

THE UNIVERSITY OF CALGARY

The Status of Dental Hygiene as a Profession:
Perceptions of Dental Hygienists and Dentists in Alberta

by

Charla Joyce Lautar

A DISSERTATION

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
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ADMINISTRATIVE STUDIES

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a dissertation entitled "The Status of Dental Hygiene as a Profession: Perceptions of Dental Hygienists and Dentists in Alberta" submitted by Charla Joyce Lautar in partial fulfillment of the requirements for the degree of Doctor of Philosophy.



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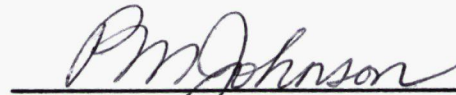
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September 23, 93
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ABSTRACT

The purpose of this investigation was to explore the perceptions of Alberta dental hygienists and dentists regarding the status of dental hygiene as a profession. This study also examined perceptions of dental hygienists and dentists regarding the future education needs of dental hygienists including the baccalaureate in dental hygiene.

The research methodology included both qualitative and quantitative data collection. Through focus groups, a survey instrument was designed using both closed and open format questions. Dental hygienists were selected to participate according to employment settings, while dentists were subdivided according to their employment of dental hygienists.

The results of this study indicated that dental hygienists more than dentists perceive dental hygiene as a profession. Dental hygienists agreed more than dentists not only that dental hygiene should possess attributes of a profession, but also that dental hygienists, as members of a profession, should demonstrate these attributes. Dental hygienists, more than dentists, would like to see changes in the level of supervision for dental hygienists, including the elimination of supervision of dental hygienists. Other changes considered by these participants that would help raise the status of dental hygiene as a profession were: to increase the education of dental hygienists and to reduce the power and authority of dentists and the dental profession over dental hygiene. A wider range of fields of study for future continuing education needs, including the baccalaureate in dental hygiene, were suggested as

preparation for non-traditional dental hygiene practice. The current level of education will be sufficient for traditional dental hygienists to practice. This difference in the educational preparation of dental hygienists may establish a two-tier dental hygiene occupation. Dental hygiene may gain more status as a profession outside the traditional dental office; however, the dual education system may not resolve dental hygiene's dilemma in which dental hygienists are not identified and distinguished from other dental personnel in private dental practice.

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I would also like to express gratitude to those students and practicing dental hygienists who participated in the focus groups and to the dental hygienists and dentists who responded to both the pilot and survey instruments.

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CHAPTER 1

INTRODUCTION

Dental hygiene in Alberta has grown in the past thirty years and in doing so has begun to acquire some of the characteristics of a profession. Up until the 1960's, dental hygiene had minimum growth as a profession in Alberta. During the 1960's, various stages of professionalism have developed including specialized dental hygiene education at the university level and the formation of the Alberta Dental Hygienists' Association. The most dramatic change to dental hygiene legislation in Alberta occurred in November 1990, with the Dental Discipline Act that granted self-regulation to dental hygienists.

Prior to 1990, the Dental Professions Act (1984) governed dental hygienists, and they only needed to be registered - with proof of a recognized dental hygiene education - by the Alberta Dental Association. Self-regulation allowed dental hygienists to govern themselves; they are no longer governed by another profession, namely dentists, who fill the role of both supervisor and employer. Dental hygienists are now registering themselves and are developing their own standards for the practice of dental hygiene in Alberta. The Alberta Dental Hygienists' Association, not the Alberta Dental Association, registers dental hygienists. The Alberta Dental Hygienists' Association will also determine set criteria, such as mandatory continuing education, required to practice dental hygiene. It will be this association that in the future will ask the government for the delegation of functions for the practice of dental hygiene.

Attempts to raise the status of dental hygiene to a profession have been hindered by the perceived role of the dental hygienists (Gurenlian & Scranton, 1986), those who utilize dental hygiene services, the dental profession, the public's lack of knowledge regarding dental hygiene, and dental hygienists themselves. The dental profession does not give full recognition of dental hygiene education and skill because it limits not only the procedures, but also the conditions under which these procedures are performed by dental hygienists. The client does not recognize the dental hygienist as a distinct member of the dental team and often does not distinguish the dental hygienist from other allied dental health personnel. This misunderstanding results from different dental team members performing the same procedure. The public generally lacks awareness of the educational background of the dental hygienist which is different from other allied dental health personnel who often perform the same procedures.

The majority of dental hygienists are employed in private practice, a workplace setting that offers limited career advancement and by its nature is conducive to burnout and low job satisfaction (Heine, Johnson & Emily, 1983). Because they are staying in the workforce for long periods (Johnson, 1990), many dental hygienists are seeking positions other than private practice (Rubinstein & Brand, 1986). Although dental hygienists may seek career options in settings that utilize their experience and education, these alternative or non-traditional practice settings are not readily available. Thus, a dental hygienist who thinks that the baccalaureate degree will offer alternative employment opportunities finds these settings are non-existent or

unavailable. When employed in a non-traditional setting, the dental hygienist is frequently utilized as a clinician where the full range of capabilities acquired through the baccalaureate program is underutilized. In many practice settings there seems to be no difference in the work performed by the diploma or the baccalaureate dental hygienist. There may be no clear distinction between the diploma dental hygienist and the baccalaureate dental hygienist in non-private practice career alternatives (e.g., public health, education, industry) (Feller, 1983; Gurenlian & Scranton, 1986).

The Significance of the Study

Dental hygiene in Canada is a developing profession. Most studies concerning dental hygiene and dental hygienists have been undertaken in the United States. A study of Canadian dental hygienists reported data from Alberta aggregated with the other prairie provinces (Johnson, 1989). Thus a study of dental hygiene in Alberta is of significance, especially since Alberta dental hygienists are currently in the process of formulating their own standards of practice as a result of recently granted self-regulation.

As dental hygiene in Alberta strives to become a profession (Walker, Juchli & Pimlott, 1993), it becomes important to investigate how dental hygiene is perceived by both dental hygienists and dentists. The perceptions of dental hygienists themselves, including "grassroots" dental hygienists, are perhaps more important than those perceptions of leaders in dental hygiene. Moreover, dental hygienists must be considered as individuals as well as a group. As the leaders of dental hygiene begin

to prepare recommendations to the government for the practice and direction of dental hygiene in Alberta, it is necessary to understand the different perspectives of those affected. This study is designed to investigate whether Alberta dental hygienists and dentists perceive dental hygiene as a profession.

As a result of self-regulation, mandatory continuing education is under consideration. Past studies on the role of professional continuing education have focused on the quality of patient care (Weinstein et al, 1977; Seymour, Connelly & Gardner, 1979; Suter, Green & Walthall, 1981; Sibley et al, 1982; Body, 1987). This study, however, will include the role of continuing education in the development of dental hygiene as a profession, and will help to determine what forms of continuing education will be of value to dental hygienists. This knowledge is important not only to dental hygienists, but also to dentists since both groups will be affected.

Leaders in the dental hygiene profession are suggesting the baccalaureate in dental hygiene as one of the ways to enhance professionalism (Taub & Levy, 1983; Zier, 1985). In the movement toward professionalization, dental hygiene baccalaureate programs are being established in Canada. The University of British Columbia has initiated (1992-1993) Canada's second dental hygiene degree program; previously, the University of Toronto provided the only Canadian baccalaureate dental hygiene program. The baccalaureate in dental hygiene may be seen as a step in the attainment of independent practice which is a further step in the professionalism of dental hygiene. However, others see the baccalaureate as a means of preparing dental hygienists for roles in education, management, research and

community health. This study seeks to determine the attitudes of dental hygienists and dentists regarding the role of the dental hygiene baccalaureate in the development of dental hygiene as a profession.

The Research Problem

In the present stage of development, dental hygiene may not be recognized as a profession despite formal advances toward professionalization and the acquisition of some professional attributes. While dental hygienists in Alberta have a professional association that regulates the practice of dental hygiene, other professional attributes have not been recognized by the public, dentists, or even individual dental hygienists. Although dental hygienists have specialized knowledge and skill unique from other allied health personnel, and perhaps even unique from dentists based on their dental curriculums (Darby, 1983), dental hygienists may not be considered specialists. The ramifications of these perceptions infiltrate the everyday work setting in which dental hygienists may not be recognized as professionals, regardless of their education and abilities.

In an effort to gain more professional status, some dental hygienists are seeking baccalaureate degrees in dental hygiene (Taub & Levy, 1983; Zier, 1985), hoping this additional education and body of knowledge will raise the status of dental hygiene and provide non-traditional practice opportunities. Dental hygienists may be given limited responsibilities not only in private practice, but also in non-traditional settings in which further education should be an impetus for advancement and job

enrichment. As other attributes of a profession may be equally important as higher education, it is necessary to identify and develop these attributes further.

To determine if dental hygienists' perceptions regarding dental hygiene varied according to employment settings, dental hygienists were divided into two groups: those employed in non-traditional practice settings and those employed in private practice settings. Furthermore, perceptions of dental hygienists who were educated at the diploma level were compared with perceptions of dental hygienists who had obtained a baccalaureate degree.

Research Questions

- 1.a) What are the perceptions of dental hygienists in Alberta about the status of dental hygiene as a profession?
- 1.b) What are the perceptions of dental hygienists in Alberta of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?
- 1.c) Is there a difference between the perceptions of dental hygienists in Alberta who are employed in traditional private practice and those dental hygienists who are employed in non-private practice or non-traditional, alternative practice settings of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?

- 1.d) Is there a difference between the perceptions of dental hygienists in Alberta who are educated at the diploma level and those dental hygienists who are educated beyond the diploma level of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?
- 2.a) What are the perceptions of dentists in Alberta about the status of dental hygiene as a profession?
- 2.b) What are the perceptions of dentists in Alberta of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?
- 2.c) Is there a difference in the perceptions of dentists in Alberta between those dentists who employ dental hygienists and those dentists who do not employ dental hygienists of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?
- 3.a) What are the perceptions of dental hygienists and dentists in Alberta of the continuing education needs of dental hygienists?
- 3.b) What are the perceptions of dental hygienists and dentists in Alberta of the purpose of the baccalaureate degree in dental hygiene?
- 3.c) What are the perceptions of dental hygienists and dentists in Alberta of the contribution of the baccalaureate degree in dental hygiene to the status of dental hygiene as a profession?

- 3.d) What are the perceptions of dental hygienists and dentists in Alberta of the future continuing education needs of dental hygienists?

Definitions

Dental Hygienist: A health professional who, through clinical, educational, consultative, planning, and evaluative endeavours, seeks to prevent oral disease, provide interceptive treatment for existing disease, and assist people in maintaining an optimum level of oral health (Health and Welfare Canada, 1988, p.13).

Dentist: A person qualified to practice dentistry (Hanks, 1986, p.414).

Dental Assistant: An individual possessing skills and knowledge of value in patient care. The assistant is able to relieve the dentist of those activities that do not require the dentist's skill and judgement (Torres & Ehrlich, 1985, p.12).

Traditional Dental Hygiene Practice Settings: Those practice settings where the majority of dental hygienists are employed, that is, private dental practice including both general and speciality practices.

Non-traditional Dental Hygiene Practice Settings: Alternative practice settings; those practice settings other than private practice which may employ dental hygienists. Examples include hospitals, long-term care facilities, nursing homes, prisons, schools, government clinics, and non-government clinics (Cohen, Singer & LaBelle, 1987, p.88).

Traditional Dental Hygienists: A dental hygienist employed in private dental practice, either general or speciality practice.

Non-traditional Dental Hygienist: A dental hygienist employed in non-traditional settings.

Continuing Education: Education and training beyond the basic professional degree of license (Lowenthal, 1981, p.519).

Limitations

The findings of this study are limited to the following:

1. The population of the study was limited to dental hygienists and dentists registered to practice and living in Alberta. This sample was not representative of the dental hygiene population since the dental hygienists in this study were selected to obtain an equal number of dental hygienists employed in both traditional and non-traditional settings. In the general population of dental hygienists in Alberta, close to ninety percent are employed in traditional settings. Therefore, generalizations can only be made to this particular responding group of dental hygienists. Dentists were representative of the dental population in Alberta.
2. Some dental hygienists were eliminated from the sample because they did not indicate on the Alberta Dental Hygienists' Association registration their principal place of employment. Thus, categorizing these dental hygienists as either traditional or non-traditional dental hygienists was not possible.
3. Responses to the questionnaire were based on thoughts of the participants at the time of completing the survey. Opinions may have been based on past

and present experiences. Perceptions may change with future experiences and employment situations, including changes in working conditions, dental office personnel, and career opportunities.

CHAPTER 2

REVIEW OF THE LITERATURE

The Development of the Professions

Professions have always been highly regarded in society. Traditionally, professionals were well-respected individuals because of their education. Historically, this education was a liberal university education in which Latin was the language of instruction. The four earliest professions were medicine, law, the ministry, and the military. University teaching later evolved from the ministry. Through these four core disciplines, universities grew and other occupations developed within this set framework.

Those who were unable to obtain a higher education, such as craftsmen, were trained through apprenticeship. With the Industrial Revolution, a need for specialization developed and eventually formal vocational training replaced the apprenticeship and a wider range of occupations came into existence. Although both professions and occupations required skill and knowledge, the major difference remained that professions required longer university education, whereas occupations required shorter non-university, technical or vocational training, and most importantly provided immediate employment opportunities (Harris, 1988, p. 220). A profession was a vocation, a calling to always be "on duty," whereas a non-professional was educated for a task. A professional was educated for life.

Professionals were unique because they possessed knowledge and skills that other members of society were not able to obtain, thereby professionals created a

need for themselves in the community. Most importantly these professionals had power over the individual and society. This power was not only derived from education but also from the social class of the professional and the social class of those being served by the professional. Later, social advancement or mobility was gained either through entrance into a prestigious occupation, or the collective effort of an organized occupation, to increase its status in prestige and power (Hughes, 1960, p. 56).

The growth of business and the increased need for social services have led to the emergence of new professions:

Two of the major influences on the growth of professions in the advanced industrial societies have been, first, the rise of corporate capitalism in place of the entrepreneur capitalism of the nineteenth century and, secondly, the emergence of the ideologies and intrusions of liberal welfare policies which have been carried out by various twentieth-century governments. (Esland, 1980, p. 225)

Thus, there is a wide range and variety of "profession-like" occupations with scopes of practice ranging from banking to engineering to psychotherapy, and a distinction made for those who fall between the white collar worker and the blue collar worker. Traditionally, white collar workers were often administrators and, therefore, considered professional, whereas blue collar workers utilized their technical skills. With the evolution of the professions, technical skills are not performed by blue collar workers only, but white collar workers may be technically oriented as well.

These new or emerging professionals, however, are usually salaried employees and work for an organization or institutional bureaucracy in which intellectual skills are used for a profit. These marginal professions are neither high nor low on the two most important attributes of a profession - knowledge and service - but may be in the middle or high on one aspect and low on the other (Barber, 1965, p. 22).

Dental hygiene, at one time considered an occupation based on technical skills, is now emerging as a profession as it has replaced limited skills with functions that encompass further education, decision-making, judgement, and transfer of knowledge. Thus, dental hygiene is evolving from a technical occupation to a service and knowledge-oriented profession.

Theories of Professionalization

Many occupations strive to gain the attributes of a profession in an effort to attain a higher status. Perhaps the most widely accepted definition of a profession is Greenwood's (1957). He identified the following attributes of a profession: 1) systemic theory, 2) authority, 3) community sanction, 4) ethical codes, and 5) a culture (Greenwood, 1957, p. 45). Others have altered Greenwood's attributes, requirements or criteria of a profession. For example, Lieberman (1956) defines teaching as a profession based on its high service orientation attribute. Stuart (1988) regards nursing as a profession based on scientific theory independent of the medical profession. Jarvis (1983) provides even more specific criteria for defining a

profession, such as, a full-fledged profession requires five years of training versus three years of training.

In Cervero's (1988) terms, these kinds of definitions are limiting because they follow a static approach as opposed to a process approach which views the development of a profession on a continuum. The emphasis is not so much on what defining attributes an occupation possesses, but the degree to which an occupation has the set criteria. The true difference between a professional and non-professional occupation is not a qualitative but a quantitative one (Greenwood, 1957, p. 46). In other words, Greenwood requires that a profession fulfill a pre-determined set of criteria. If an occupation does not meet all criteria, it is not considered a profession. The problem with this definition is that it does not take into account the degree of the qualitative attributes. For example, what type of education, one of Greenwood's specified attributes, constitutes systemic theory. Barber (1965) agreed, but expanded the definition to include the relationship of the behavior to the attributes:

There is no absolute difference between professions and other kinds of occupational behavior, but only relative differences with respect to certain attributes common to all occupational behavior. (p.17)

The difference between an occupation and a profession is not a specific attribute since all occupations possess common attributes, but, perhaps, the manner in which the attribute was attained and the specificities of the attribute. Thus, a semi-profession is an occupation which exists along the continuum because either one or more of the attributes are missing or not fully developed (Toren, 1969, p. 144). In

the process of acquiring and developing existing attributes, occupations become semi-professions, and semi-professions become professions.

Cervero (1988) also discusses the socio-economic approach to professionalization which is based on occupational hierarchy. Professions are viewed as those occupations which monopolize and control services and labor based on professional authority, characterized by technical competence, and specificity of function (Parsons, 1939, p. 460). Professionalization is, thus, an attempt to translate one order of scarce resources - special knowledge and skills - into another, social and economic rewards (Larson, 1977, xvii). The socio-economic approach to professionalization also considers monopoly of status and work privileges in an occupational hierarchy, with training as a social function. In this approach, a profession directly controls the growth of an occupation into a profession.

Included in the socio-economic approach is the "folk concept" - what the general public regards as a profession is a profession. Therefore, the occupations that are professions would change with the era (historical time) and the locale (nation, state, province specific). "This approach contrasts dramatically with both static and process approaches in that it assumes there is no such thing as an ideal profession" (Cervero, 1988, p. 9). In other words, public opinion determines professional standards, that is, the degree to which services are required and respected. These standards would fluctuate with the economy, the marketability of the services, and the wants, needs, and desires of the public.

Another approach to defining a profession is to utilize specified government criteria. The criteria set by the United States Bureau of the Census, or Statistics Canada, can be contradictory (Ginzberg, 1979; US Employment Service, 1991). In the 1986 Statistics Canada Census, dental hygienists and dental assistants are grouped together (Statistics Canada, 1989), rather than considered as separate occupations. Even though the Government of Alberta recognizes dental hygienists and dental assistants as distinct bodies, each self-regulating, the Government of Canada does not make this distinction.

Government criteria may change from year to year obscuring the defining attributes of a profession. In the 1970's, the United States Census defined a profession based on education, income, and prestige (Ginzberg, 1979). In the 1980 United States Census, professionals were categorized with the managerial, and the technical were moved into the "sales and administrative support" category (US Employment Service, 1991). As Friedson (1986) argues, the criteria and categorizations may be arbitrary. In the new class theory, for example, higher education becomes a more important attribute than specialized knowledge and skill in defining a profession. He proposes "that for an occupation to be classified as a profession, some amount of higher education must be a prerequisite to employment" (p. 59).

An example of a government deciding which occupations are given professional status is the l'Office des professions du Quebec, an organization created by the National Assembly of Quebec. In Quebec, the definition of a profession is

straightforward. A profession is an occupation that was given status through the "Professional Code" adopted by the Provincial Government in 1973. At that time, the government recognized thirty-eight professional corporations, and since then, other occupations have applied to the Board. The professional corporations were created to protect the consumer. Professional associations, however, are usually meant to protect their members. When an occupation is given corporation status in Quebec, the members of that profession are granted the right of self-regulation. In other words, the right to practice specific functions comes from the corporation itself rather than another profession:

it is only by incorporating a professional group into a professional corporation that the autonomy and authority of members of the group in a field of activity are recognized by law. (Dufrense et al, 1979, p. 25).

The role that the government plays in determining what is a profession may ensure professional status in some respects, for example, self-regulation, but may not encompass all the professional criteria that professional bodies may need to obtain full recognition as professions. For example, dental hygienists in Quebec and Alberta have been granted self-regulation, but still do not collect their own fees for dental hygiene services.

A more recent definition of a profession is proposed by Abbott (1988). In his discussion of the professions, Abbott considers the jurisdiction of tasks rather than defining a profession with a set of criteria. Jurisdiction, the specialization and

delegation of tasks acquired through knowledge, gives power and prestige to an occupation. Protecting the jurisdiction through legitimation, research and instruction gives foundation to this knowledge. Not only does jurisdiction allow the monopoly of activities, but also the control of both payment and the work setting, including the division of labor.

This study uses the attribute model of Greenwood (1957) for defining a profession for two main reasons. First, Greenwood's view provides a range of basic criteria that are suppose to be possessed by any profession, whether established or developing. Second, Greenwood's approach is pluralistic, that is, it assigns no specific significance to a single criterion or attribute. By contrast, Abbott's (1988) model of professions emphasizes jurisdiction as the most important single criterion of professionalism. Such a model can be successful in exploring the more established professions which have acquired considerable control and power. But developing professions, like dental hygiene, may lack jurisdiction. This is why a broader model would be more helpful in the study of these developing professions.

The Historical Development of Dental Hygiene

United States

The discussion of the historical development of dental hygiene in this study will be limited to the United States and Canada. In the United States in 1902, it was first suggested to teach women to clean teeth. In 1907, dental hygiene was first legally recognized as a health occupation. In 1913, the first formal training program was

initiated in Bridgeport, Connecticut. Before that time, dental hygienists were trained by dentists. These dental hygienists, along with dentists, staffed public health school clinics. By the end of World War II, as with other professions, dental hygiene had grown to seventeen schools and dental hygienists were licensed to practice in forty-eight states. By 1983 there were almost two hundred schools, and all states as well as Washington, D.C. and Puerto Rico licensed dental hygienists. The American Dental Hygienists' Association, which was established in 1923, has helped professionalize dental hygiene through curriculum standards, accreditation and legal recognition of the profession (Fales, 1975).

Although initially preventative procedures were the main functions of dental hygienists, in the 1960's, expanded functions included restorative procedures to help meet the demand for dental care. Of the twenty-eight programs in the United States which offer baccalaureate post certificate degrees, eighteen do not include advanced clinical education. For example, the baccalaureate program at Northwestern University in Chicago is eliminating clinical skills and replacing expanded procedure curriculum with a business component which is a more generalist approach to content (Abraham, 1990, 35). The clinical teaching of expanded restorative functions has been replaced with the introduction of management skills and working with businesses. With the growth of professionalism, university training (as well as two year diploma programs) and master's degrees, dental hygiene in the United States is still not considered a profession (Health & Welfare Canada, 1988, p. 17).

Canada

In Canada, it took almost twenty years, from 1947-1968, for legal recognition of dental hygiene as a health occupation by all the provincial and territorial authorities (Health and Welfare, 1988). With no Canadian schools, most dental hygienists in the early years were trained in the United States and became the leaders of dental hygiene at the time of its conception in Canada along with the graduates of the University of Toronto, the first dental hygiene program in Canada (Health and Welfare, 1988).

The first dental hygiene program was established at the University of Toronto in 1951 and funded by the W. K. Kellogg Foundation. Both the University of Montreal and the University of Alberta declined this funding as dental hygiene programs were not supported by dentists at this time. Between 1951 and 1970, three other universities in Canada, the University of Alberta, the University of Manitoba and Dalhousie University offered the diploma dental hygiene program.

Initial discussion of a two-tier dental hygiene profession began in 1967 in the Faculty of Dentistry at the University of Western Ontario. The Ontario Dental Hygienists' Association believed that dental hygiene should be offered at two levels: a program with a degree at the university level and a program at the technical institute level for those who did not seek a degree. The Ontario Dental Hygienists' Association recommended that a degree course was necessary since few Canadian dental hygienists were qualified to administrate or teach in a school of dental hygiene (Sitko, 1967). Plans were also being made for dental hygiene baccalaureate programs

in Western Canada, specifically at the University of Alberta, the University of Manitoba and the University of British Columbia (Alberta Dental Hygienists' Association, General Meeting, 1972).

