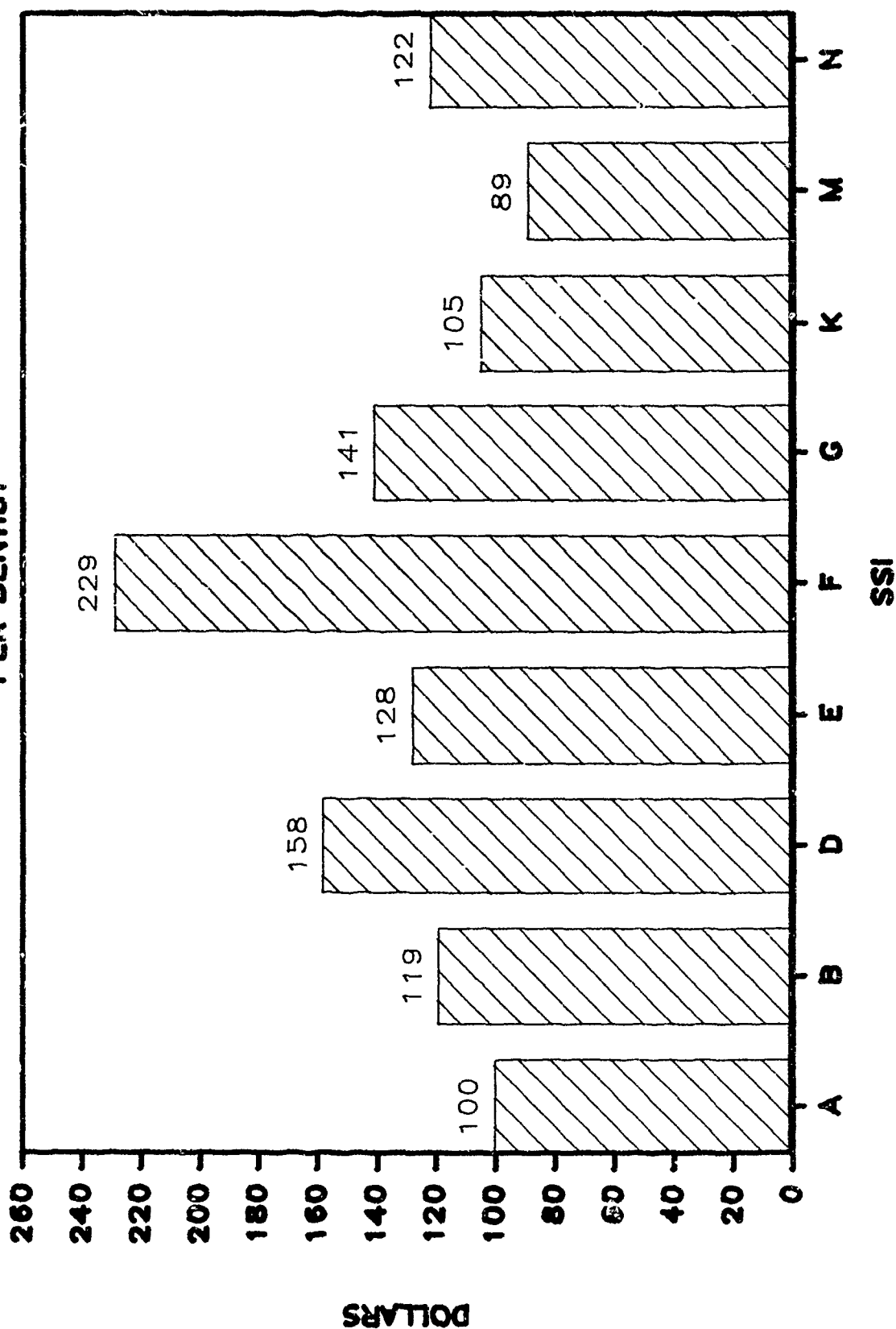
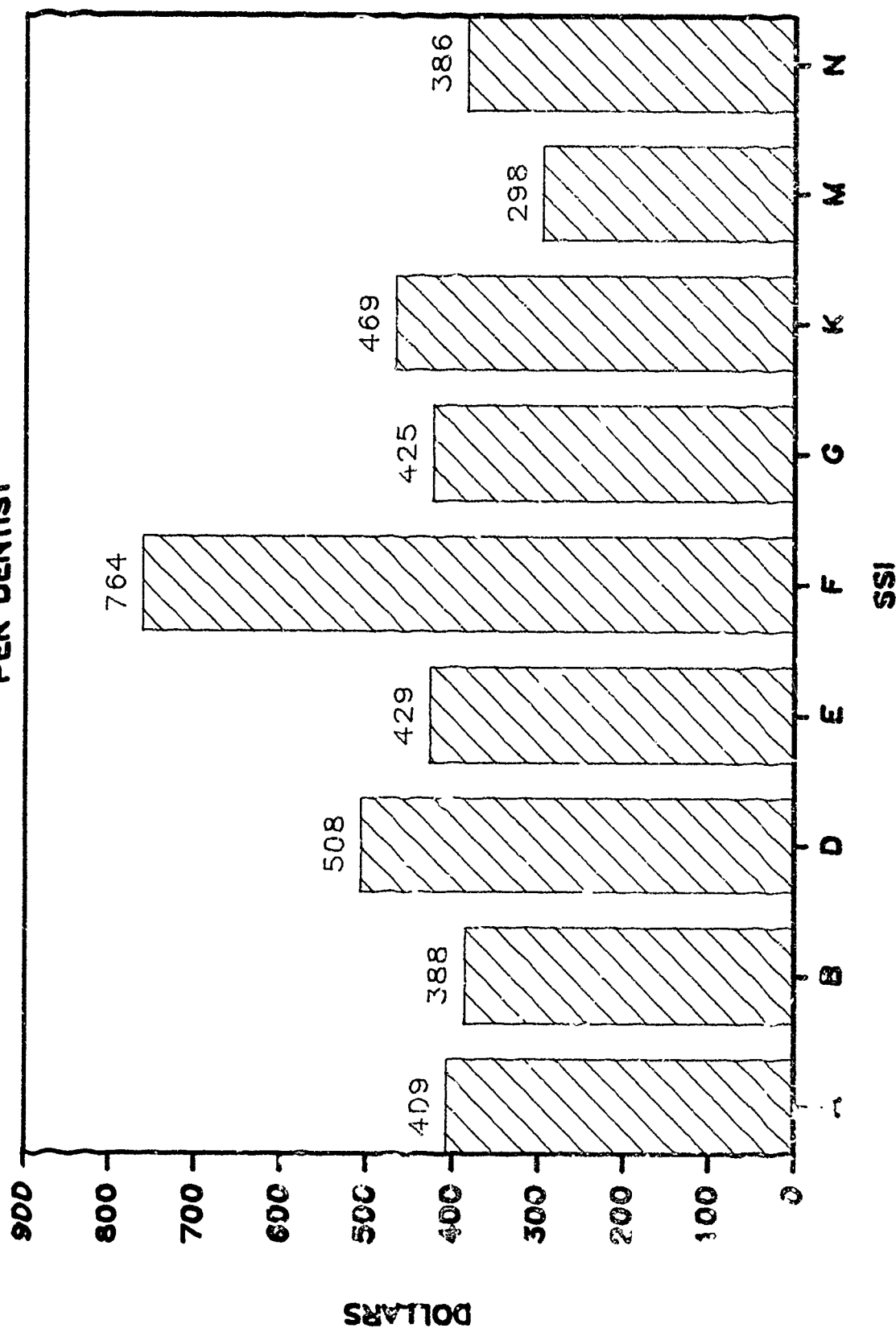


