

A STUDY OF JOB SATISFACTION AND
TURNOVER OF DENTAL AUXILIARIES
IN BRITISH COLUMBIA

by

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A STUDY OF JOB SATISFACTION AND TURNOVER
OF DENTAL AUXILIARIES IN BRITISH
COLUMBIA.

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ABSTRACT

In June 1975 a mail survey of 242 dental auxiliaries was undertaken. The purpose of this study was to examine some of the factors which contribute to job satisfaction and turnover of dental auxiliaries. The subjects were dental hygienists, graduates of the University of British Columbia; certified dental assistants, graduates of Vancouver City College; and certified dental assistants, graduates of the College of New Caledonia.

The results indicated that the dental auxiliaries were generally satisfied with their jobs, they tend to live close to where they took their training, they were not satisfied with the fringe benefits provided by their employer, and they felt that there was not adequate opportunity for advancement as a dental auxiliary. Certified dental assistants felt that their skills were utilized to a greater extent than the dental hygienists and a greater percentage of certified dental assistants were not satisfied with their pay as compared to dental hygienists.

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Chapter I

INTRODUCTION

The present trend in dentistry is toward increased auxiliary utilization and improved methods in the delivery of health care. It has been shown in studies done in the Canadian Forces, Alabama, Kentucky, Prince Edward Island etc. that adding dental auxiliaries to aid dentists can increase productivity by 60 to 100% depending on the number of auxiliaries employed and on what duties they can perform.¹ In all of these studies there was no decrease in the quality of care provided by the auxiliaries as compared to the dentists involved in the projects.

Dentistry in British Columbia relies heavily on the services of its auxiliaries to help deliver dental care. Currently 96 certified dental assistants and 20 dental hygienists are trained per year in British Columbia. It is estimated that the current needs are 200-250 certified dental assistants per year and 100-120 dental hygienists per year.²

One explanation for the shortage of dental auxiliaries is high turnover. What do dental auxiliaries expect from their jobs? What factors contribute to satisfactory work relationships and job satisfaction? Why do auxiliaries leave their jobs? Is there any relationship between where dental auxiliaries receive their training and where they practice? These and other related problems are the basis of this study.

Few studies investigating the effect of job satisfaction upon turnover have been done regarding dental auxiliaries. The Canadian Dental Hygienist Association Manpower and Utilization Committee circulated a questionnaire to all known dental hygienists in Canada.³ The questionnaire was designed to obtain current information regarding the education, employment, continuing education activities, and expansion of functions of dental hygienists in Canada. According to this survey, the typical hygienist in Canada resides in an urban area in Ontario or British Columbia (79%), is between 20 and 30 years of age (85%), has no children (61%), has a diploma in dental hygiene (93%), has no further education (69%), has attended one or more continuing education courses, conventions or conferences in the previous year (69%), and is working either full or part-time (76%).

A similar survey was done by Siegel on 500 dental hygienists in the United States.⁴ According to this survey the typical hygienist in the United States is 26 years old, is married with one child, has been working for the same dentist for two years, and works a full 40 hour week at a flat salary of \$ 250 per week.

What she liked most about her job was the contact she had with her patients and her ability to help her patients.

There were three major reasons why hygienists disliked their jobs. They complained that their work was boring and routine and that the dentists wouldn't allow them to do all the procedures that they are trained to do. Another complaint was that benefits such as insurance, vacations, and sick leave were not provided by their employer. The third reason was that some patients were uncooperative: they miss appointments and they have poor oral hygiene with no desire to improve.

When questioned about their relationship with the rest of the staff - the dentist-boss and dental assistants - most of the survey respondents had high praise. Only a few hygienists were concerned with the jealousy and "irresponsibility" of the assistants. Eighty percent of the hygienists enjoyed their working relationships with assistants.

MacLean studied the employment expectancy of dental hygiene graduates of the University of Alberta.⁵ The employment life of the Alberta graduate was found to be 3.2 years.

Zaki and Stallard did a study on 80 dental hygienists.⁶ They found that 86% of the hygienists quit working full-time within five years of graduation. They also found that 42% had already left full-time practice during the first year.

Green and Comisarow studied 67 dental hygiene students and 113 graduate hygienists in Chic.⁷ Seventy-three (64.6%) of the graduate hygienists were currently employed and forty (35.4%) were currently unemployed. Of those unemployed, the main reasons given for termination of employment were pregnancy or family responsibilities (75%) and marriage (27.5%).

What the hygienists liked most about their job was contact with people, performing a service, and patient education. What they liked least about their job was boring and repetitious work, physical strain, and pressure to hurry - to keep on schedule.

The aim of their study was to determine whether hygienists saw the need for job enrichment and if they desired it. The results were positive for both.

They stated that:

The dental profession could benefit considerably from further attention in depth to the needs of all of the auxiliaries. Obviously by knowing where they are in terms of real needs, and attempting to fulfill these needs may change the environment of practice towards meeting the goals of real work simplification.

Schnitsky wrote that the dental hygienist has filled a "shadow" role in dentistry because she's less skilled than a dentist and less numerous than the dental assistant.⁹ Schnitsky stated that many of a hygienist's tasks are routine and that in the view of many critics, she's overtrained and overpaid for the work she performs. But from a hygienists point of view she's underutilized and underchallenged for her educational background and that she's frustrated with this situation.¹⁰

The Health Manpower Research Unit of the University of British Columbia produced a 1974 status report of all health personnel in British Columbia.¹¹ The report contained such statistical information on dental hygienists such as: the number of registered hygienists in British Columbia by regional hospital district and the output of certified dental assistants from various programs in British Columbia.

The British Columbia Children's Dental Health Research Project Report has been the most comprehensive work done to date on dental auxiliaries in British Columbia.¹² The study indicated that the greatest number of auxiliary personnel are concentrated in the lower mainland, a lesser concentration exists in the cities throughout the province, and very few live in rural areas. An exception to this pattern was the dense concentration of certified dental assistants found near the training centers.

The study indicated that there was a tendency for single hygienists to concentrate in Vancouver, the Okanagan, and Victoria. And that hygienists trained "out of province" do not exhibit markedly different location patterns from those trained in British Columbia. None of their data indicated that the age, place of graduation, or marital status bear significantly on the location of the hygienist.