The Canadian Dental Hygienists' Association was formed in 1963 by the dental hygiene alumni of the University of Toronto dental hygiene program. Other founding provincial dental hygienists were from Nova Scotia, Alberta, and Manitoba. By 1978, all ten provinces had provincial constituent associations in the Canadian Dental Hygienists' Association. The Association has played a large part, similar to the one played by the American Association, in the professionalization of dental hygiene through activities such as communication with the Federal Government, development of practice standards, sponsorship of dental hygiene research conferences and other professional development activities, and active involvement with the International Federation of Dental Hygienists. The Canadian Dental Hygienists' Association has further developed the profession through the encouragement of self-regulation at the provincial level, the support of the initiations of additional baccalaureate programs and the continued recognition of the need for non-traditional dental hygiene practice settings.

The University of Toronto in 1977 and the University of British Columbia in 1992, have replaced their diploma programs with the baccalaureate degree in dental hygiene which requires the diploma for entry. Dental hygienists in Canada receive baccalaureate degrees through articulation. Articulation, which is the transfer of associate degrees and certificates to baccalaureate degrees in the most efficient

manner, can be accomplished in three ways: 1) post certificate programs in dental hygiene; 2) degree programs in other fields such as science or general studies; and 3) external degree, distance education, in which there is little classroom contact (Glick, 1989, p. 33). In Canada, no universities offer, within the same course of study, both the diploma and baccalaureate in dental hygiene as the entry level into clinical practice.

Since the 1970's dental hygiene has also expanded at the community college level in Quebec and Ontario. In Ontario, eleven schools opened and in Quebec, seven (now there are eight). The Canadian military also offers an accredited dental hygiene program; dental assistants become dental hygienists through a six month course. There are no master's or doctorate programs in Canada; if a dental hygienist chooses to continue graduate studies in Canada, it is done in related fields such as education and public health.

From 1974 to 1979 the University of Montreal offered a baccalaureate degree in dental hygiene education. In this program, the dental hygienist simultaneously received a baccalaureate and a basic dental hygiene diploma. This particular baccalaureate degree was replaced with a post-diploma certificate in dental hygiene. This certificate becomes a component of a baccalaureate degree in arts and science. The basic program in dental hygiene was discontinued at the University of Montreal and only offered at the post-secondary college level (CEGEP).

The development of dental hygiene as a profession in Quebec is quite unique. It was the first province in Canada that allowed dental hygienists to govern

themselves through the Professional Code of 1973 (Dufrense et al, 1975). Certain occupations were granted professional status by the government of Quebec. Acquiring this professional status granted dental hygienists the power to regulate themselves. Two other Canadian provinces have been granted self-regulation, Ontario in 1987 and Alberta in 1990. In Ontario, dental hygienists were given permission for self-regulation under an umbrella act along with other health professionals. However, due to the more complicated procedure in Ontario, self-regulation has not been fully attained by dental hygienists. In Alberta, self-regulation differs from self-regulation in Quebec because it is the Alberta Dental Hygienists' Association that will be granting registration to practice dental hygiene. Despite self-regulation in these three provinces, dental hygienists continue to work under the supervision of a dentist. More recently (April 3, 1993) in British Columbia, where dental hygienists were recommended for self regulation under the Health Professions Act, the British Columbia's Professions council also recommended:

that the current rules requiring the supervision of a dental hygienist by a dentist should be continued for those hygienists working in dentists' offices. However, specially qualified hygienists working in designated institutional settings (such as long term care facilities) or those working in dental health programs do not require supervision.

("British Columbia", 1993)

Alberta

Although discussions of the establishment of a dental hygiene program began in the Faculty of Dentistry at the University of Alberta in 1945, formal education for dental hygienists in Alberta was not offered until 1961. Initially, the School of Dental Hygiene offered two programs. The dental hygiene program prepared students for private practice while the dental auxiliary program prepared students for public health. The program for dental hygienists was a two-year, four-semester plan, the same length as current programs. The program for dental auxiliaries was the same as the curriculum for dental hygienists, with the exception that there was also a short two-week summer session concentrating on the public health aspect (School of Dental Hygiene, 1968). Both programs granted a dental hygiene diploma upon completion and graduation. Dental auxiliaries were subsidized for their education by the government through bursaries, and they owed the government two years of service in public health. By providing both the dental auxiliary program and the dental hygiene program, the Dental School was fulfilling an obligation to the dental profession by training dental hygienists for private practice (MacLean, 1987, p. 173).

Although dental hygiene programs were being offered at community colleges elsewhere in Canada during the 1970's, the dental hygienist's education in Alberta has always been at the university level. There were plans to relocate the dental hygiene program from the University of Alberta to Red Deer College, but they were not supported by the Alberta Dental Hygienists' Association. In 1973, both the Alberta Dental Hygienists' Association and the Alberta Dental Association wrote

letters objecting to the relocation of dental hygiene from the university setting (Alberta Dental Hygienists' Association, 1973). The program of dental hygiene was retained at the University but is not yet a degree program.

In 1970, the Alberta Dental Hygienists' Association proposed to initiate a baccalaureate program in addition to the two-year diploma program at the University of Alberta (Alberta Dental Hygienists' Association, 1970). The role of the university graduate dental hygienist was expanded beyond the private practice setting, preparing the dental hygienist for educational and administrative roles. In 1974, Alberta dental hygienists were seeking the support of the Alberta Dental Association to establish a baccalaureate program in dental hygiene (Alberta Dental Hygienists' Association, 1974). This support from the Alberta Dental Association was to be in the form of letters to the Board of Governors of the University of Alberta, the Government of Alberta, and the Faculty of Dentistry at the University of Alberta (Alberta Dental Hygienists' Association, 1974). Although the baccalaureate degree was supported, the University of Alberta does not yet offer this degree.

At the same time that discussion of the formation of a baccalaureate dental hygiene program was taking place at the University of Alberta, the Alberta Dental Association was discussing implementing legislation which would define the relation between dental auxiliaries and the dental profession. In the Fall of 1951, legislation was passed, as a section of the Dental Association Act, to regulate the licensing, registration and practice of dental hygiene. When this Act was repealed in 1952, dental hygienists remained without legislation until 1984. Prior to 1990, to be able

to practice dental hygiene, the dental hygienist had to register with the Alberta Dental Association proving graduation from a recognized accredited dental hygiene program. The dental hygienist had formal training, yet was regulated by another profession. It was the Alberta Dental Association that controlled the practice of dental hygiene, not the Alberta Dental Hygienists' Association. Although the Act contained proposed regulations regarding dental hygiene, they were never established. Dental hygienists were not recognized as a separate body in the Dental Profession Act (1984), but they were governed by this legislation. Only in November 1990 did dental hygienists in Alberta gain self-regulation under the Dental Discipline Act (1990).

In the 1960's, three concerns emerged from the absence of legislation for the general practice of dental hygiene. First, the specific functions of the dental hygienist were not listed in the Dental Auxiliaries Act (1960) governing dentists at this time. Second, although the Alberta Dental Hygienists' Association was formed in 1963 (MacLean, 1987), it was informed by the Alberta Dental Association that it would be impossible to have a dental hygienist act as a representative on the discipline committee of the Dental Association. The dentist was not only the supervisor and employer, but also had the authority to give or remove the right to practice to another occupation, without representation from the subservient occupation. Third, the Dental Hygiene Association discussed the pros and cons of incorporation into the Dental Act or the creation of its own Dental Hygiene Act (Alberta Dental Hygienists' Association, 1967). In 1968, the Alberta Dental Hygienists' Association

had to decide whether to incorporate under the Alberta Dental Association Act or to seek its own act through government legislation. Lack of finances seemed to be the main reason for dental hygiene not immediately seeking its own act (Alberta Dental Hygienists' Association, 1968). The Alberta Dental Hygienists' Association, however, made its first formal request for recognition as a profession in the late sixties (Walker, Juchli & Pimlott, 1993).

During the 1970's, the Alberta Dental Hygienists' Association believed it was necessary to secure its own legislation to further the development of dental hygiene in Alberta. These areas, which could further the status of dental hygiene as a profession, included: 1) protection of the public and dental hygienists by prohibiting unqualified persons from performing dental hygiene duties; 2) discipline of individuals guilty of unethical conduct; 3) mandatory continuing education for licensure; and 4) all licensed dental hygienists would automatically be members of the Alberta Dental Hygienists' Association (Alberta Dental Hygienists' Association, 1975a). This decade saw continued discussion and government proposals which expressed these concerns.

In 1975, the Alberta Dental Hygienists' Association submitted the following proposed legislation to regulate dental hygiene:

1. In order to practice as a dental hygienist in Alberta, an individual will have to apply to the Registrar of the Alberta Dental Association for an annual license. The license will be issued if the individual has the proper academic

qualifications and has been active as a dental hygienist throughout the major preceding five year period.

2. Purchase of the licensing fee entitles the individual to membership in the Alberta Dental Hygienists' Association and to use the designation RDH (Registered Dental Hygienist).
3. All matters pertaining to dental hygiene will be the responsibility of a special committee appointed by the Board of the Alberta Dental Association. It shall be known as the Dental Hygiene Committee and shall consist of not less than three dental hygienists appointed by the Alberta Dental Hygienists' Association who shall participate as full members of the committee.
4. No person other than those listed below may perform any dental hygiene duties,
 - a) a dentist
 - b) a dental hygienist licensed under the Act
 - c) a member of a class of persons to whom the performance of duties of a dental nature is delegated by the by-laws. (Alberta Dental Hygienists' Association, 1975b).

Under this proposed legislation, dental hygienists continued to be registered by the Alberta Dental Association, however, gains would have been made because registered dental hygienists would have become members of the Alberta Dental Hygienists' Association. They also would have gained representation on the Alberta Dental Association Board. Although dental hygienists were given recognition for

performance of specialized skills, the precise nature of the dental hygienist's duties was still not defined. Throughout the 1970's, the Alberta Dental Hygienists' Association continued to request legislation.

The 1980's brought more uncertainty to legislation that governed the practice of dental hygiene. Bill 30, the Health Occupations Act, allowed for more representation of dental hygiene through the Health Occupation Committee. However, there was a moratorium on this Bill for approximately ten months, because it did not adequately respond to the needs, desires, concerns, and responsibilities of the Alberta Dental Association and its Auxiliary Groups (Alberta Dental Association, 1979). The main problem that the Alberta Dental Association found with proposed Bill 30, was that it was not able to retain control over auxiliary bodies. On the other hand, the Alberta Dental Hygienists' Association felt that Bill 30 did not grant dental hygienists power in the regulation of registration, discipline, continuing education, competency review, technical standards for the practice of the occupation, and general matters concerning an association (Submission on behalf of the Alberta Dental Hygienists' Association and the Alberta Dental Assistants' Association concerning Bill 30 - the Health Occupations Act, no date). Under the Act, members of the same or a similar health occupation formed the committee that would regulate the practice of dental hygiene. Therefore, dentists or other allied health personnel would be establishing guidelines for dental hygiene practice. In the 1980's, Bill 84 attempted to amend the Dental Profession Act, but again consensus could not be reached. Other concerns governing the practice of dental hygiene,

independent contracting and portability, seemed to be of less importance, and the main concern of dental hygienists at this time was to obtain legislation to protect themselves.

As the Alberta Dental Hygienists' Association grew, constituent societies developed. In 1971, Calgary sought a constituent society within the Alberta Dental Hygienists' Association, and by 1976 the Association had two components, the Northern component (Edmonton area) and the Southern component (Calgary area). These two components remain active and continue to be the only two constituents in the Alberta Association. In 1980, the Alberta Dental Hygienists' Association also discussed initiating a Community Health component, however, it was discouraged due to the possibility of further dividing the Association (Alberta Dental Hygienists' Association, 1980).

The Alberta Dental Hygienists' Association has experienced considerable growth as a result of more dental hygienists graduating and practicing in Alberta, but more importantly, because membership in the Association is mandatory for registration to practice. Although in March 1977, there were 421 registered dental hygienists in Alberta, only 175 were active members of the Association (Alberta Dental Hygienists' Association, 1977). In March 1992, fifteen years later, there were 930 dental hygienists who were registered and active members of the Association (Alberta Dental Hygienists' Association, Annual Board Meeting, 1992). Thus, the Association now represents all practicing dental hygienists in Alberta and not only those who had voluntarily joined the Association. In the 1990's, the Alberta Dental

Hygienists' Association became the predominant voice for the practice of dental hygiene because it was responsible for setting registration criteria and certification.

The Development of Dental Hygiene as a Profession

Dental hygiene is beginning to gain the attributes that Greenwood (1957) specifies as inherent to a profession. Dental hygiene does possess a systemic theory, knowledge, and skill (Walsh, 1991). This knowledge and skill is acquired through education at the post-secondary level either through college or university settings. The difference between these two educational settings becomes obvious when the dental hygienist obtains a baccalaureate in dental hygiene. In the diploma dental hygiene program, basic clinical skills are taught, preparing the graduate for private practice. The baccalaureate degree, however, which places emphasis on advanced clinical skills, research, public health, education, and administration, is usually considered the entry level for non-traditional positions or expanded careers in dental hygiene (Metzger & Forrest, 1980; Wayman, 1985; Rubinstein & Brand, 1986; Pohlak, 1987). Feller's (1982) research survey study of Western Canada, which included British Columbia, Alberta, Saskatchewan, Manitoba, and North-Western Ontario, recommended a baccalaureate degree in dental hygiene as a prerequisite for non-traditional employment settings.

Dental hygiene theory is becoming even more specialized. Degrees are offered at the baccalaureate level in both the United States and Canada; the master's degree in dental hygiene is offered only in the United States. Even at the community college

level the dental hygienist maintains a competence that is not possessed by all members of the dental team. The systemic theory of dental hygiene encompasses skill based on knowledge. Professional judgment emerges from this skill and knowledge. The basic dental hygiene curriculum is comprehensive including both specialized and broad knowledge. The dental hygienist is primarily recognized as possessing a distinct expert role in preventative dental treatment (Darby, 1983).

Although baccalaureate degrees seem to advance professionalism, creating careers that allow advancement, career options, and independence from the supervision of the dental profession, these opportunities are presently not available for degree dental hygienists (Kraemer, 1985; Wayman, 1985; Rubinstein & Brand, 1986). Also, these non-traditional positions are filled by diploma dental hygienists who seem to be capable and meet the approval of their employers (Feller, 1982, p. 21). The same is true in the United States; of those American dental hygienists working in hospital settings, less than one third possess baccalaureate degrees. The educational preparation is viewed as no different than other non-traditional positions, and the dental hygienist basically works as a clinician (Cirincione & Wils, 1990, p. 243). The dental office remains the dominant employment setting for the dental hygienist educated for the non-traditional workplace both in the United States and Canada (Hunter & Rossman, 1979, p. 559; Johnson, 1989).

Greenwood's second attribute of a profession is that it possess authority. The dental hygienist is delegated a degree of authority based upon the dental hygienist's skill and knowledge. The dental hygienist is primarily responsible for preventative

dental care and, according to Parson's (1939) criteria of a professional, possesses superior "technical competence" and limited "specificity of function" (p. 460). In the traditional practice setting, private dental practice, the client receives specialized treatment from the dental hygienist. Since the dentist employs and supervises the dental hygienist to render this treatment, another professional possesses the ultimate authority.

In the United States, dental hygienists presently work under three forms of supervision: personal, direct and indirect. Previously, general supervision was included in defining the supervisory role of the dentist. General supervision, no longer used by the American Dental Association, allowed the dental hygienist to practice without the dentist physically present in the facility. Unfortunately, elimination of general supervision has restricted dental hygienists from pursuing career opportunities in settings such as chronic care facilities. American dentists, as a group, may not want to give up their supervisory capacity and have re-emphasized their supervisory role in maintaining the following three definitions:

Indirect supervision means that the dentist is in the dental office, authorizes the procedure, and remains in the dental office while the procedures are being performed by the auxiliary. Direct supervision means that the dentist is in the dental office, personally diagnoses the condition to be treated, personally authorizes the procedure, and, before dismissal of the patient, evaluates the performance of the dental auxiliary. Personal supervision means that the dentist is

personally operating on a patient and authorizes the auxiliary to aid the treatment by concurrently performing a supportive procedure.

("Emphasis," 1985, p. 916)

These definitions, perhaps more than anything, are restricting dental hygiene from securing true professional status because dental hygienists are not granted authority. These modes of supervision infer a lack of trust in the dental hygienist's decision-making ability, specialized skill, and knowledge. If this trust existed, there would be no need for the dental hygienist to be supervised and evaluated by another profession. The dental hygienist occupies a position below the dentist in the occupational hierarchy and is not seen as a co-therapist but fills a subservient role. Therefore, in the United States, dental hygienists are not granted full professional status.

In Canada, as well, dental hygienists do not possess authority because of legislation governing supervision. In 1984, the Canadian Dental Hygienists' Association defined three categories of supervision: direct, indirect, and general. The basic difference between direct and indirect supervision is that a dentist is physically present in the dental setting with direct supervision and not physically present with indirect supervision. In both direct and indirect supervision, the dentist makes the diagnosis, whereas in general supervision the dentist does not necessarily diagnose (Health & Welfare Canada, 1988).

Greenwood's third attribute, community sanction of authority, is limited in dental hygiene. According to Greenwood, community sanction involves sanction by

the client, the public, the government, educational institutions and professional associations. First, the dental hygienist is practicing under the supervision of another profession - the dental profession. Second, in many areas, the state or provincial dental board or association grants the certificate to practice, not the dental hygiene organization. Third, dental hygiene bodies do not accredit dental hygiene educational programs. National dental associations perform the accreditation process with input from dental hygienists. Fourth, in many instances the local educational institution controls entry into dental hygiene; in essence, the government sets the pre-requisites and admission standards into dental hygiene educational programs. Fifth, dental hygienists perform services and develop informal treatment plans based on their professional judgment of the needs of clients, but it is the dentist who is responsible for all treatment activities within the dental setting, including diagnosis and the formal development of treatment plans. Sixth, not all the personnel who perform specific dental hygiene functions are licensed dental hygienists. For example, in Quebec dental hygienists have a "reserve title" which means only those who are members of the professional corporation of dental hygienists (la Corporation professionnelle des hygiénistes dentaires du Quebec) and, therefore, licensed dental hygienists can take this title. This could mean that another person, perhaps not qualified in all dental hygiene functions, could perform these functions and yet not be practicing illegally because the title "dental hygienist" was not used. This is why professions prefer to have the "exclusive right to practice" (Evolution, 1976, p. 9). The practice of unqualified individuals performing dental hygiene functions occurs

not only in Quebec, but throughout North America where provincial and state laws are not strictly monitored and enforced. As a result, dental hygiene is not granted full privileges and powers by the community.

Yet, dental hygienists do have certain privileges. These privileges include confidential communication with the patient and performance evaluation by peers, often an aspect of licensing criteria. As society becomes more aware of the dental hygienist's specialized skill, the services provided are valued more by society in general. Furthermore, dental hygienists are presently seeking authority in their own right by no longer referring to themselves as auxiliaries to the dental profession, but colleagues and co-therapists in patient treatment (Darby, 1983).

According to Greenwood, a profession not only requires community sanction but must also possess a code of ethics. He maintains that an important aspect of this ethical code is that service is provided to all. Dental hygienists do possess this ethical service as part of their code of ethics which is updated by the Canadian Dental Hygienists' Association (1992).

The last attribute of a profession Greenwood requires is that it possess a professional culture which he defines as "a network of formal and informal groups" (p. 51). The formal culture of dental hygiene includes both private and alternative practice settings, educational centers and professional associations. Dental hygiene does possess values, norms, and symbols as part of its professional culture. The dental hygienist is a specialist who is committed to helping people maintain oral health and promoting complete health care. Norms of behavior are acquired

throughout education and in the employment setting. As more and more dental hygienists are employed full-time and remaining in the workforce longer, the argument can be made that dental hygiene is a career as opposed to a job (Darby, 1983; Scranton & Gurenlian, 1985; Johnson, 1990). In this way, dental hygiene appears to be more closely aligned with the professions than the occupations.

In its position statement, published in June 1992, the Canadian Dental Hygienists' Association developed practice guidelines which advocate collaborative practice between dental hygienists and other health care professionals:

The dental hygiene profession promotes access to affordable oral health care through alternative practice arrangements and non-traditional work settings. ("Management of Dental Care," 1992)

By moving into non-traditional settings (e.g., nursing homes, long-term care facilities), dental hygienists are entering employment which no longer involves supervision, and in this way are also broadening their scope of practice and gaining more autonomy. Although the Canadian Dental Hygienists' Association establishes general guidelines such as these, each provincial association is ultimately responsible for both the development and implementation of these guidelines and any restrictions placed upon them.

Although the baccalaureate is a form of continuing education that increases dental hygiene knowledge, dental hygienists have the opportunity to participate in other forms of continuing education. Since the 1960's the Alberta Dental Hygienists Association has realized the importance of formalizing continuing education. Only

two provinces in Canada, British Columbia, and Saskatchewan, require continuing education for dental hygiene licensing (Young, 1989, p. 81). In gaining the right to regulate themselves, dental hygienists in Alberta have now been granted the power to enforce mandatory continuing education. Twenty-two states in the United States require continuing education for dental hygiene license renewal (American Dental Hygienists' Association, 1988). To maintain or enhance the specialized knowledge obtained through basic dental hygiene education, dental hygienists may be required to participate in continuing education activities for licensure or relicensure.

In examining the role of continuing education in the professions, Cervero et al. (1985) view continuing education as playing a key role in professional growth:

Continuing education has become increasingly recognized as having a central role in the education of professionals. It was once seen as a peripheral addition to the centrepiece of professional preparation, preservice education. Now, leaders of many professional groups see continuing education as a necessary part of lifelong educational process. (Cervero et al, 1985, p. 21)

Kenny (1985) also views continuing education as "a profession-developing activity that enhances the image of the occupation" (p. 48). More importantly, continuing education is necessary for licensure for many professionals as it aims to increase the quality of care and services to the client.

Lowenthal (1981) defines continuing education for professionals as "education and training beyond the basic professional degree of license" (p. 519). Based on this

definition, continuing education activities of dental hygienists not only encompass the baccalaureate but could range from independent study (e.g., reading journal articles) to formal organized activities (e.g., conferences). With the legislation of mandatory continuing education, dental hygienists in Alberta would be participating in continuing education to meet one of the objectives of licensure. Thus, continuing education may be more desirable not because it is mandatory but because dental hygienists are seeking education beyond the diploma for employment in nontraditional settings (Rubinstein & Brand, 1986).

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Data collection was accomplished using both qualitative and quantitative research methods. The research involved two stages: the focus groups and the survey instrument. The purpose of the focus groups was to elicit information from dental hygienists about their perceptions of dental hygiene as a profession and to enlist their help in formulating the design of the survey instrument. After a pilot survey, a stratified sampling technique was used to select the following groups: one group consisted of all dental hygienists employed in non-traditional settings, a second group of randomly selected dental hygienists from the remaining dental hygienists who are registered to practice dental hygiene in Alberta, and a third group of randomly selected dentists who are registered to practice in Alberta.

Development of the Survey Instrument

Focus Groups

Subjects

Four focus groups, which met in September 1992, comprised this portion of the study. Each group was made up of eight to twelve individuals. Because no new information was being gathered and the categories of information were saturated, four focus groups were deemed sufficient. First year dental hygiene students from the University of Alberta, who had not yet engaged in formal discussion of dental hygiene as a profession, comprised the first group. These students provided a novice

perception of dental hygiene as a profession. Dental hygienists from the Edmonton area comprised the second group, and dental hygienists from the Calgary area comprised the last two groups. A second group from Calgary was used for the convenience of the researcher and to provide a fourth focus group to ensure no new information was being gathered. The groups were self-facilitating with the researcher present for logistics, to clarify statements that could be of value in formulating the survey instrument, and for closure. The discussions of all four groups were recorded with a tape recorder, and this recorded documentation was used for further analysis and development of the survey instrument. Criteria for defining a profession were established by the first focus group. Further discussions from the subsequent focus groups were categorized and, if needed, a new category was designated. At the start of discussion, the researcher gave an introduction to thank the participants, to present an overview and directions, and to ensure ethical approval and confidentiality. Due to the time constraint of scheduled classes, the student focus group met for fifty minutes; the other focus groups met for one to two hours.