FIGURE 3B

DAILY DOLLAR VALUE PER DENTIST



PRODUCTIVITY OF CDRS AND CLINIC CHIEF

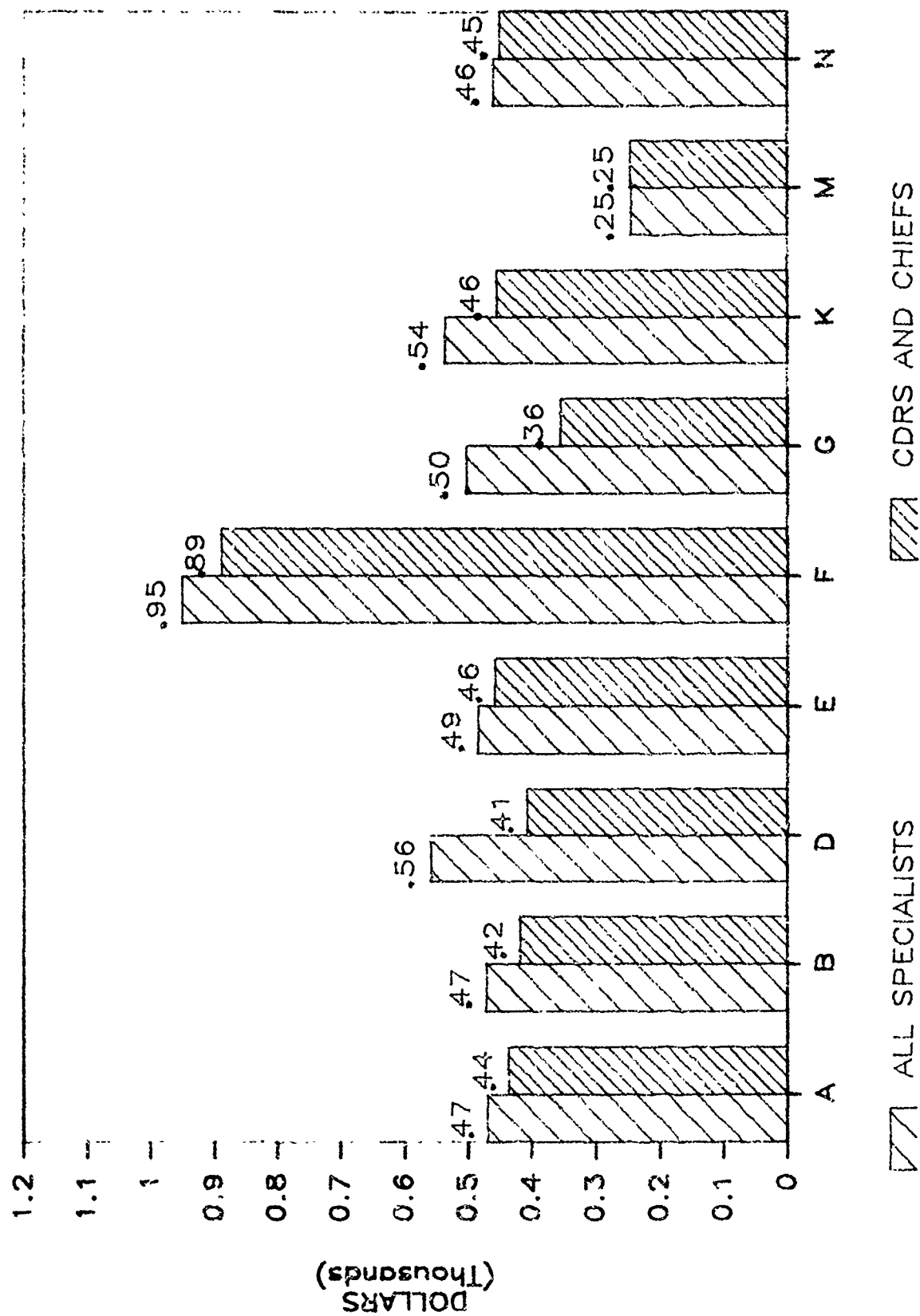


FIGURE 40

% ADDITIONAL CONTACT TIME TO EQUAL FIXED PROSTHODONTISTS' PRODUCTIVITY

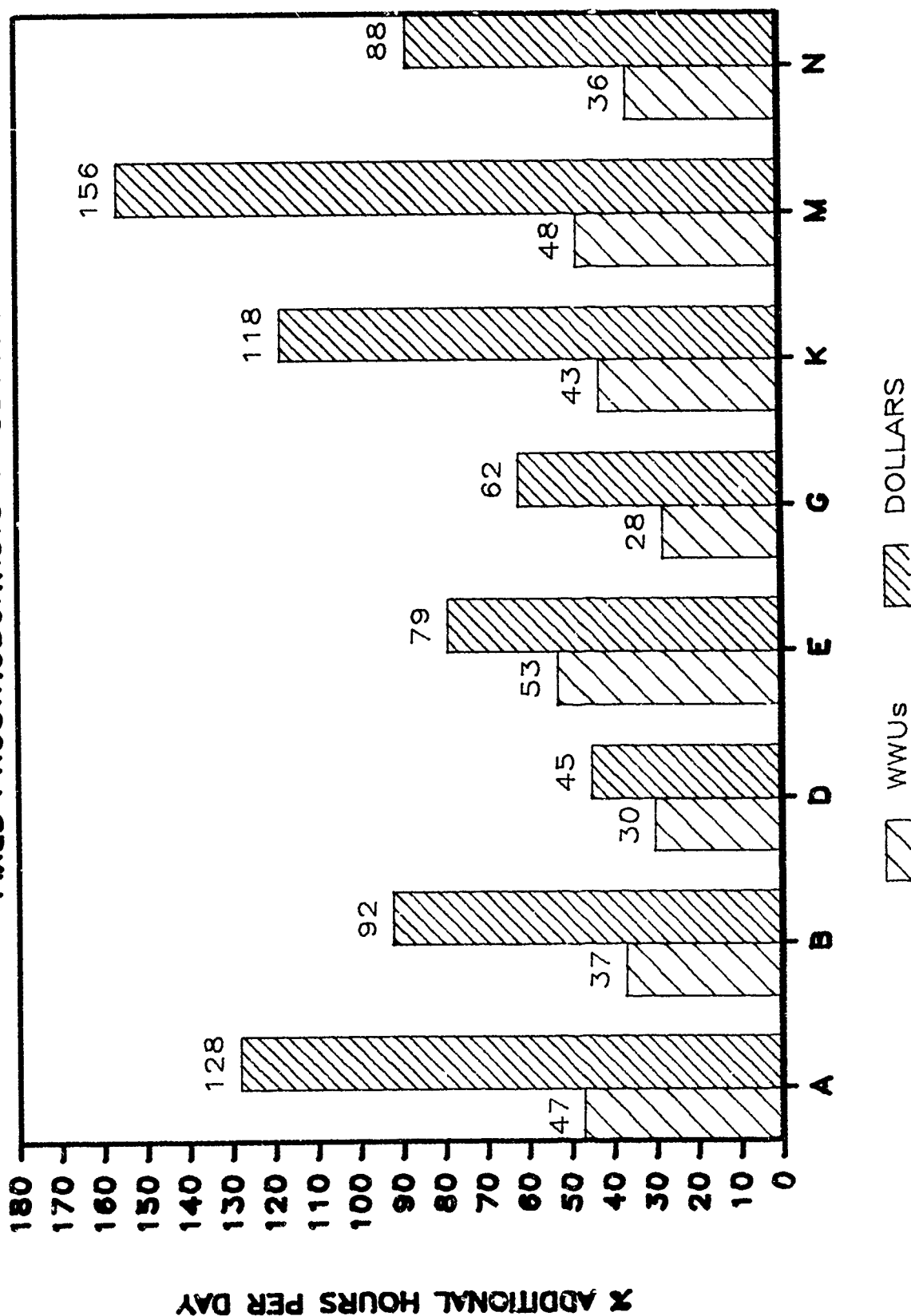
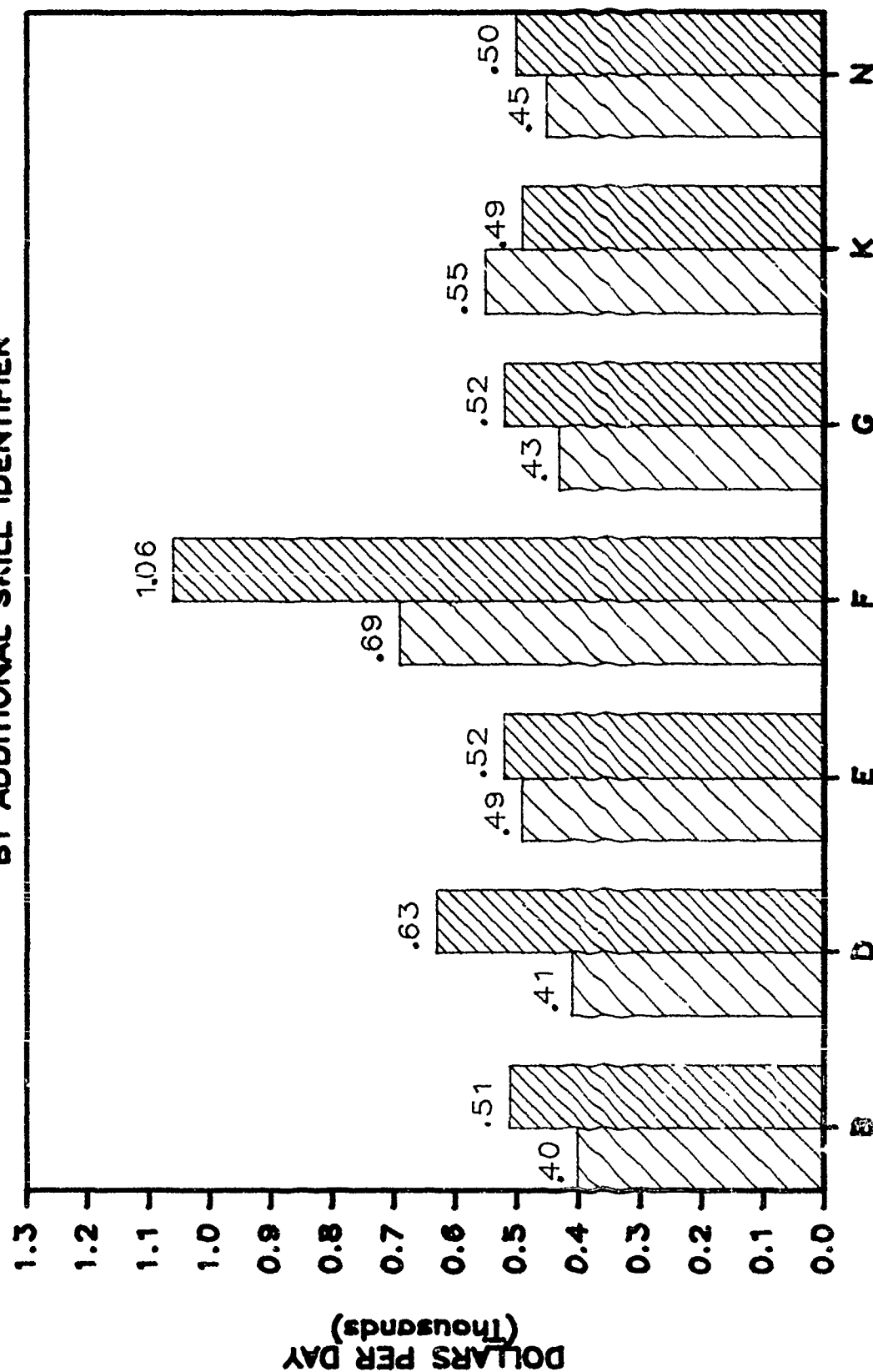


FIGURE 39

PRODUCTIVITY BY ADDITIONAL SKILL IDENTIFIER



BOARD ELIGIBLE 9C

BOARD CERTIFIED 9B

FIGURE 42

PRODUCTIVITY OF MENTORS

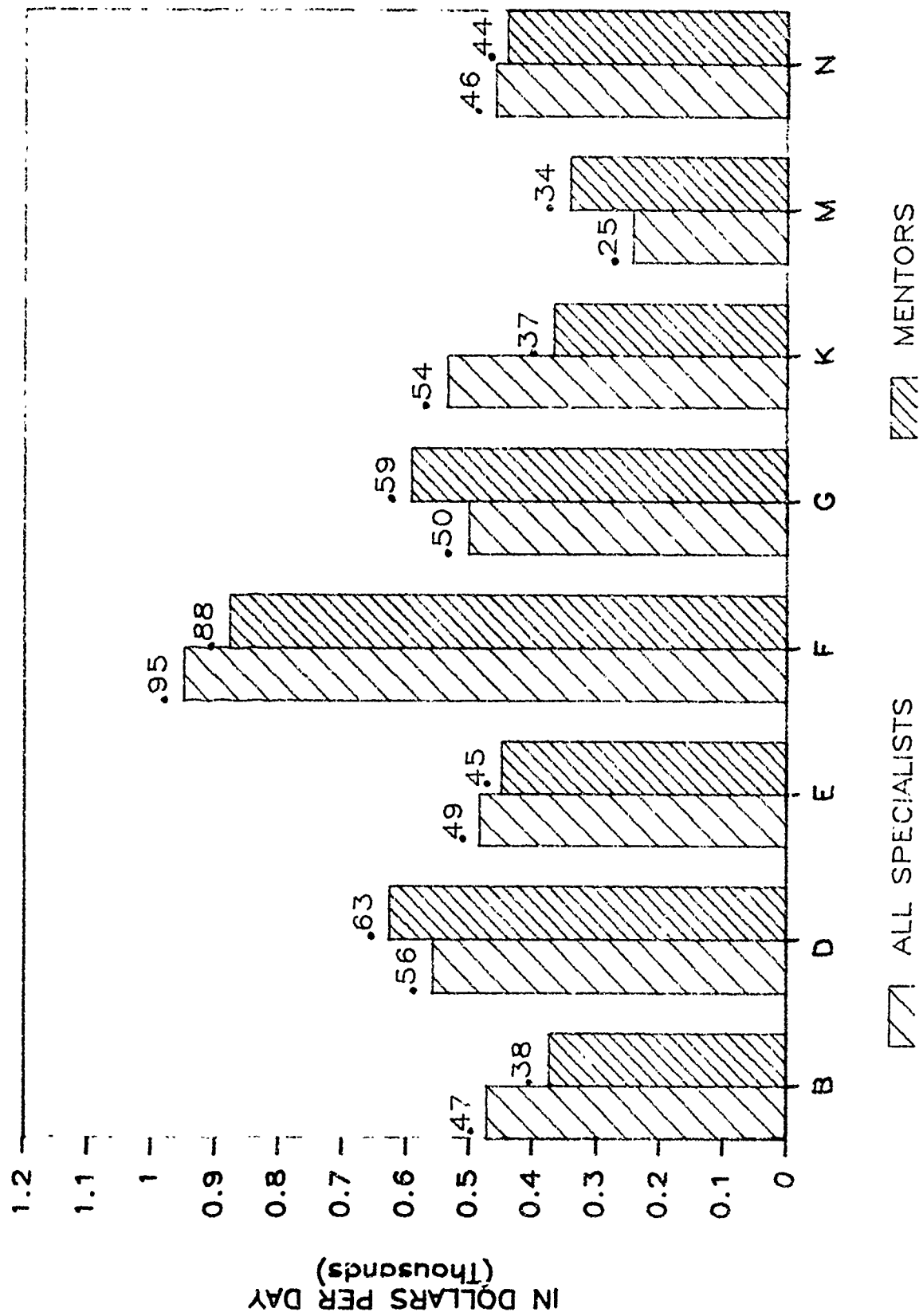
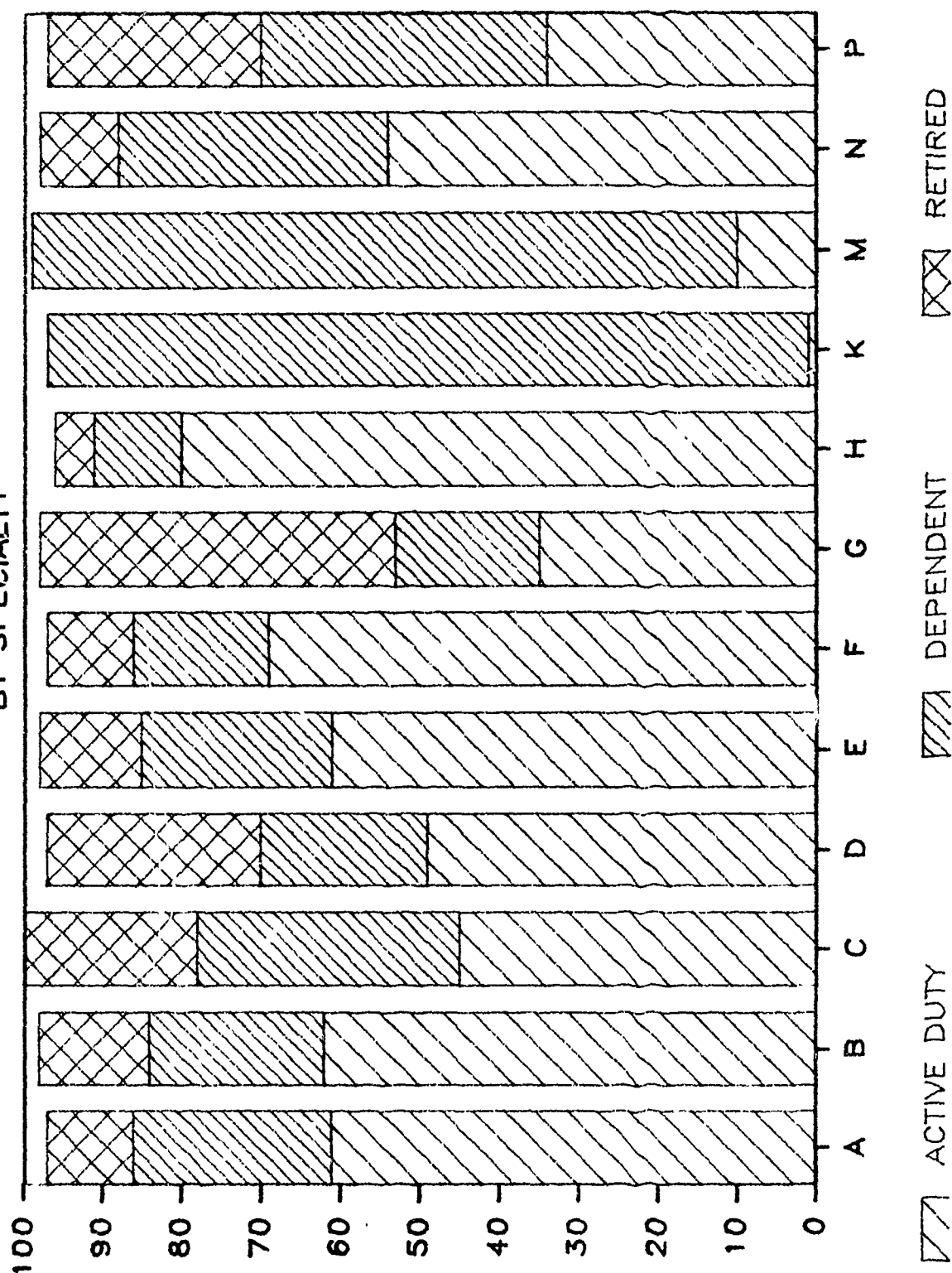