Their work on the length of time that personnel remain in the work force indicated that the average working life of a dental hygienist appears to be 3 to 4 years. This is consistent with the work done by MacLean,¹³ Zaki and Stallard,¹⁴ and Green and Comisarow.¹⁵

Few studies investigating the effect of job satisfaction upon turnover have been done on dental auxiliaries. However, numerous studies have been done investigating the effects of job satisfaction upon turnover in a variety of industries. There have been some five major reviews of the literature dealing with job satisfaction and turnover. Brayfield and Crockett¹⁶ and Herzberg and others¹⁷ found evidence of a strong relationship between employee dissatisfaction and turnover. Vroom in a review of the literature indicated that the satisfied worker is less likely to leave than the dissatisfied worker.¹⁸ Schuh in a large scale review arrived at the same conclusion.¹⁹ Porter and Steers found that there was strong evidence that overall job satisfaction represents an important force on an individual staying on a job.²⁰

A Brookings Institute study based upon a sample of 3,000 employed respondents in various occupations founds that, for any individual, the important determinants of work satisfaction depend upon that individual's educational attainment and position in the job hierarchy.²¹

Not only have education and occupation been identified as important influences of job satisfaction, but Hulin has shown that the nature of the community in which one works and one's individual preferences for work role outcomes affect job satisfaction significantly.²² He stated:

Factors such as the adequacy of educational, recreational, and medical facilities; differences in the cost of living; and community attractiveness have all been found to be related to variations in job satisfaction. The evidence, then, is that for a given population, the determinants of job satisfaction are many and the way which they operate are complex and difficult to isolate.²³

References

1. British Columbia College of Dental Surgeons. Education Committee. Recommendations for Auxiliary Education in British Columbia. Mimeographed paper. Vancouver, June 1973, p. 4.
2. Ibid., p. 11.
3. Kline, C. and Sipko, K. "Canadian Dental Hygienist Association manpower and utilization survey results," Canadian Dental Hygienist, 1974, 8, (2), pp. 29-31.
4. Siegel, P. "The hygienist in profile," Dental Management, Sept, 1974, 14, (9), pp. 36-50.
5. MacLean, M.B. "Employment expectancy of the dental hygienist," Journal of the Canadian Dental Association, March 1970, 36, (3), pp. 115-120.
6. Zaki, H.A. and Stallard, R.E. "The role of the dental hygienist in preventative periodontics," Journal of Periodontology, April 1971, 42, pp. 233-236.
7. Green, E.J. and Comisarow, R.W. "Work motivation and job perception as applied to a group of dental hygienists," Journal of the American Dental Hygienist Association, Jan.-Feb. 1971, 45, (1), p. 114.
8. Ibid., p. 119.
9. Schnitsky, S. "The new breed coming," Dental Management, Sept. 1974, 14, (9), p. 14.
10. Loc. cit.
11. British Columbia Minister of Health. Health Manpower Research Unit. Rollcall - 74. University of British Columbia, Vancouver, Nov. 1974.
12. British Columbia Committee of the Children's Dental Health Research Project. Children's Dental Health Research Project Report. Victoria: Queen's Printer, 1975.
13. MacLean, op. cit., pp. 115-120.
14. Zaki and Stallard, op. cit., pp. 233-236.

15. Green and Comisarow, op. cit., pp. 114-120.
16. Brayfield, A.H. and Crockett, W.H. "Employee attitudes and employee performance," Psychological Bulletin, 1955, 52, pp. 396-424.
17. Herzberg, F. and others. Job Attitudes: Review of Research and Opinion. Pittsburgh: Psychological Service of Pittsburgh, 1957.
18. Vroom, V. Work and Motivation. New York: Wiley, 1964.
19. Schuh, A. "The predictability of employee tenure: A review of the literature," Personnel Psychology, 1967, 20, pp. 133-152.
20. Porter, L.W. and Steers, R. "Organizational, work, and personal factors in employee turnover and absenteeism," Psychological Bulletin, 1973, 80, (2), pp. 151-176.
21. Goodwin, L. "Occupational goals and satisfaction of the American work force," Personnel Psychology, Autumn 1969, 22, pp. 313-325.
22. Hulin, C.L. "Sources of variation in job and life satisfaction: the role of community and job related variables," Journal of Applied Psychology, Aug. 1969, 53, pp. 279-291.
23. Loc. cit.

Chapter II

METHODOLOGY

The first hypothesis to be tested in this study is that a greater percentage of dental hygienists will be satisfied with their jobs than will certified dental assistants.

I expect a greater percentage of dental hygienists to be satisfied with their jobs because of their longer period of formal education (three vs. one year), they have a greater amount of status in dental offices than certified dental assistants, they receive higher salaries, and they can perform more intra-oral functions than certified dental assistants.

The second hypothesis to be tested in this study is that dental auxiliaries who are dissatisfied with their jobs are more likely to leave than the dental auxiliaries who are satisfied with their job.

Porter and Steers in a large scale review of the literature found that overall job satisfaction was inversely related to turnover.¹

The data were gathered by means of a questionnaire (see Appendix A) sent by mail to 242 dental auxiliaries.

The population studied consists of graduate dental hygienists from the school of dental hygiene at the University of British Columbia, graduate certified dental assistants from Vancouver City College, and graduate certified dental assistants from the College of New Caledonia (Prince George). The population consists of graduates from the years 1970-74 for all three schools (see Table I).

TABLE I

Number of Graduate Dental Auxiliaries

SCHOOL	YEAR					Total
	1970	1971	1972	1973	1974	
Dental Hygienists University of British Columbia	19	15	20	20	20	94
Certified Dental Assistants Vancouver City College	0	0	27	40	46	113
Certified Dental Assistants College of New Caledonia	15	14	17	24	15	85
Totals	34	29	64	84	81	292

Questionnaires were sent to those dental hygienists and certified dental assistants whose addresses were in a 1975 directory issued by the College of Dental Surgeons of British Columbia (see Table II). The directory contains the dental auxiliaries (dental hygienists and certified dental assistants) licensed by the College of Dental Surgeons of British Columbia to practice in British Columbia for the year 1975. Those auxiliaries who were no longer working and did not pay the 1975 licensing fee could not be sampled because their addresses were not available.

TABLE II

Number of Graduates Licensed to Practice in
British Columbia, 1975.

SCHOOL	YEAR					Total
	1970	1971	1972	1973	1974	
Dental Hygienists University of British Columbia	17	12	19	18	19	85
Certified Dental Assistants Vancouver City College	0	0	17	30	37	84
Certified Dental Assistants College of New Caledonia	-	25*	15	19	14	73
Totals	17	37	51	67	70	242

*only total for 1970-1 combined was available from the College of Dental Surgeons of British Columbia directory.

The questionnaire was mailed in June 1975 with a covering letter explaining the purpose of the study and with a stamped return envelope. To obtain a high response, a tooth brush was enclosed with each questionnaire and a follow-up letter was sent ten days following the questionnaire. Completed questionnaires were received from 176 auxiliaries, a respectable response of 73% of the 242 licensed auxiliaries (see Table III).

TABLE III
Questionnaire Returns

SCHOOL	Sent	Returned Not Completed	Number Completed	Percentage Completed
Dental Hygienists University of British Columbia (1970-4)	85	4	62	73
Certified Dental Assistants Vancouver City College (1972-4)	84	3	62	74
Certified Dental Assistants College of New Caledonia (1970-4)	73	2	52	71
Totals	242	9	176	73

Biographical data

The "typical" dental hygienist from the University of British Columbia is most likely to reside in a large city and is a married female between 20 and 25 years of age.

