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Staffing patterns in 123 sheltered workshops in New York, New Jersey, and Pennsylvania are described through measures of professional density, and are related to varying organizational characteristics. Shops with no professionals serve fewer clients than those with professionals, and very little professional time is available per client. An examination of professional job titles, educational levels, and salaries reveals that only one-third of the workshops are headed by professionals. Higher educational levels make it less likely a professional will work full-time. New York has a high percentage of professionals with higher levels of education working greater amounts of time with high average salaries. High professional density was associated with high percentages of clients in evaluation, personal adjustment, and vocational rather than employment training. High professional density was also associated with: (1) workshop income sources from professional services rather than production activities; (2) lower percentages of total expenses for client wages; (3) client ages under 35, (4) mental illness disabilities, (5) very short client tenure, and (6) relatively high placement rates. (WR)

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PROFESSIONAL STAFFING IN SHELTERED WORKSHOPS

ORGANIZATION AND ADMINISTRATION OF SHELTERED WORKSHOPS:

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Professional Staffing in Sheltered Workshops

by

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Preface

The following report is the second in a series of research reports published by the Region II Rehabilitation Research Institute at Cornell University. Supported by the Social and Rehabilitation Service (formally VRA) of the U.S. Department of Health, Education and Welfare, this research institute has as its core area of research "the organization and administration of sheltered workshops." It should be noted that there is another institute at the University of Maryland whose research efforts are focused primarily on the industrial engineering and technological aspects of sheltered employment.

The data used in this report were collected from 123 sheltered workshops in Region II. A complete description of the sample and how it was generated can be found in the first report in this series, *Wage Levels in Sheltered Employment* by William H. Button.

A substantial debt is owed to each of the workshop directors who aided in our research by completing the survey instrument which was used to gather the data. We would also like to acknowledge the cooperation of the state agencies in New York, Pennsylvania, and New Jersey under whose sponsorship the survey was carried out. Finally, special thanks must go to several individuals who aided in the preparation of this report. Susan Winslow performed all of the computer-related work involved in the analysis of the data. William Button read and offered helpful criticisms of early drafts of the report, as did William Wasmuth, director of the Research Institute. And, finally, Mrs. Roni McClure exhibited an unusual amount of patience in typing and retyping various drafts of the report.

J.R.K.

Ithaca, New York
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Professional Staffing in Sheltered Workshops

by

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Introduction

This report attempts to provide some insight both into the wide variety of professional staffing patterns which are characteristic of sheltered workshops and into the ways in which these patterns seem to be related to other important variables in these organizations. People concerned with workshops as facilities which provide the handicapped not only with remunerated work experience but also with a wide range of professional services and programs inevitably are also interested in the number and qualifications of those persons who are involved in providing these professional services.

This report is meant to be descriptive and analytic rather than evaluative. Since it is based on quantitative, rather than qualitative, information, it has certain advantages and disadvantages of which the reader should be aware in assessing its usefulness. The statistical procedures used do not enable one to make definitive statements about cause and effect, but do indicate associations between certain variables. This study's basic utility lies in the combination of its findings with qualitative information which people in the field have accumulated through years of practical experience. Hopefully, this combination will facilitate the tasks of policy determination and planning in the workshop movement and in the larger context of the provision of adequate services to our handicapped populations.

At the outset, it is important to clarify what the term "professional," as used in the report, means. In the survey instrument used by the Institute in its study of the organization and administration of sheltered workshops, workshop directors were asked (1) to classify their non-client staff into three major categories; clerical, administrative and supervisory, and professional and (2) to indicate the educational level, activities, years of experience, and number of hours worked per week for each of these individuals. Obviously, not everyone agrees about the appropriate criteria to use in distinguishing "professionals" from "nonprofessionals" and this lack of agreement was reflected in the wide variety of individuals classified as "professionals" by workshops. One workshop classified a floor supervisor with a high-school education as a professional, whereas another classified its executive director, who had a Master's degree in rehabilitation counseling, as an administrator and supervisor. It was at the point when the information regarding the non-client staffs of workshops had to be coded and processed that the members of the Institute staff decided that it was necessary to develop some hard criteria for distinguishing between "professionals" and "nonprofessionals" to insure consistency of classification in the sample.

