SITUATIONAL ASSERTIVENESS OF SOUTH AFRICAN REGISTERED DIETITIANS

by

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requirements of the Degree of
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Abstract

Female dominated professions are lower in status because occupational prestige is higher for men than for women in the science, maths and technology occupations (Farmer, Rotella, Anderson & Wardrop 1998). The female dominated professions are paid less and are viewed as less desirable and less worth (Atwater & Van Fleet 1997). It was hypothesised that the reason why dietetics as a female dominated profession had lower status and the other attributes of a female dominated profession could have been due to decreased levels of assertiveness and increased levels of anxiety when they were dealing with the male dominated professions such as the medical profession. It was theorised that a number of factors affected levels of anxiety and assertiveness and a model, developed from the literature, was presented to describe these effects.

A random sample of female dietitians (n=321) and all male dietitians (n=29) who were registered with the Health Professionals Council of South Africa (HPCSA) at the beginning of 1999, were mailed questionnaires which contained questions on demographic information and self-assessment inventories. Of these one hundred and forty-five useable questionnaires from female (n=135) and male (n=10) dietitians were returned.

Information received from the HPCSA and analysis of their register revealed that dietetics was a female dominated profession. Of the dietitians registered at the end of 1999(n=1260), 97%(n= 1217) were females, and 3% (n= 34) were males.

The majority of dietitians in the sample were Afrikaans speaking (n=73), and were from the highest socio-economic group (n=74). The largest number(n= 56) trained at the University of Pretoria. The average age of the dietitians was 32.4(±8.56). Almost a quarter of the sample had post registration qualifications (n=34). The majority had no formal training in assertiveness (n=92).

The results of the inventories showed that dietitians had levels of assertiveness and anxiety that were within the norms as noted in the literature. This meant that the lower status of dietetics must be attributable to something else. Levels of self-efficacy were significantly higher than test levels quoted in the literature and this had a positive effect on the levels of assertiveness. Job satisfaction levels were significantly lower than American dentists. This was ascribed to poor pay, and difficulty in obtaining employment as a dietitian. None of the other factors tested for affected the level of assertiveness.

An amended model Amended Factors Affecting Assertiveness using the findings of this research project has been presented. This is a simpler concept than the original model.

Declaration of Originality

I, *Marie Paterson,* **hereby declare that the research reported in this thesis is the result of my own investigations, except where acknowledged, and has not in its entirety or in part been previously submitted to any University or Institution for degree purposes.**

Signed:.....

I, *Maryann Green,* **chairperson of the Supervisory Committee, approve release of this thesis for examination.**

Signed:.....

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CHAPTER 1 INTRODUCTION

The health industry is served by a variety of professions and it would be in the best interest of the patient within medical institutions and in other areas of the health services, if all these professionals contributed their specific expertise to this industry. To be effective, these professionals would need to be assertive within each of their own professions because this would help them to clarify their role in the health team without anxiety (Rabin & Zelner 1992). Individuals who were high in assertiveness and low in anxiety would be able to define their area of expertise and the tools of assertiveness would enable the professional (in the cited article, the social worker) "to define and protect their job domain" (Rabin & Zelner 1992, p19).

A number of the health professions are female-dominated. It is the premise of this thesis that female-dominated professions have been unable to maximise their effectiveness because they are not adequately assertive in their relationship with the male-dominated health professions, such as medicine. This lack of assertiveness could have been caused by anxiety evoked by the difference in status and rank between the male dominated and female dominated health professions (Gilbert & Allan 1994; Gambrill & Richey 1975). An example of this was the interaction between the female-dominated dietetics and the male-dominated medical professions. The medical profession has tended to dominate the health team (Rabin & Zelner 1992) and in the hospital situation, medical doctors have directed dietitians in the application of their profession (Dietetics) (Nel 1999). Surely it should be up to the nutrition specialist to manage the patient's nutritional care and not to have to ask for instructions or await orders from the medical profession, when managing the nutrition of a patient? Assertive dietitians would be able to take up their rightful position as members of the health team and give clear indications of their expertise and abilities.

It was proposed that South African dietitians had elevated levels of anxiety and were lacking assertiveness which was impeding their efficacy in the practice of their profession. To date there has been no measurement on levels of anxiety or assertiveness of dietitians published in South Africa, neither has this researcher been able to locate any references to assertiveness and anxiety measures of dietitians internationally.

Assertiveness was considered to be a multi-dimensional quality because it was dependent on a number of factors of which the most important was the situation. The importance of the situation in predicting assertive behaviour has been highlighted by Furnham & Henderson (1983, citing Hess, Bridgewater & Sweeney 1980; Eisler, Hersen, Miller & Blanchard 1975). Situational assertiveness included the people with whom one would be assertive, the place where the interactions were to take place and the power-status

relationship between the individuals in the interaction. Assertiveness has also been categorized into a number of areas. These were firstly, positive assertion, where one would compliment another or express affection; secondly, negative assertion where one would express irritation; thirdly, responding assertion where on would continue a conversation started by someone else or lastly, initiating assertion where one would start a conversation with a stranger (Furnham & Rawles 1994, citing Gambrill 1977).

Apart from the situation and anxiety levels, assertiveness levels were affected by other variables such as age, sex (Gilbert & Allan 1994), qualifications or levels of education, years of work experience, race and culture (Furnham 1979), birth order and child rearing attitudes in the family home (Dinkmeyer & Dreikurs 1963, p 21). It could also be argued that assertiveness was indirectly affected by language as indicative of race and culture. Other factors that were thought to influence assertiveness were the socio-economic situation of the individual and the university attended (indirectly culture) also referred to as professional training. Levels of assertiveness and anxiety could have also been influenced by or have influenced the levels of self-efficacy[1], and job satisfaction[2] (Rabin & Zelner 1992; Gist, Stevens & Bavetta 1991, Sherer & Adams 1983).

