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HUMAN RESOURCES

OCCUAPTIONAL SURVEY OF THE RADIOLOGY
CAREER LADDER 903X0

By

Andrew T. Garza

PERSONNEL RESEARCH DIVISION
Lackland Air Force Base, Texas

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The complete report including computer printout is available from
(PA) Lackland AFB, TX 78236.

PERSONNEL RESEARCH DIVISION
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Lackland Air Force Base, Texas

FOREWORD

This report presents an approach in the use of the electronic computer to make comprehensive and detailed occupational information available to using agencies. The data analyzed were obtained by a survey conducted by Lifson, Wilson, Ferguson, and Winick, Inc., Dallas, Texas, under Contract No. AF 41(609)-3049.

The computer programs for analyzing the job inventory data were designed by Dr. Raymond E. Christal and were written by Computer Sciences Corporation, Houston, Texas, under Contracts No. AF 41(609)-1982 and AF 41(609)-2387. Mr. Sidney B. Boyce and Sgt Charles G. Johnson prepared the control cards for the programs.

The research was carried out under Project 7734, Development of Methods for Describing, Evaluating, and Structuring Air Force Jobs - Task 773401, Development of Methods for Collecting, Analyzing, and Reporting Information Describing Air Force Specialties.

The guidance provided by Dr. Raymond E. Christal and Dr. Joseph E. Morsh was extremely valuable in analyzing and reporting the data. The format was adapted from several recent occupational analysis reports.

Because volume reproduction of this report is not feasible, distribution is made on a loan basis to qualified users upon request to AFHRL (PAO), Lackland AFB, TX 78236.

This technical report has been reviewed and is approved.

F.L. McLanathan, Lt Col, USAF
Chief, Personnel Research Division

ABSTRACT

A job inventory covering four specialties in the Radiology Career Ladder, and consisting of 369 tasks grouped under 15 duty categories, was administered to 576 airmen in 16 major air commands. Incumbents of all skill levels completed a background information section and the relative time spent on tasks rated on a 7-point scale. The airmen also indicated on a 7-point scale the source of training for each task performed. Job descriptions derived by electronic computer are presented for four specialty groups, four job-type clusters, eleven significant job types, and for the total sample of the Radiology Career Ladder. Narrative summaries are presented for the clusters and job types identified by the automated job-clustering program.

Two group overlap matrices show the similarity of groups in terms of time spent on tasks. Summary tables indicate the percentage of members in each group who perform each task. Group difference descriptions are given for selected groups. Distributions of background variables for the total sample, four specialty groups, clusters and job types are also shown.

The considerable amount of homogeneity of the work performed by the members of the Radiology Career Ladder would appear to minimize the training and assignment problems which affect the more heterogeneous career ladders. All of the members in this ladder perform a large body of common work activities; the differences are primarily those which are the result of specialized job functions.

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SUMMARY OF CONTENTS

An occupational survey of the Radiology Career Ladder was conducted during October 1967, by Lifson, Wilson, Ferguson, and Winick, Inc., under a contract monitored by the Personnel Research Division. The survey instrument was a job inventory consisting of a background information section and 369 task statements grouped under 15 duty categories.

In completing the inventory, each incumbent supplied identification and biographical data and checked the tasks which were part of his regular job. He then rated the tasks he had checked on two 7-point scales. The first of the scales showed relative time spent on each task compared with other tasks performed. The second rating scale indicated how the incumbent had learned to do the task, whether from school training or from work experience.

The inventory was administered to 576 incumbents by Test Control Officers in 16 major air commands.

Consolidated job descriptions were computed for subsample groups of special interest, and group difference descriptions were computed for various pairs of subsamples.

In order to identify areas of specialization, an automated job clustering program was utilized to analyze the task data provided by the survey, and task and duty job descriptions were published for the total sample and various subsamples.

Summary tables were prepared to show the percentage of members in subsample groups who perform each task. Other tables show the percentage of members of the total sample, job type clusters, and job types who perform each task. A group overlap matrix shows the amount of similarity of subsample groups, job type groups, and the total sample in terms of percent time spent on tasks.

From the background information, additional significant data were collected concerning the performance of specific duties and tasks. Means, standard deviations, and distributions of specified background variables were computed for various subsample groups, job type groups, and the total sample.