The criteria for participation in any one of the focus groups, other than the student focus group, was that the participants were practicing dental hygienists who agreed to meet for approximately one and a half hours to discuss the professionalization of dental hygiene. The method of sample selection of dental hygienists for the three focus groups of dental hygienists was the "snowball" technique; each individual asked to participate in the focus group was also asked to suggest additional dental hygienists for involvement in the focus groups. The

Registrar of the Alberta Dental Hygienists' Association suggested dental hygienists from the Edmonton area who had a wide range of experience and involvement in dental hygiene. These dental hygienists provided the names of other dental hygienists who were likely interested in participating in the focus group held in Edmonton. The dental hygienists from Calgary were personal acquaintances of the researcher, participants of a recent continuing education workshop, or members of the Executive of the Southern Component of the Alberta Dental Hygienists' Association. Again, these dental hygienists referred other dental hygienists who were interested in participating. The students from the first year dental hygiene class at the University of Alberta were volunteers, asked as a group and not selected as individuals.

Certified and practicing dental hygienists came from a variety of practice settings including general and speciality private practice, teaching at both the university level (dental hygiene) and the community college level (dental assisting), public health, and hospitals. Some of these participants possessed a variety of career experiences. For example, one dental hygienist had her own employment placement service and another was employed in private practice as an administrator/consultant rather than a clinician. Both part-time and full-time employed dental hygienists were represented. The dental hygienists also varied according to:

- a) age (ranged from twenties to forties)
- b) institute of graduation (included both university and community college)
- c) level of education (varied from diploma to the Masters level)

d) place of education (attained in Alberta and other provinces as well as the United States)

e) involvement in the Alberta and the Canadian Dental Hygienists' Associations (ranged from no active participation to involvement in both Associations; one subject was past-president of the Canadian Association).

With the exception of one male dental hygienist, all members of the four focus groups were female. Three of the students had dental assisting experience. No other data on the students were collected.

Summary of Focus Groups

Group One

This group, comprised of students from the University of Alberta, believed dental hygiene was a profession based on the following criteria:

1. dental hygienists have an education
2. dental hygienists have a specialization
3. dental hygienists have high status based on salary
4. dental hygienists have responsibility and standards
5. dental hygienists have an association.

Those students who thought that dental hygiene was not a profession believed it lacked professional status for the following reasons:

1. dental hygienists do not have a recognized individual role in the dental office
2. the client does not distinguish the dental hygienist from the dental assistant
3. the client does not recognize the dental hygienist as an expert in the field.

Furthermore, these students felt that dental hygiene is not recognized internationally as a profession.

Group Two

The group of dental hygienists from Edmonton believed that dental hygiene was evolving as a profession. These dental hygienists considered dental hygiene a profession based on the following criteria:

1. dental hygienists possess practice standards
2. dental hygienists have a formal governing structure (i.e. association)
3. dental hygienists are self-regulating

Other members of this group believed dental hygiene could not be considered a profession because:

1. dental hygienists are not distinguished from dental assistants
2. dental hygiene does not have its own body of knowledge
3. dental hygiene lacks research in a specific area
4. dental hygiene requires a certain amount of supervision.

Perhaps most importantly, this group did not consider dental hygiene a profession because the public is not able to identify dental hygienists in the dental office, what their role is in the dental office, and how their education and skill differs from others in the dental practice setting. This group felt the public trusts the dental hygienists not because authority is gained through specialization, but because the dental hygienist does not inflict pain. The dental hygienist, however, is not trusted for information and authority as is the dentist. These dental hygienists also felt that

professionalization will evolve as dental hygiene continues to move beyond traditional private practice settings.

Group Three

The third focus group was comprised of dental hygienists from Calgary. These dental hygienists viewed dental hygiene as a profession based on the following criteria:

1. dental hygienists have training
2. dental hygienists have self-regulation
3. dental hygienists have accountability to the public
4. dental hygienists have close members
5. dental hygienists have ethics and morals
6. dental hygienists have a "code" for dressing and acting.

This group reiterated the fact that the public does not distinguish dental hygienists from others working in the dental office. They felt that dental hygienists must become proactive. For example, they should introduce themselves to the client as the dental hygienist in the dental office. This group stated that dental hygienists must realize that changes in individuals occur with time, age, and life experiences and that these changes will affect how they view themselves as dental hygienists. They saw the deterrents to professionalization as:

1. the dental hygienist is not distinguished from others working in the dental office
2. dental hygiene lacks career advancement

3. dental hygiene is a female-dominated profession and dentistry is a male-dominated profession.

However, they felt that dental hygiene in Alberta has more professional status than elsewhere because it is taught at the University level and dental hygiene students are becoming involved in research and publishing scientific articles. Yet their most important concern was that the client does not know whether it is a dental hygienist or a dental assistant that is working intra-orally because the public lacks awareness of the educational background that distinguishes these two allied health personnel.

Group Four

This last group of dental hygienists was also from Calgary. They took a futuristic look at dental hygiene in Alberta. They felt if dental hygienists had more control, fees would be lowered. Also, they felt in developing legislation, as a result of self-regulation, dental hygienists must account for the future needs of the public and technological developments. They viewed dental hygiene as a profession based on the following criteria:

1. dental hygienists uphold an image
2. dental hygienists are self-directing
3. dental hygienists provide service to the public
4. dental hygienists possess a body of scientific theory, a body of knowledge
5. dental hygienists have specialized skill and service
6. dental hygienists are accountable
7. dental hygienists are responsible to patient, dentist, and self

8. dental hygienists are self-directing.

The following issues were considered hindrances to professionalization; they were debated, but no consensus was reached:

1. dental hygienists' specific mandate and duties are presently absent
2. dental hygienists' limited authority depends on the employment situation
3. dental hygienists' role is subservient and auxiliary
4. dental hygienists' functions are not standardized throughout Canada.

Again, this group reinforced that the absence of public awareness curtails dental hygiene from recognition as a profession.

The central emerging theme from the focus groups was that, in their opinion, the public does not perceive dental hygiene as a profession and does not distinguish dental hygienists from other allied dental health personnel. The public is unaware of dental hygiene as a specialization. The dental hygienists also believed that the initiation of dental hygiene as a profession must come from dental hygienists as a group and as individuals. They also suggested a practice of behavior, for example, dental hygienists should introduce themselves as dental hygienists to their clients. Another hindrance to the professionalization of dental hygiene is the absence of dental hygiene research which is needed to form a specific body of dental hygiene knowledge that would not be considered a subdiscipline of dentistry. Limited opportunities for further dental hygiene education, and the lack of employment settings that would utilize this body of knowledge, prevent the development of dental hygiene theory. All dental hygienists felt that dental hygiene was a profession to

some degree in which self-regulation plays a large role. Because newly acquired self-regulation in Alberta mandated all dental hygienists to become members of both the Alberta and the Canadian Dental Hygienists' Associations, and pay an annual fee of \$425.00, these dental hygienists were aware of self-regulation. But the public may not be aware that dental hygiene in Alberta is a self-regulating profession.

The Pilot Study

A survey instrument was designed based on the discussions of focus groups and a literature review. The survey instrument had three sections. Respondents were asked in the first section to state demographic information about themselves. In the second section, respondents were asked about their perceptions of the attributes that dental hygiene and dental hygienists should possess in order for dental hygiene to be considered a profession. This conceptual model was based on both Greenwood's (1957) criteria for a profession and the discussions from the focus groups. In the third section of the survey instrument, the respondents were asked, through open-ended questions, not only their individual perceptions but also their opinion on others' perceptions of the status of dental hygiene as a profession. Concepts that contributed to, as well as hindered, dental hygiene's consideration as a profession were selected as items for the survey instrument.

The second stage of the instrument development was a pilot study. A pretest of the questionnaire was undertaken. Fifty surveys were sent to dental hygienists and dentists outside Alberta. At the time of the pilot study, it had not been decided

whether the entire population or a random selection of dental hygienists and dentists in Alberta would be surveyed, therefore, the pretest was performed outside of Alberta to ensure that the participants were not included in the study. These sample subjects were appropriate respondents because they had similar characteristics to those used in the study and could evaluate the clarity and wording of the survey instrument. The dental hygienists had experience in general and speciality private practices as well as a range of non-traditional experiences (e.g., hospitals, research, education, public health). These dental hygienists also had education at the diploma, bachelor (including the baccalaureate in dental hygiene), and master level. Their employment situations were not employed or employed either part or full time. The dental hygienists activity level in dental hygiene associations included both the national and provincial levels as well as no activity including no membership in dental hygiene associations. The dentists in the pilot study also had a range of experiences. Their perceptions varied from general and speciality private practice to teaching dental hygiene and dental students to working in hospitals and other institutions. Some of these dentists employed and supervised dental hygienists, others did not. Although dental hygiene education and registration of dental hygienists varies from province to province, the comments from the respondents gave a holistic picture of dental hygiene in Canada. Thirty-five surveys were sent to dental hygienists and 15 were sent to dentists. Of the 50 questionnaires sent, 29 were returned (58.0%). Of the 15 surveys that were sent to dentists, 5 were returned (33.3%). Of the 35 sent to dental hygienists, 24 were returned or 68.6%.

The questionnaire was revised to improve clarity, to avoid redundancy, and to produce more powerful information. A major change to the questionnaire occurred in Section III. Although respondents were asked to select either yes or no and to respond accordingly, the respondents answered all the subsequent questions regardless of their original response. Therefore, questions in this section were either reworded or eliminated. Another change in question format, to improve clarity, involved the participation level in professional associations. Other changes made as a result of the pre-test were minor. The basic design of the survey remained unchanged. Data input and coding were adapted to allow a broader spectrum in recording responses to open-ended questions.

The Survey Instrument

A survey instrument (Appendices C and D) was developed based on a literature review, focus groups, and analysis of the pilot study. Because this was a parallel study of dental hygienists and dentists, the survey instrument had two forms: one for dental hygienists and another for dentists. The majority of the survey items were identical, however, some items in Section I: Part C were applied to dental hygienists only while other items were applied to dentists only. The survey format included both open-ended or write-in and close-ended or forced-choice questions. The survey instrument was composed of three main sections, each divided into subsections.

Section I was designed to gather background information to provide a profile of the sample. Part A consisted of demographical items while in Part B questions

were asked regarding supervision of dental hygienists. Part C in this section differed for the two survey forms. In Part C dental hygienists were asked questions regarding the attainment of a baccalaureate degree; dentists were asked questions regarding the employment and function of dental hygienists. Most of the survey items in Section I were close-ended with the exception of a few items which asked for elaboration.

In Section II, perceptions of dental hygiene as a profession and future educational needs of dental hygienists were investigated. This section was divided into four subsections. Part A consisted of 19 statements which examined the professionalization of dental hygiene based on various attributes of a profession. The Likert items were based on a five point scale with one equal to strongly agree, two equal to agree, three equal to undecided, four equal to disagree, and five equal to strongly disagree. In these 19 items, developed through a literature review and focus groups, participants of the study were asked to state agreement with specific characteristics of a profession. Factor analysis with the 19 Likert items that evaluated agreement with attributes of a profession suggested no common theme to groups of items, therefore, the Likert items could not be reduced to a smaller set of items that could describe dental hygiene. Cronbach Alpha did prove internal consistency with those attributes and reliability was established at .9492.

In Part B of Section II, respondents were asked, through five Likert items, to indicate the extent of their agreement with purposes of a baccalaureate in dental hygiene. Factor analysis of these Likert items showed no common theme to groups

of items. Moreover, Cronbach Alpha did not prove internal consistency with these attributes as reliability was established at only .5793. These items were retained because they were not combined to give a single score in this study; and, these items are suggested in the literature as specific purposes of the baccalaureate degree in dental hygiene (Hunter & Rossmann, 1979; Scranton & Gurenlian, 1985; Zier, 1988). Furthermore, these five items had no common theme with the other Likert items in Section II: Part A of this section which measured agreement with the attributes of a profession.

In Part C of Section II, the future education needs of dental hygiene in both traditional private practice and non-traditional, alternative practice settings were investigated using primarily yes/no close-ended format items. In Part D, subjects were asked to indicate, through rank items and open-ended format questions, the continuing education needs of dental hygienists.

Section III contained 12 open-ended format questions on perceptions of dental hygiene as a profession. Dental hygienists were asked questions regarding their own perceptions as well as their perceptions of how they thought the public and dentists viewed the status of dental hygiene. Similarly, dentists were asked questions regarding their own perceptions as well as their perceptions of how they thought the public and dental hygienists viewed the status of dental hygiene.

In analysis of the open-ended format questions, the first given response of participants was recorded. Significance was established at $p \leq .05$ level for all variables in the open and close-ended responses.

The Administration of the Survey Instrument

Mailing lists were obtained from both the Alberta Dental Hygienists' Association and the Alberta Dental Association. Membership in both these Associations is mandatory for licensure to practice in Alberta, so the lists included all licensed members. The survey instrument was sent to three distinct subject groups: the first group comprised the total population of those dental hygienists which the membership list indicated as being employed in non-traditional settings. All the dental hygienists who indicated on the Alberta Dental Hygienists' Association membership list employment in non-traditional settings were sent survey instruments to ensure that an equal number of dental hygienists employed both in non-traditional settings and in traditional settings would be considered for this study. This group represents 10.1% of the total dental hygiene population or 83 subjects. The second group was comprised of 83 numerically matched dental hygienists who were employed in general or speciality dentistry practice settings and whose names were randomly selected by computer. If dental hygienists did not indicate a place of employment on their registration with the Alberta Dental Hygienists' Association, their names were not selected for this study. The third group comprised 250 dentists (17.7%) of the total population of dentists in Alberta, whose names were also randomly selected by computer. Based on the 33.3% response rate of dentists in the pilot study, 250 dentists were randomly selected with a view to obtaining at least 83 returned survey instruments.

Subjects chosen to participate in this study were sent advance postcards to sensitize them to the study. In the last week of January, 1993 a postcard (Appendix E) was sent to all subjects selected for the study. This postcard announced that the recipient had been selected to participate in a study, encouraged participation, and indicated that a survey would be forthcoming. Dental hygienists were also notified of the forthcoming survey in the Alberta Dental Hygienists' Association Newsletter. On February 5, 1993, each subject was mailed the survey instrument with a cover letter (Appendices A and B) indicating support from both professional associations, ethical approval from the University of Calgary, and assurance of confidentiality. Most importantly, the cover letter included assurance that the survey was part of doctoral research and was independent of both Associations and licensure, and that completion of the survey instrument was voluntary consent to participate in the study. Subjects were also advised to contact the researcher in the event of problems or concerns.

On February 5, 1993, the survey instrument was sent to the 416 prospective subjects. The survey package included a cover letter of introduction, a booklet form survey instrument, and a return postage pre-addressed envelope for ease in returning the survey instrument. The participants were asked to respond by February 28, 1993. No survey package was returned undeliverable.

A blanket reminder postcard (Appendix F) was sent on February 19, 1993, to all those selected to participate in the survey portion of the study. The purpose of the postcard was threefold: to remind those who may have not had the opportunity

to respond to the survey instrument, to thank those who had responded, and to request those who did not receive a survey instrument to contact the investigator by telephone or by FAX. Four dentists notified the investigator that they had not received the survey instruments, and four additional survey packages were sent by express mail. One of these dentists contacted the investigator to advise that she had found the misplaced survey instrument. In responding to the reminder postcard, a fifth dentist indicated that he was unable to answer the survey instrument because he had not worked with dental hygienists for 14 years and thought his information would be outdated. A sixth dentist was not able to respond to the survey instrument as she was out of the country. Four reminder postcards with incorrect addresses were sent back to the investigator.

In summary, the most current membership lists of both the Alberta Dental Hygienists' and Dental Associations were used, which are also the lists of those who are licensed to practice. Because one of the research questions was to determine a difference between dental hygienists employed in traditional and non-traditional settings, the entire population of those who indicated working in community health settings, technical institution or university settings, hospital settings, or other settings were mailed questionnaires. The number of dental hygienists employed in non-traditional settings was 83 (10.1%) of the entire dental hygiene membership. An additional 83 dental hygienists were selected by the computer from those dental hygienists who indicated employment in general or speciality dentistry practice settings. If dental hygiene members did not indicate a place of employment, their

names were not used for the study. Therefore, surveys were sent to 166 dental hygienists (20.2%) of the entire dental hygiene membership.

CHAPTER 4

RESULTS OF THE STUDY

Characteristics of the Sample

Two hundred and twenty usable survey instruments were returned. This represented a 52.8% response rate. One hundred and nine survey instruments out of 250 were returned by dentists (43.6% response rate). One hundred and eleven surveys (66.9%) out of 166 surveys were returned by dental hygienists. Dental hygienists employed in non-traditional settings responded at a higher rate (74.4%) than dental hygienists employed in traditional settings (59.0%). The percentage of responses of the three occupational groups are listed in Table 1.

Table 1

PERCENTAGE OF RESPONDENTS: BY OCCUPATION

	Percentage	n
Traditional Dental Hygienists	22.3	49
Non-Traditional Dental Hygienists	28.2	62
Total Dental Hygienists	50.5	111
Dentists	49.5	109
Total	100.0	220

n = number of respondents

Six survey instruments received from dentists could not be included in the study: two survey instruments were returned blank, one entire survey package was returned with a note indicating that the dentist was unable to respond, one survey instrument was returned with a note indicating that the dentist could not respond because he/she only employed one part-time dental hygienist (that the dentist employ a dental hygienist was not, however, a criterion for participation in this study), one survey instrument was returned with a two page typewritten opinion statement specifying the reasons why the dentist was unable to respond specifically to the survey questions, and one returned survey instrument was undecipherable and not completed according to the instructions.

Gender

The majority of the dental hygienists who responded were female, and the majority of the dentists were male. This was expected as dental hygiene is a female-dominated occupation and dentistry is a male-dominated occupation. Only 12 of the dentists (11%) were female and only one of the dental hygienists (.9%) was male.

Age

Subject ages ranged from 23.0 to 76.0 years of age with a mean age of 40.0 and a median of 39.0. The dental hygienists were between 23.0 and 50.0 years of age with a mean age of 37.2 and a median age of 38.0. Non-traditional dental hygienists, who had ages ranging from 23.0 to 50.0 years of age, with a mean age of 39.6 and a

median age of 40.0, were older than traditional dental hygienists who had ages ranging from 23.0 to 48.0 years of age with a mean age of 34.3 and a median age of 34.0. Dentists, who had ages ranging from 24.0 to 76.0 years of age with a mean age of 43.0 and a median age of 42.0, were older than dental hygienists.

Institution of Graduation

The majority of the respondents (75%) were graduates of the University of Alberta: 71.6% of the dentists and 78.4% of the dental hygienists graduated from this University. The percentage of traditional dental hygienists who graduated from community colleges was 14.3%, while the percentage of non-traditional dental hygienists who graduated from community colleges was 6.5%.

Year of Graduation

The year of graduation for the respondents ranged from 1951 to 1992. For the dentists, the range was from 1951 to 1992; for the dental hygienists, the range was from 1963 to 1992. Dental hygienists who were employed in non-traditional settings tended to have graduated 2 years earlier than traditional dental hygienists.

Years of Work Experience as a Dental Hygienists or Dentist

Full-time experience for the respondents ranged from the first year of practice to 40 years of experience, while part-time experience ranged from the first year of practice to 17 years of practice. For the dentists, full-time experience ranged from

the first year of practice to 40 years of full-time experience, and the range for part-time experience was from the first year of practice to 10 years of practice. Dental hygienist respondents differed from dentists in number of years of experience. For the dental hygienists, the range was from the first year of practice to 27 years of full-time experience, and the range for part-time experience was from the first year of practice to 17 years of practice. This difference might be attributed to the fact that dental hygiene is a female-dominated profession, and therefore dental hygienists may leave the practice for family commitments. Less experience may also be attributed to the fact that dental hygiene education in Alberta was initiated in the 1960's.

Employment Status

Only seven (four dental hygienists and three dentists) respondents indicated that they were not presently employed in either dental hygiene or dentistry. One dental hygienist and one dentist were exploring alternative employment, two dental hygienists were not employed due to family commitments (maternity leave, husband moving out of country). The other three respondents, one dental hygienist and two dentists, were retired.

The responding dental hygienists were not a true representation of the dental hygienists in Alberta. Although the selection of the sample of dental hygienists was to ensure an equal number of traditional and non-traditional dental hygienists, the majority (87.9%) of Alberta dental hygienists are employed either in general dentistry practice (80.9%) or in speciality practice settings (7.0%). The majority

(62.9%) of non-traditional dental hygienists in this study were employed in public/community health while only 9.6% of the general population of dental hygienists were employed in public/community health ("Dental Hygienists Working", 1992). Likewise, 16.1% of non-traditional dental hygienists were employed in post-secondary education, whereas, only 3.5% of the general population of dental hygienists were employed in teaching ("Dental Hygienists Working", 1992). There was similarity with those dental hygienists employed in management/administration; 2.7% of the total responding dental hygienists were employed in management/administration while 2.5% of the general population of dental hygienists were employed in management/administration ("Dental Hygienists Working", 1992). The responding traditional dental hygienists and dentists, whose selections were computer generated, had similar employment to the general population of dental hygienists and dentists.

General private practice was the principal place of employment for both the dentists (76.1%) and the traditional dental hygienists (89.8%). Speciality practices (e.g., periodontics) accounted for 6.1% of the employment settings of traditional dental hygienists and 12.8% of the employment settings of dentists. These percentages were similar to the total population of dental hygienists and dentists based on membership in the Alberta Dental Hygienists' Association and the Alberta Dental Association. The majority (80.9%) of dental hygienists in Alberta work in general dentistry practice and the proportion of dental hygienists employed in speciality practice settings was 7.0% ("Dental Hygienists Working", 1992). One

hundred and fifty-five dentists (11.07%) were listed as specialists in the Alberta Dental Association's directory (Alberta Dental Association, 1992).

Future Employment

Over 90% (91.8% of total dental hygienists, 91.9% of non-traditional dental hygienists, 91.8% of traditional dental hygienists, and 91.7% of dentists) of the respondents planned to remain in either dental hygiene or dentistry. The main reason for not changing employment was job satisfaction; the respondents found their work enjoyable. The second reason was livelihood; the respondents planned to continue in practice because it was what they were qualified to do, they were not ready to quit, and it was their career or chosen profession. The third reason for staying was monetary which also included suitable hours and the ability to work part-time. Dental hygienists and dentists who stated that they planned to leave their occupation offered similar reasons to those respondents who were not employed in their given occupations: retirement, family commitments, and career change. Six percent (5.9%) of the dentist population planned to leave dentistry in the next five years. Only two dental hygienists from each of the traditional and non-traditional groups planned to leave dental hygiene in the next five years.

Activity

Only 27.9% of the respondents indicated that they had activity in the professional dental hygiene or dental associations, and most of this activity was at the

local and provincial levels: 18.6% had activity at the local level, 17.3% had activity at the provincial level, and only 6.4% had activity at the national level. One third of dentists (33.0%) indicated activity compared with 22.5% of dental hygienists. Non-traditional dental hygienists (27.4%) were more active than traditional dental hygienists (16.3%).

Level of Educational Attainment

Twenty of the responding dental hygienists had baccalaureate degrees; 16 of these dental hygienists were employed in non-traditional settings, while the other four dental hygienists from this group were employed in traditional settings. Five dental hygienists had baccalaureate degrees specifically in dental hygiene, three were employed in non-traditional settings, and the other two were employed in private practice.