1.1 The Problem and its Setting

Females tend to choose the lower prestige Science, Maths and Technology (SMT) careers such as nursing (and dietetics) and it appears that the lower prestige SMT professions tend to be dominated by females because they are deterred by the length of the training required for the more prestigious careers such as medicine (Farmer, Rotella, Anderson & Wardrop 1998). Lower prestige SMT professions attract lower salaries than the higher prestige professions (Atwater & Van Fleet 1997). Females select these careers because they feel they are better able to juggle family commitments and the work conditions perceived to be offered by the lower prestige SMT professions (Farmer *et al* 1998). It was also found that the status of jobs improved when more males undertook those jobs and that the status of jobs decreased as the numbers of females in those jobs increased (Atwater & Van Fleet 1997).

Dietetics formed part of the group of female dominated SMT professions. At the end of 1999 there were 1260 dietitians registered with Health Professionals Council of South Africa (HPCSA). Of the registered dietitians 1217 were female which accounted for 96.6% of the total (Hoffman 1999).

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[1] Self-efficacy is the ability and belief to achieve success with a specific task. Therefore individuals must have the skills to perform a specific task but equally importantly they must have enough confidence(self-belief) that they can be successful in performing the task.

[2] Job satisfaction is the measure of pleasure and gratification an individual feels at the end of the day or task (Hackman & Oldham 1975).

Stevens & Cho (1985) used the Total Labour Force Socioeconomic Index with a range of 13.98 - 90.45 to accord socio-economic scores to the following professionals. Physicians were rated near the top of the range at 88.28 and pharmacists were 81.10. The female dominated professions such as therapists including occupational and physiotherapists were rated at 59.94. Dental hygienists were rated at 67.25, medical technologists 54.96, nursing 46.40 and last and definitely rated the lowest, were dietitians at 43.38. It must be remembered that these standards were applicable in the USA and may be dated, the reference being 14 years old. In the Republic of South Africa (RSA), the CASS (Centre of Applied Social Science of University of Natal, Durban) prestige scale, an index of occupational prestige, has been accorded a range of 15 - 85 (Schlemmer & Stopforth 1979, p 40). On this scale, physicians were rated as 84 (*ibid,* p 35). Occupational therapists and physiotherapists were specified separately and at the same level as the paramedical professions at 78. Dietitians were not listed specifically but would be classed as a paramedical profession who were given an index of 78 (*ibid,* p 40), nurses were rated as 75 (*ibid,* p 37) and teachers 80 (*ibid,* p 49). It was interesting to note that in the RSA, paramedical professions (dietitians) were rated quite closely to the medical profession (78 and 84 respectively), whereas in USA they are quite distant, (43 and 88 respectively).

Historically, the medical profession has the option of prescribing diets for their patients and in fact this is still a prerequisite by some medical aid schemes before a patient is permitted to consult a dietitian in private practice (van Cittert 1999). The medical profession also has the choice of giving dietary advice to a patient, even though the nutrition training was limited or non existent in the undergraduate training of the medical General Practitioner (Nel 1999).

It could be argued that to be effective, professionals would need to be assertive within their professions (Rabin & Zelner 1992). Dietitians ought to be able to act as the managers of the patients' total nutritional care but were unable to do so in many instances because they may have felt inferior or anxious. Those who felt inferior would be inclined to act submissively when they had dealings with professionals from the more prestigious professions (Gilbert & Allan 1994) such as the medical profession. Those individuals who considered themselves to be inferior to others exhibited "tenseness, inhibited and submissive behaviour", (Gilbert & Allan 1994, p297). Often health service workers have "defer(red) to other professionals" (Sundel & Sundel 1981, p114) and failed to express opinions or disagree with the medical practitioner in their own particular speciality of patient management.

In the RSA , recently qualified dietitians without any work experience are often involved in the training of dietetic interns. They have found this a daunting task because they are young and relatively inexperienced. They have found it easier to deal with patients and clients rather than the dietetic interns who are almost their peers (Gregerson 1999).

Being predominantly female also meant that dietitians need to be assertive in the areas where females have specific problems. These were the negative areas of assertiveness (Furnham & Henderson 1981). This would have included behaviour such as disagreeing with others, requesting behavioural changes in others, ensuring personal rights, responding to criticism and refusing requests.

A number of variables, referred to in this thesis as intrinsic and extrinsic factors, have also been identified as having an influence on the individual's assertiveness levels. Intrinsic factors are those factors over which an individual had little or no control. These included race, religion and culture (Furnham 1979), age, sex (Gilbert & Allan 1994) and birth order of individuals (Dinkmeyer & Dreikurs 1963, pp 21-23), socio - economic status and length of work experience. Extrinsic factors were those factors that an individual was able to change. These included education, professional training and formal assertiveness training.

The Research Question: It was hypothesised that the assertiveness levels of dietitians were affected by the degree of difficulty of the situation (for example whether they were dealing with patients or allied professionals), the amount of anxiety felt in a situation, the levels of self-efficacy, job satisfaction and a number of intrinsic and extrinsic factors.

1.2 Statement of the Research Problem

South African registered dietitians would have increasing degrees of difficulty with individuals in the workplace (ranging from patients, colleagues, subordinates, supervisors to allied professionals), were high in anxiety, low in assertiveness and had low levels of self-efficacy and job satisfaction.

1.3 Statement of the Subproblems

1.3.1 Subproblem one

Measure and identify the two negative areas of assertion of dietitians to establish in which area the subjects were most assertive.

1.3.2 Subproblem two:

Identify the degree of difficulty with assertiveness, the levels of anxiety with five specific groups of individuals; patients, colleagues, subordinates, supervisors, allied professionals and allied professionals of a different race and gender. Identify the levels of assertiveness with the patients, colleagues, subordinates, supervisors, allied professionals and the interaction of these variables with each other to provide an overview of the anxiety and assertiveness of dietitians.

1.3.3 Subproblem three

Determine whether the degree of difficulty with assertiveness, the overall level of anxiety and the overall level of assertiveness were related to the intrinsic and extrinsic factors. The factors include: age, sex, birth order, race, language (giving an indication of culture and religion), socio-economic status (from father's occupation), years of work experience, education (pre- and post registration training), professional training (university attended), assertiveness training, self-efficacy and job satisfaction levels.