The "typical" certified dental assistant from Vancouver City College is most likely to live in a large city and is a single female between 20 and 25 years of age.

The "typical" certified dental assistant from the College of New Caledonia grew up in a town or small city and now resides in a town or small city and is a married female between 20 and 25 years of age.

The first part of the questionnaire was designed to explore four variables related to the job which have been found by Kahn and Morse, to contribute to overall job satisfaction.² The four variables are satisfaction with the job, employer, pay, and with the work group. The operational definitions of satisfaction with the job are:

1. my skills are fully utilized.
2. my patient load is adequate.
3. the equipment and supplies I have to work with are adequate and well maintained.
4. I have adequate opportunities for advancement.
5. I enjoy performing the day to day activities of my job.

The operational definitions of satisfaction with the employer are:

1. my employer has confidence and trust in me.
2. my employer is willing to listen to my problems.
3. my employer is stubborn.
4. my employer is competent.

The operational definitions of satisfaction with pay are:

1. considering my training, experience, and effort I put into my work, I am satisfied with my pay.
2. my fringe benefits are adequate.

The operational definitions of satisfaction with work group are:

1. the office staff is friendly and easy to approach.
2. other members of the office staff provide the help needed so I can plan and organize work ahead of time.
3. other members of the office staff are competent.
4. other members of the office staff are boring.

Two other questions were asked in the first part of the questionnaire. A global question was asked on overall job satisfaction: "I feel I am satisfied with my job as compared to other people with the same amount of education and training." (Question 10, Appendix A) They were also asked if they would like their professional association to get involved in wage negotiations, negotiation of benefits, forming a union, and continuing education.

The order of the questions in each of the four variables (satisfaction with job, pay, employer, and work group) was mixed to prevent halo and other effects.

Each item was measured on a five point scale, 1 representing "strongly agree" and a score of 5 representing "strongly disagree". The usual assumption was made regarding this 5 point Likert type measuring responses: namely that the scale intervals are equal.

The second part of the questionnaire consists of biographical data. The variables are community in which they grew up, present residence, age, marital status, and year of graduation.

The third part of the questionnaire is on turnover. Turnover has two dimensions in this study, the first is those dental auxiliaries who have left the profession (no longer licensed to practice) and the second is those dental auxiliaries who have changed employers.

Wild and Hill's definition of turnover was used.³ Voluntary turnover being defined as occurring when employees leave because they want to for reasons which are, in principle, within the firm's control. Involuntary turnover is defined as occurring when employees leave because they are obliged to, for reasons beyond the firm's control. The following reasons for leaving represented involuntary turnover: pregnancy, marriage, leaving the district, and domestic reasons.

Two assumptions were made regarding turnover in the questionnaire. The first was that the respondents leave their job for one main reason, not for a combination of reasons. Second, that the listed reasons for involuntary turnover are "purely" involuntary and have no voluntary component to them.

Crosstabulation analysis using the responses to the question on overall job satisfaction and the responses to the questions on present residence, age, marital status, year of graduation, and length of work week was used to determine if there was a significant relationship between the variables. Chi square analysis was done on the tables to determine if the relationship between the variables was due to chance or was statistically significant. "Significant" in this context was interpreted as the .05 level or beyond.

Similarly, crosstabulation analysis was done on the variable present residence with the variables age, marital status, year of graduation, and the number of hours worked per week; and the variable number of hours worked per week with the variables age, marital status, and the year of graduation.

In addition to the data obtained in the questionnaire, the permanent mailing addresses of the dental auxiliaries were analysed to determine if they live close to where they took their training and the number of graduates from each school was compared to the number licensed to practice in 1975 to determine the attrition of dental auxiliaries per graduating class to 1975.

References

1. Porter, L.W. and Steers, R. "Organizational, work, and personal factors in employee turnover and absenteeism," Psychological Bulletin, 1973, 80, (2), pp. 151-176.
2. Kahn, R.L. and Morse, N.C. "The relationship of productivity to morale," Journal of Social Issues, 1951, 7, pp. 8-17.
3. Wild, R. and Hill, A.B. Women in the Factory. London: Lawrence Bros., 1970.

Chapter III

RESULTS

Residence of Graduate Dental Auxiliaries

There is a tendency for the dental hygienists from the University of British Columbia (1970-4) who were licensed to practice in British Columbia (1975) to live in the lower mainland (see Table IV). Seventy-seven decimal six percent of these graduates live in the lower mainland, (12.9%) live in the Okanagan, Kamloops, or Merritt, and (5.9%) live on Vancouver Island. There were no hygienists from this sample population living in northern British Columbia.

TABLE IV

Residence of Dental Hygienists, Graduates of the University of British Columbia 1970-4.

Location	Year of graduation					
	1970 n %	1971 n %	1972 n %	1973 n %	1974 n %	Overall n %
Lower Mainland	13 76.4	10 33.3	14 73.7	15 83.3	14 73.7	66 77.6
Vancouver Island	2 11.3	0 0	2 10.5	0 0	1 5.3	5 5.9
Okanagan, Kamloops, Merritt	2 11.3	2 16.7	2 10.5	3 16.7	2 10.5	11 12.9
Northern B.C.	0 0	0 0	0 0	0 0	0 0	0 0
Canada	0 0	0 0	1 5.3	0 0	0 0	1 1.2
Foreign	0 0	0 0	0 0	0 0	2 10.5	2 2.4
Totals	17 100	12 100	19 100	18 100	19 100	85 100

The certified dental assistants from Vancouver City College (1972-4) who were licensed to practice in British Columbia (1975) have a greater tendency to live in the lower mainland (see Table V). Ninety-two decimal eight percent of these graduates live in the lower mainland, (3.6%) live in northern British Columbia, only (1.2%) live on Vancouver Island, and (2.4%) live in the Okanagan, Kamloops, or Merritt.

TABLE V

Residence of Certified Dental Assistants, Graduates of Vancouver City College 1972-4.

Location	Year of graduation							
	1972		1973		1974		Overall	
	n	%	n	%	n	%	n	%
Lower Mainland	16	94.1	28	93.3	34	91.9	78	92.8
Vancouver Island	0	0	0	0	1	2.7	1	1.2
Okanagan, Kamloops, Merritt	1	5.9	0	0	1	2.7	2	2.4
Northern B.C.	0	0	2	6.7	1	2.7	3	3.6
Canada	0	0	0	0	0	0	0	0
Foreign	0	0	0	0	0	0	0	0
Totals	17	100	30	100	37	100	84	100

Certified dental assistants from the College of New Caledonia (1970-4) who were licensed to practice in British Columbia (1975) are likely (72.6%) to live in northern British Columbia (see Table VI). Only (13.7%) of these graduates live in the lower mainland, (6.9%) live on Vancouver Island, and (4.1%) live in the Okanagan, Kamloops, or Merritt.