The Status of Dental Hygiene as a Profession

A survey instrument was used to explore the perceptions of dental hygienists and dentists regarding the status of dental hygiene as a profession. The study was based on research questions developed at the onset of this investigation. The perceptions of dental hygienists and dentists were considered as independent from one another. Dental hygienists' perceptions were compared on the basis of employment in both non-traditional and traditional practice settings and level of education at the

baccalaureate or diploma level. Dentists' perceptions were compared according to supervision and employment of dental hygienists.

Research Questions

1.a) What are the perceptions of dental hygienists in Alberta about the status of dental hygiene as a profession?

When asked if dental hygienists perceived dental hygiene as a profession, question 1.a of Section III of the survey instrument, the majority (88.9%) of dental hygienists responded (see Table 17) that they did. As indicated in Table 2, education was the reason most frequently given by dental hygiene respondents (41.4%) for their perceptions of dental hygiene as a profession, when asked question 1.b in Section III of the survey instrument. The second reason given (23.4%) was their role in providing health care services. Furthermore, the manner in which dental hygienists provide care was the third most frequently stated reason (14.4%), that is, dental hygiene care is provided by members of a "listed" profession with self-regulation, certification, association, and a degree of autonomy. Although all the dental hygienists but one agreed with the first Likert item in Section II: Part A (see Table 11) that dental hygienists should possess specialized skills, only 9.0% of dental hygienists stated either skill or function as their first reason for perceiving dental hygiene as a profession. Another reason dental hygienists perceived dental hygiene as a profession was that it was a well-paying career (3.6%). The remaining 8.1% of the dental hygienists did not answer this question.

Table 2

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS: REASONS FOR
THEIR PERCEIVING DENTAL HYGIENE AS A PROFESSION**

		n
Education	41.4	46
Role in providing health care services	23.4	26
Manner in which care is provided	14.4	16
Skill or function	9.0	10
Well-paying	3.6	4
No response	8.1	9
Total	100.0	111

Note: In this table and subsequent tables, percentages may not equal 100% due to rounding of individual percentages.

n - number of respondents

When asked what needs to be done for dental hygiene to be considered a profession in question 1.c of Section III of the survey instrument, dental hygienists gave four specific requirements for dental hygiene to obtain status as a profession. These requirements are listed in Table 3. An increase in education, indicated by 24.3% of dental hygienists, was the first need. Yet, education was stated by dental hygienists for their perceptions of dental hygiene as a profession in question 1.b of Section III of the survey instrument (see Table 2). In addition, 21.6% of dental hygienists indicated that more recognition from the government, the public, and the

dentists was needed. Furthermore, 14.4% of the dental hygienists believed that they should be given a wider scope of practice and more responsibility. Another 7.2% of dental hygienists thought that a stronger voice in the government was needed. Dental hygienists did not elaborate further on this question; one was unsure (.9%), some felt either that nothing needed to be done (9.9%), and some did not answer the question (21.6%).

Table 3

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
REQUIREMENTS FOR DENTAL HYGIENE TO OBTAIN STATUS
AS A PROFESSION**

		n
Increase in education	24.3	27
More recognition	21.6	24
Wide scope of practice and more responsibility	14.4	16
Stronger voice in government	7.2	8
Unsure	.9	1
Nothing needs to be done	9.9	11
No response	21.6	24
Total	100.0	111

n = number of respondents

As described in Table 4, when asked what is the most important factor preventing dental hygiene from obtaining status as a profession in question 1.d of Section III of the survey instrument, dental hygienists (38.7%) thought that competition with dentists prevented dental hygiene from obtaining status as a profession. Dentists hindered dental hygiene's development by their negative attitude toward dental hygiene. Two specific examples were "dentists' fear of losing control" and "the need for general dentistry to control the money making potential of hygiene recall". The lack of acknowledgement of the dental hygienist's significant role was illustrated by a number (12.6%) of dental hygienists who stated that dental hygienists were: considered "one of the girls" in the office, treated as "lower level staff", and showed "no respect" or "lack of respect". The inability of dental hygiene associations to cope with dentists' power was also cited. Another example of lack of power was the female dominance of dental hygiene stated by three (2.7%) dental hygienists. In addition, 10.8% of the dental hygienists stated dependence on dentists or lack of independence prevented dental hygiene from obtaining status as a profession. Another reason preventing dental hygiene from obtaining status as a profession was lack of commitment stated by a small number of dental hygienists (1.8%) and this may account for the low response to this question. Nearly a quarter of the dental hygienists (23.4%) left this question blank.

Table 4

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
FACTORS PREVENTING DENTAL HYGIENE FROM OBTAINING
STATUS AS A PROFESSION**

		n
Competition with dentists	38.7	43
Lack of acknowledgement of role	12.6	14
Dependence on dentists or lack of independence	10.8	12
Female-dominated	2.7	3
Lack of commitment	1.8	2
Unsure	.9	1
Nothing prevents status	9.0	10
No response	23.4	26
Total	100.0	111

n = number of respondents

When dental hygienists were asked about their sense of the public's perception of dental hygiene in question 2.a of Section III of the survey instrument (see Table 17), less than half of the dental hygienists (43.1%) thought that the public perceived dental hygiene as a profession in question 2.b of Section III of the survey instrument and as described in Table 5. Education, again, was the first attribute (33.3%) that contributed to dental hygiene's status as a profession including skills and services

acquired in the basic dental hygiene program. Eighteen per cent of dental hygienists indicated that the care they provided was the reason for the public's perception of dental hygiene as a profession. This care included health care, quality of care, and interactions with patients. Because dental hygienists are self-regulated and their practice environment is within their own operatory or chair area, 13.5% thought these independent working conditions gave dental hygiene status as a profession. Other rationale given by dental hygienists for the public's perception of dental hygiene as a profession were: financial (4.5%), that is, the cost of dental hygiene services and the salary of dental hygienists; and affiliation with dentists (5.4%). Two dental hygienists (1.8%) were unsure of the public's perception and another two dental hygienists (5.4%) indicated nothing gives dental hygiene status as a profession in the public's view. Eighteen per cent of the dental hygienists did not answer this question.

Table 5

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
REASONS THE PUBLIC PERCEIVES DENTAL HYGIENE
AS A PROFESSION**

		n
Education	33.3	37
Care provided	18.0	20
Independent working conditions	13.5	15
Financial	4.5	5
Affiliation with dentists	5.4	6
Unsure	1.8	2
Nothing gives status	5.4	6
No response	18.0	20
Total	100.0	111

n = number of respondents

As shown in Table 6, almost one third of dental hygienists (29.7%) gave "recognition" as the first change required in the public's perception of dental hygiene in question 2.c of Section III of the survey instrument. The public's lack of recognition of dental hygiene was attributed to dentists. Dental hygienists thought dentists respected neither them nor their occupation as illustrated by the comment "we need to visibly always have our employer's respect". The public's inability to

identify dental hygienists from other personnel working in the dental office further illustrates lack of recognition.

The following were examples of the public's inability to recognize dental hygienists as stated by respondents.

Distinguishing what we do versus other dental auxiliaries.

Easily identified from other dental personnel.

Differentiation from other dental auxiliaries.

More knowledge as to what a dental hygienist is.

Clear distinction of responsibilities and duties, clear explanation of variance of role of dental assistant and dental hygienists.

Lack of awareness ... most of the public think dental assistants are dental hygienists.

The recognition of our co-workers as separate and distinct.

The inability to distinguish dental hygienists from dental assistants was also a finding of the focus groups as discussed in Chapter 3. Related to this need for recognition, 18.0% of dental hygienists stated, as the first requirement for dental hygiene to be perceived as a profession by the public, that it must take more authority in terms of research, independence, and responsibility.

Fourteen dental hygienists (12.6%) thought there was a need for increased education and many of these respondents indicated education at the baccalaureate level. Four dental hygienists (3.6%) stated that it was the setting that needed to be changed, and half of these dental hygienists (1.8%) specifically stated it was the "site"

of dental hygiene care that needed to be changed. Other dental hygienists were unsure of what needed to be done (7.2%) or stated that nothing needed to be done (6.3%). Over one-fifth of the dental hygienists (22.5%) did not answer this question.

Table 6

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
REQUIREMENTS FOR THE PUBLIC PERCEIVING DENTAL HYGIENE
AS A PROFESSION**

		n
Recognition	29.7	33
Authority	18.0	20
Increase education	12.6	14
Change in setting	3.6	4
Unsure	7.2	8
Nothing needs to be done	6.3	7
No response	22.5	25
Total	100.0	111

n = number of respondents

When asked what prevents dental hygiene from obtaining status as a profession in the public's perception in question 2.d of Section III of the survey instrument, 29.7% of dental hygienists did not answer this question. As illustrated in Table 7, an additional 13.5% of dental hygienists were unsure and 7.2% of dental hygienists

indicated that nothing prevents dental hygiene from obtaining status. Other hindrances to the public's perception of dental hygiene were: the lack of awareness (13.5%), the mode of employment of dental hygienists (11.7%), the narrow scope of dental hygiene practice (7.2%), and the dentists (7.2%). Limited education (9.9%) also prevented dental hygiene from being considered a profession by the public. This perception of limited education is expected as education was the first given reason for why the public would perceive dental hygiene as a profession (see Table 5).

Table 7

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
FACTORS PREVENTING THE PUBLIC PERCEIVING DENTAL HYGIENE
AS A PROFESSION**

		n
Lack of public awareness	13.5	15
Mode of employment	11.7	13
Limited education	9.9	11
Narrow scope of practice	7.2	8
Dentists	7.2	8
Unsure	13.5	15
Nothing prevents status	7.2	8
No response	29.7	33
Total	100.0	111

n = number of respondents

Dental hygienists were also asked about their sense of dentists' perceptions of dental hygiene as a profession in the last part of Section III of the survey instrument. Dental hygienists' thoughts on dentists' perceptions were similar to their thoughts on the public's perception (see Table 17). Although 33.0% of dental hygienists thought that dentists did perceive dental hygiene as a profession, an additional 27.5% were undecided. In addition, 39.4% of dental hygienists thought that dentists did not perceive dental hygiene as a profession.

In question 3.b of Section III of the survey instrument, dental hygienists (44.1%) stated their education as the first reason for dentists perceiving dental hygiene as a profession. As indicated in Table 8, other stated reasons were: the self-regulated conditions (7.2%), the responsibility (7.2%), the care provided (3.6%), the "job" (3.6%), and the collaborative practice with dentists (1.8%). Dental hygienists (9.0%) expressed uncertainty as to what, if anything, gave dental hygiene status. Over twenty per cent of the dental hygienists (23.4%) failed to answer this question.

Table 8

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
REASONS FOR DENTISTS PERCEIVING DENTAL HYGIENE
AS A PROFESSION**

		n
Education	44.1	49
Self-regulation	7.2	8
Responsibility	7.2	8
Care provided	3.6	4
Job	3.6	4
Collaborative practice with dentists	1.8	2
Unsure	9.0	10
No response	23.4	26
Total	99.9	111

n = number of respondents

For question 3.c in Section III of the survey instrument, over one fourth of the responding dental hygienists (27.9%) thought that an increase in education, including specialized training in specific areas (e.g., periodontics, local anesthesia, diagnosis), mandatory continuing education, a degree (e.g., bachelor's), and comparable education with dentists (e.g., dental degree/DDS), was needed to change the dentists' perception of dental hygiene as a profession. As indicated in Table 9, autonomy from dentists (e.g., independence and self-regulation) was cited by 14.4% of dental

hygienists as the second requirement to raise the status of dental hygiene. Other needs were more proactive (10.8%), such as a stronger dental hygiene organization, lobbying the government, and more unity within dental hygiene. An equal number of dental hygienists (8.1%) thought that no change was required or were undecided. Thirty per cent of the dental hygienists (30.6%) did not answer this question.

Table 9

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
REQUIREMENTS FOR DENTISTS PERCEIVING DENTAL HYGIENE
AS A PROFESSION**

		n
Increase in education	27.9	31
Autonomy from dentists	14.4	16
Proactiveness	10.8	12
Unsure	8.1	9
Nothing needs to be done	8.1	9
No response	30.6	34
Total	99.9	111

n = number of respondents

For question 3.d of Section III of the survey instrument, and as indicated in Table 10, 20.7% of dental hygienists thought dentists perceived that competition with them as well as dentists' authority and power prevented dental hygiene from

obtaining status as a profession. Two dental hygienists (1.8%) specifically stated dentists' attitudes prevented professional status. Dental hygienists (14.4%) thought that dentists attribute the current status of dental hygiene to dental hygienists' lack of higher education. An equal number of dental hygienists (14.4%) thought that dentists consider the dental hygienists' employment situations, such as the need for supervision and for being employed by dentists, were deterrents to the status of dental hygiene. Four dental hygienists (3.6%) stated that the variation in dental hygienists' salary prevented dentists from perceiving dental hygiene as a profession. Ten per cent of dental hygienists (10.8%) were either undecided (6.3%) or felt that in the perceptions of dentists nothing (4.5%) was hindering dental hygiene as a profession. In addition, one third of dental hygienists (34.2%) did not answer this question.

Table 10

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
FACTORS PREVENTING DENTISTS PERCEIVING DENTAL HYGIENE
AS A PROFESSION**

		n
Competition with dentists	20.7	23
Lack of higher education	14.4	16
Employment situation	14.4	16
Salary	3.6	4
Attitudes of dentists	1.8	2
Unsure	6.3	7
Nothing prevents status	4.5	5
No response	34.2	38
Total	100.0	111

n = number of respondents

1.b) What are the perceptions of dental hygienists in Alberta of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?

In response to the 19 Likert items of Section II: Part A of the survey instrument, dental hygienists strongly agreed that dental hygiene should possess these items, that is the attributes of a profession. As members of a profession, dental hygienists believed they should have these attributes with the exception of two: fee for service

(#10) and no supervision (#9). As described in Table 11, only 38.7% of dental hygienists agreed they should collect their own fee for service, although 48.6% of dental hygienists were undecided on this financial issue and 12.6% disagreed. Although 56.7% of dental hygienists indicated agreement that dental hygienists should be able to work without the supervision of a dentist, 24.3% of dental hygienists were undecided whether they should be able to work without the supervision of a dentist and 18.9% disagreed. Yet, in Section I: Part B (see Table 14) of the survey instrument, only 12.7% of dental hygienists indicated that they preferred to work without supervision. Dental hygienists perceive themselves as members of a profession, however, they seem to be hesitant to accept the two attributes that could give dental hygiene more status as a profession. The high percentages of dental hygienists who were undecided on these two attributes may be the result of their lack of awareness that these two key elements would grant more status to dental hygiene as a profession. Moreover, they may be uncertain about undertaking the responsibility demanded by fee for service and independent practice.

Table 11

PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
ATTRIBUTES OF A PROFESSION

	SA	A	UD	D	SD	M	n
Dental hygienists should:							
• possess specialized skills	73.0	26.1	-	.9	-	-	111
• have an advanced level of knowledge	64.9	30.6	2.7	.9	-	.9	111
• be provided with the opportunity to use their full knowledge base in their daily work	63.1	27.9	6.3	1.8	-	.9	111
• be clearly distinguished from other dental allied health personnel	70.3	21.6	6.3	.9	-	.9	111
• follow practice standards developed by dental hygienists	72.1	24.3	2.7	.9	-	-	111
• earn a competitive salary compared with other health professionals	77.5	18.9	1.8	1.8	-	-	111
• be introduced to clients as dental hygienists	77.5	17.1	2.7	2.7	-	-	111
• have specific procedures that only they can perform	59.5	21.6	12.6	5.4	-	.9	111
• be able to work without the supervision of a dentist	24.3	32.4	24.3	13.5	5.4	-	111
• collect their own fee for service	17.1	21.6	48.6	9.0	3.6	-	111
• be held accountable for their actions	56.8	38.7	2.7	1.8	-	-	111

SA = Strongly Agree A = Agree n = number of respondents
UD = Undecided SD = Strongly Disagree
D = Disagree M = Missing

Table 11 Continued

PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
ATTRIBUTES OF A PROFESSION

	SA	A	UD	D	SD	M	n
Dental hygiene should:							
• have equal representation on various government bodies along with other professions	67.6	28.8	2.7	.9	-	-	111
• have a code of ethics	82.0	16.2	1.8	-	-	-	111
• have its own area of research	54.1	37.8	5.4	2.7	-	-	111
• be considered a profession	77.5	19.8	1.8	.9	-	-	111
• have a formal structure to govern itself	73.0	22.5	2.7	.9	-	.9	111
• be recognized internationally	73.9	19.8	4.5	-	1.8	-	111
• be self-regulating	71.2	21.6	4.5	1.8	.9	-	111
• possess a body of knowledge independent to that of other health professionals including dentistry	36.9	28.8	16.2	13.5	4.5	-	111

SA = Strongly Agree A = Agree n = number of respondents
UD = Undecided SD = Strongly Disagree
D = Disagree M = Missing

1.c) Is there a difference between the perceptions of dental hygienists in Alberta who are employed in traditional private practice and those dental hygienists who are employed in non-private practice or non-traditional, alternative practice settings of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?

No significant differences were found in the responses to Section III of the survey instrument between traditional and non-traditional dental hygienists' perceptions of dental hygiene as a profession, their opinions of public perception of dental hygiene as a profession, and their opinions of the dentists' perceptions of dental hygiene as a profession. There was a significant difference ($p=.0063$), however, between traditional and non-traditional dental hygienists in what prevented the public from perceiving dental hygiene as a profession. Non-traditional dental hygienists stated that they were unsure of what prevented the public from perceiving dental hygiene as a profession, while traditional dental hygienists stated that it was lack of recognition of dental hygiene by the public and dentists. Traditional dental hygienists may perceive this lack of recognition because they encounter the public "one-on-one" daily in the private practice setting.

Significant differences were found between traditional and non-traditional dental hygienists on three of the 19 Likert items in Section II: Part A of the survey instrument as illustrated in Table 12. Non-traditional dental hygienists agreed more strongly than traditional dental hygienists with these three items: dental hygienists

should be accountable, dental hygiene should have equal representation, and should be recognized internationally.

Table 12

**COMPARISON OF RESPONSES OF TRADITIONAL AND
NON-TRADITIONAL DENTAL HYGIENISTS:
ATTRIBUTES OF A PROFESSION**

	Mean Rank				Significance
	T	n	NT	n	
Dental hygienists should be held accountable for their actions	63.28	49	50.25	62	*.0151
Dental hygiene should have equal representation on various government bodies along with other health professionals	62.38	49	50.96	62	*.0231
Dental hygiene should be recognized internationally	61.75	49	51.44	62	*.0285

Kruskal-Wallis one-way ANOVA

*Significance $p \leq .05$

NT = Non-traditional dental hygienists

T = Traditional dental hygienists

n = number of respondents

Higher mean rank indicates stronger disagreement

Although there was no significance in the Likert item #9 in Section II: Part A of the survey instrument that indicated dental hygienists should work without the supervision of a dentist, these two groups showed significant difference in both the form of supervision under which they worked and the form of supervision under which they preferred to work. As shown in Tables 13 and 14, non-traditional dental hygienists, more than traditional dental hygienists, worked under general supervision

and preferred to work under this form of supervision. On the other hand, traditional dental hygienists tended to work under direct or general supervision but wished to change to a lesser form of supervision. As described in Table 15, regarding present forms of supervision and using Kruskal-Wallis one-way ANOVA, traditional dental hygienists had the mean rank of 41.65, while non-traditional dental hygienists had the mean rank of 58.35 ($p=.0008$). Also, again using Kruskal-Wallis one-way ANOVA, difference was found in the preferred form of supervision ($p=.0052$). Traditional dental hygienists had the mean rank of 41.98, and non-traditional dental hygienists had the mean rank of 56.42. (The higher mean rank indicates less supervision.)

Table 13

**COMPARISON OF PERCENTAGE RESPONSES OF TRADITIONAL AND
NON-TRADITIONAL DENTAL HYGIENISTS:
PRESENT FORMS OF SUPERVISION**

	T	n	NT	n
Direct	42.9	21	14.5	9
Indirect	10.2	5	4.8	3
General	42.9	21	66.1	41
Missing/Not Applicable	4.0	2	14.5	9
Total	100.0	49	99.9	62

T = Traditional Dental Hygienists
 NT = Non-Traditional Dental Hygienists
 n = number of respondents

Table 14

COMPARISON OF PERCENTAGE RESPONSES OF TRADITIONAL
AND NON-TRADITIONAL DENTAL HYGIENISTS:
PREFERRED FORMS OF SUPERVISION

	T	n	NT	n
Direct	20.4	10	4.8	3
Indirect	14.3	7	11.3	7
General	49.0	24	54.8	34
No Supervision	6.1	3	17.7	11
Missing/Not Applicable	10.2	5	11.3	7
Total	100.0	49	99.9	62

T = Traditional Dental Hygienists
 NT = Non-Traditional Dental Hygienists
 n = number of respondents

Table 15

COMPARISON OF PERCENTAGE RESPONSES OF TRADITIONAL
AND NON-TRADITIONAL DENTAL HYGIENISTS:
FORMS OF SUPERVISION

	Mean Rank				Significance
	T	n	NT	n	
Present	41.65	49	58.35	62	*.0008
Preferred	41.98	49	56.42	62	*.0052

Kruskal-Wallis one-way ANOVA n = number of respondents
 *Significance $p \leq .05$ Higher mean rank indicates less supervision
 T = Traditional dental hygienists
 NT = Non-traditional dental hygienists

1.d) Is there a difference between the perceptions of dental hygienists in Alberta who are educated at the diploma level and those dental hygienists who are educated beyond the diploma level of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?

The responses to Section III of the survey instrument indicated that dental hygienists with bachelor's degrees perceived dental hygiene as a profession and also thought that dentists perceived dental hygiene as a profession. Furthermore, these baccalaureate dental hygienists thought that the public perceived that it was education which gave dental hygiene status as a profession. Dental hygienists with a bachelor's degree disagreed, more than dental hygienists educated at the diploma level, with the stated purpose of the bachelor's in dental hygiene as being preparation for independent practice. Comparisons were not made, between those dental hygienists who attained a bachelor's degree and those who were educated at the diploma level, in either the public's or the dentists' perception of dental hygiene as a profession; this was due to the small number of cases per cell in partialled groups.

Although the cell sizes were small, when computing the differences between those dental hygienists who had bachelor's degrees and those who did not, there were significant differences on four of the 19 Likert items in Section II: Part A of the survey instrument that measured agreement with the attributes of a profession. As indicated in Table 16, dental hygienists with bachelor's degrees were more in agreement than those dental hygienists that were educated at the diploma level with

the idea that dental hygienists should be accountable and that dental hygiene should be considered a profession, should have a formal structure to govern itself, and should be self-regulating.

Table 16

**COMPARISON OF RESPONSES OF DENTAL HYGIENISTS WITH
AND WITHOUT BACCALAUREATE DEGREES:
ATTRIBUTES OF A PROFESSION**

	Mean Rank		n
	With Baccalaureate	Without Baccalaureate	
Dental hygienists should be held accountable for their actions.	39.30	58.53	109
Dental hygiene should be considered a profession.	45.65	57.10	109
Dental hygiene should have a formal structure to govern itself.	43.47	56.85	108
Dental hygiene should be self-regulating.	44.78	57.30	109

Kruskal-Wallis one-way ANOVA

Cell sizes too small to report significance

n = number of respondents

Higher mean rank indicates stronger disagreement

2.a) What are the perceptions of dentists in Alberta about the status of dental hygiene as a profession?

Dentists were asked questions regarding their perceptions of the status of dental hygiene as a profession in Section III of the survey instrument. They were generally

divided in their perceptions of dental hygiene as a profession. Half (50.9%) of dentists did not perceive dental hygiene as a profession and close to forty percent (41.5%) of dentists did perceive dental hygiene as a profession. A comparison of the perceptions of dental hygienists and dentists is given in Table 17.