Accordingly, the following formula was developed: individuals, other than workshop directors, were automatically classified as professional if they had advanced degrees, in other words more than a B.A. degree, unless the degree was in an unrelated field; those with a high-school diploma or less with five exceptions were automatically classified as nonprofessional. For individuals falling between these two educational categories, the following formula was used: two points were assigned for each year of education beyond high-school; one point was assigned for each activity in which he participated; and one point was assigned for each year of experience up to a maximum of five. Under this system, the maximum score any individual could accumulate was 19. No individual was classified as a professional who had a score under 11.

Workshop directors with advanced degrees were classified as professional unless the degree was in an unrelated field. It was also decided that any director who had not completed college would be classified as an administrator. Directors who had completed college but did not have advanced degrees were classified on the basis of the formula developed for individuals between categories described above.

Although this procedure necessarily entails arbitrary distinctions, it does permit a ready and consistent means of classifying workshop staff personnel across the entire sample of workshops surveyed. It also serves to clarify what the term "professional staff personnel" means in this particular report. The report itself contains three major sections: the first section includes descriptive data on the general characteristics of professional staffs in the three states sampled; the second section gives a detailed analysis of particular characteristics; the final section analyzes the relationship between professional staffing patterns and certain other organizational characteristics.

Professional Staffing: General Characteristics

The survey of workshops conducted by the Region II Research Institute includes information from 123 different

organizations, all of which are included in the present description of the general characteristics of professional staffing patterns.[1] It should be pointed out, however, that of the 49 workshops included in the sample from New York State, five had no staff personnel classified as professionals; of the 57 workshops in the sample from Pennsylvania, 16 had no professionals; and, of the 17 workshops in the sample from New Jersey, two had no professionals. Because of the fact that such a large portion (18.7 percent) of the total sample of 123 workshops had no staff members classified as professionals, this section of the report will include both figures based on the total number of workshops and figures based on only those workshops with professional staff personnel. It is felt that the two sets of figures are important if one is interested in examining questions concerning the extent to which the entire population of clients in workshops are being exposed to professional services as well as describing the particular staffing patterns which emerge in those workshops which do employ professional personnel.

Table 1 summarizes the general characteristics of professional staffing in workshops and includes both sets of figures described above.

The statistics in Table 1 provide general baseline data about professional staffing in each of the three states and the sample as a whole, but they go further. Twenty-three workshops, representing 18.7 percent of the total sample, reported no professionals. If we look at the total number of clients being served daily, we see that only 7 percent of them are being served in workshops with no professionals. This indicates that the workshops with no professionals tend to serve fewer clients on the average than those with professionals.

Comparison of the mean numbers of clients per professional (B7, C11) is useful in a general sense, but this ratio does not reflect the fact that some professionals are full-time staff members, whereas others are only part-time staff members, and still others serve primarily in a consultative capacity. Hence, if one is interested in trying to determine the relative amounts of professional service time which are available to clients in workshops, then the varying amounts of time that professionals actually work in the shops must be taken into account. Accordingly, a measure of professional density was developed.[2] That workshops vary widely on the basis of this measure is evident from the material in Table 2.

TABLE 1

Summary of General Characteristics of Professional Staffs

	New York	New Jersey	Pennsylvania	Total
A. General data				
1. Number shops included in sample	49	17	57	123
2. Number shops with professional staff members	44	15	41	100
3. Total number professionals	302	43	166	511
4. Range number professionals per workshop	0-35	0-8	0-21	0-35
B. Data based on total sample of workshops				
5. Average number professionals per workshop	6.18	2.47	2.91	4.15
6. Average number clients served daily	4,812	945	2,871	8,628
7. Average number clients per professional	15.87	22.73	16.95	16.67
8. Average number client hours per professional hour	18.18	25.64	19.61	20.00
C. Data based on only workshops with professional staff personnel				
9. Average number professionals per workshop	6.89	3.00	4.15	5.11
10. Average number clients served daily	4,561	852	2,621	8,034
11. Average number clients per professional	15.10	19.81	15.79	15.72
12. Average number client hours per professional hour	18.01	22.02	17.57	18.21