TABLE VII

Residence of Certified Dental Assistants, Graduates of the
College of New Caledonia 1970-4.

Location	Year of graduation									
	1970-1*		1972		1973		1974		Overall	
	n	%	n	%	n	%	n	%	n	%
Lower Mainland	3	12	1	7.1	5	25	1	7.1	10	13.7
Vancouver Island	3	12	1	7.1	1	5	0	0	5	6.9
Okanagan, Kamloops, Merritt	1	4	2	14.3	0	0	0	0	3	4.1
Northern B.C.	18	72	10	71.5	13	65	12	85	53	72.6
Canada	0	0	0	0	1	5	1	7.1	2	2.7
Foreign	0	0	0	0	0	0	0	0	0	0
Totals	25	100	14	100	20	100	14	100	73	100

The data indicate that dental auxiliaries are likely to reside close to where they took their training. There were no graduate dental hygienists from the University of British Columbia (1970-4) residing in northern British Columbia and practicing dental hygiene at the time of this study. One of the methods of getting dental hygienists to northern British Columbia would be to establish a school of dental hygiene at Prince George. Also noticeable in the data was the lack of dental auxiliaries residing in the Kootenay area of British Columbia.

*totals were only available for 1970-1 combined from the College of Dental Surgeons of British Columbia register.

Dental Auxiliaries Leaving the Profession

The number of graduate dental auxiliaries (1970-4) no longer licensed to practice in British Columbia (1975) can be seen in Table VII. Ten percent of the dental hygienists, who were graduates of the University of British Columbia 1970-4 were not licensed to practice in British Columbia in 1975, twenty percent of the certified dental assistants who were graduates of Vancouver City College 1972-4 were not licensed to practice in British Columbia in 1975, and fifteen percent of the certified dental assistants who were graduates of the College of New Caledonia 1970-4 were not licensed to practice in British Columbia in 1975.

It is difficult to draw conclusions from these findings because some of the dental auxiliaries not licensed in 1975 may pay their licensing fee in a future year, thus returning to the work force. Although a dental auxiliary is licensed to practice, she may have paid her licensing fee and not worked at all.

TABLE VII

Dental Auxiliaries Licensed to Practice
in British Columbia 1975.

Dental hygienists graduates of the University of British Columbia 1970-4.				
Year	Graduates	Number licensed to practice 1975	Number lost	% attrition
1970	19	17	2	11%
1971	15	12	3	20%
1972	20	19	1	5%
1973	20	18	2	10%
1974	20	19	1	5%
Totals	94	85	9	10%
Certified dental assistants graduates of Vancouver City College 1972-4.				
Year	Graduates	Number licensed to practice 1975	Number lost	% attrition
1972	27	17	10	37%
1973	40	30	10	25%
1974	46	37	9	5%
Totals	113	84	29	20%
Certified dental assistants graduates of the College of New Caledonia, 1970-4.				
Year	Graduates	Number licensed to practice 1975	Number lost	% attrition
1970	15			
1971	14	25	4	13%
1972	17	15	2	12%
1973	24	19	5	21%
1974	15	14	1	7%
Totals	85	73	12	15%

Professional Associations

The dental auxiliaries were asked what functions they would like their professional association to get involved in (question 7 of the questionnaire, see Appendix A). The responses were measured on a typical 5 - point Likert type scale with a score of 1 representing "strongly agree", and a score of 5 representing "strongly disagree". Table VIII presents the mean scores for each of the groups studied and the mean score for all the dental auxiliaries.

TABLE VIII

Professional Associations
(Mean Score on a 5 - point Scale)

Auxiliary	Wage Negotiation		Negotiation of Benefits		Continuing Education		Forming a Union	
	n	mean	n	mean	n	mean	n	mean
Dental Hygienists (U.D.C.)	62	2.79	62	2.13	61	1.39	62	3.74
Certified Dental Assistants (V.C.C.)	59	1.56	60	1.52	61	1.12	59	2.54
Certified Dental Assistants (C.H.C.)	50	1.70	49	1.63	50	1.36	49	2.61
Totals	171	2.05	171	1.77	172	1.29	170	3.00

The dental auxiliaries studied would like their professional associations to get involved in wage negotiations, negotiation of benefits, and continuing education. The certified dental assistants were somewhat in favour of their professional association forming a union but the dental hygienists were slightly against their professional association forming a union. Certified dental assistants wanted their professional association to get involved in wage negotiations, whereas, the dental hygienists were less in favour of their professional association getting involved in wage negotiations.

Overall Job Satisfaction

The overall job satisfaction score is derived from question 10 of the questionnaire (see Appendix A). Overall job satisfaction was measured on a typical 5 - point Likert type scale, with a score of 1 representing "strongly agree", and a score of 5 representing "strongly disagree." Table IX presents the mean scores for each of the groups studied and the mean score for all the dental auxiliaries studied. (Lower mean scores indicate higher levels of satisfaction).

TABLE IX

Overall Job Satisfaction
(Mean Score on a 5 - point Scale)

Auxiliary	n	Mean Score
Dental Hygienists University of British Columbia	62	2.37
Certified Dental Assistants Vancouver City College	62	2.12
Certified Dental Assistants College of New Caledonia	51	2.12
Totals	175	2.23

Both groups of certified dental assistants studied had a higher level of overall job satisfaction than the dental hygienists. (which is contrary to what one might expect).

Satisfaction with Job, Employer, Pay, and Work Group

The attitudinal questions designed to explore satisfaction with the job, employer, pay, and work group were measured on a typical 5 - point Likert type scale, with a score of 1 representing "strongly agree", and a score of 5 representing "strongly disagree." Table X presents the mean scores for satisfaction with the job for each group of dental auxiliaries studied, Table XI satisfaction with employer, Table XII satisfaction with pay, and Table XIII satisfaction with work group. The direction of agreement between the mean scores is not always positive. Two "negative" questions were asked (see Table XI, Column 3 and the last Column of Table XIII) with these two questions a high score is good, which is the reverse, of all the other questions.

Satisfaction with the Job

There was a marked difference between dental hygienists and certified dental assistants on how they felt their skills were being utilized. The majority of the certified dental assistants felt their skills were fully utilized, as compared to the dental hygienists who did not feel their skills were being fully utilized (see Table X).

The dental auxiliaries studied did not feel they had adequate opportunity for advancement. Dental hygienists felt they had less opportunity for advancement as compared to the two groups of certified dental assistants (see Table X).

The dental auxiliaries studied felt that their patient load was adequate, they felt that the equipment and supplies they had to work with was adequate and well maintained, and they enjoyed performing the day to day activities of their job (see Table X).