1.3.4 Subproblem four:

Determine whether levels of self-efficacy were related to the degree of difficulty with assertiveness, the overall level of anxiety, the overall level of assertiveness, the intrinsic and extrinsic factors, where the dietitians were employed and the area of dietetic practice.

1.3.5 Subproblem five:

Determine whether levels of job satisfaction were related to the degree of difficulty with assertiveness, the overall level of anxiety, the overall level of assertiveness, the intrinsic and extrinsic factors, by where the dietitians were employed and by the area of dietetic practice. In this way it was expected that a global view of the dietetic profession's assertiveness and its ramifications would be established.

1.4 Measurement Parameters

This was an analytical study of dietitians which used regressions and models to establish relationships between the degree of difficulty with assertiveness, overall anxiety, overall assertiveness, self-efficacy and job satisfaction. All these variables, except for degree of difficulty with assertiveness, were treated as the dependent[3] variable in turn to establish their relationship with the independent variables which comprised mainly intrinsic and extrinsic factors.

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[3] A specific variable under investigation was considered to be the dependent variable and those variables which had an initial effect on the dependent variable were considered to the independent variables.

1.5 Study Limitations

Dietitians whose names appeared on the mailing list for the HPCSA and were currently resident in the Republic of South Africa were used as the target population. The sample population of 320 female dietitians was randomly chosen from the target population.

- There were 29 male dietitians. These were all included in the sample for comparative purposes even though their numbers might have been too low to give a meaningful result.
- Dietitians who received all their basic training for registration outside RSA were to be excluded because the results may be confounded through different work environment and intrinsic and extrinsic factors.
- The majority of the dietitians had registered in the last decade which made the average age of dietitians comparatively young.
- The dietitians were arbitrarily placed into three, five-year interval age categories up to the age of 35 and thereafter into a fourth and final category. This was to ensure that a meaningful result could be obtained.

1.6 Definitions of Terms

(See Appendix G, for fuller definitions and abbreviations)

Allied professionals: These are the higher prestige members of the medical and nursing profession such as medical specialists and matrons of hospitals.

Anxiety: This was the level of distress or discomfort felt by an individual when they needed to behave assertively.

Extrinsic and intrinsic factors: Factors or variables that could have affected the levels of assertive and anxiety. Intrinsic factors such as race, sex and age could not be changed by individuals themselves. Extrinsic factors were those variables that could have been changed to a greater of lesser extent and included factors such as education and formal assertiveness training.

Situational assertive behaviour: as measured by the Probability of Assertive Behaviour Scale, (PABS) Appendix A, referred to the specific work situations in which the asserters found themselves.

Self-efficacy as measured by the Self-efficacy Scale (SES), Appendix E, was the ability and belief of individuals to achieve success with a specific task. Therefore individuals should have the skills to perform

a specific task but equally importantly they must have enough confidence (self-belief) that they could be successful in performing the task.

Theoretical prestige rating: Using the prestige rating of Stevens & Cho (1985) it was assumed that dietitians would find it progressively more difficult to deal with the following five groups of individuals in the workplace: patients; subordinates, colleagues, supervisors, allied health professionals.

1.7 Assumptions

It was assumed that the following were valid and that

1.7.1 Tests were testing stated items. The norms of measuring degree of difficulty with assertiveness, overall level of anxiety, overall level of assertiveness, self-efficacy, job satisfaction and socio-economic status were accurate.

1.7.2 Respondents were truthful when rating themselves on the self assessment scales.

1.7.3 Overseas studies were relevant to the South African situation.

1.7.4 The university attended would give an indication of the cultural background of the subjects which would affect the levels of assertiveness.

1.7.5 Language would give an indication of the cultural background of the subjects and thereby affect the levels of assertiveness.

1.8 Summary

The focus of this thesis is

- to establish the areas of assertiveness where dietitians experienced the greatest difficulty ie negative responding (NR) or negative initiating (NI) assertion,
- to assess the self-rated degree of difficulty of assertiveness that dietitians had when dealing with five groups of individuals in the work situation,
- to gauge the levels of anxiety experienced when dietitians dealt with the five groups of individuals and to determine the levels of assertiveness with specific reference to situational assertiveness in the workplace.

- to determine how overall levels of assertiveness, anxiety, self-efficacy and job satisfaction interacted with one another and the effect of the other variables, age, sex, birth order, race, language, socio-economic status, years of work experience, education, professional training assertiveness training had on them.

The overall objective is to obtain a global view of dietetics regarding levels of anxiety and assertiveness in the workplace. The levels of self-efficacy and job satisfaction as well as the reasons given for poor ratings in job satisfaction are important to establish the attitudes and opinions of the dietitians. It is hoped that by identifying the positive aspects, as well as some of the problems in the profession that information can be passed on to the dietetics profession for the benefit of that profession. This could be done via the Professional Board, professional societies, as well as to training institutions who could perhaps address some of the problems during the training of dietitians.

CHAPTER 2 REVIEW OF THE LITERATURE

2.1 Introduction

Much of the research into assertiveness was done in the late 1970's and early 1980's and thereafter much neglected. It was thought that assertiveness or lack thereof could explain why dietetics as a female dominated profession lacked status and recognition and was therefore chosen as the focus of this research project.

To have an understanding of assertive behaviour it is important for one to have an understanding of the origins and meaning of the term "assertiveness". Assertiveness has been described as the behaviour of individuals which allowed them to stand up for their own rights while not infringing on the rights and properties of others. The origin of the concept of assertiveness was well founded in the history of learning theory. Galassi & Galassi (1978), approached assertive behaviour, from the basis of the social learning theory which was originally proposed by Bandura (Galassi & Galassi 1978 citing Bandura 1969, 1971). Most learning, according to the social learning theory resulted from children mimicking the behaviour of others. This was termed as *modelling, observational learning and vicarious learning* (learned from others) and was not solely as a result of incidental learning[1], although this may have taken place (Thomas 1992, pp233-234). Reinforcement of desirable behaviour was of the essence here. Social learning theory emphasised the importance of modelling, cue discrimination, anticipated consequences (even if these were unrealistic), and cognitive mediation (bringing about knowledge) which included beliefs (Galassi & Galassi 1978 citing Bandura 1969, 1971).