In other tables, the background information provided by all surveyed incumbents has been listed in which each individual is identified by a unique number assigned by the computer. Since these numbers are listed in sequence, data concerning the members of any job type may readily be obtained.

A dictionary of variables and the duties and tasks of the job inventory used in the survey have been provided.

A copy of the complete occupational analysis survey report is available to qualified requesters from the Personnel Research Division on a loan basis. The computer printouts included in the report contain the following data:

Specialty Group Descriptions

SPC001 DAFSC 90330 Apprentice Radiology Specialist
SPC002 DAFSC 90350 Radiology Specialist
SPC003 DAFSC 90370 Radiology Technician
SPC004 DAFSC 90390 Radiology Superintendent

Job Type Descriptions

GRP001 Radiology Career Ladder Total Sample
GRP049 Radiology Support Services Cluster
GRP050 Specialized Radiology Services Cluster
GRP037 Supervisory Radiology Technician Cluster
GRP028 X-ray Equipment Operator Cluster
GRP100 Routine Radiology Specialist
GRP096 Radiology Support Specialist

GRP196 Specialized Radiology Specialist
GRP134 Specialized Radiology Administrative Specialist
GRP205 Diagnostic Radiology Administrative Supervisor
GRP186 Diagnostic Radiology Specialist
GRP104 Radiology Supervisor
GRP098 Radiology Technician
GRP062 Specialized X-ray Equipment Operator
GRP063 Routine X-ray Equipment Operator
GRP009 Radiology NCOIC

Group Difference Descriptions

GDIF01 DAFSC 90350 Radiology Specialist *vs.* DAFSC 90330 Apprentice Radiology Specialist
GDIF02 DAFSC 90370 Radiology Technician *vs.* DAFSC 90350 Radiology Specialist
GDIF03 DAFSC 90390 Radiology Superintendent *vs.* DAFSC 90370 Radiology Technician
GDIF04 Radiology Support Specialist *vs.* Routine Radiology Specialist
GDIF07 Specialized Radiology Specialist *vs.* Specialized Radiology Administrative Specialist
GDIF08 Diagnostic Radiology Specialist *vs.* Diagnostic Radiology Administrative Supervisor
GDIF09 Radiology Technician *vs.* Radiology Supervisor
GDIF11 Routine X-ray Equipment Operator *vs.* Specialized X-ray Equipment Operator
GDIF14 90350s with Duty Inside CONUS *vs.* 90350s with Duty Outside CONUS

Overlap Matrices

MTX001 Overlap Among AFSC Groups and AFMS Groups
MTX002 Overlap Among Job-Type Clusters and Job Types

Group Summaries - Percentage of Members Performing Each Task

GPSUM1 DAFSC Groups and Radiology Career Ladder Total Sample
GPSUM2 AFMS Groups
GPSUM3 Clusters and Job Types
GPSUM4 Clusters and Job Types (Continued)

Distributions of Background Variables

VRSUM1 DAFSC Groups and Radiology Career Ladder Total Sample
VRSUM2 Job-Type Clusters and Job Types
VRSUM3 Job-Type Clusters and Job Types (Continued)

Analysis of How Tasks Were Learned

ASFAC2 DAFSC Groups and Radiology Career Ladder Total Sample

KPATH Sequence Data

KPATH1 Background Information
KPATH2 Job Title of Work Assignment
KPATH3 Courses Taken and Work Experience on Equipment
KPATH4 Work Experience on Equipment (Continued)
KPATH5 Work Experience on Equipment (Continued)
KPATH6 Work Areas (Present or Past)
KPATH7 Organization and Base or Installation

Radiology Career Ladder Job Inventory

Dictionary of Variables - Radiology Inventory

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Air Force jobs						
airman career fields						
airman career ladders						
airman specialties						
computer techniques						
data collection						
duty statements						
duty AFSC						
hierarchal grouping						
inventory						
job analysis						
job clustering						
job description						
job differences						
job grouping						
job inventory						
job performance						
job type						
Medical Career Field						
military jobs						
occupational structures						
occupational survey						
Radiology Career Ladder						
rating scales						
skill levels						
specialty descriptions						
survey						
task learning						
task rating						
task statements						
work time spent						