1 These 123 workshops represent roughly 72 percent of the total number of workshops in the three states surveyed. They serve, however, 91.5 percent of all clients receiving workshop services in these states. For a complete description of the sample and how it was generated, see W.H. Button, *Wage Levels in Sheltered Employment*, Research Report I, RIIRI, December, 1967. pp.2-3

2 Professional density is defined operationally as the total number of hours worked per week by professional staff members divided by the total number of hours spent in the workshop per week by clients. This latter figure was obtained by multiplying the figure for average daily attendance by the work schedule of the workshop. For Table 1, the inverse of this measure was used.

TABLE 2

Distribution of Workshops by Professional Density

	Professional Density			
	Low		High	
	No Professionals	.01–.03 Professional Hours Per Client Hour	.04–.09 Professional Hours Per Client Hour	.09 Professional Hours Per Client Hour
Number Workshops n=123	23	38	42	22
Pennsylvania (n=57)	16	17	15	9
New York (n=49)	5	15	19	10
New Jersey (n=17)	2	4	7	4

Two comments about the concept of professional density are in order. First of all, it should be noted that the figures B8 and C12 in Table 1 are averages for the states as a whole and do not provide any information on the variability which exists between individual workshops with respect to the density of professional staff personnel. Table 2 gives an indication of this variability, which is discussed in the final section of the report in relation to other organizational characteristics such as placement rates.

Second, however, the figures do indicate that about 4 percent to 6 percent of any given professional's time is available for any given client. Since a professional has various demands made on his time, it would be realistic to assume that a much smaller percentage of his time is actually available for a given client. On the basis of these figures it would not be inappropriate to raise questions about the utilization of professional manpower in sheltered workshops and to suggest the need for further investigation of how professionals spend their time in workshops in light of the organizational purpose.

Professional Staffing: Particular Characteristics

Professional Jobs

The delineation and classification of work in organizations have been of concern to administrators and researchers alike for many years. Stemming from the need for the definition of areas of responsibility and the desire to anticipate problems in the areas of personnel recruitment and succession, the results of intensive studies of particular jobs have often led to the development of organization manuals for classifying, describing, and defining all jobs. These manuals attempt to meet not only the needs described above but also those of the individual applying for a job. It is probably realistic to assume, therefore, that an individual's particular title in an organization is, in a very general sense, an indicator of what he actually does. In general then, the question of what particular professionals do in workshops can thus be answered by examining their job titles, and the overall question of what professionals do in workshops can be answered by examining the distribution of job titles across the entire sample of professionals in the survey.

Job title was one of the items of information requested on the survey instrument and Table 3 presents distributions of professional personnel according to these titles in the three states and the sample as a whole. For comparative purposes,

TABLE 3

Distribution of Professionals by Job Title

	New York	Pennsylvania	New Jersey	Total
Executive directors	20 (6.6)	15 (9.0)	10 (9.0)	45 (8.8)
Assistant executive directors	5 (1.7)	3 (1.8)	-- (0)	8 (1.6)
Psychologists	25 (8.3)	32 (19.3)	3 (7.0)	60 (11.7)
Psychiatrists	18 (6.0)	4 (2.4)	1 (2.3)	23 (4.5)
Rehabilitation counselors	27 (8.9)	16 (9.6)	17 (39.5)	60 (11.7)
Evaluators	30 (9.9)	14 (8.4)	2 (4.7)	46 (9.0)
Social workers	38 (12.6)	22 (13.3)	1 (2.3)	61 (11.9)
Teachers and instructors	17 (5.9)	2 (1.2)	-- (0)	19 (3.7)
Directors and coordinators of services	35 (11.6)	17 (10.1)	6 (14.0)	58 (11.2)
Assistant directors and coordinators	1 (.3)	4 (2.4)	-- (0)	5 (1.0)
Trainers	11 (3.6)	1 (.6)	-- (0)	12 (2.3)
Nurses	11 (3.6)	7 (4.2)	1 (2.3)	19 (3.7)
Medical doctors	20 (6.6)	11 (6.6)	-- (0)	31 (6.1)
Placement specialists	19 (6.3)	4 (2.4)	1 (2.3)	24 (4.7)
Shop counselors	8 (2.6)	-- (0)	1 (2.3)	9 (1.8)
Interns	3 (1.0)	4 (2.4)	-- (0)	7 (1.4)
Special training	14 (4.6)	10 (6.0)	-- (0)	24 (4.7)
	302 (100.0)	166 (100.0)	43 (100.0)	511 (100.0)