Table 17

**COMPARISON OF PERCENTAGE RESPONSES OF
DENTAL HYGIENISTS AND DENTISTS: PERCEPTIONS OF
DENTAL HYGIENE AS A PROFESSION**

	Dental Hygienists				Dentists			
	Yes	No	UD	n	Yes	No	UD	n
Themselves Perceive	88.9	7.4	3.7	108	41.5	50.9	7.5	105
Public Perceives	43.1	40.4	16.5	108	33.7	57.4	8.9	100
Dental Hygienists Perceive	--	--	--		76.3	4.1	19.6	98
Dentists Perceive	33.0	39.4	27.5	108	--	--	--	--

UD = undecided

n = total number of respondents

Twenty percent (21.1%) of dentists, when asked in question 1.b of Section III of the survey instrument, perceived dental hygiene's role in providing health care as giving it status as a profession, as indicated in Table 18. The second reasons given (17.4%) was dental hygienists' education, for example, "university diploma" was cited, which is the type of dental hygiene education in Alberta. Close to ten percent (9.2%)

of dentists perceived dental hygiene's association with dentistry as giving it professional status. Five (4.6%) dentists perceived the skill or "technique" of dental hygiene and and additional 4.6% of dentists perceived the self-regulation of dental hygiene as reasons. Other reasons given for dental hygiene's status as a profession were "the amount of money they make" (0.9%) and "hygienists attempting to make it a profession" (0.9%). Eleven percent of dentists thought nothing gave dental hygiene status as a profession. Thirty percent of dentists did not answer this question.

Table 18

**PERCENTAGE RESPONSES OF DENTISTS: REASONS
FOR THEIR PERCEIVING DENTAL HYGIENE AS A PROFESSION**

		n
Role	21.1	23
Education	17.4	19
Association with dentistry	9.2	10
Skill	4.6	5
Self-regulation	4.6	5
Salary	0.9	1
Attempt to make it	0.9	1
Nothing give status	11.0	12
No response	30.3	33
Total	100.0	109

n = number of respondents

When asked what is needed for dental hygiene to be considered a profession in question 1.c of Section III of the survey instrument, over twenty percent (22.9%) of dentists thought an increase in education would be required. Ten percent (10.1%) of dentists, as indicated in Table 19, perceived that independence from them would be necessary to give dental hygiene status as a profession. Other requirements to give dental hygiene status were lobbying the government (1.8%) and more recognition (2.8%). Two (1.8%) dentists were unsure of what needed to be done. Thirty percent (29.4%) of dentists perceived that nothing was required to give dental hygiene status as a profession and another thirty percent (31.1%) did not answer question 1.c of Section II of the survey instrument.

Table 19

**PERCENTAGE RESPONSES OF DENTISTS: REQUIREMENTS
FOR DENTAL HYGIENE TO OBTAIN STATUS AS A PROFESSION**

		n
Education	22.9	25
Independence	10.1	11
Lobbying government	1.8	2
Recognition	2.8	3
Unsure	1.8	2
Nothing needs to be done	29.4	32
No response	31.1	34
Total	99.9	109

n = number of respondents

According to over one-fourth of the dentists (26.5%), when responding to question 1.d of Section III of the survey instrument, the scope of practice prevents dental hygiene from obtaining status as a profession. For example, "although treatment is technically difficult, the scope is very limiting" and "overlapping of services that dentists and hygienists perform" were cited. Fourteen dentists (12.8%), as indicated in Table 20, perceived competition with them and, in particular, lack of independence from them (7.3%) for reasons preventing dental hygiene from obtaining status as a profession. Two dentists (1.85) stated that lack of dedication by dental hygienists prevented dental hygiene from obtaining status, for example, "not

enough dedication to dentistry, i.e., many hygienists quit and don't return to practise." Three dentists (2.8%) cited financial reasons for dental hygiene not obtaining status as a profession. Those included that dental hygienists "can not set their own fees" and that there is no "guide in salary." Four dentists (3.7%) were unsure as to what prevented dental hygiene from obtaining status as a profession. Eighteen dentists (16.5%) perceived nothing prevented the status. Over one-fourth of dentists (28.4%) did not answer the question at all.

Table 20

**PERCENTAGE RESPONSES OF DENTISTS: FACTORS PREVENTING
DENTAL HYGIENE FROM OBTAINING STATUS AS A PROFESSION**

		n
Scope of practice	26.6	29
Competition with dentists	12.8	14
Independence	7.3	8
Financial	2.8	3
Dedication	1.8	2
Unsure	3.7	4
Nothing prevents status	16.5	18
No response	28.4	31
Total	99.9	109

n = number of respondents

When dentists were asked about their sense of the public's perception of dental hygiene in question 2.a of Section III of the survey instrument, over fifty percent (57.4%) responded negatively (see Table 17). In question 2.b of Section III of the survey instrument, dentists were asked about why the public perceived dental hygiene as a profession. Education of dental hygienists, including skills and training, was the first reasons indicated by 16.5% of the dentists. As indicated in Table 21, dental hygiene's unions with both health care (15.6%) and dentistry (8.3%) were also given as reasons for the public's perception of dental hygiene as a profession.

Eight dentists (7.3%) indicated it was the environment such as working conditions, and four dentists (3.7%) stated financial reasons as causes for the public's perception of dental hygiene as a profession. Ten dentists (9.2%) were unsure of the public's perception and another ten dentists (9.2%) stated that their sense of the public's perception was that nothing gave dental hygiene status as a profession. Thirty percent (30.3%) of the dentists did not answer this question.

Table 21

**PERCENTAGE RESPONSES OF DENTISTS: REASONS FOR THE
PUBLIC PERCEIVING DENTAL HYGIENE AS A PROFESSION**

		n
Education	16.5	18
Association with health care	15.6	17
Association with dentistry	8.3	9
Environment	7.3	8
Financial	3.7	4
Unsure	9.2	10
Nothing gives status	9.2	10
No response	30.3	33
Total	100.1	109

n = number of respondents

Twenty dentists (18.3%) stated that nothing needs to be done to give dental hygiene status in the public's perception when asked question 1.c of Section III of the survey instrument. Eleven percent of the dentists, as indicated in Table 22, stated that there needed to be more independence from dentistry including "privatization" for the public to perceive dental hygiene as a profession. Eight dentists (7.3%) cited that more recognition was required. Examples of recognition given by dentists were "public awareness" and "prevent the professional dentist from downgrading the hygienist." Nine dentists (8.3%) thought that in their sense of the public's perception

of dental hygiene, an increase in education was needed for status as a profession. Two dentists (1.8%) specifically stated that dental hygiene needed to stay with dentistry. Eight dentists (7.3%) were unsure of requirements for the public's perception. Close to one half of the dentists (45.9%) did not answer this question.

Table 22

**PERCENTAGE RESPONSES OF DENTISTS: REQUIREMENTS FOR THE
PUBLIC PERCEIVING DENTAL HYGIENE AS A PROFESSION**

		n
Independence	11.0	12
Education	8.3	9
Recognition	7.3	8
Stay with dentistry	1.8	2
Unsure	7.3	8
Nothing needs to be done	18.3	20
No response	45.9	50
Total	99.9	109

n = number of respondents

When asked what prevents dental hygiene from obtaining status as a profession in the public's perception in question 2.d of Section III of the survey instrument, over two thirds of dentists did not respond (45.9%), stated nothing prevented (21.2%), or they were not sure (10.1%). Other specific responses are

indicated in Table 23. In dentists' sense of the public's perception, dental hygienists' lack of further education (7.3%) and lack of independence (6.4%) from dentists prevented them from obtaining status as a profession. The public's lack of "recognition" of dental hygiene and the "perception that hygienist is another assistant" were given by five dentists (4.6%). Another five dentists (4.6%) stated that competition with dentists and dental hygienists themselves prevented the public from perceiving dental hygiene as a profession.

Table 23

PERCENTAGE RESPONSES OF DENTISTS: FACTORS PREVENTING THE PUBLIC FROM PERCEIVING DENTAL HYGIENE AS A PROFESSION

		n
Education	7.3	8
Independence	6.4	7
Recognition	4.6	5
Competition with dentists	4.6	5
Unsure	10.1	11
Nothing prevents status	21.1	23
No response	45.9	50
Total	100.0	109

n = number of respondents

Dentists were also asked their sense of dental hygienists' perceptions of the status of dental hygiene in the last part of Section III of the survey instrument. Over three-fourths of dentists (76.3%) thought that dental hygienists perceived dental hygiene as a profession (see Table 17). When asked in question 3.b in Section III of the survey instrument why dental hygienists perceived dental hygiene as a profession, one third of the dentists (33.0%) responded that dental hygienists thought their education, including skills and training, gave dental hygiene status as a profession. As indicated in Table 24, 12.8% of the dentists thought that dental hygienists perceived dental hygiene as a profession because of the "job" of dental hygienists, for example, dental hygienists are in demand and receive a good salary. Other reasons stated by dentists for dental hygienists' perceptions of dental hygiene as a profession were: the independence (9.2%), the care they provide (5.5%), the self-regulation and the professional association (3.7%), and the union with dentistry (3.7%). Three dentists were either unsure (2.7%) or in their sense of dental hygienists' perceptions, nothing (2.7%) gave dental hygiene status as a profession. Over one-fourth of dentists (26.6%) did not answer this question.

Table 24

**PERCENTAGE RESPONSES OF DENTISTS: REASONS FOR DENTAL
HYGIENISTS PERCEIVING DENTAL HYGIENE AS A PROFESSION**

		n
Education	33.0	36
Job	12.8	14
Independence	9.2	10
Care provided	5.5	6
Self-regulation	3.7	4
With dentistry	3.7	4
Unsure	2.7	3
Nothing gives status	2.7	3
No response	26.6	20
Total	99.9	109

n = number of respondents

Twenty percent (20.2%) of dentists, when asked in question 2.c of Section III of the survey instrument, responded that independence from dentists was required for dental hygiene to obtain status as a profession. As indicated in Table 25, another requirement, necessary in the dentists' sense of the perceptions of dental hygienists for dental hygiene to obtain status as a profession, was recognition (7.3%) including acknowledgement from the dental association. Nine dentists (8.3%) thought an increase in education was required and one dentist (0.9%) suggested that an increase

in salary was needed in dental hygienists' perceptions. Eleven percent of dentists were unsure and 9.2% of dentists thought, in dental hygienists' perceptions, no requirements were necessary for dental hygiene to obtain status as a profession. Over forty percent (43.1%) of dentists did not answer this question.

Table 25

**PERCENTAGE RESPONSES OF DENTISTS: REQUIREMENTS FOR
DENTAL HYGIENISTS PERCEIVING DENTAL HYGIENE AS A
PROFESSION**

		n
Independence	20.2	22
Recognition	7.3	8
Education	8.3	9
Salary	0.9	1
Unsure	11.0	12
Nothing needs to be done	9.2	10
No response	43.1	47
Total	100.0	109

n = number of respondents

When asked in the last question of Section III of the survey instrument, one-fourth (24.8%) of dentists stated that they prevented dental hygiene from obtaining status as a profession (e.g., competition with them). An additional twelve percent (11.9%) of dentists, as indicated in Table 26, specifically responded that

independence from them prevented dental hygiene from obtaining status as a profession in their sense of dental hygienists' perceptions. Other responses were education (5.5%), and salary (0.9%) of dental hygienists. Thirteen dentists (11.9%) were unsure and (4.6%) stated that nothing, in their sense of dental hygienists' perceptions, prevented dental hygiene from obtaining status as a profession. Forty percent (40.4%) of dentists did not answer this final question in the survey instrument.

Table 26

**PERCENTAGE RESPONSES OF DENTISTS: FACTORS PREVENTING
DENTAL HYGIENISTS PERCEIVING DENTAL HYGIENE AS A
PROFESSION**

		n
Dentists	24.8	27
Independence	11.9	13
Education	5.5	6
Salary	0.9	1
Unsure	11.9	13
Nothing prevents status	4.6	5
No response	40.4	44
Total	100.0	109

n = number of respondents

2.b) What are the perceptions of dentists in Alberta of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?

In Section II: Part A of the survey instrument, 20% or more of the dentists were undecided on many of the Likert items that asked for agreement or disagreement on the attributes of a profession as illustrated in Table 27. Dentists strongly disagreed on those items (e.g., #5, #8, #9, #10, #18 and #19), that could be considered competitive and a challenge to their dominance over the practice of dental hygiene. Yet, they strongly agreed with those items (e.g., #1, #2, #3, #4, #11 and #13) that dental hygienists presently possess which contribute to dental practices and to dentists' income.

Over half of the dentists agreed on eight of the 19 Likert items describing attributes of a profession. These attributes were similar to those agreed to by dental hygienists. Dentists agreed that dental hygienists should have special skills, knowledge, and should use this knowledge. Yet they disagreed that these skills or procedures should belong only to dental hygienists. Dentists also agreed that dental hygienists should be introduced as dental hygienists, however, as indicated in Table 27, less dentists agreed that dental hygienists should be distinguished from other personnel in the dental office. This is a problem that was identified in this study; dental hygienists want a distinction made between them and other personnel in the dental office. Although a little over 10.0% of the dentists agreed that dental hygiene

should be self-regulating, which dental hygiene is in Alberta, almost 40.0% agreed that dental hygiene should be governed by a formal structure (see Table 27).

Table 27

PERCENTAGE RESPONSES OF DENTISTS:
ATTRIBUTES OF A PROFESSION

	SA	A	UD	D	SD	M	n
Dental hygienists should:							
• possess specialized skills	45.0	38.5	10.1	1.8	4.6	-	109
• have an advanced level of knowledge	37.6	44.0	12.8	1.8	3.7	-	109
• be provided with the opportunity to use their full knowledge base in their daily work	29.4	46.8	18.3	2.8	2.8	-	109
• be clearly distinguished from other dental allied health personnel (i.e. dental assistants)	25.7	38.5	16.5	12.8	5.5	.9	109
• follow practice standards developed by dental hygienists	13.8	17.4	14.7	24.8	29.4	-	109
• earn a competitive salary compared with other health professionals	17.4	42.2	23.9	11.0	3.7	1.8	109
• be introduced to the client as dental hygienists	41.3	41.3	8.3	4.6	2.8	1.8	109
• have specific procedures that only they can perform	6.4	17.4	11.9	28.4	33.0	2.8	109
• be able to work without the supervision of a dentist	2.8	6.4	4.6	24.8	60.6	.9	109
• collect their own fee for service	1.8	3.7	10.1	22.0	61.5	.9	109
• be held accountable for their actions	32.1	45.9	10.1	7.3	4.6	-	109

SA = Strongly Agree

UD = Undecided

n = number of respondents

A = Agree

SD = Strongly Disagree

D = Disagree

M = Missing

Table 27 Continued

PERCENTAGE RESPONSES OF DENTISTS:
ATTRIBUTES OF A PROFESSION

	SA	A	UD	D	SD	M	n
Dental hygiene should:							
• have equal representation on various government bodies along with other health professions	9.2	28.4	25.7	24.8	11.9	-	109
• have a code of ethics	31.2	54.1	7.3	6.4	.9	-	109
• have its own area of research	10.1	27.5	16.5	33.9	11.0	.9	109
• be considered a profession	6.4	22.0	26.6	23.9	19.3	1.8	109
• have a formal structure (i.e. association) to govern itself	7.3	36.7	22.0	20.2	13.8	-	109
• be recognized internationally	10.1	38.5	33.9	6.4	8.3	2.8	109
• be self-regulating	1.8	10.1	22.9	33.0	31.2	.9	109
• possess a body of knowledge independent to that of other health professions including dentistry	.9	6.4	9.2	33.0	49.5	.9	109

SA = Strongly Agree

A = Agree

D = Disagree

UD = Undecided

SD = Strongly Disagree

M = Missing

n = number of respondents

Table 28

**COMPARISON OF RESPONSES OF DENTAL HYGIENISTS
AND DENTISTS: ATTRIBUTES OF A PROFESSION**

	Mean Rank			
	Dental Hygienists	n	Dentists	n
Dental hygienists should:				
• possess specialized skills.	93.09	111	128.22	109
• have an advanced level of knowledge.	92.57	110	127.59	109
• be provided with the opportunity to use their full knowledge base in their daily work.	89.70	110	130.48	109
• be clearly distinguished from other dental allied health personnel (i.e. dental assistants).	82.01	110	137.50	108
• follow practice standards developed by dental hygienists.	69.07	111	152.69	109
• earn a competitive salary compared with other health professionals.	74.46	111	145.85	107
• be introduced to the client as dental hygienists.	90.28	111	129.43	107
• have specific procedures that only they can perform.	68.31	110	150.21	106
• be able to work without the supervision of a dentist.	69.42	111	151.71	108
• collect their own fee for service.	67.93	111	153.24	108
• be held accountable for their actions.	93.42	111	127.89	109

Kruskal-Wallis one-way ANOVA

Significance .0001 for all attributes

n = number of respondents

Higher mean rank indicates stronger disagreement

Table 28 Continued

**COMPARISON OF RESPONSES OF DENTAL HYGIENISTS
AND DENTISTS: ATTRIBUTES OF A PROFESSION**

	Mean Rank			
	Dental Hygienists	n	Dentists	n
Dental hygiene should:				
• have equal representation on various government bodies along with other health professions.	68.96	111	152.80	109
• have a code of ethics.	81.98	111	139.54	109
• have its own area of research.	73.61	111	147.40	108
• be considered a profession.	63.95	111	156.75	107
• have a formal structure (i.e. association) to govern itself.	67.20	111	153.20	109
• be recognized internationally.	71.45	111	148.32	106
• be self-regulating.	61.31	111	160.04	108
• possess a body of knowledge independent to that of other health professions including dentistry.	68.10	111	153.06	108

Kruskal-Wallis one-way ANOVA

Significance :0001 for all attributes

n = number of respondents

Higher mean rank indicates stronger disagreement

Dentists disagreed with those attributes which could be most threatening to them, their financial situation, and their power and control. Their responses, however, were not consistent, as indicated in Table 27. For example, dentists agreed (59.6%) that dental hygienists should receive a salary competitive with other health professionals, yet dentists disagreed (83.5%) that dental hygienists should receive a fee for service thereby dentists retain financial control. Dentists disagreed (64.2%) that dental hygiene should be self-regulating, yet, they were divided that dental hygiene should have a formal structure to govern itself. Dentists neither agreed (37.6%) nor disagreed (36.7%) that dental hygiene should have representation equal to other health professions. Perhaps dentists are threatened by dental hygienists' recently obtained self-regulation, although they were not threatened by the Dental Hygienists' Association, an example of a formal structure. Dentists agreed that dental hygienists should be accountable (88.0%) and have a code of ethics (85.3%), but they disagreed (54.2%) that practice standards should be set by dental hygienists, themselves. Furthermore, dentists believed the supervision of dental hygienists is necessary. Dentists agreed (82.6%) that dental hygienists should be introduced as dental hygienists, but dentists agreed less (64.2%) that dental hygienists should be distinguished from other office personnel. Finally, they agreed that dental hygienists should have special skills (83.5%), advanced knowledge (81.6%), and the ability to use this knowledge (76.2%) but that this body of knowledge should not be independent of other disciplines (82.5%). Dentists neither agreed (38.6%) nor disagreed (44.9%) that there should be a specific area of research for dental hygiene.

There are significant differences between the responses of dental hygienists and dentists on the attributes that should be possessed by dental hygiene and dental hygienists in order for dental hygiene to be considered a profession, as indicated in Table 28. The differences suggest that dental hygienists agree more than dentists on all attributes. In spite of these differences, however, it is not possible to assert that dentists conceive dental hygiene as a non-profession. As previously discussed, dentists objected to the attributes which may undermine their control of dental hygiene. So it would be possible to conclude that dentists are more opposed to the independence of dental hygiene than to perceiving dental hygiene as a profession. Thus, dentists would perceive and accept dental hygiene as a profession only if it remains subservient.

2.c) Is there a difference in the perceptions of dentists in Alberta between those dentists who employ dental hygienists and those dentists who do not employ dental hygienists of the attributes that dental hygiene and dental hygienists should have in order to define dental hygiene as a profession or non-profession?

Section I: Parts B and C of the survey instrument asked the dentists questions regarding supervision and employment of dental hygienists. Over one-half of the dentist respondents (57.8%) employed dental hygienists. Dentists who employed dental hygienists and dentists who did not employ dental hygienists did not differ in their own perceptions, their thoughts on the public's perceptions, and their thoughts on dental hygienist's perceptions regarding the status of dental hygiene as a

profession. Generally, dentists who supervised dental hygienists also employed dental hygienists, and dentists who employed dental hygienists also supervised dental hygienists. Exceptions occurred only in the situations in which the dentist did not own the dental practice or worked for an educational institution or the government. Of the responding dentists, 56.0% supervised dental hygienists and 44.0% did not. As shown in Table 29, 82% of the supervising dentists provided direct supervision and the majority of these dentists (70.0%) wished to retain this form of supervision. No dentist wanted to relinquish supervision. Furthermore, when asked in Likert item #9 in Section II: Part A of the survey instrument, and as indicated in Table 27, if they agreed dental hygienists should work without supervision, 85.4% of the dentists disagreed, with 60.6% of the disagreement being strongly disagreed. In Section III of the survey instrument, 41.5% of the dentists stated that they perceived dental hygiene as a profession (see Table 17), yet they acknowledged in Section I: Part B of the survey instrument, that dental hygienists must be supervised by the dental profession (see Table 29).

Table 29

**PERCENTAGE RESPONSES OF DENTISTS:
PRESENT AND PREFERRED FORMS OF SUPERVISION**

	Present	n	Preferred	n
Direct Supervision	82.0	50	70.0	42
Indirect Supervision	11.5	7	20.0	12
General Supervision	6.6	4	10.0	6
No Supervision	N/A	N/A	0.0	0
Total	100.1	61	100.0	60

n = number of respondents

In Section I: Part C of the survey instrument, dentists were asked to rank their reasons for employing dental hygienists. As illustrated in Table 30, dental hygienists are employed because they are recognized specialists. Both dental hygienists and dentists indicated strong agreement with the corresponding Likert item #1 in Section II: Part A of the survey instrument. In Section III of the survey instrument, however, dental hygienists did not feel that they are perceived as specialists because they are not distinguished from other dental office personnel (see Tables 6 & 7). The second ranked reason for employing dental hygienists was that dental hygienists were practice builders, that is, they helped obtain and maintain clients. These two reasons seem logically connected as dental hygienists provide specific dental hygiene services to clients. The third and fourth ranked reasons for employing dental hygienists were close in frequency. Although dental hygienists are employed as practice builders, and

do indirectly generate income for dentists; dental hygienists are not employed primarily for their financial contribution to the dental office.

Table 30

**PERCENTAGE RESPONSES OF DENTISTS:
MOST IMPORTANT REASON FOR EMPLOYING DENTAL HYGIENISTS**

	Percentage	n
Generate income	10.0	5
Practice builder	28.0	14
To perform procedures I do not like to do	12.0	6
Dental hygienists are recognized specialists in their field	50.0	25
Total	100.0	50

n = number of dentists who ranked reason first

Twenty-eight out of the 63 dentists who employ dental hygienists wrote additional comments for these rank order items for reasons why they employed dental hygienists. These comments gave credit to dental hygienists for performing functions that were necessary for maintenance of good oral health. Because dental hygienists performed dental hygiene procedures, dentists had more time to devote to procedures that were of interest, to perform complex procedures only they can perform, to allow efficient use of their skills, and to utilize multi-clinical chairs to enable them to see more patients. The above statements gave positive reinforcement

to the team concept of dental hygiene services. Some reasons given by dentists for employing dental hygienists emphasized their specialized skills:

A trained member of the dental team with advanced training in oral hygiene therapies and education.

She does a better job than I could.

Patients receive a higher quality of care.