FIGURE 43

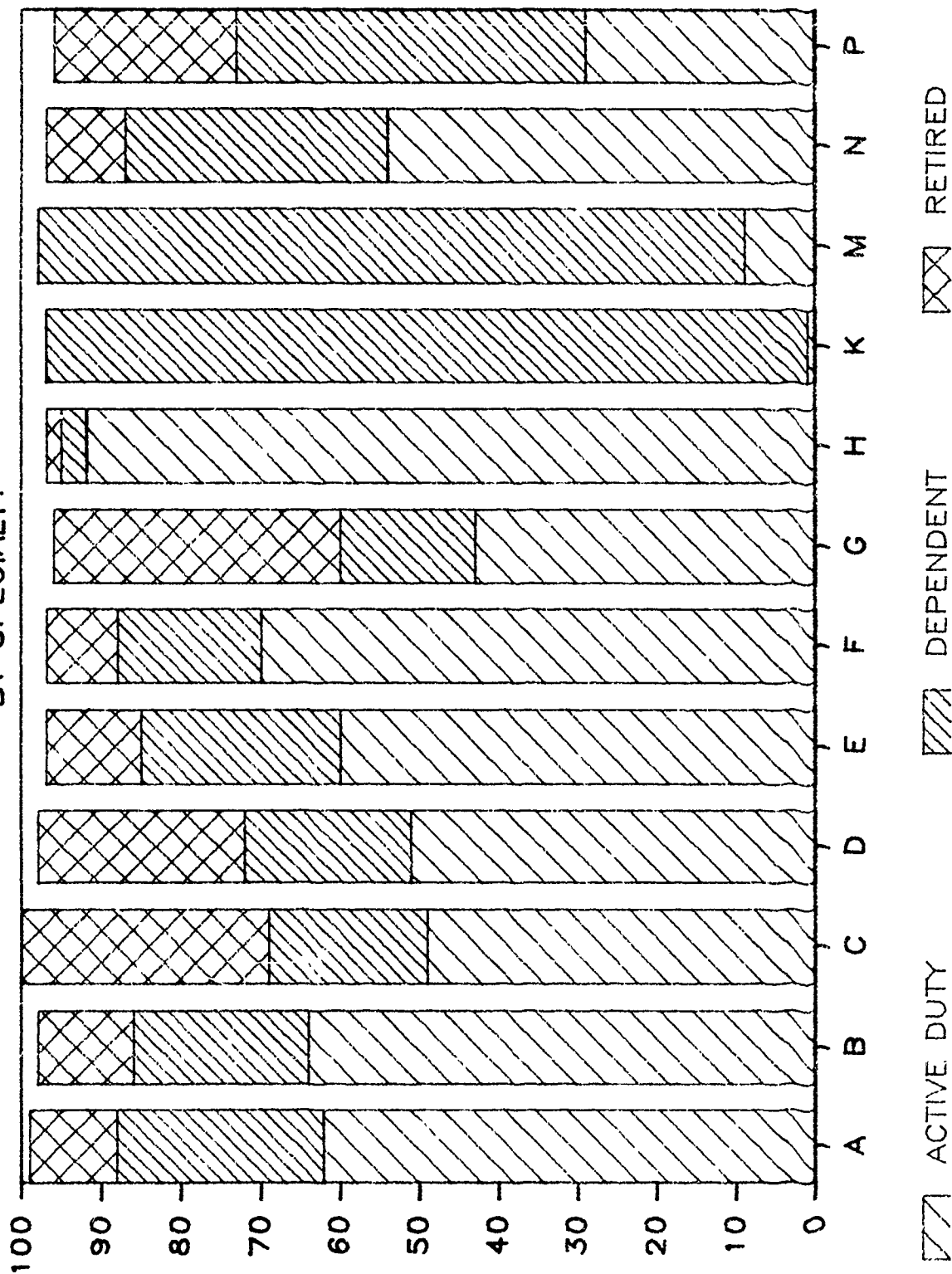
DISTRIBUTION OF PATIENT CATEGORIES

BY SPECIALTY



% OF TREATMENT TIME

DISTRIBUTION OF PATIENT CATEGORIES BY SPECIALTY



% OF PATIENTS

FIGURE 45

AVERAGE PROCEDURE TIME BY YEAR GROUP

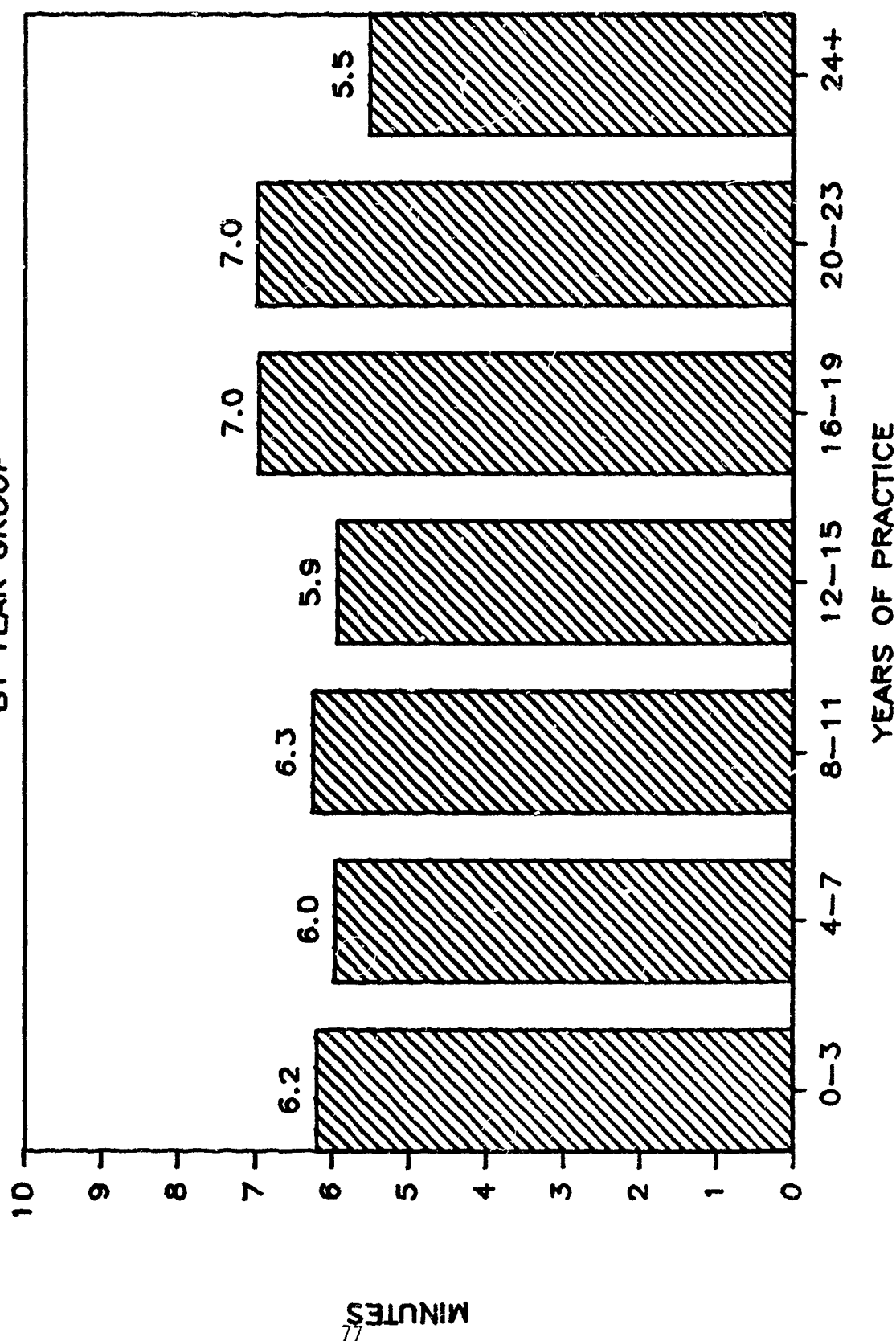
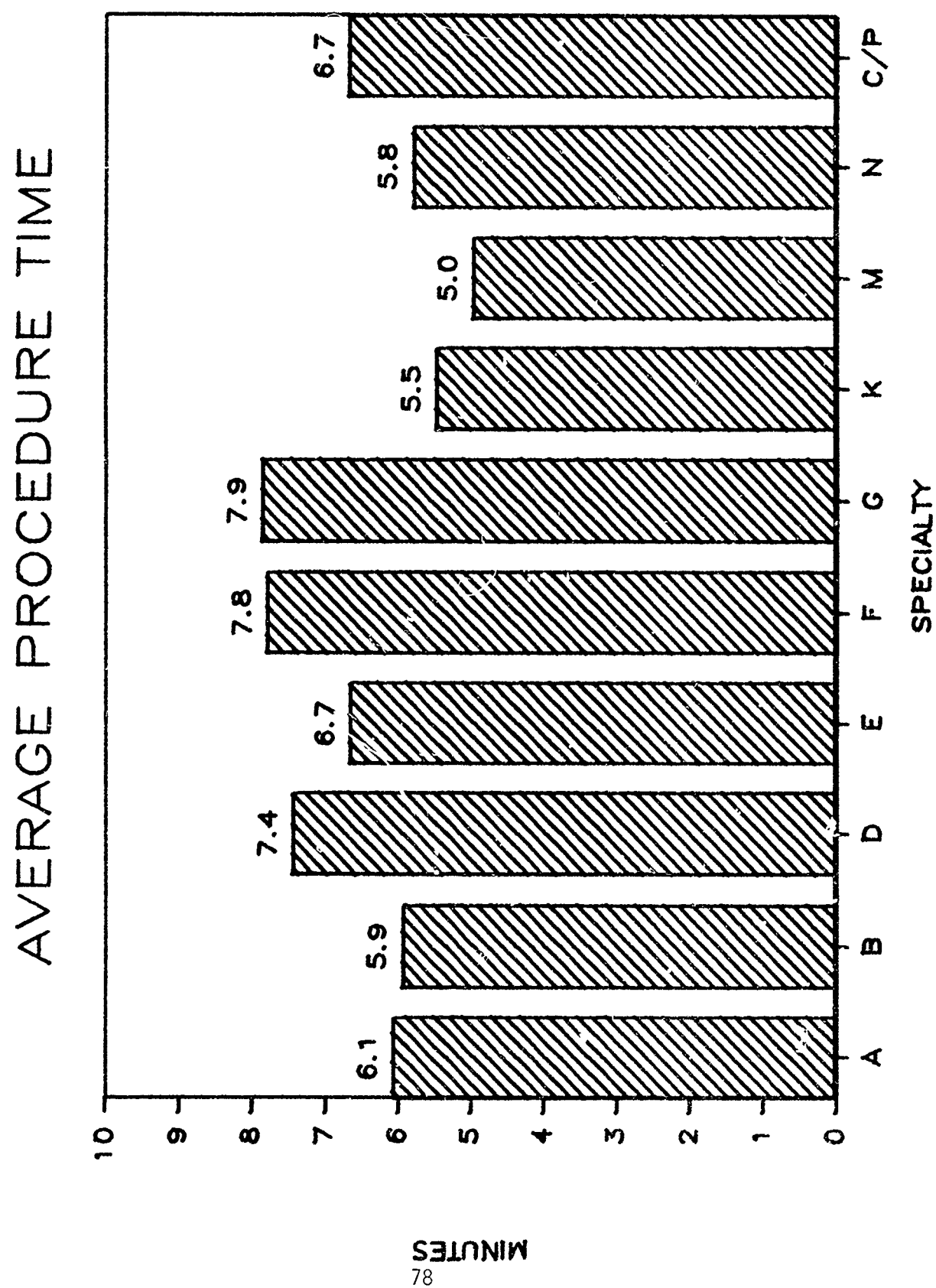


FIGURE 4 6



APPENDIX B

TABLES

TABLE 1
AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION,
YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	mean	median	mode	mean	median	mode	mean	median	mode
AGE OF RESPONDENT	37.70	35	31	32.08	31	31	41.25	40	37
YEARS OF CIVILIAN PRACTICE	1.04	0	0	1.03	0.0	0.0	1.08	0.0	0.0
YEARS OF MILITARY PRACTICE	8.18	6	2	4.33	4	2	15.00	13	11
YEAR OF DENTAL DEGREE	1974	1977	1982	1978	1979	1982	1968	1970	1972
YEAR AWARDED SPECIALTY	****	****	****	****	****	****	1976	1977	1982
YEARS LEFT TO RETIRE	12.09	13	15	15.11	16	15	7.6	8	8
NUMBER OF MOVES	3.8	3	1	2.1	2	1	6.4	6	5

* Data were not appropriate for that cell.

TABLE 2
DUTY ASSIGNMENT (%)*

	ALL DENTISTS	GENERAL DENTISTS	DENTAL SPECIALISTS
CLINICAL DENTIST	69.9	81.9	54.3
PROGRAM DIRECTOR	2.3	0.5	4.8
CLINIC DIRECTOR	14.4	6.3	25.2
UNIT COMMANDER	3.5	0.1	7.4
LABORATORY OFFICER	0.3	0.1	0.6
HEADQUARTERS STAFF	1.0	0.4	1.9
ACADEMY INSTRUCTOR	0.3	0.2	0.5
RESEARCH POSITION	0.8	0.2	1.4
OTHER	7.5	10.4	3.7

* Percentage of responses listed. Respondents are assigned one primary duty which is exclusive of other duties, thus total of responses, in each category equals 100%.

TABLE 3
ADDITIONAL DUTIES (%)^{*}

	ALL DENTISTS	GENERAL DENTISTS	DENTAL SPECIALISTS
PREVENTIVE DENTISTRY OFFICER...	16.0	21.6	8.6
PHYSICAL TRAINING OFFICER.....	5.2	5.8	4.4
DEPUTY COMMANDER.....	5.1	1.6	9.8
SUPPLY OFFICER.....	12.1	13.8	9.8
EDUCATION OFFICER.....	10.8	8.1	14.3
PRECIOUS METALS OFFICER.....	15.7	13.5	18.7
PROGRAM MENTOR.....	13.4	1.8	28.7
OTHER DUTIES.....	78.1	80.9	74.3

* Percentage of cases listed. Respondents may be assigned several additional duties; total of responses may exceed 100%.

TABLE 4
HRS/WK IN SELECTED ACTIVITY

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*
TREATING PATIENTS	33.4	32.0	32.3	35.4	32.1	32.4	30.3	31.3	31.7
LABORATORY PROCEDURES	2.8	2.3	2.2	3.0	2.5	2.4	2.5	1.3	1.2
COMPLETING RECORDS**	3.2	1.8	1.9	3.2	1.9	1.9	3.2	1.6	1.8
PROFESSIONAL READING	3.9	2.1	2.2	3.4	2.1	2.1	4.7	2.4	2.5
PERSONNEL MATTERS	1.9	***	***	1.0	***	***	3.3	***	***
PERSONAL TIME/OTHER	***	4.6	4.8	***	4.5	4.6	***	6.0	6.1

*Source: 1982 Survey of Dental Practice.