the percentage of professionals in a particular state or, in the last column, in the sample as a whole, constituting a job title is given in parentheses.

From Table 3 it is clear that psychologists, rehabilitation counselors, social workers, and directors and coordinators of services are the most frequently occurring professional jobs in sheltered workshops, constituting nearly 50 percent of the total. It should also be noted that of the 123 workshops included in the sample, only 45 are run by executive directors who are professionals. This finding raises the question of whether there are any differences between shops which have professionals as executive directors and those that do not. Are placement rates, for example, higher in workshops whose executive directors are professionals? Answers to these questions, although important, are not within the scope of this report.

Table 3 gives some indication of the kinds of jobs found in workshops at the professional level and their distribution relative to one another. But if one is interested in what contribution to the professional activities of workshops each job makes, these figures can be comewhat misleading. Naturally, a rehabilitation counselor in one workshop may be involved in somewhat different activities than a professional with a similar title in another and may be more or less efficient or effective in performing similar tasks.

TABLE 4

Percentage Distribution of Hours Worked per Week

	Full Time	Half Time	10-15 Hours	5-9 Hours	5 Hours
Executive directors	89	9	0	2	0
Assistant executive directors	83	17	0	0	0
Psychologists	30	17	10	17	26
Psychiatrists	0	0	9	18	73
Rehabilitation counselors	87	13	0	0	0
Evaluators	93	4	0	0	0
Social workers	66	15	5	5	9
Teachers and instructors	90	0	5	5	0
Directors and coordinators of services	86	5	5	3	0
Assistant directors and coordinators	75	0	0	25	0
Trainers	79	7	0	14	0
Nurses	68	11	16	5	0
Medical doctors	3	6	10	29	52
Placement specialists	87	0	4	0	9
Shop counselors	100	0	0	0	0
Interns	0	43	14	0	43
Special training	78	4	9	4	4

Another source of variance is the difference in hours worked per week. For example: psychologists constitute 11.7 percent of all the professionals in the sample. If, however, they work only an average of three hours per week, this fact should be considered in assessing the importance of psychologists to professional staffing in general. Table 4 presents a distribution of job titles by hours worked per week in an attempt to account for this variable. The figure in each cell is a percent of the row total. For example, the table reveals that 89 percent of all executive directors work full time.

From Table 4 it is apparent that psychologists, psychiatrists, interns, and medical doctors are more likely to work on a part-time or consultative basis in workshops than other professionals. It is not known at this point, however, whether this finding indicates that the kinds of activities in which these particular professionals engage are not in demand by workshops, or that they require relatively less time to perform, or that they are relatively more expensive to procure.

Level of Education of Professionals

One criterion which is often used by researchers to distinguish between professionals and nonprofessionals is amount of academic training. This variable was used in this study, and it is felt that levels of education of professionals in the three states sampled would be interesting to those concerned with problems of recruiting and developing standards for salary support grants and other policy questions. Table 5 presents a breakdown by state and total sample of the level of education of the professional staff personnel.

TABLE 5

Level of Education of Professional Staff Personnel

Level of Education	New York	Pennsylvania	New Jersey	Total
High school grad	5	--	---	5
Special certificate	3	2	---	5
R.P.T.	1	1	1	3
R.N.	11	6	---	17
B.A. B.S.	69	51	14	134
M.A. M.S.	100	68	25	193
M.S.W.	45	13	---	58
Ed.D.	3	--	--	3
Ph.D.	21	9	2	32
M.D.	43	16	1	60
	302	166	43	511

To provide some insight into how this training is utilized by workshops, Table 6 presents figures on the number of hours worked per week by professionals with a given level of education.