TABLE X

Satisfaction with the Job
(Mean Score on a 5 - point Scale)

Auxiliary	My skills are fully utilized	My patient load is adequate	Adequate equip- ment and supp- lies	Adequate opport- unity for advan- cement	I enjoy the day to day activities of my job
	n mean	n mean	n mean	n mean	n mean
Dental Hygienists University of British Columbia	62 3.23	62 1.36	62 1.65	60 3.45	62 2.13
Certified Dental Assistants Vancouver City College	62 1.79	62 1.77	62 1.58	62 2.97	62 1.68
Certified Dental Assistants College of New Caledonia	52 1.79	51 1.63	51 1.71	50 3.18	52 1.54
Totals	176 2.30	175 1.58	175 1.64	172 3.20	176 1.80

Satisfaction with the Employer

The dental auxiliaries studied felt their employer had confidence and trust in them, they felt their employer was competent, they felt their employer was willing to listen to their problems, and they did not feel that their employer was stubborn (see Table XI).

Satisfaction with Pay

There was considerable difference between dental hygienists and certified dental assistants as to their satisfaction with pay. Certified dental assistants were less satisfied with their pay than dental hygienists (see Table XII).

The dental auxiliaries were not satisfied with the fringe benefits provided by their employers. The fringe benefits they were the least satisfied with were a pension plan, uniform allowance, and overtime pay (see Table XII).

Satisfaction with Work Group

The dental auxiliaries felt that other members of the office staff were friendly and easy to get along with, they felt that other members of the office staff provided the help needed so that they could plan and organize work ahead of time, they felt that other members of the office staff were competent, and they did not feel that other members of the office staff were boring (see Table XIII).

TABLE XI

Satisfaction with Employer
(Mean Score on a 5 - point Scale)

Auxiliary	My employer has confidence and trust in me n mean	My employer is willing to listen to my problems n mean	My employer is stubborn n mean	My employer is competent n mean
Dental Hygienists University of British Columbia	62 1.44	61 1.61	62 3.47	62 1.47
Certified Dental Assistants Vancouver City College	62 1.53	62 2.00	62 3.37	62 1.50
Certified Dental Assistants College of New Caledonia	51 1.47	51 1.96	51 3.47	51 1.35
Totals	175 1.48	174 1.85	175 3.43	175 1.45

TABLE XII

Satisfaction with Pay and Fringe Benefits
(Mean Score on a 5 - point Scale)

	I am satisfied with my job	Medical Insurance	Pension Plan	Continuing Education	Maternity Leave	Dental Benefits	Sick Leave	Uniform Allowance	Overtime Pay
Auxiliary	n mean	n mean	n mean	n mean	n mean	n mean	n mean	n mean	n mean
Dental Hygienists (U.B.C.)	62 2.13	59 3.80	58 4.07	61 2.46	55 3.27	60 2.97	61 2.85	59 3.68	59 3.85
Certified Dental Assistants (V.C.C.)	62 3.21	60 3.57	61 3.59	62 2.95	55 3.42	62 2.97	61 2.72	62 3.55	62 3.94
Certified Dental Assistants (C.N.C.)	51 3.24	48 3.44	46 3.85	50 3.10	47 3.06	51 2.37	50 2.86	50 4.24	48 3.44
Totals	175 2.83	167 3.61	165 3.83	173 2.82	157 3.26	173 2.79	172 2.81	171 3.80	169 3.76

TABLE XII
Satisfaction with Work Group
(Mean Score on a 5 - point Scale)

Auxiliary	Office staff is friendly and easy to approach	Office staff provides the help needed	Other members of the office staff are competent	Other members of the office staff are boring
	n mean	n mean	n mean	n mean
Dental Hygienists University of British Columbia	62 1.52	62 2.26	62 1.92	62 4.44
Certified Dental Assistants Vancouver City College	61 1.79	62 2.32	61 1.97	60 4.38
Certified Dental Assistants College of New Caledonia	50 1.62	51 2.00	51 1.86	51 4.53
Totals	173 1.64	175 2.21	174 1.92	173 4.45

Of the four variables related to overall job satisfaction studied in this survey, dental auxiliaries were least satisfied with their pay and fringe benefits. They were generally satisfied with their employer, their work group, and their job (although the dental hygienists and both groups of certified dental assistants felt that they did not have adequate opportunity for advancement).

Turnover

Ten decimal four percent of the respondents who answered the question on the number of hours worked per week (question 23, see Appendix A) were unemployed (see Table XIV).

TABLE XIV
Unemployed Dental Auxiliaries

Auxiliary	Number Unemployed	Respondents	% of Respondents Unemployed
Dental Hygienists University of British Columbia	9	61	14.8%
Certified Dental Assistants Vancouver City College	5	61	8.2%
Certified Dental Assistants College of New Caledonia	4	51	7.8%
Totals	18	173	10.4%

Fourteen decimal eight percent of the dental hygienists who answered the question on the number of hours worked per week (question 23, Appendix A) were unemployed, (3.2%) worked between 1 and 12 hours a week, (6.6%) worked between 13 and 24 hours a week, (54.1%) worked between 25 and 36 hours a week, and (21.3%) worked 37 or more hours a week. The reasons given for not working at the present time among the number unemployed were pregnancy, marriage, domestic reasons, and other.

Eight decimal two percent of the certified dental assistants from Vancouver City College who answered the question on the number of hours worked per week (question 23, Appendix A) were unemployed, (1.6%) worked between 13 and 24 hours per week, (41.0%) worked between 25 and 36 hours a week, and (49.2%) worked 37 or more hours a week. The reasons given for not working at the present time among the number unemployed were pregnancy, leaving the district, and other.

Seven decimal eight percent of the certified dental assistants from the College of New Caledonia who answered the question on the number of hours worked per week (question 23, Appendix A) were unemployed, (2.0%) worked between 13 and 24 hours a week, (43.1%) worked between 25 and 36 hours a week, and (47.1%) worked 37 or more hours per week. The reasons given for not working at the present time among the number unemployed were pregnancy, health, leaving the district, and other.

Turnover of the dental auxiliaries studied includes those who have left the profession and those who have changed employers. The total turnover of the dental auxiliaries studied can be seen in Table XV. It is difficult to make inferences from the data on turnover because of the short period of time some of the auxiliaries have been in the work force and because a high percentage of them expressed a desire to return to work in the future. What can be seen in the data is the large number of certified dental assistants from Vancouver City College who have left the profession and the apparent tendency of dental hygienists to change employers more frequently than certified dental assistants.

TABLE XV

Total Turnover, June 1975.

Auxiliary	Number of Graduates	Loss Due to Leaving the Profession	Loss Due to Changing Employer	Total Loss	Total Loss as a Percentage of the Number of Graduates
Dental Hygienists University of British Columbia 1970-4	94	9	9	18	19.1%
Certified Dental Assistants Vancouver City College 1972-4	113	29	5	34	30.1%
Certified Dental Assistants College of New Caledonia 1970-4	35	4	4	16	18.8%
Totals	292	42	18	68	23.3%

Job Satisfaction Crosstabulations

There was a tendency for those dental auxiliaries working fewer hours per week to report greater job satisfaction, as shown in Table XVI.