**The Army survey asked for time to complete dental records and forms.

The ADA survey times for bookkeeping and filing prepayment forms were combined.

***The Army survey asked for time required for administrative purposes such as maintenance of the dental officer's personnel records.

***The ADA survey asked for time used for personal matters.

TABLE 5

PERCENTAGE OF TIME SPENT IN SELECTED ACTIVITIES

	ALL DENTISTS		GENERAL DENTISTS		SPECIALISTS	
	ARMY	SOLO* INDEP*	ARMY	SOLO* INDEP*	ARMY	SOLO* INDEP*
DIAGNOSTIC PROCEDURES	10.8	9.6 9.6	9.3	9.9 9.9	14.3	7.5 7.9
PREVENTION	3.6	9.5 8.6	3.6	10.3 9.4	4.0	4.4 4.0
ADJUNCTIVE SERVICES**	5.9		6.4		5.5	
PALLIATIVE/EMERGENCY**	6.3		6.7		4.4	
OPERATIVE DENTISTRY	27.7	38.0 37.5	37.0	43.0 42.6	14.2	7.2 7.0
ENDODONTICS	7.6	6.2 7.1	6.5	6.5 7.2	10.7	4.6 6.6
PROSTHETICS	17.6	14.4 14.8	13.7	16.3 16.9	26.2	2.5
PERIODONTICS	5.8	5.0 4.9	3.8	4.3 4.3	0.4	8.8 8.8
ORTHODONTICS	3.7	7.6 7.6	1.1	2.4 2.1	8.6	39.8 39.7
ORAL SURGERY	11.0	6.5 6.5	10.8	4.0 4.1	12.9	22.3 20.7
GENERAL PRACTICE***		3.4 3.4		3.5 3.6		2.9 3.1

*Source: 1982 Survey of Dental Practice.

**The Army survey asked for ADJUNCTIVE and PALLIATIVE/EMERGENCY SERVICES in separate categories.

***The ADA survey asked for GENERAL PRACTICE activities.

TABLE 6

Percentage of All Dentists Using Specified Types of Equipment, Four-Handed Dentistry Techniques, Mean number of Chairside Assistants, and Mean number of operatories used

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*
COMPOSITE LIGHT CURE	50.3	47.7	49.3	64.9	52.1	54.3	38.9	18.0	17.8
FIBER OPTIC HANDPIECE	61.7	26.0	27.8	72.3	28.4	30.7	59.8	9.9	9.8
PANORAMIC X-RAY	81.4	27.3	31.5	89.2	23.5	28.0	88.7	52.2	36.3
ELECTROSURGICAL UNIT	29.7	36.8	39.5	34.8	38.4	41.3	29.1	26.1	28.2
NITROUS OXIDE ANALGESIA	28.6	45.4	49.6	28.3	46.6	50.9	36.3	37.7	41.5
% "4-HANDED DENTISTRY"	62.4	54.2	57.3	71.3	55.4	58.9	48.6	46.1	46.9
NO. OF CHAIRSIDE ASSTN.	1.5	1.2	1.5	1.6	**	**	1.5	**	**
NO. OF OPERATORIES USED	1.8	2.6	3.2	1.8	2.6	3.1	1.7	3.1	3.8

*Source: 1982 Survey of Dental Practice.

**Data given only for "all dentists."

Number of Appointments, Patient Visits Per Week, and Waiting Times For Patients of Record

86
$$**((1+2+3)-4) \text{ above}$$

TABLE 8
BUSYNESS

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*
TOO BUSY TO TREAT ALL	21.3	5.5	4.8	18.2	6.2	5.5	26.4	0.5	0.4
WAS OVERWORKED	38.5	9.9	9.8	38.3	10.3	10.3	39.0	7.3	7.1
PROVIDED CARE/NOT OVERWOKED	38.1	50.2	50.5	40.7	50.6	50.8	34.0	47.6	49.2
NOT BUSY ENOUGH	2.1	34.5	34.8	2.8	33.0	33.5	1.2	44.5	43.3

*Source: 1982 Survey of Dental Practice.

TABLE 9
COMPARISONS OF MEAN TIMES BETWEEN SPECIALTY GROUPS

Groups:				
General dentists (A), General Dentistry Specialists (B), General dentists and General Dentistry Specialists (AB), Oral Medicine and Oral Pathologists (CP), Periodontists (D), Endodontists (E), Fixed Prosthodontists (F), Removable Prosthodontists (G), Pedodontists (K), Orthodontists (M), Oral Surgeons (N)				
	mean time Am Cpm	mean time Bm Cpm	mean time ABm Cpm	mean time Am B
ORAL DIAGNOSIS	10 14	13 14	10 14	10 13m
0140 COMPREHENSIVE EX	4 6	4 6	4 6	4 4
0130 OTHER EXAM	6 7	5 7	6 7	6 5
0120 ORAL EXAM ANNUAL				
PEDODONTICS				
	mean time Am Km	mean time Bm Km	mean time ABm Km	mean time Am Bm
2960 RUBBER DAM	4 3	3 3	4 3	4 3
2150 AMALGAM 2 SURFAC	14 10	15 10	14 10	14 15
2140 AMALGAM 1 SURFAC	9 7	9 7	9 7	9 9
2940 TEMPORARY REST	8 5	6 5	7 5	8 6
7110 TOOTH REMOVAL	7 5	6 5	7 5	7 6
6719 CR STAINLESS INT	17 8	13 8	16 8	17 13
2954 INTERMEDIATE BIS	2 1	2 1	2 1	2 2
2952 RESTORATION POLI	4 2	4 2	4 2	4 4
1120 CHILD PROPHYLAXIS	12 10	14 10	12 10	12 14
3110 PULPTOMY DECIDUOUS	13 8	26 8	13 8	13 26
6720 STAINLESS ST CR PERM	19 13	22 13	19 13	19 22
2336 RESIN COMPLEX	15 11	14 11	15 11	15 14
8511 REMBL APP ADJ	9 8	7 8	9 8	9 7
2320 RESIN SIMPLE	10 8	9 8	10 8	10 9
2341 GLAZING	2 1	2 1	2 1	2 2
3120 PULPTOMY PERMANENT	3 2	3 2	3 2	3 3
8410 BANDING	8 6	11 6	8 6	8 11
2340 ACID ETCH	2 2	2 2	2 2	2 2
1240 TOPICAL APPLICATION	4 5	4 5	4 5	4 4
ENDODONTICS				
	mean time Am Em	mean time Bm Em	mean time ABm Em	mean time Am Bm
3333 MOLAR 3-CANALS	44 27	32 27	42 27	44 32
3311 ANTERIOR 1 CANAL	28 19	26 19	28 19	28 26
3322 PREMOLAR 2 CANAL	36 23	30 23	35 23	36 30
3321 PREMOLAR 1 CANAL	32 21	23 21	31 21	32 23
3334 MOLAR 4 CANALS	43 27	53 27	44 27	43 53
3360 ENDO INTERIM TX	25 22	22 22	25 22	25 22
3230 PUPLECTOMY TOT	21 19	19 19	21 19	21 19
3220 PULPOTOMY PART	16 13	16 13	16 13	16 16
3410 APICOECTOMY	35 23	20 23	33 23	35 20
3960 BLEACHING	15 14	10 14	15 14	15 10
3231 PUPLECTOMY PARTI	21 22	22 22	21 22	21 22

TABLE 9 (CONTINUED)

	mean time		mean time		mean time		mean time	
	Rm	Dm	Rm	Dm	Rm	Dm	Rm	Bm
PERIODONTICS								
4210 GINGIVECTOMY	13 10	1- 10	13 10	1- 10	13 11	1- 11	13 11	1- 11
4260 OSSEOUS SURGERY	16 11	12 11	16 11	12 11	16 12	12 12	16 12	12 12
4342 PERIO SCALE	5 4	4 4	5 4	4 4	5 4	4 4	5 4	4 4
4240 GINGIVAL FLAP	11 9	11 9	11 9	11 9	11 11	11 11	11 11	11 11
4331 OCCLUSAL ADJ COM	32 26	27 26	32 26	27 26	32 27	27 27	32 27	27 27
4343 PERIO SCALE AND	9 9	9 9	9 9	9 9	9 9	9 9	9 9	9 9
4230 DISTAL WEDGE	8 9	4 9	8 9	4 9	8 4	4 4	8 4	4 4
4220 GINGIVAL CURETTA	8 8	5 8	8 8	5 8	8 5	5 5	8 5	5 5
4330 OCCLUSAL ADJ LIM	8 10	10 10	8 10	10 10	8 10	10 10	8 10	10 10
4250 MUCOGINGIVAL FLA	7 9	5 9	7 9	5 9	7 5	5 5	7 5	5 5
REMOVABLE PROSTHETICS								
5110 MAXILLARY COMP	23 18	23 18	23 18	23 18	23 21	23 21	23 21	23 21
5206 CAST MET MAN RES	22 18	21 18	22 18	21 18	22 21	22 21	22 21	22 21
5120 MANDIBULAR COMP	23 18	21 18	23 18	21 18	23 21	23 21	23 21	23 21
5205 CAST MET MAX RES	22 20	23 20	22 20	23 20	22 23	22 23	22 23	22 23
5621 REPAIR RPD	18 16	18 16	18 16	18 16	18 18	18 18	18 18	18 18
5201 RESIN MAXILLARY	19 18	19 18	19 18	19 18	19 19	19 19	19 19	19 19
5731 RELINE COMP MAX	19 18	26 18	19 18	26 18	19 26	19 26	19 26	19 26
5611 REPAIR COMP DTR	17 21	16 21	17 21	16 21	17 16	17 16	17 16	17 16
FIXED PROSTHETICS								
6712 CR ACRYL AUTOPOL	17 9	16 9	17 9	16 9	17 16	17 16	17 16	17 16
6718 DOWEL AND CORE	21 12	19 12	21 12	19 12	21 19	21 19	21 19	21 19
6719 CR STAINLESS INT	17 11	13 11	17 11	13 11	17 13	17 13	17 13	17 13
6750 CR PFM	23 16	18 16	23 16	18 16	23 18	23 18	23 18	23 18
6790 CR COMP MET	28 20	29 20	28 20	29 20	28 29	28 29	28 29	28 29
6611 STAIN AND GLAZE	13 8	17 8	13 8	17 8	13 17	13 17	13 17	13 17
6130 RET PFM	18 11	12 11	18 11	12 11	18 12	18 12	18 12	18 12
6240 PONTIC PFM	14 10	10 10	14 10	10 10	14 10	14 10	14 10	14 10
ORAL SURGERY								
7130 TOOTH REM IMP	16 9	14 9	16 9	14 9	16 14	16 14	16 14	16 14
7120 TOOTH REM COMP	14 6	11 6	14 6	11 6	14 11	14 11	14 11	14 11
7110 TOOTH REMOVAL	7 4	6 4	7 4	6 4	7 6	7 6	7 6	7 6
7310 ALVEOLOPLASTY W	6 4	7 4	6 4	7 4	6 7	6 7	6 7	6 7
7511 INCISION DRAINAG	10 9	9 9	10 9	9 9	10 9	10 9	10 9	10 9
7412 EXCISION SOFT TI	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
7815 MPD TX	18 21	16 21	18 21	16 21	18 16	18 16	18 16	18 16
7902 OSTEITIS TX	4 5	4 5	4 5	4 5	4 4	4 4	4 4	4 4
ORTHODONTICS								
8511 REMBL APP ADJ	9 6	7 6	9 6	7 6	9 7	9 7	9 7	9 7
8513 LIGATION ADJ	6 4	6 4	6 4	6 4	6 6	6 6	6 6	6 6
8410 BRANDING	8 7	11 7	8 7	11 7	8 11	8 11	8 11	8 11
8510 ARCHWIRE ADJUST	7 6	6 6	7 6	6 6	7 6	7 6	7 6	7 6

TABLE 10

NUMBER, MEAN TIMES, STANDARD DEVIATIONS (sd), COEFFICIENTS OF VARIATION (cv) OF TIMES TO PERFORM SELECTED DENTAL

PROCEDURES BY GENERALISTS AND SPECIALISTS.