TABLE 6

Level of Education and Hours Worked Per Week

Level of Education	Full Time	Half Time	10-15 Hours	5-9 Hours	5 Hours
High school grad	5	---	---	---	---
Special certificate	4	---	---	---	1
R.T.P.	2	---	---	1	---
R.N.	13	1	3	---	---
B.A. B.S.	122	6	2	3	1
M.A. M.S.	152	23	6	6	6
M.S.W.	38	8	2	6	4
Ed.D.	1	---	---	1	1
Ph.D.	3	6	6	6	11
M.D.	2	2	6	13	37
	343	46	25	36	61

The figures in Table 6 indicate that 67 percent of all professionals work full time, whereas 12 percent work fewer than five hours per week. When the level of professional education is examined in relation to hours worked per week, it seems apparent that the higher the level of education of a professional, the less likely he is to work full time in workshops. Persons with Ph.D. and M.D. degrees are least likely to work full time, only 9 percent of the Ph.D.'s and 3 percent of the M.D.'s doing so. Similarly, whereas 91 percent of the professionals with B.A.'s work full time, only 79 percent of those with M.A.'s do so.

TABLE 7

Professional Salaries

	Total annual expenditure	Mean annual expenditure per workshop	Mean annual professional salary*	Percent of annual total shop expenses+
New York	$1,738,600	$39,514	$7,540	8.0%
New Jersey	233,700	15,580	6,656	12.3
Pennsylvania	781,000	19,049	5,772	11.3
Total	$2,763,000	$27,630	$6,864	9.1%

*The following procedure was used to calculate the mean annual professional salary: The number of hours worked per week by professionals in each state was multiplied by 50 in order to estimate the number of hours worked by professionals per year. This figure was then divided into the total annual expenditures for professional salaries per year in each state. The resulting figure represented an estimate of per hour professional costs in each state. This figure was then multiplied by a constant of 1820 representing the mean number of hours per year worked by professionals. The resulting figure represents our estimate of the average annual salary for professionals in each state and for the sample as a whole.

+Only workshops with at least one professional staff member were included in these calculations.

As one would suspect, there is a high correlation, although by no means a one-to-one correspondence, between level of education and type of job performed. Most psychologists, for example, have Ph.D.'s and all doctors have M.D.'s. In short, it appears that those jobs which require high levels of formal academic training typically are not filled by persons who spend large amounts of time in the workshop. This finding raises the question of whether more intensive utilization of highly trained professional personnel would increase the probability of successful rehabilitation. An attempt to answer this question, at least in part, is made in the final section of this report.

Professional Salaries

Attempts to estimate the costs involved in rehabilitation must include the professionals' salaries since their activities are most directly related to the rehabilitation, as opposed to the goods-producing, activities of workshops. Workshops participating in this study were requested to provide information regarding the annual salaries paid to three classes of personnel: the professionals, the administrators and supervisors, and the clerical employees.[3] From this information, Table 7 was developed.

The figures in Table 7 are meant to be rough indicators of the costs involved in employing professional staff, but some caution should be used in their interpretation. For example, although workshops in New York spend an average of twice as much on professional staffing as those in either of the other states, these expenses actually constitute a smaller percentage of total expenditures than in the other two states. This indicates, of course, that workshops in New York tend to have greater total annual expenses. It should also be noted that on the average each New York workshop serves more clients, 98.20 a day as against 55.59 in New Jersey and 50.37 in Pennsylvania.

At this point, one could legitimately ask why the mean salary differentials among the three states sampled occur. At least a partial answer to this question can be framed in terms of the interstate differences in professional staffing patterns already noted.