They perform preventative and educational dental services to the public just as efficiently and effectively as dentists, and in many instances, even more so. Dentists are overtrained for these procedures and should not be used.

Dentists who did not employ dental hygienists did not employ them for the following reasons. First, the dentists thought that dental hygienists were not team members. Second, the dental practices did not utilize dental hygienists for the following reasons: 1) because of the particular specialties of the dental offices (e.g., endodontics; 2) a reduced patient load due to the recession; 3) a decline in the dental practice or semi-retirement; 4) a new practice without established patients; 5) no dental hygienists were available; and 6) limited office space. Many of the dentists who did not employ dental hygienists stated that either they or their dental assistants provided the preventative services. In addition to not employing dental hygienists because they were not available or needed in the office, the perception of dental hygienists as "snobs" and "primadonnas" was later voiced in the 12 open-ended perception questions in Section III of the survey instrument. The reasons for not

supervising dental hygienists were similar to those reasons for not employing dental hygienists with the exception of comments regarding the alleged negative attitude of dental hygienists (e.g., not team members, snobs, primadonnas).

Two examples of negative comments to Section I: Part B question 1.c of the survey instrument are:

They are overpaid, underworked, hard to manage (scheduling, etc.)

They are snobs and think too highly of themselves.

3a: What are the perceptions of dental hygienists and dentists in Alberta of the continuing education needs of dental hygienists?

Continuing education was defined on the survey instrument in Section II: Part D as education and training beyond the minimum requirement for practicing dental hygiene in Alberta. Presently, there is no mandatory continuing education for dental hygienists in Alberta, and the only educational requirement is a diploma in dental hygiene. Four benefits for participating in continuing education were listed: to increase quality of care to clients, to increase job satisfaction, to increase employment opportunities, and to increase the status of dental hygiene as a profession. The respondents of the survey were asked to rank these reasons from one to four with one being the most important and four being the least important. As shown in Table 31, Kruskal-Wallis one-way ANOVA was used to analyze these four ranked items.

Table 31

**COMPARISON OF RESPONSES OF DENTAL HYGIENISTS
AND DENTISTS: BENEFITS FOR DENTAL HYGIENISTS PARTICIPATING
IN CONTINUING EDUCATION**

	Dental Hygienists	Mean Rank		Significance	
		n	Dentists	n	---
Job satisfaction	109.09	111	104.72	102	.5489
Quality of care	109.80	111	103.96	102	.2455
Employment opportunities	117.46	111	95.62	102	*.0045
Status of dental hygiene as a profession	94.25	111	120.88	102	*.0006

Kruskal-Wallis one-way ANOVA

*Significance $p \leq .05$

n = number of respondents

Lower mean rank indicates greater importance

Significant differences were found between dental hygienists and dentists on two items: continuing education as a vehicle for raising the status of dental hygiene as a profession and as a means of providing increased employment opportunities. Dentists tended to agree more than dental hygienists that continuing education would increase employment opportunities, while dental hygienists agreed more than dentists that continuing education would raise the status of dental hygiene as a profession.

Many of the respondents gave similar justifications for dental hygienists participating in continuing education. Twenty-five dental hygienists answered the

open-ended question regarding other reasons for participation in continuing education. The reasons cited by them were: to keep current with knowledge, for personal growth, and for networking or social reasons. Fourteen dentists answered this question. Their reasons for advocating participation in continuing education were similar to the dental hygienists, currency in knowledge, and self-improvement. One dentist, however, stated that the reason for participation in continuing education was to increase income.

When asked through an open-ended format question in Section II: Part D of the survey instrument and as described in Table 32, what the disadvantages of continuing education beyond the diploma in dental hygiene were (42.7%) of the respondents stated that there were no disadvantages to continuing education. Respondents (56.3%) who did identify disadvantages stated similar reasons. The disadvantages of continuing education were: that the education may not be recognized either through underutilization or underpay, that dental hygienists may be forced out of the traditional role or that their diploma will no longer be recognized, that time and convenience may be a problem, and that some dental hygienists may simply not want continuing education. Seven dental hygienists (7.9%) and two dentists (2.9%) were undecided on the disadvantages of continuing education.

Thus, overall there is a need for continuing education for dental hygienists although the benefits of participation in these courses is debatable. It could be concluded from Tables 31 and 32, in general, dental hygienists and dentists disagreed on two points. First, dental hygienists expect continuing education to improve the

status of dental hygiene as a profession while dentists did not. Second, dental hygienists did not expect continuing education to increase employment conditions while dentists did. As indicated in Table 31, there was no difference between dental hygienists and dentists for the ranking of both job satisfaction and quality of care as benefits of continuing education participation.

Table 32

**PERCENTAGE RESPONSES: DISADVANTAGES OF CONTINUING
EDUCATION BEYOND THE DIPLOMA IN DENTAL HYGIENE**

	Dental Hygienists	n	Dentists	n
No disadvantage	38.2	34	48.5	33
Cost benefit	18.0	16	14.7	10
Diploma not recognized	14.6	13	14.7	10
Convenience	5.6	5	4.4	3
Underutilization/over educated	13.5	12	14.7	10
Not wanting	2.2	2	0.0	0
Undecided	7.9	7	2.9	2
Total	100.0	89	99.9	68

n = number of respondents

3.b) What are the perceptions of dental hygienists and dentists in Alberta of the purpose of the baccalaureate in dental hygiene?

Respondents were asked to agree or disagree with five statements regarding the purpose of the bachelor's degree in dental hygiene. Through Likert items in Section II: Part B of the survey instrument, participants were asked not only if dental hygienists should have a degree in dental hygiene but also their agreement on four purposes of the bachelor's degree. These four purposes were: to prepare the dental hygienists for independent practice, to prepare the dental hygienists for non-traditional practice settings, to prepare the dental hygienists for a wider scope of functions in supervised, traditional practice settings, and to raise the status of dental hygiene as a profession. The responses of the occupational group are listed in Tables 33 through 36.

Table 33

**PERCENTAGE RESPONSES OF DENTAL HYGIENISTS:
PURPOSES OF THE BACCALAUREATE DEGREE IN DENTAL HYGIENE**

	SA	A	UD	D	SD	n
Dental hygienists should have a bachelor's degree specifically in dental hygiene.	9.9	27.0	27.0	26.1	9.9	111
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for independent practice.	5.4	14.4	27.0	32.4	20.7	111
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for non-private practice positions.	15.3	50.5	18.9	12.6	2.7	111
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienists for a wider range of functions in supervised, traditional private practice.	9.2	32.1	20.2	29.4	9.2	109
The purpose of a bachelor's degree in dental hygiene is to raise the status of dental hygiene as a profession.	33.0	45.0	11.0	10.1	.9	109

SA = Strongly Agree

A = Agree

D = Disagree

UD = Undecided

SD = Strongly Disagree

n = number of respondents

Table 34

**PERCENTAGE RESPONSES OF NON-TRADITIONAL DENTAL
HYGIENISTS: PURPOSES OF THE BACCALAUREATE DEGREE
IN DENTAL HYGIENE**

	SA	A	UD	D	SD	n
Dental hygienists should have a bachelor's degree specifically in dental hygiene.	16.1	24.2	25.8	22.6	11.3	62
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienists for independent practice.	8.1	14.5	22.6	25.8	29.0	62
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for non-private practice positions.	22.6	46.8	17.7	12.9	-	62
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienists for a wider range of functions in supervised, traditional private practice.	10.0	26.7	20.0	33.3	10.0	60
The purpose of a bachelor's degree in dental hygiene is to raise the status of dental hygiene as a profession.	31.7	45.0	13.3	8.3	1.7	60

SA = Strongly Agree

A = Agree

D = Disagree

UD = Undecided

SD = Strongly Disagree

n = number of respondents

Table 35

**PERCENTAGE RESPONSES OF TRADITIONAL DENTAL HYGIENISTS:
PURPOSES OF THE BACCALAUREATE DEGREE IN DENTAL HYGIENE**

	SA	A	UD	D	SD	n
Dental hygienists should have a bachelor's degree specifically in dental hygiene.	2.0	30.6	28.6	30.6	8.2	49
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienists for independent practice.	2.0	14.3	32.7	40.8	10.2	49
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for non-private practice positions.	6.1	55.1	20.4	12.2	6.1	49
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienists for a wider range of functions in supervised, traditional private practice.	8.2	38.8	20.4	24.5	8.2	49
The purpose of a bachelor's degree in dental hygiene is to raise the status of dental hygiene as a profession.	34.7	44.9	8.2	12.2	-	49

SA = Strongly Agree

UD = Undecided

A = Agree

SD = Strongly Disagree

D = Disagree

n = number of respondents

Table 36

**PERCENTAGE RESPONSES OF DENTISTS:
PURPOSES OF THE BACCALAUREATE DEGREE IN DENTAL HYGIENE**

	SA	A	UD	D	SD	n
Dental hygienists should have a bachelor's degree specifically in dental hygiene.	7.4	22.2	18.5	27.8	24.1	108
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienists for independent practice.	-	10.4	19.8	29.2	40.6	106
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for non-private practice positions.	2.9	26.2	35.9	23.3	11.7	103
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienists for a wider range of functions in supervised, traditional private practice.	10.5	36.2	23.8	19.0	10.5	105
The purpose of a bachelor's degree in dental hygiene is to raise the status of dental hygiene as a profession.	9.5	29.5	23.8	21.9	15.2	105

SA = Strongly Agree

UD = Undecided

A = Agree

SD = Strongly Disagree

D = Disagree

n = number of respondents

As indicated in Table 37, of the total respondents, 33.4% indicated an agreement with the statement that dental hygienists should possess a bachelor's degree in dental hygiene. Non-traditional dental hygienists had the strongest agreement; 40.3% of non-traditional dental hygienists agreed as compared to 32.6% of traditional dental hygienists. Over one half of the dentists (51.3%) disagreed that dental hygienists should have a bachelor's degree specifically in dental hygiene.

Table 37

**PERCENTAGE RESPONSES: DENTAL HYGIENISTS SHOULD HAVE
A BACHELOR'S DEGREE SPECIFICALLY IN DENTAL HYGIENE**

	SA	A	UD	D	SD	n
Traditional Dental Hygienists	2.0	30.6	28.6	30.6	8.2	49
Non-Traditional Dental Hygienists	16.1	24.2	25.8	22.6	11.3	62
Total Dental Hygienists	10.1	27.3	26.4	26.4	10.0	111
Dentists	7.4	22.2	18.5	27.8	24.1	108
Total Respondents	8.7	24.7	22.8	26.9	16.9	219

SA = Strongly Agree UD = Undecided
A = Agree SD = Strongly Disagree
D = Disagree n = number of respondents

When asked if the baccalaureate in dental hygiene is to prepare dental hygienists for independent private practice, over 60.0% of the respondents indicated disagreement (see Table 38). Dental hygienists in non-traditional practice (22.6%) were more in agreement than dental hygienists in traditional practice (16.3%) and

dentists (10.4%). Earlier in Section I: Part B of the survey instrument (see Tables 14 & 29), dental hygienists and dentists indicated their desire to retain supervision, and thus rejected independent practice. Disagreement with the baccalaureate in dental hygiene as preparation for independent practice may exist for two reasons. First, dental hygienists may feel that their past preparation at the diploma level is sufficient for their present working situation. Second, they may simply disagree with the concept of independent practice. The fact that dentists disagreed with the purpose of the baccalaureate in dental hygiene may be that they, like dental hygienists, disagree generally with the concept of independent practice.

Table 38

**PERCENTAGE RESPONSES: THE PURPOSE OF A BACHELOR'S
DEGREE IN DENTAL HYGIENE IS TO PREPARE THE
DENTAL HYGIENIST FOR INDEPENDENT PRACTICE**

	SA	A	UD	D	SD	n
Traditional Dental Hygienists	2.0	14.3	32.7	40.8	10.2	49
Non-Traditional Dental Hygienists	8.1	14.5	22.6	25.83	29.0	62
Total Dental Hygienists	5.5	14.5	27.3	31.8	20.9	111
Dentists	-	10.4	19.8	29.2	40.6	106
Total Respondents	2.8	12.4	23.5	30.9	30.4	217

SA = Strongly Agree

A = Agree

D = Disagree

UD = Undecided

SD = Strongly Disagree

n = number of respondents

Those dental hygienists employed in non-traditional private practice responded that the purpose of the baccalaureate in dental hygiene was preparation for their positions (see Tables 34 & 39). The majority of non-traditional dental hygienists (69.6%) indicated agreement on this purpose of the baccalaureate degree, and 22.8% of this agreement was at the "strongly agree level." In addition, not one non-traditional dental hygienist strongly disagreed with the role of the baccalaureate in non-private practice settings. The majority of traditional dental hygienists (61.2%) agreed, although only 6.1% strongly agreed. The total agreeing dental hygienist respondents (65.8%), when compared with agreeing dentists (29.1%), indicated more agreement with this preparation. This difference, in response, may be attributed to the dentists' lack of awareness of the functions, duties, and responsibilities of dental hygienists employed in non-traditional practice settings.

Table 39

**PERCENTAGE RESPONSES: THE PURPOSE OF A BACHELOR'S
DEGREE IN DENTAL HYGIENE IS TO PREPARE THE
DENTAL HYGIENIST FOR NON-PRIVATE PRACTICE POSITIONS**

	SA	A	UD	D	SD	n
Traditional Dental Hygienists	6.1	55.1	20.4	12.2	6.1	49
Non-Traditional Dental Hygienists	22.8	46.8	17.7	12.9	-	62
Total Dental Hygienists	15.3	50.5	18.9	12.6	2.7	111
Dentists	2.9	26.2	35.9	23.3	11.7	103
Total Respondents	9.3	38.3	27.1	17.8	7.0	204

SA = Strongly Agree

UD = Undecided

A = Agree

SD = Strongly Disagree

D = Disagree

n = number of respondents

All three groups, traditional dental hygienists, non-traditional dental hygienists, and dentists, responded similarly to the purpose of the baccalaureate as providing a wider range of function in traditional, supervised practice settings (see Table 40). This is consistent as respondents on the whole agreed with supervision of dental hygienists. This response could mean that dental hygienists could play a greater role in supervised dental practice since they would be more qualified to provide a wider range of functional procedures. An increased education in dental hygiene could provide more specialized skills and a wider scope of practice which the majority of the respondents (91.4%) agreed dental hygienists should have (see Tables 11 & 27). But this increase in knowledge may not form an independent body of knowledge

which half of the respondents (49.9%) disagreed that dental hygiene should possess (see Tables 11 & 27).

Table 40

**PERCENTAGE RESPONSES: THE PURPOSE OF A BACHELOR'S
DEGREE IN DENTAL HYGIENE IS TO PREPARE THE
DENTAL HYGIENIST FOR A WIDER RANGE OF FUNCTION IN
SUPERVISED, TRADITIONAL PRIVATE PRACTICE**

	SA	A	UD	D	SD	n
Traditional Dental Hygienists	8.2	38.8	20.4	24.5	8.2	49
Non-Traditional Dental Hygienists	10.0	26.7	20.0	33.3	10.0	60
Total Dental Hygienists	9.2	32.1	20.2	29.4	9.2	109
Dentists	10.5	36.2	23.8	19.0	10.5	105
Total Respondents	9.8	34.1	22.0	24.3	9.8	214

SA = Strongly Agree

A = Agree

D = Disagree

UD = Undecided

SD = Strongly Disagree

n = number of respondents

Three fourths of dental hygienists agreed that the baccalaureate degree in dental hygiene would raise the status of dental hygiene as a profession (see Tables 33 & 41). Non-traditional dental hygienists did not differ from traditional dental hygienists in their agreement. Dentists, however, differed from dental hygienists; only 39.0% agreed and less than 10.0% strongly disagreed that a baccalaureate in dental hygiene would raise the status of dental hygiene as a profession (see Tables 36 & 40).

Although dental hygienists may favor the baccalaureate as a means of gaining status, dentists did not perceive this degree as having the same purpose.

Table 41

**PERCENTAGE RESPONSES: THE PURPOSE OF A BACHELOR'S
DEGREE IN DENTAL HYGIENE IS TO RAISE THE STATUS
OF DENTAL HYGIENE AS A PROFESSION**

	SA	A	UD	D	SD	n
Traditional Dental Hygienists	34.7	44.9	8.2	12.2	-	49
Non-Traditional Dental Hygienists	31.7	45.0	13.3	8.3	1.7	60
Total Dental Hygienists	33.0	45.0	11.0	10.1	.9	109
Dentists	9.5	29.5	23.8	21.9	15.2	105
Total Respondents	21.5	37.4	17.3	15.9	7.9	214

SA = Strongly Agree

A = Agree

D = Disagree

UD = Undecided

SD = Strongly Disagree

n = number of respondents

Through an open-ended format question at the end of Section II: Part B of the survey instrument, respondents were asked to state other reasons for obtaining a baccalaureate in dental hygiene. Although the majority of the respondents left this particular question blank, those who did write additional information provided insight in their opinions of a bachelor's degree specifically in dental hygiene.

One traditional dental hygienist wrote that the bachelor's in dental hygiene was not necessary for general dental hygiene practice, a response similar to those made

by the majority of respondents to the Likert items in Section II: Part B of the survey instrument. Traditional dental hygienists' responses to the purposes of the bachelor's were general. When asked what additional purposes the baccalaureate would serve, the responses were: to raise dental hygiene in academic society, to earn more respect, to gain personal prestige, to become an educator, and to increase both knowledge base and employment experience in non-private practice settings. A further suggestion was made that the baccalaureate be a requirement to practice dental hygiene, not something that was "tacked on".

Non-traditional dental hygienists provided more specific reasons for the baccalaureate, and these comments reinforced the previous finding that the bachelor's degree in dental hygiene should prepare dental hygienists for non-private practice positions. The two major objectives of the baccalaureate degree, as preparation for non-traditional practice settings, were to provide a wider scope of job opportunities and to allow for future career expansions. The specific areas cited by the respondents were: post-secondary education, research, administration, management, supervision in public health, prerequisite for post-graduate work, future modes of health care, specialized fields, and expanded roles.

Another purpose for the baccalaureate, stated by non-traditional dental hygienists, was to enhance self-worth and to gain personal fulfillment. These dental hygienists felt the bachelor's degree would also produce better prepared dental hygienists for their present employment settings. The last purpose given by non-traditional dental hygienists for the baccalaureate was to provide growth in the

profession of dental hygiene. This purpose included equality among professions, status in the eyes of dentists, equal partners in delivery of health care, and to advance dental hygiene as a profession. In addition, the baccalaureate degree allowed for uniformity in the educational level of dental hygienists.

As shown in Table 42, there were significant differences between dental hygienists and dentists as to whether dental hygienists should obtain a baccalaureate in dental hygiene and the purposes of this degree. Dentists were quite negative about a baccalaureate degree specifically in dental hygiene, 51.9% of dentists disagreed that dental hygienists should have this degree. They felt additional training was not needed; in fact, many dentists stated that if dental hygienists wished to increase their knowledge, they should go to dental school. Uncertainty existed among dentists as to the form of education and content included in a baccalaureate program. One dentist even suggested that dental hygiene education should be offered at an educational level lower than university. Another dentist stated, "I see no need for additional training, we need people able to provide the level of care currently provided." And an extreme opposing view of the purpose of this particular baccalaureate was: "There should be no such degree; and no such profession; hygienists should be abolished."

Less than one third of dentists (29.6%) were supportive of the baccalaureate in dental hygiene (see Table 37). An agreement example cited was, "a more sophisticated and educated individual is an asset to the profession of dentistry." This comment reiterated the dentists' perception of dental hygiene as an adjunct or

auxiliary to dentistry and not as a separate profession. Six dentists stated that the specific purpose of the baccalaureate was to prepare dental hygienists to teach. Teaching is only one of the positions dental hygienists fill in non-private practice settings. Dentists indicated more education is needed for teaching than for other dental hygiene positions. These statements confirmed the previous Likert item that the baccalaureate should prepare dental hygienists for non-traditional settings. When asked to state other reasons for obtaining a baccalaureate in dental hygiene, one dentist gave examples of how a baccalaureate degree could be utilized in non-traditional settings: "To prepare them for a wide functional care including teaching, research, government service, dental public health, to name a few." Like dental hygienists, dentists also supported the baccalaureate as a means of providing improvement and self-fulfilment. A suggested alternative to the baccalaureate was a general science degree to enhance dental hygiene's specialized skills and to provide a base of scientific knowledge. Lastly, one dentist thought a baccalaureate in dental hygiene would justify the salaries of dental hygienists.

Table 42

**COMPARISON OF RESPONSES OF DENTAL
HYGIENISTS AND DENTISTS: PURPOSES OF THE
BACCALAUREATE IN DENTAL HYGIENE**

	Mean Rank		Significance		
	Dental Hygienists	n	Dentists	n	
Dental hygienists should have a bachelor's degree specifically in dental hygiene.	100.07	111	120.20	108	*.0158
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for independent practice.	95.52	111	123.12	106	*.0008
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for non-private practice positions.	86.32	111	130.33	103	*.0001
The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for a wider range of functions in supervised, traditional private practice.	111.34	109	103.51	105	.2860
The purpose of a bachelor's degree in dental hygiene is to raise the status of dental hygiene as a profession.	82.72	109	133.23	105	*.0001

Kruskal-Wallis one-way ANOVA n = number of respondents

*Significance $p \leq .05$

High mean rank indicates stronger disagreement

3c: What are the perceptions of dental hygienists and dentists in Alberta of the contribution to the baccalaureate in dental hygiene to the status of dental hygiene as a profession?

While the majority (78.3%) of dental hygienists believed that the baccalaureate in dental hygiene would raise the status of dental hygiene as a profession, dentists were divided on this perception (see Table 42). This difference could be attributed to the opposing views on the status of dental hygiene as a profession presently held by dental hygienists and dentists. An increased education was cited as the first factor preventing dental hygiene from obtaining status as a profession (see Table 23) and as the first requirement for dental hygienists to obtain status as a profession (see Tables 3, 9 & 19). Also, by preparing dental hygienists for non-traditional private practice settings, which may be more prestigious than traditional private practice, the baccalaureate is raising the status of dental hygiene as a profession.

Dental hygienists, as indicated in Table 33 and Tables 37 through 41, viewed the baccalaureate as having a specific purpose or multi-purposes. Dental hygienists were divided about whether they would seek this degree providing that opportunity (e.g., time, money, no family commitments, etc.) was available. Fifty-one per cent of the dental hygienists would seek this degree, 46.2% would not, and 2.9% did not answer the question. As indicated in Table 43, the reasons stated for obtaining this degree were: for a broader learning base (54.7%), for career change or career opportunities (28.3%), and for personal achievement (15.1%). One dental hygienist (1.9%) stated that continuing with the baccalaureate in dental hygiene would take less time than

starting a baccalaureate in another field. As indicated in Table 44, the reasons why dental hygienists would not pursue this particular degree were: its irrelevance for career advancement and opportunities, its limitations (e.g., too focused), and its cost in terms of income and time. Other respondents were not interested. For example, they were either pursuing other degrees or had already obtained a bachelor's degree. A possible reason for why non-traditional dental hygienists were not interested in pursuing a bachelor's degree in dental hygiene, although they felt this degree would prepare dental hygienists for their positions (see Tables 39 & 46) was that one fourth (25.8%) of these dental hygienists already had baccalaureate degrees. The most frequently cited fields other than dental hygiene in which dental hygienists wished to obtain baccalaureate degrees were: Education, Public Health, Science, and Administration.