ORAL DIAGNOSIS	GENERAL DENTISTS			GEN. DENT. SPECIALISTS			GENERAL DENT. COMBINED			SPECIALIST CATEGORY		
	number	mean	sd	cv	number	mean	sd	cv	number	mean	sd	cv
120 ORAL EXAM ANNUAL	2556	5.772	14.96	259.2	6391	5.199	4.521	86.95	31952	5.657	7.258	128.2
130 OTHER EXAM	4295	4.152	5.427	130.7	7103	4.185	12.44	297.3	50037	4.156	6.422	154.5
140 COMPREHENSIVE EX	3969	10	12.90	129.0	647	12.52	10.42	83.22	4586	10.33	12.57	121.5
PEDODONTICS												
1120 CHILD PROPHYLAXI	589	12.32	7.74	62.82	33	13.51	18.41	136.2	622	12.38	8.306	67.02
1240 TOPICAL APPLICAT	6043	3.94	13.3	337.5	780	3.63	4.65	128.0	6823	3.904	12.31	315.3
2140 ANALGESIC 1 SURFAC	15308	8.74	8.23	92.05	1418	8.58	7.45	86.82	16726	8.309	8.163	91.63
2320 RESIN SIMPLE	3453	10.23	8.02	78.39	479	9.37	6.46	68.94	3932	10.12	7.829	77.33
2336 RESIN COMPLEX	4855	15.13	14.58	96.36	525	14.41	11.03	76.54	5380	15.05	14.23	94.51
2340 ACID ETCH	6487	1.83	2.31	126.2	751	2.06	5.67	275.2	7238	1.853	2.658	143.4
2341 GLAZING	3583	1.68	2.59	154.1	367	1.95	2.72	139.4	3950	1.705	2.602	152.6
2940 TEMPORARY REST	7224	7.58	16.16	213.1	1115	6.32	5.97	94.46	8339	7.411	14.79	199.6
2952 RESTORATION POLI	5322	3.84	8.54	222.3	3366	4.19	5.38	128.4	6738	3.910	7.899	201.9
2954 INTERMEDIATE BAS	32947	1.71	3.54	207.0	3277	1.74	1.92	110.3	36224	1.712	3.393	198.1
2960 RUBBER DAM	15628	3.73	2.62	70.24	1951	3.25	1.96	60.30	17579	3.676	2.546	69.26
6219 CR STRAINLESS INT	379	16.92	16.39	96.86	149	13.11	11.43	87.18	528	15.64	14.99	94.60
6220 CROWN STRAIN. STEP	144	19.04	14.79	77.67	15	21.8	11.63	53.34	159	19.30	14.49	75.08
7110 TOOTH REMOVAL	4748	7.27	8.83	121.4	1005	6.12	6.73	109.9	5753	7.069	8.463	119.7
8410 BRANDING	101	7.77	6.65	85.58	5	10.78	7.76	71.98	106	7.911	6.702	84.71
8511 REMBL APP ADJ	217	9.47	6.011	63.47	49	7.41	5.38	72.60	266	9.090	5.894	64.84
ENDODONTICS												
3220 PULPOTOMY PARTIAL	1521	16.46	25.68	156.0	114	15.58	10.17	65.27	1635	16.39	24.59	150.0
3230 PUPLECTOMY TOT	1319	21.1	14.71	69.71	237	19.1	13.04	68.27	1556	20.79	14.45	69.51
3231 PUPLECTOMY PARTI	237	20.9	17.5	83.73	32	21.6	12.16	56.29	269	20.98	16.86	80.37
3311 ANTERIOR 1 CANAL	480	28.39	19.28	67.91	73	25.02	19.86	76.91	553	28.05	19.35	69.00
3321 PREMOLAR 1 CANAL	175	31.98	19.4	60.66	20	23.25	14.64	62.96	181	31.08	18.91	60.83
3322 PREMOLAR 2 CANAL	149	36.14	21.26	58.82	32	30.21	22.02	72.88	181	35.09	21.39	60.96
3333 MOLAR 3-CANALS	345	43.04	26.02	59.35	72	32.34	22.89	70.77	417	41.85	25.47	60.87
3334 MOLAR 4 CANALS	64	43.03	22.08	51.31	10	53	38.6	72.83	74	44.37	24.31	54.78
3360 ENDO INTERIM TX	1621	25.48	23.03	90.38	228	22.15	15.51	70.02	1849	25.06	22.10	88.16
3410 APICOECTOMY	33	34.94	23.92	68.46	6	20.43	11.64	56.97	39	32.70	22.03	67.35
3960 BLEACHING	135	15.32	11.97	78.13	19	10.28	8.8	85.60	154	14.69	11.57	78.77

TABLE 10
CONTINUED

	GENERAL DENTISTS			GEN DENT. SPECIALISTS			GEN. DENTISTS COMBINED			PERIODONTISTS		
	number	mean	sd	number	mean	sd	number	mean	sd	number	mean	sd
PERIODONTICS												
4210 GINGIVECTOMY	359	13.36	10.8	80.83	108	11.3	9.23	81.68	467	12.88	10.43	81.00
4220 GINGIVAL CURETTA	582	7.6	8.95	117.7	169	5.07	5.21	102.7	751	7.030	8.108	115.3
4230 DISTAL WEDGE	118	8.36	7.7	92.10	133	4.33	2.92	67.43	251	6.224	5.167	83.01
4240 GINGIVAL FLAP	128	11.39	14.28	125.3	34	11.39	9.45	82.96	162	11.39	13.26	116.4
4250 MUCOGINGIVAL FLA	654	6.53	11.06	169.3	123	5.14	5.39	104.8	777	6.309	10.16	161.0
4260 OSSEOUS SURGERY	121	15.54	11.09	71.36	38	12.16	10.29	94.62	159	14.73	10.89	73.97
4330 OCCLUSAL ADJ LIN	5406	8.05	16.54	205.4	1045	9.64	0.282	2.925	6451	8.307	13.90	167.3
4331 OCCLUSAL ADJ COM	267	31.91	46.06	144.3	139	27.11	22.58	83.29	406	30.26	38.02	125.6
4342 PERIO SCALE	3366	5.37	16.74	311.7	658	4.27	11.7	274.0	4024	5.190	15.91	306.6
4343 PERIO SCALE AND	1819	8.88	11.56	130.1	326	9	9.46	105.1	2145	8.898	11.24	126.3
REMOVABLE PROSTHETICS												
5110 MAXILLARY COMP	186	23.37	22.46	96.10	41	21.07	15.52	73.65	227	22.95	21.20	92.38
5120 MANDIBULAR COMP	116	22.51	23.65	105.0	19	21.37	15.09	70.61	135	22.34	22.44	100.4
5201 RESIN MAXILLARY	193	19.17	14.11	75.16	59	18.59	14.57	78.37	252	19.03	14.44	73.90
5205 CAST MET MAX RES	118	22.19	16.51	74.40	42	22.85	15.54	68.00	160	22.36	16.26	72.68
5206 CAST MET MAX RES	160	22.3	19.69	88.29	61	21.25	14.54	68.42	221	22.01	18.26	83.00
5611 REPAIR COMP DTR	184	16.71	22.25	133.1	58	16.04	16.6	103.4	242	16.54	20.89	126.2
5621 REPAIR RPD	344	17.59	18.97	107.8	139	17.99	36.03	200.2	483	17.70	23.87	134.8
5731 RELINE COMP MAX	179	18.75	13.97	74.50	62	25.86	17.76	68.67	241	20.57	14.94	72.62
FIXED PROSTHODONTICS												
6130 RET PFH	258	17.63	22.27	126.3	103	12.34	13.57	109.9	361	16.12	19.78	122.7
6240 PONTIC PFH	279	13.58	18.15	133.6	126	10.24	10.33	100.8	405	12.54	15.71	125.3
6611 STRAIN AND GLAZE	361	13.18	18.09	137.2	153	16.59	15.42	92.94	514	14.19	17.29	121.8
6712 CR ACRYL AUTOPOL	820	17.02	17.82	104.7	250	15.9	16.06	101.0	1070	16.75	17.40	103.8
6718 DOWEL AND CORE	375	21.11	16.59	78.58	122	18.86	13.82	73.27	497	20.55	15.91	77.39
6719 CR STAINLESS INT	379	16.92	16.39	96.86	149	13.11	11.43	87.18	528	15.84	14.99	94.60
6750 CR PFH	498	22.52	21.68	96.26	211	18.18	17.38	95.59	709	21.22	20.40	96.09
6790 CR COMP MET	414	27.51	21.74	79.02	102	28.63	25.19	87.98	516	27.73	22.42	80.85
ORAL SURGERY												
7110 TOOTH REMOVAL	4748	7.27	8.83	121.4	1005	6.12	6.73	109.9	5753	7.069	8.463	119.7
7120 TOOTH REM COMP	2658	13.54	22.02	162.6	443	11.29	12.83	113.6	3101	13.21	20.70	156.6
7130 TOOTH REM IMP	2759	15.54	15.13	97.36	575	13.97	14.53	104.0	3334	15.26	15.02	98.41
7310 ALVEOLOPLASTY W	1292	5.88	6.62	112.5	235	6.51	6	92.16	1527	5.976	6.524	109.1
7412 EXCISION SOFT TI	768	2.9	5.5	187.6	262	2.62	3.05	116.4	1030	2.828	4.876	172.3
7511 INCISION DRAINING	321	9.68	8.09	83.57	70	8.51	8.49	99.76	391	9.470	8.161	86.17
7815 MPD TX	81	17.97	14.89	82.86	9	16.44	14.74	89.65	90	17.81	14.87	83.48
7902 OSTEITIS TX	680	4.24	2.98	70.58	272	3.78	3.74	98.94	952	4.108	3.197	77.81
ORTHODONTICS												
8410 BRANDING	101	7.77	6.65	85.58	5	10.78	7.76	71.98	106	7.911	6.702	84.71
8510 ARCHWIRE ADJUST	176	7.48	32.6	435.8	6	6.25	8.47	135.5	182	7.439	31.80	427.5
8511 REMBL APP ADJ	217	9.47	6.011	63.47	49	7.41	5.38	72.60	266	9.090	5.894	64.84
8513 LIGATION ADJ	139	5.61	5.79	103.2	6	6.33	4.84	76.46	145	5.639	5.750	101.9

APPENDIX C
SURVEY OF MILITARY DENTAL PRACTICE

SURVEY OF MILITARY DENTAL PRACTICE

OFFICER CHARACTERISTICS															COMMISSION	
DATE				POST CODE		LAST FOUR SSN				AGE		SSI & ASI		RA	USAR	
DAY	MONTH	YEAR														
0	0	0	0	0	0	0	0	0	0	0	0	63	9			
1	1	1	1	1	1	1	1	1	1	1	1					
2	2	2	2	2	2	2	2	2	2	2	2	A	A			
3	3	3	3	3	3	3	3	3	3	3	3	B	K	H		
4	4	4	4	4	4	4	4	4	4	4	4	C	M	C		
5	5	5	5	5	5	5	5	5	5	5	5	D	N	D		
6	6	6	6	6	6	6	6	6	6	6	6	E	P			
7	7	7	7	7	7	7	7	7	7	7	7	F	R			
8	8	8	8	8	8	8	8	8	8	8	8	G				
9	9	9	9	9	9	9	9	9	9	9	9	H				

RANK	YEARS OF DENTAL PRACTICE		YEAR OF GRADUATION FROM		YEARS TO RETIRE	YEAR OF LAST PROMOTION	NUMBER OF PCS MOVES
	CIVILIAN	MILITARY	DENTAL SCHOOL	SPECIALTY			
MAJ	0	0	0	0	0	0	0
LTJG	1	1	1	1	1	1	1
LT	2	2	2	2	2	2	2
CPT	3	3	3	3	3	3	3
1LT	4	4	4	4	4	4	4
2LT	5	5	5	5	5	5	5
1ST LT	6	6	6	6	6	6	6
2ND LT	7	7	7	7	7	7	7
3RD LT	8	8	8	8	8	8	8
4TH LT	9	9	9	9	9	9	9

THE MOST ACCURATE DESCRIPTION(S) OF YOUR DUTY ASSIGNMENT(S)
PROGRAM DIRECTOR
CLINICAL DENTIST
CLINIC OIC
COMMANDER
ADL OFFICER
HQ STAFF
AHS INSTRUCTOR
RESEARCH POSITION
STUDENT
IF STUDENT PLEASE INDICATE:
GEN DENT
FIXED PROS
REM PROS
ORTHO
PERIO
ORAL SURG
ENDO
OFF BASIC
OFF ADVANCED
C & GS
WAR COLLEGE
PUBLIC HEALTH
ORAL MED PATH
OTHER

ADDITIONAL DUTIES YOU MAY HAVE:	MEDALS AND BADGES YOU HAVE:	MILITARY TRAINING:	CIVILIAN DEGREES:
PREV DENT OFF PT OFF DEP CDR SUPPLY OFF EDUCATION OFF PRET BATTAL OF OTHER BATTAL OF SENIOR	ARMY ACH MEDAL ARCOM MSM LOM FMB	SILVER STAR BRONZE STAR PURPLE HEART OTHER	OFFICER BASIC OFFICER ADVANCED C & GS ARMED FORCES STAFF COLLEGE WAR COLLEGE OTHER
			BS BA DD-DAI MSD MS MA MPh MBA MD PhD OTHER ADVANCED DEGREES

AUXILIARY PERSONNEL																																																																															
1. NUMBER OF PERSONNEL WHO WORK DIRECTLY WITH YOU MILITARY A. CHAISEL ASSISTANT(S) 0 1 2 3 + B. EXPANDED DUTY ASSISTANT(S) 0 1 2 3 + C. DENTIST AND EXPANDED DUTY 0 1 2 3 + CIVILIAN D. CHAISEL ASSISTANT(S) 0 1 2 3 + E. EXPANDED DUTY ASSISTANT(S) 0 1 2 3 + F. DENTIST AND EXPANDED DUTY 0 1 2 3 +	2. OF THESE PERSONNEL, WHO PERFORMS THESE SELECTED PROCEDURES? <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>DENTIST</th> <th>DTA AND OR HYGIENIST</th> <th>ASSISTANT</th> <th>ROUTINELY PERFORMED</th> <th>NOT PERFORMED</th> </tr> </thead> <tbody> <tr><td>TAKING IMPRESSIONS FOR STUDY CASTS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>REMOVING SUTURES AND DRESSINGS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>PLACING AMALGAM RESTORATIONS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>CARVING AND FINISHING AMALGAM RESTORATIONS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>PLACING AND FINISHING COMPOSITE RESTORATIONS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>ADMINISTERING LOCAL ANESTHETIC AGENTS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>SEALANT APPLICATION</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>ORAL HYGIENE COUNSELING</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>ORAL PROPHYLAXIS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>SCALING</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>TAKING X RAYS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>COMPLETING RECORDS</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </tbody> </table>		DENTIST	DTA AND OR HYGIENIST	ASSISTANT	ROUTINELY PERFORMED	NOT PERFORMED	TAKING IMPRESSIONS FOR STUDY CASTS	1	2	3	4	5	REMOVING SUTURES AND DRESSINGS	1	2	3	4	5	PLACING AMALGAM RESTORATIONS	1	2	3	4	5	CARVING AND FINISHING AMALGAM RESTORATIONS	1	2	3	4	5	PLACING AND FINISHING COMPOSITE RESTORATIONS	1	2	3	4	5	ADMINISTERING LOCAL ANESTHETIC AGENTS	1	2	3	4	5	SEALANT APPLICATION	1	2	3	4	5	ORAL HYGIENE COUNSELING	1	2	3	4	5	ORAL PROPHYLAXIS	1	2	3	4	5	SCALING	1	2	3	4	5	TAKING X RAYS	1	2	3	4	5	COMPLETING RECORDS	1	2	3	4	5
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DUTY/PRACTICE CHARACTERISTICS