When the levels of education of professionals are examined in the three states, it becomes apparent that in New York 70 percent of all professionals have at least a Master's degree, whereas in New Jersey and Pennsylvania the figures are 66 percent and 64 percent, respectively. Although these figures are not included in tabular form here, the varying amounts of time worked per week by professionals examined in

3 The form of the survey instrument used only in Pennsylvania requested "total staff salaries." Hence, for the purposes of this section, professional salaries in Pennsylvania were estimated by using ratios developed from the New York and New Jersey data.

relation to level of education show that 60 percent of the professionals in New York with a Master's or higher degree work full time, whereas the comparable figures for New Jersey and Pennsylvania are 57 percent and 51 percent, respectively. Hence, when level of education and amount of time worked per week are compared, New York has a higher percentage of professionals with higher levels of education working greater amounts of time. Since professionals with higher levels of education typically command higher salaries, the fact that the average annual professional salary is higher in New York than in New Jersey and Pennsylvania is not surprising. It should be noted, however, that these differentials may also be a reflection of varying state policies and, at least in part, of such diverse factors as cost-of-living.

Professional Staffing: Relation to Organizational Characteristics

Whereas the first two sections of the report were primarily enumerative, this section attempts to analyze the effects of varying patterns of professional staffing on other dimensions of workshop organization and operation. The variable which is used to characterize professional staffing patterns is professional density.[4]

Workshop Programs

Workshops differ in the number of services and programs they provide to client populations. Our research indicates that there is a basic core of programs common to nearly all workshops; this includes prevocational and vocational training, personal adjustment training, job conditioning, transitional employment, and extended employment. Beyond this basic core, however, there is wide variation among workshops regarding the provision of other kinds of services and programs, such as medical management, psychological services, social services, or occupational therapy.

One might expect that workshops with higher professional denity would offer greater numbers of services and programs. In order to test this, a Pearson Product-Moment Correlation between these two variables was calculated for the entire sample. This procedure yielded an r of .2748 ($p<.05$) which indicates that there is a relationship between professional density and the number of services and programs provided to clients within the facility. It should be noted that this correlation provides no basis for making statements concerning the effects of greater numbers of programs on, for example, rates of client rehabilitation. What it does indicate, however, is that if a workshop wishes to increase the scope of its services, it is going to have to hire more professionals run them.

There is another organizational characteristic related to professional density under the general heading of workshop programs. Each workshop was asked to indicate the numbers of clients falling into the following program categories: evaluation, personal adjustment training, vocational training, homebound employment, transitional employment, and long-term employment. If one or more of these categories did not apply to a particular workshop, or if a workshop felt that other categories described its activities more adequately, then it was asked to indicate this. On the basis of this information, it was possible to characterize workshops according to the percentages of their clients in each of the categories. A Pearson Product-Moment Correlation between professional density and the percentage of total clients in the first three categories listed above was calculated. The value of r obtained was .3265 ($p<.01$).

This correlation may indicate that evaluation and training, as opposed to transitional and long-term employment, require greater amounts of professional time and attention. If this is actually the case, then one could ask what happens to clients once they complete evaluation, PAT, and vocational training in terms of the amount of professional service they receive.

Sources of Workshop Income

Examination of the data reveals that there is a relationship between professional density and the income sources of workshops. For the purposes of analysis, these sources can be broken down into three major categories: (1) sales, income from the production activities of workshops; (2) services, income from fees from referring agencies and clients; and (3) other sources, income from community support, fund drives, grants and parent organizations. Pearson Product-Moment Correlations between professional density and the first two categories were calculated and yielded an r of -.2934 ($p<.05$) between professional density and income from sales as a percent of total income and an r of .3136 ($p<.01$) between professional density and income from fees as a percent of total income.

These correlations indicate that workshops with high densities of professionals tend to receive relatively more income from the provision of professional services and relatively less income from productive activities than do workshops with low professional densities. Certainly one implication of this finding is that workshops with high professional densities have a greater degree of flexibility in many areas of operation since they rely less on income from productive activities for their continued existence. To use but one example of flexibility, workshops with large amounts of income from fees may be able to base their choice of subcontract work less on the potential income it will provide for the shop and more on the potential contribution it may make to client rehabilitation.

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4 Professional density is operationally defined as the ratio of the number of hours worked per week by professionals to the number of hours worked per week by clients. See page 2 for a more complete discussion of the concept.