Table 43

**COMPARISON OF PERCENTAGE RESPONSES OF TRADITIONAL AND
NON-TRADITIONAL DENTAL HYGIENISTS: REASONS TO OBTAIN THE
BACCALAUREATE DEGREE IN DENTAL HYGIENE**

	T	n	NT	n	DH	n
Broader Learning Base	13.3	4	17.4	4	54.7	29
Career Change	56.7	17	52.2	12	28.3	15
Personal Achievement	26.7	8	30.4	7	15.1	8
Time Factor	3.3	1	-	-	1.9	1
Total	100.0	30	100.0	23	100.0	53

T = Traditional DH = Total Dental Hygienists
 NT = Non-Traditional n = number of respondents

Table 44

**COMPARISON OF PERCENTAGE RESPONSES OF TRADITIONAL AND
NON-TRADITIONAL DENTAL HYGIENISTS: REASONS NOT TO OBTAIN
THE BACCALAUREATE DEGREE IN DENTAL HYGIENE**

	T	n	NT	n	DH	n
Irrelevance	60.0	9	51.6	17	54.1	26
Limitations	-	-	18.2	6	12.5	6
Cost/Time	6.7	1	9.1	3	8.4	4
Not Interested	33.3	5	21.2	7	25.0	12
Total	100.0	15	100.1	33	100.0	48

T = Traditional DH = Total Dental Hygienists
 NT = Non-Traditional n = number of respondents

3d: What are the perceptions of dental hygienists and dentists in Alberta of the future continuing education needs of dental hygienists?

Dental hygienists and dentists were asked if they thought dental hygienists would require a bachelor's degree in dental hygiene for traditional and non-traditional dental hygiene practice in the year 2010 in Section II: Part C of the survey instrument. The participants were also asked if they thought traditional and non-traditional dental hygiene practice would require future education by the year 2010 in a field other than dental hygiene and to name that particular field.

As shown in Table 45, according to the majority of respondents, the future needs of traditional dental hygiene practice will require neither the baccalaureate degree in dental hygiene nor education in another field. Although education was the most popular response for contributing to dental hygiene's status as a profession, both dental hygienists and dentists resisted the suggestion that dental hygienists required further education for traditional private practice settings. Those fields other than clinical hygiene, listed by only 17.7% of the total respondents, which traditional dental hygienists benefit from could be in the areas of business and communications as suggested by traditional dental hygienists, or health and communications as suggested by non-traditional dental hygienists, or sciences as suggested by dentists.

Table 45

PERCENTAGE RESPONSES: FUTURE EDUCATION
NEEDS OF DENTAL HYGIENISTS IN TRADITIONAL
DENTAL HYGIENE PRIVATE PRACTICE

	Baccalaureate Dental Hygiene			Education Other Field		
	Yes	No	n	Yes	No	n
Traditional Dental Hygienists	42.9	57.1	49	20.8	79.2	46
Non-Traditional Dental Hygienists	33.9	66.1	60	19.7	80.3	59
Total Dental Hygienists	37.8	62.2	109	20.2	79.8	105
Dentists	33.6	66.4	103	22.6	77.4	100
Total	35.8	64.2	212	21.4	78.6	205

n = number of respondents

Table 46

**PERCENTAGE RESPONSES: FUTURE EDUCATION
NEEDS OF DENTAL HYGIENISTS IN
NON-TRADITIONAL DENTAL HYGIENE PRACTICE**

	Baccalaureate Dental Hygiene			Education Other Field		
	Yes	No	n	Yes	No	n
Traditional Dental Hygienists	69.4	30.6	49	50.0	50.0	48
Non-Traditional Dental Hygienists	86.6	13.5	62	77.9	22.0	61
Total Dental Hygienists	78.9	21.1	111	65.7	34.3	109
Dentists	47.6	52.4	107	44.0	56.0	106
Total	63.7	36.3	218	55.1	44.9	215

n = number of respondents

As illustrated in Table 46, the majority of both dental hygienists and dentists believed alternative dental hygiene practice settings, other than traditional private practice, would require both a bachelor's degree in dental hygiene and future education in another field. One non-traditional dental hygienist stated the reason for obtaining a bachelor's degree in dental hygiene was "to allow growth in our profession, for example, dental program managers in health units but not necessarily independent of the dental profession - liaison is still important." Education was the most frequently suggested field (51.7%) that dental hygienists believed they may need to pursue in the future. Although presently, the two most frequently employed

areas for non-traditional dental hygienists are public health and post-secondary education, a degree in public health was not indicated as often as education as a future educational requirement. In contrast, dentists thought that non-traditional dental hygienists would need management courses. Forty per cent of the respondents (39.5%) answered the open-ended question regarding the future educational needs of non-traditional dental hygienists. This response may suggest an awareness and an interest in raising educational standards of non-traditional dental hygienists.

Respondents were also asked what type of continuing education activities, other than university based, would be needed by the year 2010 in question 4 of Section II: Part D of the survey instrument. Forty per cent of the dental hygienists thought that "clinical" dental hygiene courses would be needed, however, non-traditional dental hygienists also thought that education in computers and technology would be needed. Dental hygienists stated that business and job creation courses would be needed, but no dentist offered this suggestion. Over forty percent of the dentists (41.5%) were not certain what would be needed, although 30.1% thought that sharing activities such as workshops and study clubs would be needed. Personal growth courses such as stress management and interpersonal skills were other course offerings recommended by dental hygienists and dentists. These results reinforced the concept of dental hygienists as technicians who are attempting to modify and extend their present, yet limited, employment situations.

CHAPTER 5

DISCUSSION

Summary

Dental hygiene is in the process of change and appears to be developing as a profession based on the acquisition of attributes defined in Greenwood's model (1957). While these attributes are continuing to develop, dental hygiene already does possess specialized skills and knowledge, authority, community sanction, a code of ethics, and a professional culture. Dental hygiene's lack of specific jurisdiction, which is reflected in sharing functions with other dental personnel and domination by the dental profession, limits dental hygiene's recognition as a full profession by dental hygienists, dentists, and the public.

A survey instrument in the form of a questionnaire was developed on the basis of focus groups and a literature review. Two groups of dental hygienists were surveyed: a group composed of dental hygienists employed in traditional private practice and another group composed of dental hygienists employed in non-traditional dental hygiene settings. Dentists were also selected to participate in this study. Open-ended questions attempted to solicit perceptions of dental hygienists and dentists. Likert items were developed by the author to measure respondents agreement both with attributes of a profession and with purposes of the baccalaureate degree in dental hygiene. In addition, future education needs of dental hygienists were investigated. Rank order questions regarding both employment of

dental hygienists and reasons for participation in continuing education were also part of the survey instrument.

Conclusions

As suggested by the results of this study, and as indicated in Table 17, the majority (88.9%) of dental hygienists do perceive dental hygiene as a profession. As a group, they were also concerned with the public's lack of recognition of dental hygiene. Although they are employed for their skills (see Table 30), dental hygienists may not be recognized by either dentists or the public for the education that provided the knowledge for these skills (see Tables 6, 9, 19 & 23). Furthermore, dental hygienists feel they are recognized by the public for the dental hygiene care they provide, however, they are not distinguished from other personnel in the dental office.

Dental hygiene services, which are based on skills and education, can be performed by other members of the dental team who may not have adequate training. Although the dental school curriculum is not as indepth as the dental hygiene curriculum, dentists may provide dental hygiene services such as scaling, root planing, polishing, and fluoride. Not only are dentists perceived as possessing these specific skills and education, but dental assistants are also expanding their skills and education to practice dental hygiene procedures. Thus, the public is unable to distinguish dental hygienists from other dental office personnel and employees of the dentists, especially those personnel who perform similar procedures as dental

hygienists. In other words, dental hygienists are perceived no differently than other salaried employees of the dental office.

Dental hygiene's status as a profession is also hampered by competition with dentists and by the lack of independence from dentists who are both employers and supervisors for the majority of dental hygienists. Competition and dependence are not negatively perceived by dental hygienists alone. Dentists also perceived competition as interfering with dental hygiene's status as a profession (see Tables 4, 10, 22, 25 & 26).

Dental hygienists also believed that dental hygiene should possess some of the attributes of a profession and that they themselves should possess some of the attributes as members of a profession. Dental hygienists, however, were undecided if they should collect their own "fee for service" (see Table 11), and they preferred to maintain some form of supervision under dentists (see Table 14). This resistance indicates that some dental hygienists do not want added responsibilities and wish to maintain, to a degree, their present work situation. The desire to change to a lesser form of supervision, as indicated in Tables 13 & 14, suggests that some dental hygienists are not satisfied with their present form of supervision, yet, they are not willing to venture "out on their own".

Differences regarding agreement with attributes that would enhance dental hygiene's status as a profession were found between dental hygienists employed in traditional settings and those employed in non-traditional settings. Non-traditional dental hygienists agreed more than traditional dental hygienists that dental hygienists

should be held accountable for their actions, that dental hygiene should have equal representation on various government bodies along with other health professionals, and should be recognized internationally (see Table 12). Non-traditional dental hygienists' agreement that dental hygienists should be accountable could be a reflection of their practice condition which, as they indicated in the survey instrument, has less supervision than indicated by the traditional dental hygienists. Non-traditional dental hygienists' stronger agreement that dental hygiene should have equal representation on various government bodies along with other health professionals and should be recognized internationally could also be a reflection of their work settings where they are working with various members of professions other than the dental profession. Non-traditional dental hygienists were also more active in their professional association than traditional dental hygienists, therefore, non-traditional dental hygienists are more aware of dental hygiene's membership in government boards and perhaps are more sensitized to the current international development of dental hygiene.

Differences in present and preferred forms of supervision were also found between traditional and non-traditional dental hygienists (see Table 15). Because supervision restricts the present care and services non-traditional dental hygienists provide, and hinders their roles from expanding, non-traditional dental hygienists may prefer to work with less supervision. Non-traditional dental hygienists also agreed, more than traditional dental hygienists, that the baccalaureate degree in dental hygiene would be preparation for employment in non-traditional settings (see

Tables 34, 35 & 39). Non-traditional careers seem to require further knowledge in areas beyond clinical training, for example, management of dental health care programs and research methodology. Such areas are not sufficiently covered at the diploma level which concentrates on providing an appropriate amount of clinical training and practical knowledge.

Dental hygienists who presently have baccalaureate degrees, whether or not specifically in dental hygiene, agreed more strongly than diploma dental hygienists on four attributes of a profession: dental hygienists should be held accountable for their actions, dental hygiene should be considered a profession, dental hygiene should have a formal structure to govern itself, and dental hygiene should be self-regulating (see Table 16). For these baccalaureate dental hygienists, autonomy within the profession appears to be more important. This could be the result of university education where students are given more freedom than in the structured dental hygiene program, or the difference could be attributed to individual reasons that these particular dental hygienists pursued further education. In this study, the majority of dental hygienists who had baccalaureate degrees, although not specifically in dental hygiene, were employed in non-traditional practice settings. These dental hygienists may have degrees in fields other than dental hygiene because baccalaureates in dental hygiene are not readily available.

Dentists were divided whether they considered dental hygiene as a profession or not, and many dentists were undecided (see Table 17). Dentists are aware that they, themselves, in addition to other factors, prevent dental hygiene from obtaining status

as a profession (see Tables 20, 22 & 23). The other factors dentists indicated include dental hygienists' lack of independence and restriction of their scope of practice. The power dentists exert over dental hygienists is reflected in the manner in which dental hygiene is practiced. Although dental hygiene is a self-regulating profession, dental hygienists are required to work under the supervision of dentists. The subservient role of dental hygiene in dentistry is evident in private practice where dentists not only employ the majority of dental hygienists, but also collect fees for their services.

There are reasons, however, to question the warrant for the dentists' supervision of dental hygiene services. In fact, dental hygienists are able to perform their procedures without the active participation of dentists, who neither initiate nor complete the actual work of dental hygienists. So, dental hygienists perform their procedures on their own but remain, in some sense, supervised. According to the official interpretation of supervision, dentists recommend the dental hygiene treatment plans and are held responsible for the dental hygiene services performed by dental hygienists. But it is possible for a dental hygienist to follow the dentist's recommendation of the treatment plan without being technically supervised. This means that the fact that dentists specify the dental hygiene treatment does not justify the current extent of supervision. Meanwhile, the reason for the dental hygienists not having total jurisdiction over the services they actually provide is unclear.

The supervisory laws also restrict the procedures dental hygienists are allowed to perform in non-traditional dental hygiene practice settings. Thus, the dental

profession has control on dental hygiene even outside private practice settings. Dental hygiene is attempting to establish its own jurisdiction in non-private practice settings. Meanwhile, dental hygienists employed in non-traditional settings have indicated their preference to work with a lesser form of supervision or no supervision (see Table 14). Although the dental profession's control over dental hygiene is less in non-traditional settings, dental hygiene has yet to establish its own jurisdiction and power in private practice settings. Moreover, dental hygienists' control on their services is jeopardized by dentists and dental assistants who perform procedures previously performed mainly by dental hygienists. This lack of specific jurisdiction of function in the dental office contributes to the perception found throughout this study: that dental hygienists are not distinguished from other personnel in the dental office.

Dentists who employed the dental hygienists respected the services dental hygienists rendered to their clients. These dentists (see Table 30) indicated that dental hygienists were specialists. Those dentists who did not employ dental hygienists either had a negative attitude toward dental hygienists or had no need for their services. Moreover, some dentists suggested that dental hygienists were not needed because the dentist or other office personnel can take care of the preventative needs of clients. This suggestion may impede the dental hygienists' efforts to obtain a specific jurisdiction of dental hygiene's function.

Over ninety percent of the respondents, both dental hygienists and dentists, indicated that continuing education should be mandatory for dental hygienists. As

ranked in Table 31, dental hygienists indicated that their most important benefit from participation in continuing education was an increase in the status of dental hygiene as a profession. Dentists, however, indicated that the most important benefit from dental hygienists' participation in continuing education was employment opportunities. This study, however, did not attempt to measure the degree to which continuing education may enhance dental hygienists' view of themselves through job satisfaction, career opportunities, and quality of care to clients. When dental hygienists were given the opportunity to identify their future continuing education needs, most of them expressed no areas of concern. Also, the majority of dentists did not state specific areas of concern. This lack of response may suggest that the respondents felt that dental hygienists were well prepared for the future. Yet the absence of stated future needs could also indicate uncertainty, indifference, or lack of sufficient insight into the future education needs of dental hygienists.

This study found that many of the respondents feel that the baccalaureate in dental hygiene is neither necessary nor essential. Dental hygienists did agree more strongly than dentists that dental hygienists should attain a baccalaureate in dental hygiene (see Tables 33, 36 & 37). Also, there was a significant difference between dental hygienists and dentists on this item (see Table 42). Dental hygienists, however, were divided on whether they should have a bachelor's degree specifically in dental hygiene (see Table 33). Non-traditional dental hygienists were more in agreement than other respondents with dental hygienists' attainment of this degree (see Table 37). The reasons for their agreement may derive from how they view the

professionalization of dental hygiene (see Table 12) and how they view the preparation for their employment (see Table 39).

Dentists agree more than dental hygienists regarding the bachelor's degree in dental hygiene (see Tables 36 & 37). Dentists did not recognize dental hygienists as possessing a knowledge base that belongs to dental hygiene alone. The perception that dental hygiene lacks its own distinct body of knowledge was evident in this study when some dentists suggested that more education for dental hygienists should mean becoming dentists by attending dental school. By suggesting that more education, that is, a baccalaureate in dental hygiene, should prepare dental hygienists for teaching, other dentists acknowledged a specialized knowledge base.

Some of the respondents in this study indicated (see Tables 33 through 36, 39 & 40) that they viewed the purpose of the baccalaureate in dental hygiene as preparation for non-traditional practice and for a wider range of function in supervised, traditional practice. Dental hygienists wished to obtain the baccalaureate in dental hygiene for a career in dental hygiene other than private practice, for personal satisfaction, and for an increase in knowledge base. Members of both groups, dental hygienists and dentists, indicated that the baccalaureate in dental hygiene would enable dental hygienists to teach, however, dental hygienists indicated a preference to obtain degrees in education rather than a specific degree in dental hygiene. Because teaching at a post-secondary institution is considered a prestigious position, dental hygienists may prefer teaching positions more than other non-traditional positions or private practice.

The stated purpose of the baccalaureate in dental hygiene as preparation for a wider scope of function in private practice was not as strongly agreed upon as the preparation for practice in non-traditional settings (see Tables 39 & 40). Furthermore, there was no significant difference between dental hygienists and dentists on this item (see Table 42). This expanded function preparation, however, would not eliminate the supervision of dentists, and consequently, it would not directly enhance the status of dental hygiene. Moreover, the split in education could be reflected in private practice where less recognition would be given to dental hygienists who perform limited services. In other words, the two-tier dental hygiene profession may create alternative practice options for baccalaureate dental hygienists at the expense of the status of the diploma dental hygienists.

Although there was a significant difference between dental hygienists and dentists on the purpose of the baccalaureate in dental hygiene as preparation for independent practice (see Table 42), this difference did not mean that dental hygienists were in favor with this stated purpose (see Table 38). In fact, the majority of respondents, both dental hygienists and dentists, disagreed with the baccalaureate in dental hygiene as preparation for independent practice. It is possible that this is because both groups prefer to retain supervision (see Tables 14, 27 & 29). Some dental hygienists and dentists perceive that independence will give dental hygiene status as a profession in their perceptions and in their sense of the perceptions of the public, however, they do not feel that the purpose of the baccalaureate in dental hygiene is to prepare dental hygienists for independent practice.

Over two thirds of dental hygienists perceive that the purpose of the baccalaureate in dental hygiene is to raise the status of dental hygiene as a profession (see Table 41). Furthermore, some dental hygienists stated an increase in education as the first requirements for dental hygiene to obtain status as a profession (see Tables 3 & 9). Moreover, nearly all (97.3%) dental hygienists (see Table 11) agreed that dental hygiene should be considered a profession. Yet, less than half of the dental hygienists (37.4%) agree that dental hygienists should have a degree specifically in dental hygiene (see Table 37). Thus, the baccalaureate in dental hygiene may be perceived as one of the means of raising the status of dental hygiene but not the only means.

A significant difference was found between dental hygienists and dentists in their perceptions of the purpose of the baccalaureate in dental hygiene for raising the status of dental hygiene (see Table 42). Dentists were divided on this purpose, 39.0% agreed and 37.1% disagreed. Furthermore, half of the dentists did not feel that dental hygienists should have a bachelor's degree specifically in dental hygiene. Yet, dentists indicated education both prevents the perception of dental hygiene as a profession (see Table 23) and is required for dental hygiene to obtain status as a profession (see Table 19). In addition, dentists stated education as the second reason for their perceiving dental hygiene as a profession (see Table 18). But they do not rank a benefit of continuing education as a means to raise the status of dental hygiene (see Table 31). Thus, it would seem that dentists feel that the education

dental hygiene has contributed to the present status of dental hygiene, but dentists do not want education to raise the status of dental hygiene further.

The majority of the respondents, both dental hygienists and dentists, stated that in the future, dental hygienists employed in non-traditional practice settings will need more education than traditional dental hygienists (see Tables 45 & 46). This division in the education level of dental hygienists, based on employment settings, may decrease the recognition of traditional dental hygienists. The baccalaureate in dental hygiene may provide the means to raise the status of dental hygiene as a profession and prepare dental hygienists for non-traditional employment settings and expanded functions in traditional practice (see Tables 33 through 36, 39 & 40). A two-tier system, however, may result from having two different groups of dental hygienists. The first group would consist of those who have diplomas and work in private practice; the second group would consist of those who have education beyond the diploma and work in non-traditional settings.

Recommendations and Implications for Future Policies

The discussion of the results of the present study has raised concerns about the status of the dental hygiene profession and suggests certain recommendations to address these concerns. Based on the findings of this study, dental hygiene should be encouraged to evolve as a profession. In addition, specific recommendations are proposed to stimulate the professionalization of dental hygiene. Three groups of recommendations emerged from the discussions in the present research. The first

group of recommendations addresses reversing the negative perceptions about dental hygiene in Alberta, and obtaining more autonomy in research, education, and clinical practice. The second group addresses offering a degree in dental hygiene and modernizing dental hygiene curricula. It is also suggested that an effective system of continuing education should be established. The third group of recommendations address diversifying career opportunities for dental hygienists.

1. Policies that address reversing negative perceptions toward dental hygiene

Educating the Public

The dental hygiene association should adopt a long-term program of increasing the public awareness of the role of dental hygienists in health care. The public recognition of the role of a profession and regarding this role as vital to society, is an essential requirement for professionalism/professionalization. This study showed that dental hygienists and dentists believe the public is not sufficiently informed about services performed by dental hygienists.

The dental hygiene association could increase public awareness by encouraging dental hygienists to: join health boards and participate in community activities, create more awareness weeks every year, display their credentials in dental offices, and introduce themselves as "dental hygienists" to clients. The association should consider launching programs of approaching the public through the media.

Conducting a Dialogue with Dentists

Some of the dentists' perceptions of the profession of dental hygiene were negative. This study revealed that one third of dentists perceived dental hygiene as a profession and 28.4% of dentists agreed dental hygiene should be considered a profession. By means of open discussions, probably via seminars and other methods of interaction at the association level, dental hygienists could modify dentists' attitudes. Dental school curricula should depict dental hygienists as skilled and knowledgeable individuals who can provide preventative dental hygiene care to clients. This is an essential step toward attaining more autonomy for dental hygiene.

Eliminating Supervision of Dentists

This study showed that not all dental hygienists are opposed to supervision by dentists. In the long term, however, the dental hygiene association should move in the direction of eliminating supervision after both dental hygienists and dentists experience an intermediate period for successful and unproblematic cooperation within a frame of less intense supervision.

Developing an Independent Body of Knowledge and Research

In this study, most dental hygienists agreed that dental hygiene should have an autonomous body of knowledge. The dental hygiene association should encourage more research performed solely by dental hygienists. Independent research, separate from dentistry, should be encouraged as one of the long-term goals of the dental

hygiene profession to provide the nucleus for a specialized body of knowledge that is particularly mastered by members of the dental hygiene profession.

2. Educational Recommendations

According to the findings of the present study, over half of non-traditional dental hygienists felt baccalaureate degree programs would be needed in the future. In addition, the majority (90%) of respondents agreed to mandatory continuing education for dental hygienists. Dental hygiene should encourage the expanding baccalaureate degree programs and investigate the possibility of replacing diploma programs with higher degree alternatives in the future. Such a plan should be gradual to avoid dental hygienists splitting into two subpopulations based on diploma and baccalaureate education.

3. The Need for Diversifying Career Opportunities

The present study suggested that more dental hygienists would pursue a bachelor's degree if it offered them different career options. Thus, while dental hygiene develops more baccalaureate programs, it must also plan for the diversification of employment for dental hygienists. Other career options than private practice which are available to dental hygienists include, mainly, public health positions, hospital practice, and teaching dental hygiene in post-secondary institutions. Additional career opportunities could be explored. For example, alternatives to private dental office may be established to provide dental hygiene to

rural communities that lack an easy access to dental offices. Another example is the addition of dental hygiene clinics to hospitals, long-term care facilities, and other health care institutions.

Future Research

This exploratory study has examined the status of dental hygiene as a profession through perceptions of dental hygienists and dentists in Alberta. This research has provided a base for other research and has suggested other areas that should be developed to enhance dental hygiene's status as a profession.

Although this study measured agreement with attributes dental hygiene and dental hygienists should possess, the extent to which these attributes should be attained was not evaluated. Furthermore, this study did not investigate the reasons why dental hygiene should not be considered a profession or attain the status of a profession. For example, why did dental hygienists indicate indecisiveness about obtaining the attribute "fee for service"? Also, why should they accept to remain supervised by dentists? This study suggested that dental hygienists should be accountable, but the extent to which this accountability should be demonstrated was not determined. Another study should ask dental hygienists if they want dental hygiene to be considered a profession and to what extent individual dental hygienists are willing to pursue measures to enable dental hygiene to possess the status of a profession.

Methods to eliminate the competition between dentists and dental hygienists need to be developed. In addition, future research should be developed to determine if younger dentists perceive dental hygiene differently than older dentists. There may be a difference between these two groups because younger dentists throughout their lives have received care from dental hygienists, and dental hygienists are now actively involved in the dental school curriculum as clinicians or lecturers. And in some dental schools, dental students and dental hygiene students work together in the treatment of selective clients.