Wolpe (1973, p80) was one of the original proponents of assertiveness and especially assertiveness rehearsal. He proposed that a lack of assertiveness was the result and or the effect of "anxiety inhibiting" emotions felt by the passive individual and he maintained that by allowing individuals to rehearse assertive roleplaying that anxiety could be counteracted.

Assertiveness is multi-dimensional and could be both "affectionate" and "oppositional" provided that the choice of words used, and the attitude of the person passing the message was appropriate (Wolpe 1982). Assertiveness has been described in a variety of ways and Furnham & Rawles (1994) referred to assertiveness as one of the interpersonal influencing styles which was positively correlated to problem solving and coping strategies.

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[1] Incidental: occurring in connection with something else

In this review of literature, two models, the Quadrant Areas of Assertive Behaviour (QAAB) and the Factors Affecting of Assertiveness (FAA) are presented. The value of QAAB in the appraisal of instruments for measuring assertiveness, as well as identifying aspects of assertive behaviour are discussed. The FAA highlighted a number of that have been identified as affecting levels of assertiveness. Some of these factors such as the degree of difficulty with assertiveness, levels of anxiety, self-efficacy and job satisfaction were identified in the literature and the other factors such as years of work experience, the university attended and assertiveness training were proposed by this researcher as having a relationship with levels of assertiveness.

2.2 Assertiveness and Factors Affecting it, Quadrant Areas of Assertive Behaviour, Situational Assertiveness, Self-efficacy and Job Satisfaction

2.2.1 Describing assertiveness and factors affecting it

In this study, assertiveness forms part of the broader concept of interpersonal skills (IPS) and behaviour (Gist, Stevens & Bavetta 1991). Assertiveness was considered to be a multidimensional behaviour (Furnham 1979), where individuals expressed positive and negative emotions in a manner which did not impinge on the rights of others and preserved the rights of the individual expressing the emotion (Gilbert & Allan 1994, citing Lineham & Egan 1979). Negative assertion was considered to be an aspect of assertive behaviour which was neither passive nor aggressive behaviour. Passive and aggressive behaviours were both considered to be non-assertive behaviour.

Three dimensions of assertiveness encountered by individuals when behaving assertively were

1) the person,
2) the behaviour and
3) the situation (Galassi & Galassi 1978),

Gilbert & Allan (1994), identified two degrees of difficulty:

1) the amount of distress/anxiety that could be associated with the behaviour
2) the measure of difficulty of actually performing the behaviour

and they stated that these two aspects should be considered when measuring assertiveness levels.

Assertiveness was therefore considered to be a multidimensional attribute, skill or behaviour which was influenced by the person practicing assertive behaviour, the type of behaviour performed and the situation in which individuals may find themselves. The degree and difficulty of the assertive behaviour and the level of anxiety also influenced the levels of assertiveness. All of these aspects would need to be noted when appropriate instruments for the measurement of assertiveness were being identified.

Factors affecting assertive behaviour, have been ascribed to the age and sex of the individual (Gilbert & Allan 1994), birth order and composition of siblings also affected the behaviour of individual (Dinkmeyer & Dreikers 1963, pp 21-23). Race, language and culture (Furnham 1979), which arguably also included attitudes to child raising practices in the family home would also have affected assertive behaviour.

Another aspect considered to be a factor in levels of assertiveness was the socio-economic status of individuals. The argument presented was that women needed to be assertive to be successful in their careers

and therefore factors that affected women's career choices would also have affected their assertiveness. One of these factors was socio-economic status, which was the most consistent predictor of occupational levels achieved by men (Betz & Fitzgerald 1987, p37, citing Brown 1970; Sewell *et al* 1957; Hollingshead 1949). Findings of studies on women using socio-economic status have shown inconsistent results. Some authors have found a negative correlation and others a positive correlation (Betz & Fitzgerald 1987, p37, citing Schiffler 1976; Astin & Myint 1971). Therefore this researcher deduced that socio-economic factors would influence levels of assertiveness but the actual effect could not be predicted.

Among others factor that this researcher proposed as having an influence on levels of assertiveness included years of work experience, education (pre- and post registration qualifications), professional training (university attended), assertiveness training, levels of self-efficacy and job satisfaction. These last two concepts are described later in the chapter.

Opposing assertiveness were three other forms of interpersonal behaviour that were deemed to be non-assertive. These were firstly, directly aggressive, bullying and hostile; secondly, indirectly aggressive lacking in self-esteem, manipulative or sulky; and thirdly, passive, submissive, anxious and fawning behaviour (Wolpe 1982, p121).

2.2.2 Quadrant Areas of Assertive Behaviour

Because assertiveness was considered to be a multidimensional skill, four particular areas have been identified by various authors as dimensions or aspects of assertive behaviour, (Gilbert & Allan 1994; Arrindell & van der Ende 1985; Furnham 1977).

According to Furnham & Rawles (1994), these were:

- Positive assertion included respecting of the rights and dignity of others (eg, complimenting a friend),
- Negative assertion included defending of one's own rights (eg, saying "no" to an unreasonable request),
- Initiating assertion (starting a conversation with strangers),
- Responding assertion (participation in conversation initiated by others).

These four areas have been used by this researcher to construct the Quadrant Areas of Assertive Behaviour (QAAB), an integrated multidimensional model to evaluate assertiveness inventories and also to identify the specific areas in QAAB where assertiveness could be lacking.

When viewing QAAB, positive and negative assertion have been placed on the Y axis and responding and initiating assertion on the X axis (Figure 1). Assertive responses or behaviours were classified according

to the particular quadrant area they belonged to in the QAAB, by categorizing the responses as either positive or negative as well as either responding or initiating.