Client Wages

On the expense side of the workshop ledger, it was found that there was an inverse relationship between professional density and the percent of total expenses accounted for by client wages; the value of the Pearson r was -.2855 ($p<.05$). This probably is accounted for by the fact that an increase in professional density will usually be accompanied by an increase in professional salary expenses, and a resulting decrease in the percentage of total expenses accounted for by each of the other major expense items.

In his examination of wage levels in sheltered employment, however, Button found that workshops which receive relatively large percentages of their total income from production activities also tend to pay higher average hourly wages to their clients.[5] It was also found as reported above, that these workshops have relatively low densities of professional staff personnel. Thus, in workshops which tend to rely primarily on income from productive activities, it may be that emphasis is placed on training clients to become better producers, a fact reflected in their higher wages. Workshops with higher densities of professional staff personnel, however, have to rely less on income from productive activities, and clients may receive services, such as social or psychological services, not immediately intended to increase their productive capacities.

Characteristics of Client Populations

The discussion of professional staffing raises the question of whether there are any differences between the characteristics of client populations being served in workshops with relatively high professional densities and those of client populations in workshops with relatively low or zero densities of professional staff personnel.[6] To attempt to answer this question we will focus on three major characteristics of client populations: age, disability, and tenure.

A. Client Age

The percentage distributions of clients in each of seven age categories was calculated for every workshop and was correlated with the professional density variable. The results of this procedure are presented in Figure 1.

FIGURE 1

Relationship Between Professional Density and Client Age

	Percent 16-18	Percent 19-25	Percent 26-35	Percent 36-45	Percent 46-55	Percent 56-60	Percent 60+
Pearson r	.0367	.1892	.0953	-.0446	-.1749	-.1240	-.0925

Although none of the above correlations is significant, they do indicate a general pattern in the relationship between professional density and client age. Since the correlations are negative for all categories after age 35, it seems that clients under 35 receive the greatest amount of professional service assuming that professional density adequately reflects amount of professional service. Also, workshops with high densities of professional personnel seem to be most likely to be serving clients between the ages of 19 and 25, and those with low professional densities appear most likely to be serving clients between the ages of 46 and 55.

B. Client Disability

The relationship between professional density and client disability was determined by calculating the percentage distributions of clients in sixteen disability categories and then correlating these percentages with professional density. The results of this procedure are presented in Table 8.

TABLE 8

Relationship Between Professional Density and Client Disability

Percentage of Client	Pearson r	Percentage Distribution by Disabilities	Pearson r
Blind	-.1817	Cardiovascular	-.0308
Orthopedic	-.1699	Alcoholic	-.0111
Other visual defect	-.1633	Mentally retarded	-.0051
Deaf	-.0775	Epileptic	.0139
Socially disadvantaged	-.0544	Tuberculosis	.0576
Other neurological	-.0533	Drug addiction	.0878
Other hard of hearing	-.0392	CVA	.0790
Cerebral palsy	-.0366	Mentally ill	.4377*

*p<.01

Interestingly, these results show the only significant correlation to be that between professional density and the percentage of clients diagnosed as mentally ill. This strong positive correlation may indicate that mental illness requires greater amounts of professional service in the workshop than the other disabilities.

The only other relationships which are even moderately strong are the negative correlations between professional

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5 See William H. Button, *Wage Levels in Sheltered Employment*, Region II Research Report I, December 1967, pp. 7-8.

6 It should be pointed out that all of the correlations calculated in this section of the report were based on the entire sample of workshops surveyed and thus included those workshops with no professionals at all. It may be of interest to note that of the 23 workshops reporting no professionals, 17, or 74 percent, were agencies for the blind, most of which serve fewer than 20 clients daily.

density and the percentages of clients classified as blind, as having other visual defects, and as having orthopedic handicaps. Since 17 workshops for the blind reported no professionals, the first two correlations are not particularly surprising. Because orthopedic handicaps are physical, individuals with such handicaps may not need the same amount of professional service as those with emotional, psychological, or genetic handicaps. With these four exceptions, however, there seem to be no strong associations between professional density and client disability.