TABLE XVI

Job Satisfaction and Hours Worked per Week

Hours worked per week

	25 - 36 n=	37+	Total
Satisfied	62	38	100
Dissatisfied	18	29	47
Total	80	67	147

Chi square analysis shows this relationship to be significant at the 0.001 level of probability ($\chi^2 = 25$, d/f= 1).

No significant relationship was found between job satisfaction and: present residence, age, marital status, and year of graduation.

Present Residence Crosstabulations

No significant relationship was found between present residence and: age, marital status, and year of graduation.

Number of Hours Worked per Week Crosstabulations

There was a tendency, although not significant, for those dental auxiliaries who work in a town or small city, or in a suburban area near a large city to work 25 - 36 hours a week as compared to dental auxiliaries in large cities who are more likely to work 37 or more hours a week.

There was a tendency for those dental auxiliaries who were single to work a longer number of hours per week compared to the married dental auxiliaries, as shown in Table XVII.

TABLE XVII

Marital Status and Hours Worked per Week

Hours worked per week	Marital Status		
	Single n=	Married	Total
Unemployed	3	13	16
1 - 12 hours	0	2	2
13 - 24 hours	2	4	6
25 - 36 hours	40	36	76
37+ hours	39	26	65
Total	84	81	165

Chi square analysis shows this relationship to be significant at the 0.025 level of probability ($\chi^2 = 11.6$, d/f= 4).

There is a tendency for recent graduates to work a greater number of hours per week as compared to those dental auxiliaries who have been in the work force for a number of years (see Table XVIII).

TABLE XVIII

Number of Hours Worked per Week and Gradyear

Hours worked per week	Gradyear					Totals
	1970	1971	1972	1973	1974	
	n=					
Unemployed	7	3	4	2	2	18
1 - 12 hours	1	0	0	1	0	2
13 - 24 hours	4	1	0	1	0	6
25 - 36 hours	5	17	23	14	19	79
37+ hours	6	11	12	20	18	67
Totals	24	32	39	38	39	172

Chi square analysis shows this relationship to be significant at the 0.0015 level of probability ($\chi^2 = 37.9$, d/f= 16).

No significant relationship was found between the number of hours worked per week and age.

Chapter IV

DISCUSSION

The dental auxiliaries studied in this survey tend to live close to where they took their training. Ninety-three percent of the certified dental assistants trained at Vancouver City College, live on the lower mainland; (78%) of the dental hygienists trained at the University of British Columbia, live on the lower mainland; and (73%) of the certified dental assistants trained at the College of New Caledonia, Prince George, live in northern British Columbia. One possible explanation for the lower percentage of dental assistants trained in Prince George remaining in northern British Columbia is that dentists from the lower mainland actively recruit the Prince George graduates because of the shortage of certified dental assistants available in the lower mainland. The distribution of dental auxiliaries in British Columbia is directly correlated to the distribution of dentists because the "Rules and Regulations" of the Dental Act state that dental auxiliaries must be supervised by a dentist in most job situations. Most of the dentists in British Columbia are concentrated in the lower mainland, a lesser concentration exists in Victoria and the Okanagan, and a few are found in rural areas (see Table XIX).

TABLE XIX

Number of Dentists in British Columbia by Region 1973

Region	Total number of dentists
Fraser Valley	114
Kootenay	47
Northern	62
Okanagan	96
Vancouver	612
Vancouver Island	75
Victoria	108
British Columbia	1114

A dental auxiliary's decision as to where in the province she is going to practice may be affected by where she takes her dental training. If training programmes were "set up" in areas of need, then dental auxiliaries trained in these areas would likely remain there.

The number of graduate dental hygienists from the University of British Columbia not licensed to practice in 1975 (10%) is lower than that of the certified dental assistants from Vancouver City College (20%), and that of the certified dental assistants from the College of New Caledonia, Prince George, (15%). It is difficult to draw conclusions from these findings because some of the graduate dental auxiliaries not licensed in 1975 may pay their licensing fees in a future year and even though a dental auxiliary is licensed to practice, she may have paid her licensing fee and not worked at all.

The dental auxiliaries studied would like their professional associations to get involved in wage negotiations, negotiation of benefits, and continuing education. They were not strongly in favour of their professional associations forming a union, especially, the dental hygienists who were slightly against this.

A lesser number of the dental hygienists felt that their skills were fully utilized as compared to the certified dental assistants from Vancouver City College and the certified dental assistants from the College of New Caledonia. Dental hygienists in practice are not providing many of the services they

are trained and licensed to perform. For example, they are trained and licensed to fabricate a complete denture, yet they rarely construct a denture for a patient. There are functions which the hygienists are trained to perform but at the present time the "Rules and Regulations" of the Dental Act prohibit them from providing these services for patients. For example, the dental hygiene students at the University of British Columbia are trained to prepare and fill cavities but at the present time they can't legally perform this service in general practice.

The dental auxiliaries were generally satisfied with their job. Most of them felt that their patient load was adequate, that the equipment and supplies they had to work with were adequate, and they enjoyed performing the day to day activities of their job.

The dental auxiliaries did not feel that they had adequate opportunity for advancement. This may be due to several reasons. By law, a dental auxiliary (in most job situations) must work under the supervision of a dentist. A dental auxiliary can never own a dental practice. There are very few continuing education courses available for dental auxiliaries to upgrade their education.

At the present in British Columbia, no credit is offered for experience gained on the job or gained through formal education courses. If a certified dental assistant wanted to become a dental hygienist she would have to take the complete curriculum, receiving no credit for previous educational experience. The same situation would face a dental hygienist who wanted to become a dentist.

Most of the dental auxiliaries studied were satisfied with their relationship with their employer: they felt that their employer had confidence and trust in them, they felt that their employer was willing to listen to their problems, they felt that their employer was competent, and they did not feel that their employer was stubborn.

In general, the dental auxiliaries were satisfied with their work group: they felt that their office staff was friendly and easy to get along with, they felt that other members of the office staff provided the help needed so that they could plan and organize work ahead of time, they felt that other members of the office staff were competent, and they did not feel that other members of the office staff were boring.

There was considerable variation between dental hygienists and certified dental assistants as to satisfaction with pay. The dental hygienists from the University of British Columbia were satisfied with their pay, while the certified dental assistants from Vancouver City College and the certified dental assistants from the College of New Caledonia were not satisfied with their pay.

Dental hygienists in British Columbia receive a "good" salary because of the high demand for their services. They are licensed to perform many of the services which dentists consider to be "routine and boring". In the College of Dental Surgeons of British Columbia Fee Schedule, the fees for the services provided by a hygienist are the same as if they were provided by a dentist. So that a hygienist can increase a dentist's net income.

In general the dental auxiliaries were not satisfied with the fringe benefits provided by their employer. They were not satisfied with: medical insurance, pension plan, maternity leave, uniform allowance, and overtime pay. They were somewhat satisfied with continuing education courses provided and dental benefits.