This study investigated the perceptions of dentists who are members of a male-dominated profession which supervises members of a female-dominated profession. Another study could explore the perceptions of members of other professions in both female and male-dominated professions. Future research may help determine ways to overcome problems dental hygiene encounters as a female-dominated profession supervised by a male-dominated profession. In addition, further research is needed to examine the present subservient position dental hygiene has in relation to dentistry and dental hygiene's unequal status when compared with other professions.

The public was not directly asked about its perception of dental hygiene. How the public perceives dental hygiene, dental hygienists, and the treatment they receive needs to be investigated. Future research is needed both to educate the public regarding dental hygiene and to determine how dental hygiene can fulfil the changing needs of the public.

An investigation into the change of dental hygiene curriculum is another area of future research. An evaluative research project needs to be undertaken to ensure dental hygiene students are prepared for future needs of society and health care. With this future oriented curriculum, continuing education needs of practicing dental hygienists should be assessed. Furthermore, future research must be initiated to evaluate whether social changes are being met through a new dental hygiene curriculum and through implementation of dental hygiene practices offered in a variety of settings.

Finally, this study explored perceptions of dental hygienists and dentists in Alberta, where dental hygienists have recently been granted self-regulation. Future research should compare perceptions in provinces where dental hygienists have already obtained self-regulation with provinces where dental hygienists have not yet gained self-regulation. Also, this same study could be replicated in the future when dental hygiene has established itself as a self-regulating profession in Alberta.

Concluding Remarks

This study explored the perceptions of dental hygienists and dentists in Alberta regarding the status of dental hygiene as a profession. Results suggested that dental hygienists did perceive dental hygiene as a profession, however, they believed that dental hygienists should neither collect their own fee for service nor have independent practice. The failure to gain these two attributes of a profession will maintain dental hygiene's subordinate role to dentistry and will hinder dental hygiene

from obtaining status as a full profession. The public is unable to distinguish dental hygienists from other personnel in the dental office. While dental hygienists possess specialized skills and knowledge, they do not have jurisdiction to enable them to be the only individuals allowed to perform these specific procedures derived from these skills and knowledge. Dentists are divided on their perceptions of dental hygiene's status as a profession, however, dentists strongly disagree with the possession of the attributes of a profession which challenge their financial and authoritarian privileges. Thus, competition with dentists hinders dental hygiene's achieving status as a profession.

To enhance dental hygiene's status as a profession further, dental hygienists should obtain baccalaureate degrees in dental hygiene. Although these degrees would prepare dental hygienists for work settings other than traditional private practice, these career opportunities need to be developed. The majority of respondents did not suggest any future education needs of dental hygienists employed in either traditional or non-traditional settings.

Self-regulation, which dental hygiene has recently attained in Alberta, will determine the development of dental hygiene as a profession. In establishing their own jurisdiction, dental hygienists will not only need to change their own perceptions but also to support activities to change perceptions of dentists and the public. In the same direction, dental hygiene may seek implementing continuing education for dental hygienists, as well as expanding the baccalaureate program. Further enhancement of dental hygiene's status as a profession necessitates a commitment

to meeting society's needs that goes beyond the private dental office, to fostering research that will formulate a distinct body of knowledge, and establishing career opportunities that extend beyond the subservient role that dental hygiene has had to dentistry.

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APPENDIX A:
COVER LETTER TO DENTAL HYGIENISTS



2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

Faculty of EDUCATION
Department of
EDUCATIONAL POLICY and ADMINISTRATIVE STUDIES

Telephone (403) 220-5675
Fax: (403) 282-3005

February 1993

Dear Dental Hygienists:

Dental hygiene in Alberta is expanding. We now have self-regulation, the University of Alberta has an increase in dental hygiene admissions, and a baccalaureate dental hygiene program is in a neighboring province, British Columbia.

As partial fulfillment of a doctoral program, I am embarking on an important study on the relationship between dental hygienists and dentists in Alberta. The purpose of the study is to investigate the opinions and thoughts of dental hygienists and dentists regarding the status of dental hygiene as a profession. This important study also seeks to determine perceptions of these two groups of the future educational needs of the dental hygiene profession in Alberta. You have the rare opportunity to participate in the determination of future policy of dental hygiene in Alberta.

Although totally independent of the Alberta Dental Hygienists' Association and the Alberta Dental Association, the study is supported by both of these Associations. In addition, this research is approved by The University of Calgary, Ethics Committee. The responses to the questionnaire are anonymous; therefore, confidentiality is assured. By completing this survey, you are consenting to participate in the study.

The questionnaire itself will take less than twenty minutes of your time. A return stamped envelope is included for ease in mailing. Please respond by February 28, 1993.

Indepth interviews are another part of this study. If you wish to participate in the interviews please mail the enclosed postcard separate from your questionnaire.

If you have any questions, concerns or comments, please feel free to contact me at my home (403) 239-2543 or leave a message, by FAX (403) 282-3005 or at my office (403) 220-3184.

Thank you for responding to this questionnaire by February 28, 1993.

Sincerely,

Charla J. Kautar, RDH
Doctoral Candidate
The University of Calgary

APPENDIX B:
COVER LETTER TO DENTISTS



2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

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Faculty of EDUCATION
Department of
EDUCATIONAL POLICY and ADMINISTRATIVE STUDIES

Telephone (403) 220-5675
Fax: (403) 282-3005

February, 1993

Dear Dentist:

Dental hygiene in Alberta is expanding. We now have self-regulation, the University of Alberta has an increase in dental hygiene admissions, and a baccalaureate dental hygiene program is in a neighboring province, British Columbia.

As partial fulfillment of a doctoral program, I am embarking on an important study on the relationship between dental hygienists and dentists in Alberta. The purpose of the study is to investigate the opinions and thoughts of dental hygienists and dentists regarding the status of dental hygiene as a profession. This important study also seeks to determine perceptions of these two groups of the future educational needs of the dental hygiene profession in Alberta. You have the rare opportunity to participate in the determination of future policy of dental hygiene in Alberta.

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If you have any questions, concerns or comments, please feel free to contact me at my home (403) 239-2543 or leave a message, by FAX (403) 282-3005 or at my office (403) 220-3184.

Thank you for responding to this questionnaire by February 28, 1993.

Sincerely,

Charla J. Lautar, RDH
Doctoral Candidate
The University of Calgary

APPENDIX C:
SURVEY INSTRUMENT FOR DENTAL HYGIENISTS

☐ Indirect supervision:

A dentist diagnoses and prescribes treatment for a patient and delegates procedures to the dental hygienist. A dentist need not be physically present while the dental hygienist delivers treatment.

☐ General supervision:

A dentist is cognizant of dental hygiene procedures being performed but has not necessarily made the diagnosis.

1.b Under what form of supervision would you like to work?

Choose one.

Please use the above definitions (question 1.a).

- ☐ Direct supervision
☐ Indirect supervision
☐ General supervision
☐ No supervision

Please continue to Section I: Part C

Section I: Part C

1. Do you have a bachelor's degree?

- ☐ Yes
☐ No

1.a Is your bachelor's degree in dental hygiene?

- ☐ Yes If yes, go to Section II: Part A
☐ No What is field of your bachelor degree _____
 Go to question 1.b

1.b If the opportunity (time, money, no family commitments, etc.) were available for you to obtain a bachelor's degree specifically in dental hygiene, would you pursue this degree?

- ☐ Yes If yes, go to question 1.c
☐ No If no, go to question 1.d

1.c I would obtain a bachelor's degree in dental hygiene for the following reason(s):

Please continue to 1.e

1.d I would prefer not to obtain a bachelor's degree in dental hygiene for the following reason(s):

Please continue to 1.e

1.e I would prefer to obtain a bachelor's degree in

Section II: Part A

Please indicate whether you agree or disagree with the following statements using the criteria below.

- 1 = Strongly agree
 2 = Agree
 3 = Undecided
 4 = Disagree
 5 = Strongly disagree

Circle only one number to indicate your level of agreement for each statement.

	SA				SD
1. Dental hygienists should possess specialized skills.	1	2	3	4	5
2. Dental hygienists should have an advanced level of knowledge.	1	2	3	4	5
3. Dental hygienists should be provided with the opportunity to use their full knowledge base in their daily work.	1	2	3	4	5
4. Dental hygienists should be clearly distinguished from other dental allied health personnel (ie dental assistants).	1	2	3	4	5
5. Dental hygienists should follow practice standards developed by dental hygienists.	1	2	3	4	5
6. Dental hygienists should earn a competitive salary compared with other health professionals.	1	2	3	4	5
7. Dental hygienists should be introduced to the client as dental hygienists.	1	2	3	4	5
8. Dental hygienists should have specific procedures that only they can perform.	1	2	3	4	5
9. Dental hygienists should be able to work without the supervision of a dentist.	1	2	3	4	5
10. Dental hygienists should collect their own fee for service.	1	2	3	4	5
11. Dental hygienists should be held accountable for their actions.	1	2	3	4	5

12. Dental hygiene should have equal representation on various government bodies along with other health professions. 1 2 3 4 5
13. Dental hygiene should have a code of ethics. 1 2 3 4 5
14. Dental hygiene should have its own area of research. 1 2 3 4 5
15. Dental hygiene should be considered a profession. 1 2 3 4 5
16. Dental hygiene should have a formal structure (ie association) to govern itself. 1 2 3 4 5
17. Dental hygiene should be recognized internationally 1 2 3 4 5
18. Dental hygiene should be self-regulating. 1 2 3 4 5
19. Dental hygiene should possess a body of knowledge independent to that of other health professions including dentistry. 1 2 3 4 5

Section II: Part B

Please indicate your agreement or disagreement to the following:

Circle only one number to indicate your level of agreement for each statement.

- 1= Strongly agree
2= Agree
3= Undecided
4= Disagree
5= Strongly disagree

- SA SD
1. Dental hygienists should have a bachelor's degree specifically in dental hygiene. 1 2 3 4 5
2. The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for independent practice. 1 2 3 4 5
3. The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for non-private practice positions. 1 2 3 4 5

4. The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for a wider range of functions in supervised, traditional private practice 1 2 3 4 5

5. The purpose of a bachelor's degree in dental hygiene is to raise the status of dental hygiene as a profession 1 2 3 4 5

6 Please state other reason(s) for obtaining a bachelor's degree in dental hygiene.

Section II: Part C

1. By the year 2010, do you think traditional dental hygiene private practice will require a bachelor's degree in dental hygiene?

- ☐ Yes
☐ No

2. By the year 2010, do you think traditional dental hygiene private practice settings will require further education in a field other than dental hygiene?

- ☐ Yes What field? _____
☐ No

3. By the year 2010, do you think non-traditional dental hygiene practice (ie those alternative dental hygiene practice settings other than private practice) will require a bachelor's degree in dental hygiene?

- ☐ Yes
☐ No

4 By the year 2010, do you think non-traditional dental hygiene practice (ie those alternative dental hygiene practice settings other than private practice) will require further education in a field other than dental hygiene?

- ☐ Yes Which field? _____
☐ No

Section II: Part D

Continuing education for dental hygienists can be defined as education and training beyond the minimum requirement for practicing dental hygiene in Alberta.

1. The following are the benefits for dental hygienists in participating in continuing education.

Please rank the following in order of importance.
1=most important to 4=least important
Use each number only once.

- ___ Job satisfaction
- ___ Quality of care
- ___ Employment opportunities
- ___ Status of dental hygiene as a profession
- Other reason(s) for participating in continuing education

2. Should continuing education be mandatory for dental hygienists?

- ☐ Yes
☐ No

3 What do you perceive is/are disadvantage(s) of education beyond a diploma in dental hygiene?

4. By the year 2010, what type of continuing education activities *other than university based courses* may be needed for dental hygienists?

Section III:

1. These questions concern your perceptions of dental hygiene as a profession.

1.a Do you perceive dental hygiene to be a profession?

1.b In your perception, what gives dental hygiene professional status?

1.c In your perception, what needs to be done for dental hygiene to be considered a profession?

1.d In your perception, what is the most important factor preventing dental hygiene from obtaining professional status?

2. These questions concern your sense of the public's perception of dental hygiene as a profession.

2.a Do you think the public perceives dental hygiene to be a profession?

2.b In the public's perception, what gives dental hygiene professional status?

2.c In the public's perception, what needs to be done for dental hygiene to be considered a profession?

2.d In the public's perception, what is the most important factor preventing dental hygiene from obtaining professional status?

3. These questions concern your sense of the dentists' perception of dental hygiene as a profession.

3.a Do you think dentists perceive dental hygiene to be a profession?

3.b In dentists' perception, what gives dental hygiene professional status?

3.c In dentists' perception, what needs to be done for dental hygiene to be considered a profession?

3.d In dentists' perception, what is the most important factor preventing dental hygiene from obtaining professional status?

THANK YOU FOR COMPLETING THIS SURVEY.
PLEASE MAIL USING ENCLOSED ENVELOPE

APPENDIX D:
SURVEY INSTRUMENT FOR DENTISTS

PLEASE ANSWER THE FOLLOWING QUESTIONS.
ADDITIONAL COMMENTS ARE WELCOMED.

Section I: Part A

1. Gender

☐ Female ☐ Male

2. Date of Birth _____
Month Day Year

3. Circle the number beside the name of the institution of graduation from undergraduate dentistry.

1. Dalhousie University
2. University of Montreal
3. University of Toronto
4. University of Alberta
5. University of British Columbia
6. University of Manitoba
7. University of Western Ontario
8. Laval University
9. University of Saskatchewan
10. McGill University
11. Other University Please Name _____

5. Year of graduation from undergraduate dentistry program: 19____

6. Years of dental experience

Full-time _____

Part-time _____

7. Are you presently employed in dentistry?

☐ Yes If yes, go to 7.a

☐ No If no, go to 7.b

7.a If you are presently employed in dentistry, please circle the number beside your principle place of employment.

Circle only one.

1. General private practice
2. Specialty private practice Type _____
3. Public health
4. Post-secondary education
5. Hospital
6. Research
7. Management
8. Business/industry
9. Other Please Specify _____

Please go to question 8

7.b If you are not presently employed in dentistry, please state the reason(s).

8. Please circle the number beside your principle experience in dentistry

Circle only one.

1. General private practice
2. Specialty private practice Type _____
3. Public health
4. Post-secondary education
5. Hospital
6. Research
7. Management
8. Business/industry
9. Other Please Specify _____

9. Please circle the number beside other dental experiences

Circle as many as applicable.

1. General private practice
2. Specialty private practice Type _____
3. Public health
4. Post-secondary education
5. Hospital
6. Research
7. Management
8. Business/industry
9. Other Please Specify _____

10. Do you consider yourself active in your professional dental association? (Active means more than membership. Examples of an active member would be involvement in committee work volunteering for sponsored activities, member of the executive or board, etc.)

☐ Yes If yes, please go to 10.a

☐ No If no, please go to 11

10.a At which level are you active?

Check all that are applicable.

- ☐ local
☐ provincial
☐ national

11. Do you plan to stay in dentistry for the next five years?

☐ Yes

☐ No

Please give reason(s) for the above response.

Please continue to Section I: Part B

Section I: Part B

1. Are you presently supervising a dental hygienist?

☐ Yes If yes, go to question 1.a and 1.b

☐ No If no, go to question 1.c

1.a What form of supervision do you presently provide?

Choose one

Please use the definitions provided.

☐ Direct supervision:

A dentist diagnoses and prescribes treatment for a patient and delegates procedures to the dental hygienist. A dentist is physically available while the dental hygienist delivers treatment.

☐ Indirect supervision:

A dentist diagnoses and prescribes treatment for a patient and delegates procedures to the dental hygienist. A dentist need not be physically present while the dental hygienist delivers treatment.

☐ General supervision

A dentist is cognizant of dental hygiene procedures being performed but has not necessarily made the diagnosis

1.b What form of supervision would you like to provide?

Choose one.

Please use the above definitions (question 1.a).

- ☐ Direct supervision
☐ Indirect supervision
☐ General supervision
☐ No supervision

Please continue to Section I: Part C

1.c What is/are your reason(s) for not supervising dental hygienists?

Please continue to Section I: Part C

Section I: Part C

1. Do you employ dental hygienist(s)?

- ☐ Yes *If yes, go to questions 2*
☐ No *If no, go to question 3*

2. What is/are your reason(s) for employing dental hygienist(s)?

Please rank the following reasons for employing dental hygienists in order of importance.

1=most important to 4=least important
 Use each number only once

- Generate income
 — Practice builder
 — To perform procedures I do not like to do
 — Dental hygienists are recognized specialists in their field

Other reason(s) for employing a dental hygienist.

3. What is/are your reason(s) for not employing dental hygienists?

Section II: Part A

Please indicate whether you agree or disagree with the following statements using the criteria below.

- 1 = Strongly agree
 2 = Agree
 3 = Undecided
 4 = Disagree
 5 = Strongly disagree

Circle only one number to indicate your level of agreement for each statement.

	SA				SD
1. Dental hygienists should possess specialized skills.	1	2	3	4	5
2. Dental hygienists should have an advanced level of knowledge.	1	2	3	4	5
3. Dental hygienists should be provided with the opportunity to use their full knowledge base in their daily work.	1	2	3	4	5
4. Dental hygienists should be clearly distinguished from other dental allied health personnel (ie dental assistants).	1	2	3	4	5
5. Dental hygienists should follow practice standards developed by dental hygienists	1	2	3	4	5
6. Dental hygienists should earn a competitive salary compared with other health professionals.	1	2	3	4	5
7. Dental hygienists should be introduced to the client as dental hygienists.	1	2	3	4	5
8. Dental hygienists should have specific procedures that only they can perform.	1	2	3	4	5
9. Dental hygienists should be able to work without the supervision of a dentist.	1	2	3	4	5
10. Dental hygienists should collect their own fee for service	1	2	3	4	5

- | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 11. Dental hygienists should be held accountable for their actions. | 1 | 2 | 3 | 4 | 5 |
| 12. Dental hygiene should have equal representation on various government bodies along with other health professions. | 1 | 2 | 3 | 4 | 5 |
| 13. Dental hygiene should have a code of ethics. | 1 | 2 | 3 | 4 | 5 |
| 14. Dental hygiene should have its own area of research. | 1 | 2 | 3 | 4 | 5 |
| 15. Dental hygiene should be considered a profession. | 1 | 2 | 3 | 4 | 5 |
| 16. Dental hygiene should have a formal structure (ie association) to govern itself. | 1 | 2 | 3 | 4 | 5 |
| 17. Dental hygiene should be recognized internationally. | 1 | 2 | 3 | 4 | 5 |
| 18. Dental hygiene should be self-regulating. | 1 | 2 | 3 | 4 | 5 |
| 19. Dental hygiene should possess a body of knowledge independent to that of other health professions including dentistry. | 1 | 2 | 3 | 4 | 5 |

Section II: Part B

Please indicate your agreement or disagreement to the following:

Circle only one number to indicate your level of agreement for each statement.

- 1= Strongly agree
2= Agree
3= Undecided
4= Disagree
5= Strongly disagree

- | | SA | | | | SD |
|----------------------------------------------------------------------------------------------------------------------|----|---|---|---|----|
| 1. Dental hygienists should have a bachelor's degree specifically in dental hygiene. | 1 | 2 | 3 | 4 | 5 |
| 2. The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for independent practice. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 3. The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for non-private practice positions | 1 | 2 | 3 | 4 | 5 |
|-------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|

- | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 4. The purpose of a bachelor's degree in dental hygiene is to prepare the dental hygienist for a wider range of functions in supervised, traditional private practice. | 1 | 2 | 3 | 4 | 5 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|

- | | | | | | |
|------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 5. The purpose of a bachelor's degree in dental hygiene is to raise the status of dental hygiene as a profession | 1 | 2 | 3 | 4 | 5 |
|------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|

6. Please state other reason(s) for obtaining a bachelor's degree in dental hygiene.
-
-
-

Section II: Part C

1. By the year 2010, do you think traditional dental hygiene private practice will require a bachelor's degree in dental hygiene?

- ☐ Yes
☐ No

2. By the year 2010, do you think traditional dental hygiene private practice settings will require further education in a field other than dental hygiene?

- ☐ Yes What field? _____
☐ No

3. By the year 2010, do you think non-traditional dental hygiene practice (ie those alternative dental hygiene practice settings other than private practice) will require a bachelor's degree in dental hygiene?

- ☐ Yes
☐ No

4. By the year 2010, do you think non-traditional dental hygiene practice (ie those alternative dental hygiene practice settings other than private practice) will require further education in a field other than dental hygiene?

- ☐ Yes Which field? _____
☐ No

Section II: Part D

Continuing education for dental hygienists can be defined as education and training beyond the minimum requirement for practicing dental hygiene in Alberta.

1. The following are the benefits for dental hygienists in participating in continuing education.

Please rank the following in order of importance.
1=most important to 4=least important
Use each number only once.

- ___ Job satisfaction
- ___ Quality of care
- ___ Employment opportunities
- ___ Status of dental hygiene as a profession

Other reason(s) for participating in continuing education.

2. Should continuing education be mandatory for dental hygienists?

- ☐ Yes
☐ No

3. What do you perceive is/are disadvantage(s) of education beyond a diploma in dental hygiene?

4. By the year 2010, what type of continuing education activities *other than university based*.

Section III:

1. These questions concern your perceptions of dental hygiene as a profession.

- 1.a Do you perceive dental hygiene to be a profession?

- 1.b In your perception, what gives dental hygiene professional status?

- 1.c In your perception, what needs to be done for dental hygiene to be considered a profession?

- 1.d In your perception, what is the most important factor preventing dental hygiene from obtaining professional status?

2. These questions concern your sense of the public's perception of dental hygiene as a profession.

- 2.a Do you think the public perceives dental hygiene to be a profession?

- 2.b In the public's perception, what gives dental hygiene professional status?

- 2.c In the public's perception, what needs to be done for dental hygiene to be considered a profession?

- 2.d In the public's perception, what is the most important factor preventing dental hygiene from obtaining professional status?

3. These questions concern your sense of the dental hygienists' perception of dental hygiene as a profession.

- 3.a Do you think dental hygienists perceive dental hygiene to be a profession?

- 3.b In dental hygienists' perception, what gives dental hygiene professional status?

- 3.c In dental hygienists' perception, what needs to be done for dental hygiene to be considered a profession?

- 3.d In dental hygienists' perception, what is the most important factor preventing dental hygiene from obtaining professional status?

THANK YOU FOR COMPLETING THIS SURVEY.
PLEASE MAIL USING ENCLOSED ENVELOPE.

APPENDIX E:
PRE-SURVEY INSTRUMENT POSTCARD

February, 1993

Dear Colleague,

As partial fulfillment of a doctoral program, I am embarking on an important study on the relationship between dental hygienists and dentists in Alberta. The purpose of the study is to investigate the opinions and thoughts of dental hygienists and dentists regarding the status of dental hygiene as a profession. This important study also seeks to determine perceptions of these two groups on the future educational needs of the dental hygiene profession in Alberta.

Your name has been randomly selected to participate in this study. Within the next month you will be sent a questionnaire that should only take twenty minutes to complete. Your responses are necessary to determine the directions dental hygiene may progress and to formulate the policies that may affect dental hygiene in the future. I strongly encourage you to take twenty minutes to complete the survey as soon as you receive it.

I am most grateful for your anticipated responses which will be necessary for my studies.

Thank you,

Charla J. Lautar, RDM
University of Calgary

APPENDIX F:
FOLLOW-UP POSTCARD

February, 1993

Dear Colleague,

Earlier this month you should have received a questionnaire from me. This survey is a major part of my doctoral studies. If you have not received this survey or have misplaced it, please contact me as soon as possible. If you have not had the opportunity to complete the survey, I would appreciate your prompt attention to this matter. If you have already returned the survey to me, **thank you** very much.

Thank you,

Charla J. Lautar
Doctoral Candidate
University of Calgary
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