C. Client Tenure

The final characteristic of client populations to be examined in relation to professional density is the length of time clients spend in the workshop. This relationship is of particular interest to persons who are concerned with the rehabilitation role of the workshop.

For each workshop in the sample, information regarding the numbers of clients in seven tenure categories was available. For the purposes of this report, these raw figures were recomputed as percentages of the total number of clients being served and were then correlated with professional density. Table 9 shows the results of this procedure.

TABLE 9

Relationship Between Professional Density and Client Tenure

Percentage of Clients in Workshops	Pearson r
Less than 4 months	.4353*
4-6 months	.0537
7-9 months	.1036
10-12 months	.1202
13-24 months	-.2046+
25-36 months	-.0708
36 months	-.3120*

*p<.01 +p<.05

Two basic insights emerge from these results. First, clients who have been receiving workshop services for more than one year appear less likely to be found in a workshop with a high professional density than those who have been receiving workshop services for less than one year. Second, it is apparent that the relationship between professional density and client tenure is strongest at the extremes. Workshops with large percentages of their clients in the shop less than four months are most likely to have high densities of professional staff personnel, while workshops with large percentages of their clients in the shop more than three years are least likely to have high professional densities. For example, 17 workshops for the blind, having no professionals, also tend to have most of their clients in the shop for more than three years.

Placement

In a sense, the biggest question has been saved for last. The sheltered workshop has been defined as "a work-oriented rehabilitation facility with a controlled working environment and individual vocational goals which utilizes work experience and related services for assisting the handicapped person to progress toward normal living and a productive vocational status."[7] As such, one of a workshop's goals is to place clients in competitive employment situations, and the question arises whether professional density is in any way related to this.

To examine this, a placement rate was calculated for each workshop in the sample by dividing the number of clients placed in competitive employment in 1966 by the total number of clients served by the workshop in that period. This variable was then correlated with professional density resulting in a Pearson r of .3300($p<.01$). This positive correlation indicates that workshops with high professional densities tend to have relatively high placement rates; increasing amounts of professional service tend to increase the probability of client placement.

Summary

This report has attempted to describe and analyze professional staffing in a sample of sheltered workshops and to provide quantitative information to persons concerned with questions of policy, planning, and outcomes in the workshop movement and in the field of vocational rehabilitation in general.

Although a number of patterns emerged from the comparisons and descriptions in this report, we should emphasize that the precise relationship between professional staffing and rehabilitation remains unclear. Assuming that at least one goal of workshop operation is the modification of a client's behavior to enable him "to progress toward normal living and a productive vocational status," then the question is how professional staff personnel contribute toward this goal. In our analysis of professional staffing it was found, for example, that, in general, very little professional time is available per client. Thus, the likelihood of clients receiving individual professional attention over an extended period of time is small. It was also found that high professional density is associated with high percentages of clients in evaluation, personal adjustment training, and vocational training, as opposed to transitional and long-term employment. These findings indicate

7 From *Sheltered Workshops - A Handbook*, NASWHP, Revised 1966, p. 1.

(1) either that repeated interventions on the shop floor by professionals are not regarded as an appropriate way of effecting desired behavior modification or are simply too costly to be practical, and (2) that a prevailing pattern seems to be to concentrate the bulk of professional services at the point of intake and in programs shortly thereafter, times when the client may or may not be actually performing remunerated work.

How do these findings compare with current thinking about the role of the professional in the sheltered workshop? A positive correlation between professional density and placement rates was found; its magnitude, however, indicates that there are additional factors which influence these rates. What impact, for example, would the manipulation of the kinds of work the client performs, the social space in which he is located, or the reward structure to which he is exposed have on the rate at which he is rehabilitated? Factors such as these, which differ from workshop to workshop, but which could be manipulated within any particular workshop, could conceivably affect the rates of client rehabilitation. It would seem, therefore, that what is needed is an understanding of the range of organizational factors involved in the rehabilitation process and how the particular skills that professionals acquire in the course of their specialized training may be most appropriately utilized to achieve desired outcomes in the workshop setting.