The dental hygienists from the University of British Columbia who completed the survey exhibited a higher rate of changing employers (14.8%) as compared to the certified dental assistants from Vancouver City College (8.2%), and the certified dental assistants from the College of New Caledonia (7.8%). The dental hygienist is relatively mobile in the sense that moving from practice to practice does not require capital expenditure and her services have a high demand at the present time. The reasons given by the dental auxiliaries for leaving their last job were: pregnancy (33%), marriage (3%), health (3%), leaving the district (10%), domestic reasons (3%), and voluntary turnover (48%).

The first hypothesis tested in this study must be rejected because the results did not show that dental hygienists exhibited a greater amount of overall job satisfaction as compared to certified dental assistants (see Table IX).

The second hypothesis tested in this study must be accepted because the results showed that a dissatisfied dental auxiliary is more likely to leave her job than the satisfied auxiliary (see Table XX).

TABLE XX

Job Satisfaction and Turnover

	Satisfied with their job		Dissatisfied with their job		Totals	
	n	%	n	%	n	%
Unemployed Auxiliaries	8	44.4	10	55.6	18	100
Working Auxiliaries	106	68.4	49	31.6	155	100
Totals	114		59		173	

Reference

1. British Columbia Committee of the Children's Dental Health Research Project. Children's Dental Health Research Project Report. Victoria: Queen's Printer, 1975, p. II-2.

Chapter V

RECOMMENDATIONS

1. That the professional associations of dental auxiliaries in conjunction with the College of Dental Surgeons of British Columbia develop evening and weekend continuing education programs for existing dental auxiliaries.
2. That the professional associations of dental auxiliaries in conjunction with the College of Dental Surgeons of British Columbia develop continuing education programs for the northern and rural areas of British Columbia.
3. That training facilities for dental auxiliaries be established in determined areas of need, for example, a school of dental hygiene at Prince George.
4. That the professional associations of dental auxiliaries publish a salary scale commensurate with dental auxiliary training, experience, and responsibility.
5. That the professional associations of dental auxiliaries publish a list of dental auxiliary status and benefit entitlement.
6. That the professional associations of dental auxiliaries in conjunction with the College of Dental Surgeons of British Columbia develop a career-ladder type of program where dental auxiliaries could up-grade themselves

depending on their motivation and ability.

7. That the professional associations of dental auxiliaries in conjunction with the College of Dental Surgeons of British Columbia do specific research on the motivation of dental auxiliaries and the expansion of functions of dental auxiliaries in order to fully utilize existing personnel.
8. That dentists when they employ dental auxiliaries should draw up an Agreement to set forth certain terms and conditions of employment relating to remuneration, hours of work, benefits, and general working conditions. The purpose of the Agreement is to maintain a harmonious and mutually beneficial relationship between the dentist and the dental auxiliary.
9. That dentists as employers clearly state the potential payoffs for effective performance. And that the dental auxiliary receive continued recognition and feedback on her performance.
10. That dentists as employers allow dental auxiliaries a greater selection of rewards toward which to work.

APPENDIX A

Introductory letter

Questionnaire

Follow-up letter

June 1975.

Hello:

My name is John Gercsak. I am a student in the Graduate School of Business Administration at Simon Fraser University.

This questionnaire is part of a study on dental auxiliaries and how they view certain aspects of their profession. This is not a study of individuals.

On the following pages you will find a series of questions. There are no "trick" questions and I think you will find this questionnaire both stimulating and interesting.

The information is completely confidential and under no circumstances will individual responses be disclosed.

Please return the questionnaire in the self addressed envelope as soon as possible.

In advance, I thank you for your participation in this study.

Yours truly,

John Gercsak

INSTRUCTIONS

1. If you are working as a certified dental assistant,* answer the question in relation to your present job.
2. If you are working at more than one job as a certified dental assistant, answer the questions in relation to the job where you work the most hours.
3. If you are not working as a certified dental assistant now, answer the questions in relation to your last certified dental assisting job.

* Dental hygienist was used in those questionnaires sent to dental hygienists.

READ THE ANSWER CATEGORIES OVER CAREFULLY. THEN ANSWER EACH OF THE FOLLOWING QUESTIONS BY PLACING THE MOST APPROPRIATE NUMBER IN THE BOX AT THE RIGHT.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE
AGREE SOMEWHAT SOMEWHAT

1 2 3 4 5

1. My skills as a certified dental assistant are fully utilized.

2. I enjoy performing the day to day activities of my job.

3. Other members of the office staff provide the help needed so that I can plan and organize work ahead of time.

4. My employer is competent.

5. I am satisfied with the following benefits:
a. medical insurance
b. pension plan
c. continuing education courses
d. maternity leave
e. dental benefits
f. sick leave
g. uniform allowance
h. overtime pay

6. I have adequate opportunities for advancement as a certified dental assistant.

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7. I would like my dental assistants association to get involved in:

- a. wage negotiations
- b. negotiation of benefits
- c. forming a union
- d. continuing education

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 1 2 3 4 5
 1 2 3 4 5
 1 2 3 4 5

8. My employer is stubborn.

1 2 3 4 5

9. My patient load is adequate.

1 2 3 4 5

10. I feel I am satisfied with my job as compared to other people with the same amount of education and training.

1 2 3 4 5

11. Other members of the office staff are competent.

1 2 3 4 5

12. My employer has confidence and trust in me.

1 2 3 4 5

13. The office staff is friendly and easy to approach.

1 2 3 4 5

14. The equipment and supplies I have to work with are adequate and well maintained.

1 2 3 4 5

15. My employer is willing to listen to my problems.

1 2 3 4 5

16. Considering my training, experience, and effort I put into my work, I am satisfied with my pay.

1 2 3 4 5

17. Other members of the office staff are boring.

1 2 3 4 5

TO ASSIST ME IN THE STATISTICAL ANALYSIS OF THE DATA I WILL REQUIRE THE FOLLOWING INFORMATION. (PLEASE ANSWER EVERY QUESTION BY PLACING THE CORRECT NUMBER IN THE BOX AT THE RIGHT).

18. While you were growing up - say until you were eighteen, what kind of community did you live in for the most part ?
1. rural or farm
 2. town or small city
 3. suburban area near a large city
 4. large city
19. The community you now reside in is:
1. rural or farm
 2. town or small city
 3. suburban area near a large city
 4. large city
20. Age last birthday:
1. under 20 years
 2. 20 - 25 years
 3. 26 - 30 years
 4. 31 - 35 years
 5. over 35 years
21. Marital status:
1. single
 2. married
 3. widowed
 4. divorced
 5. separated
22. Year of graduation:
1. 1970
 2. 1971
 3. 1972
 4. 1973
 5. 1974
23. How many hours do you work per week ?
1. unemployed
 2. 1 - 12 hours
 3. 13 - 24 hours
 4. 25 - 36 hours
 5. 37 or more hours

24. If you are not working as a certified dental assistant now, how long did you work ?
(not necessarily continuous)

1. less than 12 months
2. 12 - 24 months
3. 25 - 36 months
4. 37 - 48 months
5. greater than 48 months
6. not applicable (working)

25. If you are not working as a certified dental assistant now, do you ever plan to return to work as a dental assistant, either occasionally, full, or part time ?