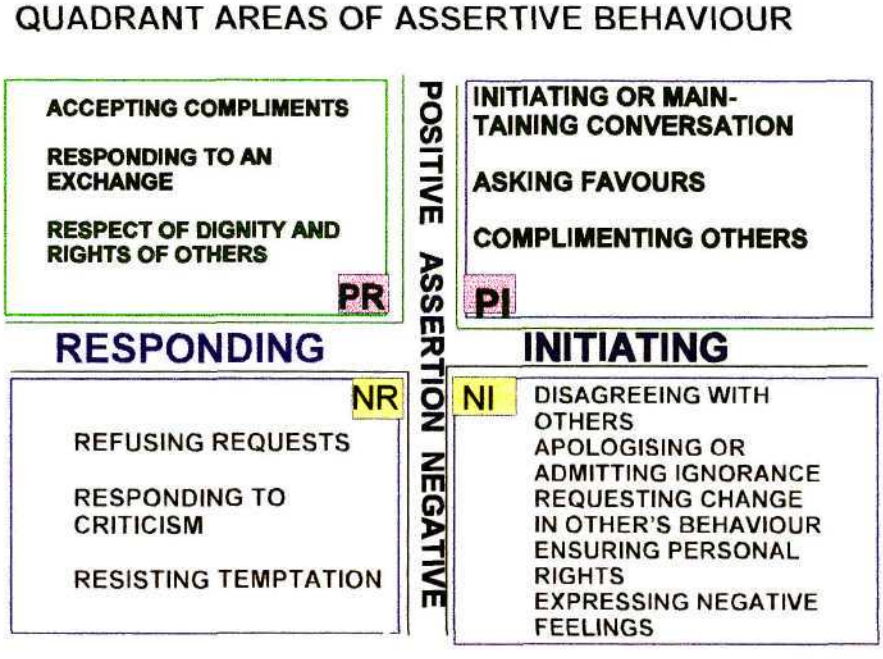

Figure 1 Quadrant Areas of Assertive Behaviour (after Furnham & Rawles 1994)

These are:

- Positive responding (PR). For example, accepting compliments and responding to an exchange. See PR (top left) quadrant area (Figure 1).
- Positive initiating (PI). For example, initiating or maintaining a conversation, asking favours or complimenting others. See PI (top right) quadrant area in (Figure 1).
- Negative responding (NR). For example, refusing requests, responding to criticism and resisting temptation. See NR (bottom left) quadrant area (Figure 1).
- Negative initiating (NI). For example disagreeing with others, apologising or admitting ignorance, requesting change in others' behaviour, ensuring personal rights and expressing negative feelings. See NI (bottom right) quadrant area (Figure 1).

Those who have difficulties with assertive behaviour may not be able to respond in one or more quadrant areas in the QAAB. An individual may be assertive in one area and not in others because of the degree of difficulty or anxiety an individual may feel in the areas where they were not able to behave assertively.

Various instruments which have been designed by different authors, have concentrated on one or more areas of the QAAB. The ideal instrument would have an equal spread over all four quadrant areas.

Females rate higher levels of assertiveness in the positive areas (the two upper quadrants) of QAAB and males rate higher in the negative areas (the lower quadrants of QAAB) (Furnham & Henderson 1981). It must be remembered that negative assertion formed part of assertive behaviour and should not be thought of as either passive or aggressive behaviour.

2.2.3 Situational assertiveness

Situational assertiveness refers to the specific situations where assertiveness could occur. This included the people with whom the asserter interacted and the social context in which the exchange may occur. Furnham (1979) citing Skillings, Hersen, Bellack & Becker (1978); Zeicher, Wright & Herman (1977); Eisler *et al* (1975) classed situational assertiveness as a "function of social context" rather than as a personal determinant of assertiveness. The situation had a considerable effect on assertiveness levels Furnham & Henderson (1983)and Furnham (1979) recommended that specific situations be described to enable one to rate behavioural and emotional responses in those situations. If global assertiveness scores were used instead of situational assertiveness scores, important information could be lost. This was an additional reason for measuring situational instead of global assertiveness scores and because this thesis was focusing on situational assertiveness in the workplace, it would be important to measure assertiveness in the workplace rather than in general or global terms.

2.2.4 Self-efficacy

Self-efficacy is a variable which could influenced the level of situational assertiveness. Self-efficacy originates from Bandura's social learning theory (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs & Rogers 1982, citing Bandura 1977). Self-efficacy are the thoughts and feelings (attitude) towards competence and mastery (skill) which leads to the belief and ability that one can achieve success (Niedinger 1997). Therefore to achieve success one must not only possess the skills to perform the behaviour but also believe that one will be able to perform the behaviour successfully.

There are therefore two facets to self-efficacy. These are:

- that the response would be effective or that the skill appropriate in a given situation,
- and that the individual would feel confident enough to execute this response or skill.

Self-efficacy is an ever-changing aspect of the "self-system" having self-regulating mechanisms that constantly interacted with the environment (Sherer & Adams 1983, citing Bandura 1977). This means that

levels of self-efficacy fluctuate depending on the how individuals view themselves. This affects beliefs (can I do this?), motivation, personal capabilities and skills. Self-efficacy is influenced by past successes and failures *and* whether an individual attribute these outcomes to their own ability or alternatively, to luck and chance (Sherer & Adams 1983, citing Bandura 1977). Bandura (1997a,1997b, 1986,1982, cited by Magaletta & Oliver 1999) disassembled self-efficacy into Self-efficacy Expectations (SEE) and Outcomes Expectations (OE). SEE is "one's belief in one's ability to perform a specific behavior" and OE is "one's belief that a specific behavior will produce a desired outcome" (Magaletta & Oliver 1999).

Self-efficacy Expectations (SEE) are acquired by:

- enactive attainment/ personal mastery (but only if success is attributed to one's own effort (internal orientation) and not to luck or chance (external orientation) (Sherer *et al* 1982, citing Bandura 1977),
- vicarious learning[2],
- verbal persuasion,
- the physiological/emotional state.