1 SINCE ENTERING THE DENTAL CORPS, HAVE YOU ALWAYS TREATED PATIENTS?

YES

NO

2 INDICATE THE NUMBER OF YEARS TREATING PATIENTS IN THE DENTAL CORPS.

0 0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

3. HOW MANY DENTISTS ARE IN YOUR DENTAL CLINIC?

4 DURING THE PAST YEAR, APPROXIMATELY HOW MANY HOURS PER WEEK DID YOU SPEND IN THE FOLLOWING ACTIVITIES?

	TREATING PATIENTS	LABORATORY PROCEDURES	COMPLETING DENTAL RECORDS AND FORMS	CONSULTATIONS	CONTINUING DENTAL EDUCATION	PREPARING AND GIVING LECTURES	PROFESSIONAL READING	MILITARY TRAINING	TRAINING AUXILIARIES	PERSONNEL MILITARY MATTERS
15 MIN	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50
30 MIN	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50
45 MIN	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50	25 50
1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9

5 IN A TYPICAL WEEK, WHAT PERCENTAGE (%) OF YOUR TIME TREATING PATIENTS IS DEVOTED TO EACH OF THE FOLLOWING

TOTAL = 100%

ORTHODONTICS	PERIODONTICS	FIXED PROSTHETICS	REMOVABLE PROSTHETICS	ENDODONTICS	OPERATIVE DENTISTRY	PALLIATIVE/ EMERGENCY	ADJUNCTIVE SERVICES (ANALGESIA, PT. HANDLING ETC.)	PREVENTION (FLUORIDE, I.R., PT. EDUCATION)	DIAGNOSTIC PROCEDURES (EXAMS, X-RAYS, ETC.)
%/WEEK	%/WEEK	%/WEEK	%/WEEK	%/WEEK	%/WEEK	%/WEEK	%/WEEK	%/WEEK	%/WEEK
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

USE NO. 2 PENCIL ONLY

6. ON A TYPICAL DAY, HOW MANY OPERATORIES DID YOU USE TO TREAT PATIENTS?

1 2 3 4 5 6

7. WHAT PERCENTAGE OF TREATMENT WAS PROVIDED USING THE TECHNIQUES OF "FOUR-HANDED" DENTISTRY?"

		%
0	0	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

8. PLEASE ESTIMATE THE TOTAL NUMBER OF DIFFERENT PATIENTS TREATED DURING A TYPICAL WEEK.

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

9. PLEASE INDICATE THE FOLLOWING REGARDING PATIENT CARE THAT YOU PERSONALLY PROVIDED DURING PAST YEAR:

ROUTINE PATIENTS TREATED PER WEEK	PATIENT FAILURES PER WEEK	EMERGENCY VISITS PER WEEK	WALK-IN PATIENT VISITS PER WEEK	APPOINTMENTS SCHEDULED PER WEEK
AV/WEEK	AV/WEEK	AV/WEEK	AV/WEEK	AV/WEEK
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

10. EQUIPMENT/MATERIALS UTILIZED IN YOUR PRACTICE INCLUDES:

OCC SEALANTS
COMPOSITE LIGHT CUR
FIBER OPTIC HANDPIECE
PANORAMIC X RAY
ELECTROSURGICAL UNIT
NITROUS OXIDE ANALGESIA

11. ADDITIONAL QUESTIONS

NUMBER OF STATE DENTAL LICENSES	0	1	2	3	4	5+					
NUMBER OF PROFESSIONAL ORGANIZATION MEMBERSHIPS	0	1	2	3	4	5+					
NUMBER OF PROFESSIONAL ARTICLES PUBLISHED	0	1	2	5	10	11	20	21+			
DUTY DAYS LOST TO ILLNESS	0	LESS THAN 1 WEEK	1 TO 4 WEEKS	5 TO 11 WEEKS	12 TO 17 WEEKS	18 TO 23 WEEKS	24 TO 29 WEEKS	30 TO 35 WEEKS	36 TO 41 WEEKS	42 TO 47 WEEKS	48 TO 52 WEEKS
NUMBER OF PROFESSIONAL ARTICLES PUBLISHED IN 1 YEAR	0	1	2	3	4	5+					

12A. LABORATORY PROCEDURES YOU COMPLETE INCLUDES

DENTURES
CROWNS
PORCELAIN VENEER CROWNS
CAST PARTIAL DENTURES
CAST DOWEL CORE
SPACE MAINTAINERS
OTHER

12B. YOUR CLINIC LABORATORY OUTPUT INCLUDES?

DENTURES
CROWNS
PORCELAIN VENEER CROWNS
CAST PARTIAL DENTURES
CAST DOWEL CORE
SPACE MAINTAINERS
OTHER

12C. WORK SENT TO ADL INCLUDES

DENTURES
CROWNS
PORCELAIN VENEER CROWNS
CAST PARTIAL DENTURES
CAST DOWEL CORE
SPACE MAINTAINERS
OTHER

13. THE FOLLOWING PERTAINS TO PATIENT WAITING TIMES

FOR AN INITIAL APPOINTMENT SERIES?	FOR THE NEXT APPOINTMENT	IN THE RECEPTION ROOM PAST TIME APPOINTMENT FOR TREATMENT
LESS THAN 1 WEEK	LESS THAN 1 WEEK	MINUTES
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

12D. DOES YOUR CLINIC HAVE A DENTAL LABORATORY?

YES
NO

12E. HOW MANY TECHNICIANS WORK IN THIS LAB?

0
1
2
3
4
5
6
7
8
9

12F. THE AVERAGE TURN-AROUND TIME FROM THE ADL FOR MOST WORK (IN WEEKS)

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

14. PLEASE PROVIDE THE FOLLOWING INFORMATION FOR EACH PROCEDURE/TASK LISTED BELOW

PERIODIC ORAL EXAMINATION (EXCLUDING RADIOGRAPHS)	ONE-SURFACE AMALGAM (PERMANENT) INCLUDING POLISHING	TWO-SURFACE AMALGAM (PERMANENT) INCLUDING POLISHING	THREE-SURFACE AMALGAM (PERMANENT) INCLUDING POLISHING	SINGLE FULL CAST GOLD CROWN	COMPLETE ANTERIOR ROOT CANAL TREATMENT (WITH TREATMENT PLAN, WITHOUT RESTORATION)	COMPLETE UPPER ACRYLIC-BASE DENTURE (INCLUDING SIX MONTH DELIVERY CARE)	SINGLE TOOTH EXTRACTION INCLUDING LOCAL ANESTHESIA AND POST OPERATIVE CARE
NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR
AV. TIME (MIN) TO COMPLETE	AV. TIME (MIN) TO COMPLETE	AV. TIME (MIN) TO COMPLETE	AV. TIME (MIN) TO COMPLETE	AV. TIME (MIN) TO COMPLETE	AV. TIME (MIN) TO COMPLETE	AV. TIME (MIN) TO COMPLETE	AV. TIME (MIN) TO COMPLETE
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9
FAIR DOLLAR VALUE \$	FAIR DOLLAR VALUE \$	FAIR DOLLAR VALUE \$	FAIR DOLLAR VALUE \$	FAIR DOLLAR VALUE \$	FAIR DOLLAR VALUE \$	FAIR DOLLAR VALUE \$	FAIR DOLLAR VALUE \$
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

15. APPROXIMATELY WHAT PERCENT OF YOUR PATIENTS WERE

AGE

10 YEARS OR YOUNGER
10 TO 15 YEARS
15 TO 25 YEARS
25 TO 50 YEARS
50 TO ABOVE

PATIENT CATEGORIES

ACTIVE DUTY ARMY
OTHER MILITARY
ADULT DEPENDENTS
CHILD DEPENDENTS
RETIRED
OTHER
HANDICAPPED OR INFIRM

5%	10%	15%	25%	50%	60%	75%	90%	100%

16. WHICH ONE OF THE FOLLOWING BEST DESCRIBES YOUR PRACTICE DURING THE PAST YEAR?

TOO BUSY TO TREAT ANY PATIENT

PROVIDED CARE TO ALL PATIENTS BUT OVERWORKED

PROVIDED CARE TO ALL PATIENTS AND NOT OVERWORKED

NOT BUSY ENOUGH TO HAVE REVENUE

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APPENDIX D
ADDITIONAL ARMY DATA

TABLE 1

SPECIALTY SKILL DISTRIBUTION WITHIN THE DENTAL CORPS

SSI SPECIALTY*	DENTAL CORPS = 1767		SPECIALISTS = 634	
	n	%	n	%
63A Dental Officer	1133	63.90		
63B General Dentistry	197	11.11	197	31.1
63C Oral Medicine/Pathology	22	1.24	22	3.5
63D Periodontist	67	3.78	67	10.6
63E Endodontist	50	2.82	50	7.9
63F Fixed Prosthodontics	71	4.00	71	11.2
63G Removable Prosthodontics	72	4.06	72	11.2
63H Public Health Dentistry	12	0.68	12	1.9
63K Pedodontics	40	2.26	40	6.3
63M Orthodontics	41	2.31	41	6.5
63N Oral Surgery	62	3.50	62	9.8

TABLE 2

Specialty Skill Distribution *

SSI SPECIALTY*	ALL DENTISTS=1359		SPECIALISTS = 521	
	n	%	n=521	%
63A Dental Officer	820	61.15	165	31.67
63B General Dentistry	165	12.30	13	2.50
63C Oral Medicine/Pathology	13	0.96	59	11.32
63D Periodontist	59	4.40	46	8.83
63E Endodontist	46	3.43	57	10.94
63F Fixed Prosthodontics	57	4.25	53	10.17
63G Removable Prosthodontics	53	3.95	5	0.96
63H Public Health Dentistry	5	0.37	35	6.72
63K Pedodontics	35	2.61	40	7.68
63M Orthodontics	40	2.98	48	9.21
63N Oral Surgery	48	3.58		

*18 invalid responses

TABLE 3

AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION,
YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

ALL DENTISTS

	mean	median	mode	total	range
AGE OF RESPONDENT	37.70	35	31	****	****
YEARS OF CIVILIAN PRACTICE	1.04	0	0	1034	****
YEARS OF MILITARY PRACTICE	8.18	6	2	10640	****
YEAR OF DENTAL DEGREE	1974	1977	1982	****	'54-84
YEAR OF DENTAL SPECIALTY	****	****	****	****	'63-84
YEARS LEFT TO RETIRE	12.09	13	15	****	0-29
YEAR LAST PROMOTED	1980	1981	1980	****	'71-84
NO PCS MOVES	3.8	3	1	****	0-15

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 4

AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION,
YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

63A DENTAL OFFICERS

	mean	median	mode	total	range
AGE OF RESPONDENT	32.08	31	31	****	*****
YEARS OF CIVILIAN PRACTICE	1.03	0.0	0.0	712	*****
YEARS OF MILITARY PRACTICE	4.33	4	2	3428	*****
YEAR OF DENTAL DEGREE	1978	1979	1982	****	'55-84
YEAR OF DENTAL SPECIALTY	****	****	****	****	*****
YEARS LEFT TO RETIRE	15.11	16	15	****	0-25
YEAR LAST PROMOTED	1980	1981	1982	****	'71-84
NO PCS MOVES	2.1	2	1	****	0-13

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 5

AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION,
YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

DENTAL SPECIALISTS

	mean	median	mode	total	range
AGE OF RESPONDENT	41.25	40	37	****	*****
YEARS OF CIVILIAN PRACTICE	1.08	0.0	0.0	466	*****
YEARS OF MILITARY PRACTICE	15.00	13	11	7119	*****
YEAR OF DENTAL DEGREE	1968	1970	1972	****	'54-81
YEAR OF DENTAL SPECIALTY	1976	1977	1982	****	'63-84
YEARS LEFT TO RETIRE	7.6	8	8	****	0-25
YEAR LAST PROMOTED	1979	1980	1980	****	'71-84
NO PCS MOVES	6.4	6	5	****	0-15

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 6

DISTRIBUTION OF RESPONDENTS(1) BY RANK

	ALL DENTISTS		63A DENT. OFFICERS		SPECIALISTS	
	n	%	n	%	n	%
Captain	568	44.30	560	72.4	8	1.59
Major	266	20.74	179	23.2	87	17.33
Lieutenant Colonel	241	18.79	27	3.5	214	42.63
Colonel	204	15.91	7	0.9	193	38.45
missing	77	*****		*****	19	*****

 (1) Data is included for all ranks, Captain through Colonel.

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 7
PRIMARY DUTY ASSIGNMENT*

	ALL DENT. %	63A %	SPEC. %
CLINICAL DENTIST	69.9	81.9	54.3
PROGRAM DIRECTOR	2.3	0.5	4.8
CLINIC OIC	14.4	6.3	25.2
COMMANDER	3.5	0.1	7.4
ADL OFFICER	0.3	0.1	0.6
HQ STAFF	1.0	0.4	1.9
AHS INSTRUCTOR	0.3	0.2	0.5
RESEARCH POSITION	0.8	0.2	1.4
OTHER	7.4	10.4	3.7

TABLE 8
ADDITIONAL DUTIES**

	ALL DENT. %	63A %	SPEC %
PREV DEN OFF	16.0	21.6	8.6
PT OFF	5.2	5.8	4.4
DEP CDR	5.1	1.6	9.8
SUPPLY OFF	12.1	13.8	9.8
EDUCATION OFF	10.8	8.1	14.3
PREC METALS OFF	15.7	13.5	18.7
MENTOR	13.4	1.8	28.7
OTHER DUTIES	78.1	80.9	74.3

* Percentage of responses listed. Respondents are assigned one primary duty which is exclusive of other duties, thus total of responses equal 100%.

** Percentage of cases listed. Respondents may be assigned several additional duties; total of responses may exceed 100%.