1. yes
2. no
3. not applicable (working)

26. If you are not working as a certified dental assistant now, did you quit working for any of the following reasons ? (answer only one)

1. pregnancy
2. marriage
3. health
4. leaving the district
5. domestic reasons
6. other
7. not applicable (working)

July 1975.

Hello:

Just a note to ask you to return the questionnaire that I sent last week.

If you have returned the questionnaire, many thanks for your help.

Yours

John Gercsak
MBA Candidate
Simon Fraser University

BIBLIOGRAPHY

- Andrews, F.M. and others. A Guide for Selecting Statistical Techniques for Analyzing Social Science Data. Survey research center, Institute for social research, University of Michigan, 1974.
- Brayfield, A.H. and Crockett, J.H. "Employee attitudes and employee performance," Psychological Bulletin, 1955, 52, pp. 396-424.
- British Columbia College of Dental Surgeons. Education Committee. Recommendations for Auxiliary Education in British Columbia. Mimeographed paper. Vancouver, June 1973.
- British Columbia Committee of the Children's Dental Health Research Project. Children's Dental Health Research Project Report. Victoria: Queen's Printer, 1975.
- British Columbia Minister of Health. Health Manpower Research Unit. Rollcall - 74. University of British Columbia, Vancouver, Nov. 1974.
- Castaldi, C. "Dental auxiliaries: dentistry's dilemma," Journal of the American Dental Association, 1972, 84, pp. 1080-1087.
- Department of National Health and Welfare. Ad Hoc Committee on Dental Auxiliaries. Royal Commission Report. Ottawa: Information Canada, 1970.
- Forcese, D.P. and Richer, S. Social Research Methods. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.
- French, S.E. "Health careers for Canadian women," Canadian Dental Hygienist, 1974, 8, (4), pp. 77-83.
- Friedlander, F. "Underlying sources of job satisfaction," Journal of Applied Psychology, Aug. 1963, 47, (4), pp. 246-250.
- Green, E.J. and Comisarow, R.W. "Work motivation and job perception as applied to a group of dental hygienists," Journal of the American Dental Hygienist Association, Jan.-Feb. 1971, 45, (1), pp. 114-120.
- Goodwin, L. "Occupational goals and satisfaction of the American work force," Personnel Psychology, Autumn 1969, 22, pp. 313-325.

- Herzberg, F. and others. Job Attitudes: Review of Research and Opinion. Pittsburgh: Psychological Service of Pittsburgh, 1957.
- Mulin, C.L. "Sources of variation in job and life satisfaction: the role of community and job related variables," Journal of Applied Psychology, Aug. 1969, 53, pp. 279-291.
- Kangan, H. "Labour turnover as a social process," Personnel Practice Bulletin, June 1972, 28, (2), pp. 115-120.
- Kline, C. and Sipko, K. "Canadian Dental Hygienist Association manpower and utilization survey results," Canadian Dental Hygienist, 1974, 8, (2), pp. 29-31.
- Levine, J. "Labour turnover," Personnel Administration, Nov.-Dec. 1970, 33, (6), pp. 32-36.
- MacLean, H.B. "Employment expectancy of the dental hygienist," Journal of the Canadian Dental Association, March 1970, 36, (3), pp. 115-120.
- Moffatt, G.W.B. and Hill, K. "Labour turnover in Australia - A review of research, Part 2," Personnel Practice Bulletin, March 1971, 27, (1), pp. 55-67.
- Moore, K.D. "Controlling labour turnover and absence in a small firm," Personnel Practice Bulletin, June 1971, 27, (2), pp. 149-156.
- Motley, W. "The traditional dental hygienist: a factorial review," Journal of the American Dental Association, Nov.-Dec. 1973, 47, pp. 368-378.
- Mumford, E. Job Satisfaction. London: Cox and Wyman, 1969.
- Nantz, J.R. "Dental hygiene's changing self concept," Journal of the American Dental Hygienists Association, May-June 1972, 46, pp. 169-171.
- Oppenheim, A.H. Questionnaire Design and Measurement. New York: Basic Books, 1966.
- Pablo, R. "Job satisfaction in a chronic care facility," Dimensions in Health Service, Jan. 1976, 53, (1), pp. 36-39.

- Petrie, H.J. "Education and unification of dental auxiliaries," Journal of the American Dental Association, July 1973, 87, (1), pp. 177-179.
- Porter, L.W. and Steers, R.M. "Organizational, work, and personal factors in employee turnover and absenteeism," Psychological Bulletin, 1973, 80, (2), pp. 151-176.
- Rowe, D.J. and others. "Statistical analysis of predictive and achievement variables for dental hygiene students." Journal of Dental Education, Oct. 1972, 36, pp. 50-56.
- Saskatchewan College of Dental Surgeons. Research Committee. A Dental Care Plan for the Children of Saskatchewan. Saskatchewan, Jan. 1973.
- Schnitsky, S. "The new breed coming," Dental Management, Sept. 1974, 14, (9), pp. 14-33.
- Schuh, A. "The predictability of employee tenure: A review of the literature," Personnel Psychology, 1967, 20, pp. 133-152.
- Scoles, D.C. "The expanding roles of operating dental auxiliaries," Dental Hygiene, Jan.-Feb. 1974, 48, pp. 31-35.
- Siegel, P. "The hygienist in profile," Dental Management, Sept. 1974, 14, (9), pp. 36-50.
- Smith, P.C., Kendall, L.M. and Hulin, C.L. The Measurement of Satisfaction in Work and Retirement. Chicago: Rand McNally, 1969.
- Taves, M.J., Corwin, R.G., and Haas, J.E. Role Conception and Vocational Success and Satisfaction, Ohio State University, Columbus, Ohio, 1963.
- Taylor, J.C. and Bowers, D.G. Survey of Organizations. Ann Arbor: Mallory, 1972.
- Vroom, V. Work and Motivation. New York: Wiley, 1964.
- Waters, L.K. and Waters, C.W. "Correlates of job satisfaction and job dissatisfaction among female clerical workers," Journal of Applied Psychology, 1969, 53, (5), pp. 388-391.

Wild, R. and Hill, A.B. Women in the Factory. London:
Lawrence Bros., 1970.

Yu, J. and Dainow, E. SPSS User's Guide. Simon Fraser
University Computing Center, Burnaby, British Columbia,
1975.

Zaki, H.A. and Stallard, R.E. "The role of the dental hygienist
in preventive periodontics," Journal of Periodontology,
April 1971, 42, pp. 233-236.