These acquisitions interacted with one another to influence human behaviour. The determinants of SEE are the

- initiation or the decision to perform the behaviour,
- effort or the amount of effort, and
- maintenance or persistence in adversity of that behaviour (Figure 2).

While some authors (Sherer *et al* 1982, citing Rotter 1955 and Vroom 1964) separate the outcome expectation as "if I do this, what will happen?", Bandura argues that "expected outcomes usually depend on self perceptions of performance capabilities ... and are less important in determining behavior" (Lent & Hackett 1987, citing Bandura 1986). Bandura (1989, cited by Magaletta & Oliver 1999), view self-efficacy as having been specific to distinct situations. Gist, Stevens & Bavetta (1991), referred to self-efficacy as a *"judgement* task-specific capability", and therefore the original concept of self-efficacy is specific by nature.

Bandura (1986) cited by Lent & Hackett (1987), introduced three variable dimensions of self-efficacy:

- *Level* (or *Magnitude,* Magaletta & Oliver 1999) pertaining to the degree of difficulty of the behaviour.

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[2] Learned from others.

- *Strength* pertaining to the confidence of the individual. A strong dimension would mean that a person would persevere in the face of adversity. A weak dimension could easily be exacerbated by bad experiences.
- *Generality* pertaining to the range of situations in which an individual could act effectively.

Bandura extended self-efficacy from a position of specificity to an area of generality. For example if individuals were able to stop biting their nails, this might have helped them to make changes in other behaviours such as the cessation of smoking or swearing; thereby generalising self-efficacy from a level of specific self-efficacy(SSE) to general self-efficacy(GSE).

Tipton & Worthington (1984) argued conversely, that if specific self-efficacy was linked to general self-efficacy then the opposite could also be true. The question posed was that: If a subject had a high rating in general self-efficacy would this subject be able to perform in specific unrelated areas or exhibit "specific self-efficacy"? For example if an individual had a high level of general self-efficacy would they be able to cease smoking more easily or with more confidence than an individual who had a low level of general self-efficacy?

Shelton (1990) proposed a diagram, that portrayed the relationship between general self-efficacy (GSE) and specific self-efficacy (SSE) (Figure 2). This diagram was divided into "Belief in Competence" and "Observable Competence". "General self-efficacy" (top left hand corner of Figure 2), lies in the "Belief in Competence" area and affects the level of "specific self-efficacy" as expounded by Tipton *et al* (1984). The level of "SSE" would then have an input in the general area "Observable Competence"(right hand side of Figure 2) and specifically in the determinants of self-efficacy expectations (SEE): "Decision to perform a behavior", the "Amount of effort expended" and the "Persistence in the face of adversity". Once an individual concluded an observable activity, there were two possible outcomes. The effort could be successful and if it was attributed to self (spanning both "Observable Competence" and "Belief in Competence") then both GSE and SSE in the "Belief in Competence" area, (Left hand side of Figure 2) would be reinforced. If the effort were unsuccessful and attributed to self then GSE and SSE would be negatively affected.

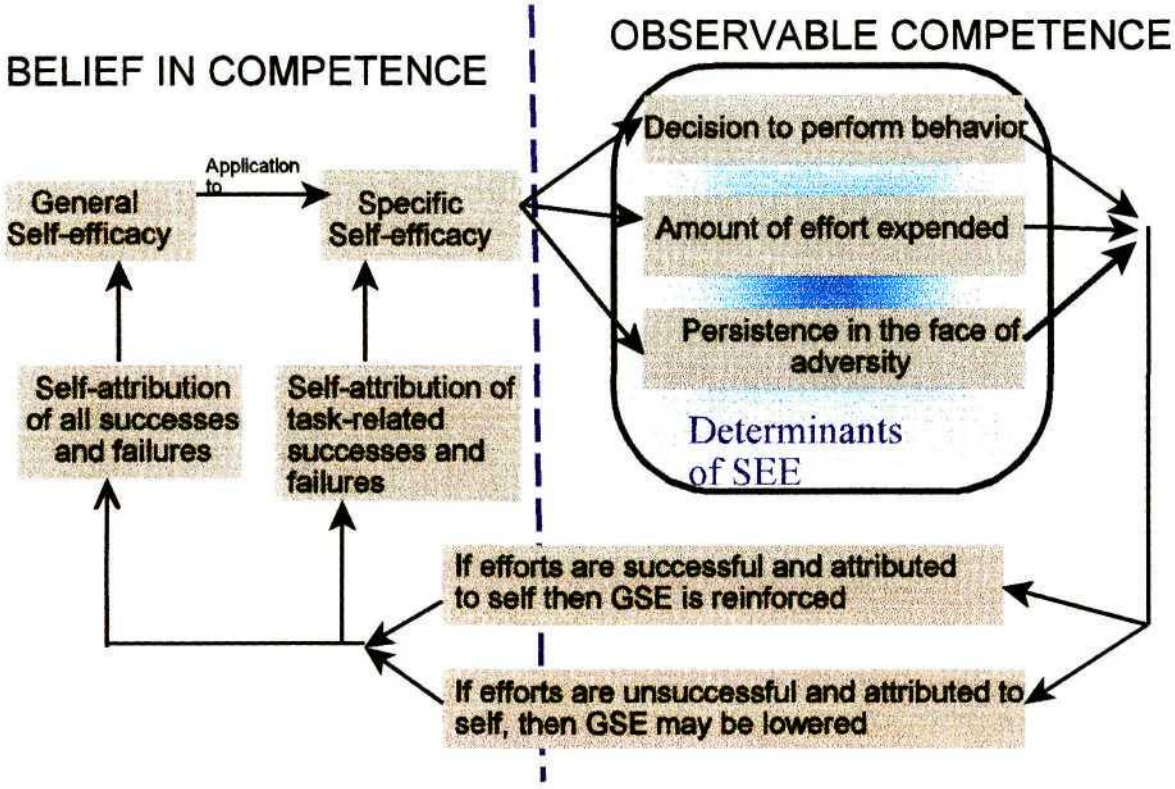

Figure 2: The relationship between general self-efficacy and specific self-efficacy (from Shelton 1990)

2.2.5 Job Satisfaction

Hochwarter, Perrewé, Ferris & Brymer (1999, citing Smith, Kendall & Hulin 1969) quoted job satisfaction as being " .. a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience." Job satisfaction was assumed to lead to improved job performance (Hochwarter *et al* 1999, citing Staw & Besade 1993). Subsequent work has shown that job performance and satisfaction have a complex relationship because value attainment[3] and affective disposition[4] also have an impact on this

[3] Value attainment: "comparison of one's life's activity to a predetermined standard such as success or virtue" (Hochwarter *et al* 1999).