TABLE 9

MEDALS AND BADGES

	ALL DENTISTS	63A DENTAL OFF.	SPECIAL- ISTS
	%	%	%
ARMY ACH MEDAL	19.73	23.0	16.27
ARCOM	71.29	58.6	84.54
MSM	31.93	9.2	55.22
LOM	0.29	0.0	0.60
EFMB	27.15	35.4	18.67
SILVER STAR	1.37	0.0	0.00
BRONZE STAR	10.16	3.8	16.67
PURPLE HEART	0.98	0.4	1.61
OTHER	39.65	35.2	44.38

TABLE 10

MILITARY TRAINING

	ALL DENTISTS	63A DENTAL OFF.	SPECIAL- ISTS
	%	%	%
OFFICER BASIC	90.52	95.2	83.20
OFFICER ADVANCED	47.38	27.7	77.41
C&GS	6.29	1.5	13.51
AF STAFF COLLEGE	0.30	0.0	0.77
OTHER TRAINING	8.79	8.0	10.04

TABLE 11

CIVILIAN DEGREES

	ALL DENTISTS				63A-DENTAL OFFICER				SPECIALISTS			
	n=	%	DENTIST	%	n=	%	DENTIST	%	n=	%	DENTIST	%
BS/BA	1051	78.3	> BS/BA	85.5	700	85.5	> BS/BA	67.2	349	67.2	> BS/BA	13.74
MSD	25	1.9	10.12	0.0	0	0.0	0.0	4.8	25	4.8	13.74	53.30
MS	132	9.8	53.44	4.3	35	4.3	57.0	18.7	97	18.7	53.30	8.79
MA	30	2.2	12.15	1.6	13	1.6	21.7	3.1	16	3.1	8.79	2.75
MPH	6	0.4	2.43	0.0	0	0.0	0.0	1.0	6	1.0	2.75	1.10
MBA	5	0.4	2.02	0.4	3	0.4	4.9	0.4	2	0.4	1.10	1.10
PhD	4	0.3	1.62	0.0	0	0.0	0.0	0.4	2	0.4	1.10	19.23
OTHER	45	3.4	18.22	1.2	10	1.2	16.4	6.7	35	6.7	19.23	

TABLE 12

WHO SHOULD PERFORM SELECTED PROCEDURES?

DATA GIVEN IN PERCENTAGE OF RESPONDENTS

RESPONSES FOR ALL DENTISTS

	DDS	DTA	ASST	NOT DONE
STUDY CAST IMPRESS	54.9	10.7	34.4	8.8
REM SUTURES/DRESS	79.0	4.7	16.3	12.0
PLACE AMALGAM REST.	75.8	24.0	0.2	16.0
CARVE/FINISH AMALGAM	75.8	24.1	0.1	16.1
PLACE/FINISH COMPOSITE	75.5	23.4	1.1	16.0
ADM. LOCAL ANESTH.	100.0	0.0	0.0	5.5
SEALANT APPLICATION	75.4	21.6	3.0	47.7
ORAL HYGIENE INSTR	50.0	25.9	24.1	1.5
ORAL PROPHYLAXIS	32.0	59.9	8.1	24.0
SCALING	51.4	46.1	2.5	19.1
TAKING X-RAYS	15.6	11.2	73.2	20.9
COMPLETING RECORDS	66.7	11.0	22.7	0.5

TABLE 13

WHO SHOULD PERFORM SELECTED PROCEDURES?

DATA GIVEN IN PERCENTAGE OF RESPONDENTS

RESPONSES FOR GENERAL DENTISTS

	DDS	DTA	ASSN	NOT DONE
STUDY CAST IMPRESS	54.6	12.2	33.2	7.4
REM SUTURES/DRESS	83.0	4.0	13.0	6.7
PLACE AMALGAM REST.	72.6	27.3	0.1	4.7
CARVE/FINISH AMALGAM	72.8	27.1	0.1	4.7
PLACE/FINISH COMPOSITE	73.0	27.0	0.0	4.9
ADM. LOCAL ANESTH.	100.0	0.0	0.0	0.3
SEALANT APPLICATION	75.7	22.1	2.2	39.9
ORAL HYGIENE INSTR	49.5	30.8	19.6	0.9
ORAL PROPHYLAXIS	28.5	67.1	4.4	17.9
SCALING	48.3	50.9	0.8	13.2
TAKING X-RAYS	15.7	11.1	73.3	18.2
COMPLETING RECORDS	68.6	12.6	18.8	0.4

TABLE 14

WHO SHOULD PERFORM SELECTED PROCEDURES?

DATA GIVEN IN PERCENTAGE OF RESPONDENTS

RESPONSES FOR SPECIALISTS

	DDS	DTA	ASSN	NOT DONE
STUDY CAST IMPRESS	55.0	8.4	36.5	10.8
REM SUTURES/DRESS	71.8	5.9	22.2	19.9
PLACE AMALGAM REST.	84.1	15.3	0.6	35.9
CARVE/FINISH AMALGAM	83.4	16.3	0.3	36.1
PLACE/FINISH COMPOSITE	85.2	14.8	0.0	36.1
ADM. LOCAL ANESTH.	00.0	0.0	0.0	13.8
SEALANT APPLICATION	74.6	20.4	5.0	60.3
ORAL HYGIENE INSTR	50.6	17.8	31.6	2.3
ORAL PROPHYLAXIS	38.7	45.9	15.5	33.6
SCALING	57.4	36.6	5.9	28.5
TAKING X-RAYS	15.4	11.6	72.9	25.2
COMPLETING RECORDS	62.5	8.7	28.8	0.6

TABLE 15
MEAN TIME ESTIMATES AND
DOLLAR VALUE OF SELECTED PROCEDURES

	ALL DENTISTS	
	time minutes	\$\$\$ value
ORAL EXAM WD X-RAYS	11.07	21.63
ONE-SURFACE AMALGAM	18.10	21.83
TWO-SURFACE AMALGAM	25.48	32.02
THREE-SURFACE AMALGAM	31.04	40.97
SINGLE FULL GOLD CROWN	120.83	256.76
ANTERIOR ROOT CANAL	78.86	144.98
UPPER ACRYLIC DENTURE	218.02	320.26
SINGLE TOOTH EXTRACTION	24.29	29.69

TABLE 16
MEAN TIME ESTIMATES AND
DOLLAR VALUE OF SELECTED PROCEDURES

	GENERAL DENT.	
	time minutes	\$\$\$ value
ORAL EXAM WO X-RAYS	10.0	18.84
ONE-SURFACE AMALGAM	17.6	21.54
TWO-SURFACE AMALGAM	25.4	31.71
THREE-SURFACE AMALGAM	31.1	40.76
SINGLE FULL GOLD CROWN	119.8	265.07
ANTERIOR ROOT CANAL	79.0	148.03
UPPER ACRYLIC DENTURE	206.3	326.52
SINGLE TOOTH EXTRACTION	23.9	27.97

TABLE 17
MEAN TIME ESTIMATES AND
DOLLAR VALUE OF SELECTED PROCEDURES

	SPECIALISTS	
	time minutes	\$\$\$ value
ORAL EXAM WO X-RAYS	12.0	22.86
ONE-SURFACE AMALGAM	17.0	21.00
TWO-SURFACE AMALGAM	29.0	32.70
THREE-SURFACE AMALGAM	31.4	42.09
SINGLE FULL GOLD CROWN	115.7	267.69
ANTERIOR ROOT CANAL	63.4	150.71
UPPER ACRYLIC DENTURE	194.0	350.24
SINGLE TOOTH EXTRACTION	20.4	26.54

TABLE 18
PATIENT AGES

10 YEARS OR YOUNGER	7.5
10 TO 15	8.1
15 TO 25	38.9
25 TO 50	34.4
50 ABOVE	15.0

TABLE 19
PATIENT STATUS

ACTIVE DUTY ARMY	46.09
OTHER MILITARY	4.25
ADULT DEPENDENTS	18.12
CHILD DEPENDENTS	13.00
RETIRED	14.08
OTHER	3.28
HANDICAPPED: PHYSICALLY OR MENTALLY	2.63

TABLE 20

LABORATORY PROCEDURES COMPLETED BY DENTISTS

	ALL DENTISTS mean	63A OFFICERS mean	SPECIAL- ISTS mean
TRIM DIES	74.5	86.5	52.9
ARTICULATE MDLS	58.0	64.2	46.8
TRAY FAB.	24.6	29.8	15.0
OCCLUSAL RIMS	14.0	17.8	7.1
SET TEETH	15.1	15.3	14.7
POLISH DENT.	26.2	29.4	20.5
WAX-UPS	13.9	14.6	12.6
METAL FINISH	28.2	32.5	20.5
FORC. APPL	5.4	4.9	6.3
STAIN GLAZE	48.7	53.1	40.8
OTHER	48.6	42.5	59.7

TABLE 21

CLINIC LABORATORY SUPPORT

	ALL DENTISTS mean	63A OFFICERS mean	SPECIAL- ISTS mean
NO CLINIC LAB	13.1	14.9	10.2
DENTURES	55.4	57.9	51.1
CROWNS	52.2	54.2	48.9
PORCELAIN VENEER CROWNS	27.4	26.0	29.6
CAST PARTIAL DENTURES	8.2	8.2	8.2
CAST DOWEL/CORE	47.4	48.1	46.0
SPACE RETAINERS	45.4	44.6	46.5
OTHER	49.5	42.0	62.2

TABLE 22

AREA DENTAL LABORATORY SUPPORT

	ALL DENTISTS	63A OFFICERS	SPECIAL- ISTS
	mean	mean	mean
DENTURES	30.1	31.2	28.2
CROWNS	63.5	68.2	54.6
PORCELAIN VENEER CROWNS	78.5	82.0	71.6
CAST PARTIAL DENTURES	79.9	82.2	75.3
CAST DOWEL/CORE	22.1	22.9	20.7
SPACE RETAINERS	17.4	17.4	17.5
OTHER	28.0	23.2	37.1
AV LAB TURN-AROUND TIME (weeks)		6.37	

TABLE 23

PROFESSIONAL ACTIVITIES

	ALL DENTISTS				63A DEN. OFF.				SPECIALISTS			
	mean	% w 1	% >1		mean	% w 1	% >1		mean	% w 1	% >1	
NO. OF STATE LICENSES	1.3	87.4	28.8		1.2	84.1	23.7		1.5	92.6	37.2	
NO. PROF. MEMBERSHIPS	1.8	83.6	56.7		1.3	75.3	40.1		2.6	96.8	83.1	
NO. PROF. ARTICLES	0.4	24.6	13.2		0.2	11.0	4.2		0.9	46.2	27.5	
NO. PROF. MEETINGS ATTN.	2.8	74.4	66.0		3.0	94.5	69.5		2.6	94.3	61.8	

APPENDIX E
PATIENT ENCOUNTER FORM

DENTAL PATIENT ENCOUNTER FORM

DO NOT MARK IN THIS AREA

014163

DATE		POST CODE	DOCTOR'S LAST FOUR SSN	SSI 63-7	APPOINT TYPE	THE OFFICE OF THE SURGEON GENERAL FOR DENTAL SERVICES WILL ACCEPT DATA FROM THE DENTAL STUDIES OFFICE IN SUMMARY FASHION IN A MANNER IN WHICH NO INDIVIDUAL OR COMMAND IS IDENTIFIED	PROCEDURE CODE	FORM COMPLETION TIME
DAY	MON							
0000	00	00	0000	A	ROUTINE	DATA REQUIRED BY THE ARMY PRIVACY PROGRAM 1 AUTHORITY 10 USC SEC 30-12 2 PURPOSE TO EVALUATE TIME UTILIZATION IN THE DENTAL CARE SYSTEM 3 ROUTINE USES TO DETERMINE RESOURCE REQUIREMENTS 4 MANDATORY OR VOLUNTARY DISCLOSURE DISCLOSURE MANUAL 5 INDIVIDUAL EFFECT OF NOT PROVIDING INFORMATION NO EFFECT THE GOAL IS TO PROVIDE ACCURATE AND RELIABLE MANAGEMENT INFORMATION	9000	00
1111	11	11	1111	B	EMERG			00
2222	22	22	2222	C	OHMP			00
3333	33	33	3333	D	FILL-IN			00
4444	44	44	4444	E	FAILED			00
5555	55	55	5555	F	PATIENT		00	
6666	66	66	6666	G	ARMY		00	
7777	77	77	7777	H	AF		00	
8888	88	88	8888	I	NAV/MC		00	
9999	99	99	9999	J	RETIRED		00	
				K	CHILD DEP		00	
				L	ADULT DEP		00	
				M	OTHER		00	

USE NO 2 PENCIL ONLY

- Make dark marks that fill the circle completely
- Erase cleanly any mark you wish to change
- Make no stray marks on this form.