[4] Affective disposition was measured as high or low negative affectivity (NA). Individuals with high NA have a tendency to experience negative emotional moods and were more likely to express dissatisfaction, discomfort and distress even when there was no cause for this. They would also dwell on past mistakes and focus on the negative aspects of their lives. Individuals with low NA experience positive emotions, were enthusiast and optimistic (Hochwarter *et al* 1999).

relationship. It has been established that not only have high levels of job satisfaction led to improved performance but that the opposite of improved job performance leading to job satisfaction was also true (Hochwarter *et al* 1999). It was expected that levels of assertiveness would be affected by the levels of job satisfaction and self-efficacy. Rabin and Zelner (1992) found a correlation between levels of assertiveness and job satisfaction.

2.3 Methodology for Measuring the Variables

A number of inventories were required for measuring the variables in this project. Inventories for measuring the following variables were reviewed and assessed: the degree of difficulty with assertiveness, the levels of anxiety, situational assertiveness, self-efficacy and job satisfaction. Special emphasis was placed on inventories measuring assertiveness because this was the main focus of the project.

In a review article published in 1978, Galassi & Galassi established that there were 13 self-assessment instruments for measuring assertiveness. Since then, there has been a steady increase in the number of instruments available.

Assertiveness can be measured in one of two ways, self assessment (pen and paper)[5] or behavioural role-playing (Furnham & Rawles 1994; Furnham & Henderson 1983). Discrete, direct observation of role-playing raises the question of ethics (Furnham & Henderson 1983; 1981), and there are generalization problems in evaluating role-playing assessments (Furnham & Henderson 1981, citing Skatsche & Skatsche-Diepisch 1979). Pen and paper measures also have draw backs. Questionnaire response rates can be very low, less than 50% and questionnaire responses can be too skimpy or illegible rendering them meaningless (Dillman 1978, p2). One would also have reservations regarding the honesty or truthfulness of the respondents when they complete the pen and paper measures. However, despite these reservations, pen and paper measures were deemed to be a more appropriate method of data collection in this study because they did not have the ethical and generalization problems that the direct observation of role-playing had and were time and cost effective.

When compiling or choosing an instrument for measuring assertiveness, one needs to ask the question: "Does the measurement system accurately sample the behaviour or sets of behaviour?" (Ruben & Ruben 1989). The major problem with developing assertiveness instruments arise from the multi-dimensionality of assertiveness, see QAAB, (Figure 2). Most instruments were American and items have been borrowed from one another which has resulted in a high degree of overlapping (Furnham & Henderson 1981). Concurrent validity of these instruments was compromised because of the overlapping of these items (Furnham & Henderson 1983). Ruben & Ruben (1989) accuse those who perform validity studies of "disguising the uncertain nature of outcomes behind complex and multitheoretical statistical procedures."

[5] This refers to an inventory which asks the respondent to note their responses on the inventory using either a Likert scale (footnote 8, page 23) a yes/no or a true/false format.

A range of specific inventories for measuring assertiveness was assessed using QAAB and the appropriateness of the situation settings. The following inventories were selected for evaluation either because they were used extensively in previous studies or because they measured assertiveness in the workplace.

2.3.1 Wolpe-Lazarus Assertiveness Inventory (W-L AI)

Description and measurement values

One of the original instruments for measuring levels of assertiveness was the W-L AI and was first used in 1966 (Galassi & Galassi 1978) (Appendix H, Part 1). This instrument was used for measuring assertiveness of psychiatric patients and designed primarily for the clinical setting and not for research purposes (Galassi & Galassi 1978). It consisted of a 30-item scale, with a true/ false answering format (Furnham & Henderson 1983). It was scored in the direction of assertive responding. The maximum score was 30. A mean score of 18.1 (±4.7) was obtained on a sample of 200 (97 male and 103 female) subjects[6] (Furnham & Henderson 1983). It has been used extensively and had a high correlation with most instruments, mainly because many of its items had been "borrowed" for use in other instruments (Furnham & Henderson 1983). These borrowed items were referred to as overlapping items.

Advantages and disadvantages

The W-L AI emphasized negative assertiveness and nearly 55% of the instrument items referred to ensuring personal rights (Furnham & Henderson 1983). Furnham (1979) argued in favour of using this scale in his study on the cultural differences of South African nurses. He maintains that the inventory has been widely used and cited, Kazdin (1974); Macfall & Masters (1970); Young, Rimm & Kennedy (1972), to substantiate his argument. Although this measure was not designed for research, it has been used on the general population, and according to Furnham (1979) could therefore be used for research purposes. In the Furnham & Henderson (1983) study it was ascertained that the AI W-L inventory correlated highly with other inventories for measuring assertiveness. The removal of overlapping items decreased the correlation with other inventories[7] (Furnham & Henderson 1983).

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[6] This sample was obtained from seven sources; Teachers from a boy's public school, housewives, occupational therapist trainees, unemployed men, finishing and secondary school students, members of adult education classes and member of the psychology department subject panel .

[7] The two inventories where there was a significant decrease in correlation were the College Self-Expression Scale (Galassi, DeLo, Galassi & Bastien 1974) from r=0.49 to r= 0,34 when 18 question were removed and the Assertion Inventory, Distress subset (Gambrill & Richey 1975) from r= 0,62 to 0.60 when 3 overlapping question were removed.