MILITARY TIME IN	PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS	PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS	PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS
0000	0000	0000	0000	D+ ASST	0000	0000	0000	D+ ASST	0000	0000	0000	D+ ASST
1111	1111	1111	1111	D alone	1111	1111	1111	D alone	1111	1111	1111	D alone
2222	2222	2222	2222	D+ DTA	2222	2222	2222	D+ DTA	2222	2222	2222	D+ DTA
3333	3333	3333	3333	D+ DTA and ASST	3333	3333	3333	D+ DTA and ASST	3333	3333	3333	D+ DTA and ASST
4444	4444	4444	4444	ASST	4444	4444	4444	ASST	4444	4444	4444	ASST
5555	5555	5555	5555	DTA	5555	5555	5555	DTA	5555	5555	5555	DTA
6666	6666	6666	6666	SEVERITY	6666	6666	6666	SEVERITY	6666	6666	6666	SEVERITY
7777	7777	7777	7777	C & B PROS	7777	7777	7777	C & B PROS	7777	7777	7777	C & B PROS
8888	8888	8888	8888	PRE	8888	8888	8888	PRE	8888	8888	8888	PRE
9999	9999	9999	9999	POST	9999	9999	9999	POST	9999	9999	9999	POST

PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS	PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS	PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS
0000	0000	0000	D+ ASST	0000	0000	0000	D+ ASST	0000	0000	0000	D+ ASST
1111	1111	1111	D alone	1111	1111	1111	D alone	1111	1111	1111	D alone
2222	2222	2222	D+ DTA	2222	2222	2222	D+ DTA	2222	2222	2222	D+ DTA
3333	3333	3333	D+ DTA and ASST	3333	3333	3333	D+ DTA and ASST	3333	3333	3333	D+ DTA and ASST
4444	4444	4444	ASST	4444	4444	4444	ASST	4444	4444	4444	ASST
5555	5555	5555	DTA	5555	5555	5555	DTA	5555	5555	5555	DTA
6666	6666	6666	SEVERITY	6666	6666	6666	SEVERITY	6666	6666	6666	SEVERITY
7777	7777	7777	C & B PROS	7777	7777	7777	C & B PROS	7777	7777	7777	C & B PROS
8888	8888	8888	PRE	8888	8888	8888	PRE	8888	8888	8888	PRE
9999	9999	9999	POST	9999	9999	9999	POST	9999	9999	9999	POST

PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS	PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS	PROCEDURE CODE	REPEATED	TIME minutes	PROVIDERS	MILITARY TIME OUT
0000	0000	0000	D+ ASST	0000	0000	0000	D+ ASST	0000	0000	0000	D+ ASST	0000
1111	1111	1111	D alone	1111	1111	1111	D alone	1111	1111	1111	D alone	1111
2222	2222	2222	D+ DTA	2222	2222	2222	D+ DTA	2222	2222	2222	D+ DTA	2222
3333	3333	3333	D+ DTA and ASST	3333	3333	3333	D+ DTA and ASST	3333	3333	3333	D+ DTA and ASST	3333
4444	4444	4444	ASST	4444	4444	4444	ASST	4444	4444	4444	ASST	4444
5555	5555	5555	DTA	5555	5555	5555	DTA	5555	5555	5555	DTA	5555
6666	6666	6666	SEVERITY	6666	6666	6666	SEVERITY	6666	6666	6666	SEVERITY	6666
7777	7777	7777	C & B PROS	7777	7777	7777	C & B PROS	7777	7777	7777	C & B PROS	7777
8888	8888	8888	PRE	8888	8888	8888	PRE	8888	8888	8888	PRE	8888
9999	9999	9999	POST	9999	9999	9999	POST	9999	9999	9999	POST	9999

APPENDIX F
PROCEDURES NOT PERFORMED

Procedures Not Performed

2420 GOLD FOIL II	5915 NOSE PROS
3980 ENDOSSEOUS IMP	5935 FACIAL PROSTHES
4372 BICUSPIDIZATION	5940 IMPLANTS
5170 COMP DTR AML OC	5950 INCLINE PLANE
5207 PRECISN ATTACH	5955 MND GUIDE PLN
5220 AMALG OCCLUSALS	5960 PALATAL LIFT
5812 DUPE MAX OVERDT	5970 OBTURATOR
5813 DUPE MND OVRDT	6170 INTRACORONAL RT
5816 OVERDTR MAX MTL	7265 CLEFT LIP REPAIR
5817 OVERDTR MND MTL	7520 BIOPSY
5825 OVERDTR ATTACHM	7880 ARTHROGRAPHY
5864 OVERDTR PTR MX	8212 HABIT MOUTH BRE
5866 OVRDTR IM MX P	9944 RAD NDL CARER

APPENDIX G
INFREQUENTLY PERFORMED PROCEDURES

Infrequently Performed Procedures (By Specialty)

N = < 100

PROCEDURE	N	PROCEDURE	N	PROCEDURE	N
0141 POST MORTEM EXAM	6	5752 RELN MND DTR L	68	7480 PTR RESECTION	1
0310 SIALOGRAPHY	17	5761 RELN PTR MND L	7	7481 SEQUESTRECTOMY	82
0410 BACT CULTURE	89	5762 RELN PTR MND L	25	7485 RADICAL RESECTN	1
0420 CARIES SUSCE	11	6763 RBASE MX DTR LA	21	7530 MAX FOREIGN BODY	67
1245 FLUORIDE SELF	26	5764 RBES MND DTR L	8	7560 MAX SINUSOTOMY	13
2210 SILICATE	17	5765 RBASE PTR MX LA	5	7570 CRICOTHYROTOMY	1
2410 GOLD FOIL I	10	5766 RBES PTR MND L	5	7580 TRACHESTOMY	1
2430 GOLD FOIL III	6	5811 DTR TEMP MANDMX	69	7610 MAXILLA OPEN RE	4
2440 GOLD FOIL IV	3	5814 OVRDTR IMED MX	10	7620 MAXILLA CLSD RED	8
2450 GOLD FOIL V	2	5815 OVRTR IMD MND	5	7630 MAND OPEN RED	20
2460 FOLD FOIL VI	7	5862 OVRDTR MAX	7	7640 MAND CLOSED RED	30
2511 INLAY 1 SURFACE	1	5863 OVRDTR MAND	5	7651 ZMC FRACTURE	11
2521 INLAY 2 SURFACES	8	5865 OVRDTR LTR MND	2	7680 FACL BONE FRACT	1
2531 INLAY 3 SURFACES	6	5867 OVRDTR IM MAN P	2	7681 OTHER FX RED	1
2541 ONLAY	15	5905 PROS CAST	1	7711 MAX OSTECTOMY	3
2542 PINLEDGE	1	5910 EAR PROS	3	7712 MAX OSTECTOMY SE	20
2610 PORCELAIN INLAY	2	5920 EYE PROS	1	7721 MND OSTECTOMY RA	36
3312 ANTERIOR 2 CNL	25	5925 OTHER PROSTHES	1	7722 MND OSTECTOMY	57
3323 PREMOLAR 3 CNL	6	5930 FACE MAK CUSTM	1	7755 AUGMENTATION	10
3331 MOLAR 1 CANAL	56	5980 SPEECH BULB	1	7811 RED DISLOCATION	13
3332 MOLAR 2 CANALS	69	6110 RET ACRYL VEN	1	7845 TMJ SURGERY	18
3340 DECIDUOUS RCF	67	6120 RET PORCELAIN	2	8110 SPACE MAINT REM	4
3350 APEXIFICATION	67	6203 PONTIC PORCELAIN	7	8210 SPACE MNT SPL	8
3420 RETROGRADE FIL	47	6204 PONTIC ACR VEN	10	8220 HABIT BRKR FIXD	32
3470 SURGICAL FENES	27	6205 REVERSE PIN FAC	16	8320 REM EXP APPL SM	4
3480 PNEUMATIZATION	2	6220 PNTIC SLT FACNG	5	8322 FIXD EXP APPL	56
3970 PERFOR REPAIR	18	6612 BROKEN CONNECTR	1	8330 BITE PLANE ANT	11
3981 ENDO INTER SPL	5	6713 CR CRYL VENEER	8	8331 BITE PLANE PSTR	6
4261 OSSEOUS GRAFT	31	6740 CR PORCELAIN	3	8445 PASSIVE LING WI	65
4270 PEDICLE GRAFT	65	6760 CR REV PIN FCNG	3	8446 FACE BOW HOOKS	92
4272 VESTIBULOPLST	64	6780 CR PTR VENEER	2	8540 POSITIONER INS	2
4320 PROV SPLT INTRA	34	7140 TRANSPLNT RPLNT	87	8997 FULL BAND STRT	76
4321 PROV SPLT EXT	50	7150 SURGICAL EXPOSU	11	9232 I.M. SED	16
4370 HEMISECTION	5	7211 WOUND SPINTS CM	41	9235 HYPNOSISOTMY RA	10
4371 ROOT AMPUTATION	30	7212 WOUND COMPLEX <5 CM	41	9922 SURG PCDR DX	79
5140 IMM MAND DTR	25	7213 WOUND COMPLEX >5 CM	23	9925 MAND RECORDING	54
5150 COMP DTR MT BS	10	7260 CLEFT PLT REPR	48	9940 MOUTH PROTECTOR	71
5160 COMP DTR CST OC	1	7270 O-A FISTULA RPR	1	9941 RESIN STINTS	61
5203 CST MIL MAXILRY	68	7275 O-N FISTULA REPR	26	9942 FLUORIDE CARRIER	15
5204 CAST METAL MAND	91	7280 SKIN-MUCOSAL GR	2	9943 RADIATION SHIELD	2
5208 MAX PRECIS STCH	1	7285 BONE GR-IMPLANT	8	9971 HYPERBAR MONITOR	5
5209 MAND PRECIS ATT	1	7350 STOMATOPLASTY C	25		
5210 CAST MET OCCLUS	11	7405 SAL GLAND SURG	39		
5330 CORRECT CAST RP	62	7432 EXCISION BENIGN	13		
5699 PRECIS ATCH RPD	2	7442 EXCISN MALIG TUMOR	41		
5711 MAX DUP DTR	21	7462 REM NON-ODONT T	2		
5712 MAND DUP DTR RP	38	7465 DEST OF LESIONS	48		
5742 RELN PTR MND CH	87		22		

Infrequently Performed Procedures
(By Frequency)

N = < 100

N	PROCEDURE	N	PROCEDURE	N	PROCEDURE
1	2511 INLAY 1 SURFACE	25	2430 GOLD FOIL III	25	5140 IMM MAND DTR
1	2542 PINLEDGE	25	2531 INLAY 3 SURFACES	25	5762 RELN PTR MND L
1	5160 COMP DTR CST OC	25	3323 PREMOLAR 3 CNL	25	7285 BONE GR-IMPLANT
1	5208 MAX PRECIS STCH	26	8331 BITE PLANE PSTR	26	1245 FLUORIDE SELF
1	5209 MAND PRECIS ATT	26	2460 FOLD FOIL VI	26	7270 O-A FISTULA RPR
1	5905 PROS CAST	27	5761 RELINE PTR MAX L	27	3470 SURGICAL FENES
1	5920 EYE PROS	30	5862 OVERDTR MAX	30	4371 ROOT AMPUTATION
1	5925 OTHER PROSTHES	31	6120 RET PROCELAIN	30	7640 MAND CLOSED RED
1	5930 FACE MAK CUSTM	32	2521 INLAY 2 SURFACES	31	4261 OSSEOUS GRAFT
1	5980 SPEECH BULB	32	5764 REBS MND DTR L	32	8220 HABIT BRKR FIXD
1	6205 REVERSE PIN FAC	34	6220 PNTIC SLT FACING	34	4320 PROV SPLT INTRA
1	7260 CLEFT PLT REPR	36	7280 SKIN-MUCOSAL GR	36	7712 MAX OSTEOLOGY SE
1	7480 PTR RESECTION	38	7620 MAXILA CLSD RED	38	5712 MAND DUP DTR RP
1	7485 RADICAL RESECTN	39	8210 SPACE MNT SPL	39	7350 STOMATOPLASTY C
1	7570 CRICOTHYROTOMY	41	2410 GOLD FOIL I	41	7150 SURGICAL EXPOSU
1	7580 TRACHESTOMY	10	5150 COMP DTR MT BS	41	7211 WOUND SPINTS CM
1	7680 FACL BONE FRACT	10	5814 OVERDTR IMED MX	41	7432 EXCISION BENIGN
1	2450 FOLD FOIL V	10	6140 RET REVERSE PIN	47	3420 RETROGRADE FIL
2	2610 PORCELAIN INLAY	10	7722 MAND OSTEOLOGY	48	7213 WOUND COMPLEX T
2	3480 PNEUMATIZATION	10	9235 HYPNOSTOSOMY RA	48	7462 REM NON-ODONT T
2	5699 PRECIS ATCH RPD	11	0420 CAST MET OCCLUS	50	4321 PROV SPLT EXT
2	5865 OVERDTR LTR MND	11	5210 CAST MET OCCLUS	54	9925 MAND RECORDING
2	5867 OVERDTR IM MAN P	11	7140 TRANSPLANT RPLNT	56	3331 MOLAR 1 CANAL
2	6110 RET ACRYL VEN	11	7651 ZMC FRACTURE	56	8322 FIXD EXP APPL
2	6713 CR CRYL VENEER	11	8330 BITE PLANE ANT	57	7721 MND OSTEOLOGY RA
2	7275 O-N FISTULA REPR	13	7405 SPL GLAND SURG	61	9941 RESIN STINTS
2	7442 EXCISN MALIGN TUMOR	13	7560 MAX SINUSOTOMY	62	5330 CORRECT CAST RP
2	8640 POSITIONNER INS	13	7755 AUGMENTATION	64	4272 VESTIBULOPLST
2	9943 RADIATION SHIELD	15	2541 ONLAY	65	4270 PEDICLE GRAFT
3	2440 GOLD FOIL IV	15	9942 FLUORIDE CARRIER	65	8445 PASSIVE LING WI
3	5910 EAR PROS	16	6203 PONTIC PORCELAIN	67	3340 DECIDUOUS RCF
3	6740 CR PORCELAIN	16	9232 I.M. SED	67	3350 APEXIFICATION
3	6760 CR REV PIN FCNG	17	0310 SILICOGRAPHY	67	7530 REM FOREIGN BODY
3	7681 OTHER FX RED	17	2210 SILICATE	68	5203 CST MIL MAXILRY
4	7610 MAXILLA OPEN RE	18	3970 PERFOR REPAIR	68	5762 RELN MND DTR L
4	8110 SPARE MAINT REM	18	6612 BROKEN CONNECTR	69	3332 MOLAR 2 CANALS
4	8320 REM EXP APPL SM	18	7811 RED DISLOCATION	69	5811 DTR TEMP MANDMX
5	3981 ENDO INTER SPL	18	7845 TMJ SURGERY	71	9940 MOUTH PROTECTOR
5	4370 HEMISECTION	20	7630 MAND OPEN RED	71	8997 FULL BAND STRT
5	5765 RBASE PTR MX LA	20	7711 MAX OSTEOLOGY	76	9922 SURG PCOR DX
5	5766 REBS PTR MND L	21	5711 MAX DUP DTR	79	7481 SEQUESTRESTOMY
5	5815 OVERTR IMD MND	21	6763 RBASE MX DTR LA	62	5742 RELN PTR MND CH
5	5863 OVERDTR MAND	22	7465 DEST OF LESIONS	87	6780 CR PTR VENEER
5	6204 PONTIC ACR VEN	23	7212 WOUND COMPLEX <5 CM	89	0410 BACT CULTURE
5	9971 HYPERBAR MONITOR	25	3312 ANTERIOR 2 CNL	91	5204 CAST METAL MAND
6	0141 POST MORTEM EXAM			92	8446 FACE BOW HOOKS

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