2.3.2 Rathus Assertiveness Schedule

Description and measurement values

The Rathus Assertiveness Schedule (RAS) (Rathus 1973) was the most widely used of all the inventories (Furnham & Henderson 1981; Galassi & Galassi 1978) (Appendix J, Part 1). Rathus (1973), stated that some items on his scale were based on the W-L AI and others were obtained from diaries of his students.

The RAS, a 30-item scale and used a 6-point Likert[8] scale (-3 for 'very uncharacteristic of me' to +3 for 'very characteristic of me') and scores in the direction of assertiveness. The maximum score was 90 with the minimum being -90. A high score on this scale, > +30 was indicative of aggressive behaviour. The RAS had a moderate to high test-retest reliability (r=.0,78)(Rathus 1973). A mean score of +12.1 (±25.5) was obtained on a sample of 200 (97 male and 103 female) subjects (Furnham & Henderson 1981) which meant that there was a wide range of scores over the sample. The RAS was the only scale that increased or maintained its correlation with other inventories when overlapping items were removed before the analysis (Furnham & Henderson 1983).

In a study performed by Hull & Hull (1976) using 80 male and 80 female undergraduate subjects, the means for males was 9.00 (±23.86) and for females 2.75 (±22.07). These results once again accentuated the wide range of scores for both male and females. There was no significant difference between male and female on the total score, ($0.05< p <0.10$) but males were shown to be significantly more assertive than females when using statements 5, 11, 13, 17, 18 and 28. Females were significantly more assertive when using statement two. This once again highlighted the multi-dimensionality of assertiveness.

Advantages and disadvantages

Passivity, assertiveness and aggression were measured on a straight line continuum by RAS. The RAS placed emphasis on negative assertions (Furnham & Henderson 1983). The RAS covered the behaviour, the person and the situation but neglected positive aspects of assertiveness in the expression of feelings of love, affection and approval (Furnham & Henderson 1983). These behaviours were classified as positive initiating (PI) behaviour in QAAB. The inventory was also limited in the attention paid to parents, family and close friends (Galassi & Galassi 1978). It was tested on college students and found to have adequate reliability (r=,7782)(Rathus 1973). A criticism of this inventory was that it confused assertiveness and aggression in 13 of its 30 items (Galassi & Galassi 1978). The items that may confuse assertiveness and aggression have been *italicized* (Appendix J, Part 1).

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[8]Likert Scale (Steketee, Freund & Foa 1988, p 289, citing Likert, Roslow & Murphy 1934) described the scale as a 5-point continuum from strongly disagree to strongly agree assigning between 5 and 1. Intervals between were assumed to be equal. Attitudes measured here could therefore be added across the scale to give a total score.

Quillin, Besing & Dinning (1977), stated that although the RAS had advantages in identifying clients who were in need of assertiveness training, specific areas and situations were not identified by this inventory rather just a global perspective. Another disadvantage was that although a final score might be within the accepted levels for assertiveness, it failed to indicate if and where there was a lack of situation specific assertiveness. Quillin *et al* (1977), solved this problem by evaluating and assigning each item on the RAS with a derived score based on *z*-score norms developed for each item. Scoring more than five for an item using their derived method, indicated assertive behaviour.

2.3.3 College Self-Expression Scale including reference to the Adult Self Expression Scale

Description and measurement values

The College Self-Expression Scale (CSES) was a 50-item scale, self report measure (Galassi *et al* 1974), which concentrated on positive assertion (Furnham & Henderson 1981), negative assertion and self denial (Galassi *et al* 1974) (Appendix K, Part 1). It utilized a five-point Likert scale 0-4, yielding scores between 0 and 200. Lower scores indicated a non-assertive response pattern.

Concurrent validity was obtained by observing behaviour in a role-playing scenario and comparing this to the CSES scores. Aggression and assertiveness were found not to be correlated with one another (Galassi *et al* 1974), which was contrary to Rathus's assumption that assertiveness and aggression could be measured on a straight line continuum (Galassi & Galassi 1978). Galassi & Galassi (1988, p127) stated that the statement numbered forty-seven (47), in the original article (Galassi *et al* 1974) was incorrectly given as an item to be reversed and should therefore be assigned positively. As in the case of the RAS, the W-L AI inventory was used as the source of a number of items in the CSES. This inventory was tested on more than 5000 college students (Galassi & Galassi 1988, p128).

Results showed mean scores of between 117-128 (±14-23). Galassi & Galassi (1988, p128), citing Galassi *et al* (1974) gave a test-retest reliability coefficient[9] of 0.89 -0.90. Galassi & Galassi (1979) tested the inventory on two groups of male and four groups of female students to establish if gender had an effect on assertiveness levels (Table 1). The range of scores for males was 124.48-127.4 and for females, 122.51-127.23. It was interesting to note the female scores from a single sex college were closer to the male score in the coeducational institution, than with the females in the coeducational institutions. However, since the scores were in such a narrow band these differences were not likely to be significant.

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[9] Reliability coefficient was described by Phillips (1982, p55) to be a "rubber yardstick" because it bears no direct relation to validity. A high reliability coefficient *might* be indicative of validity but not necessarily so. If the reliability coefficient was low then there was considerable reason to reject validity.

Table 1: Samples and results extracted from a CSES study (Galassi & Galassi 1979)

Sample size and composition		Origin of sample and description of group	CSES score (standard deviation)
1	585 males	West Virginia University: Introductory psychology	124.48 (±19.05)
	547 females		122.51 (±20.16)
2	532 males	University of North Carolina: Introductory social science courses	127.4 (±20.64)
	483 females		122.78 (±20.83)
3	235 females	1975 freshmen at Meredith College. a small Baptist college for women	127.23 (±20.07)
4	195 females	1976 freshmen at Meredith College	125.07 (±19.60)

Advantages and disadvantages

The CSES has been positively correlated with the RAS. CSES also demonstrated that assertiveness was multifaceted (Galassi & Galassi 1978). This scale also measured the frequency or degree of difficulty in behaving assertively (Galassi & Galassi 1978). Galassi *et al* (1974) stated that it was important for college students to be able to express personal feelings, values and attitudes. This scale took a variety of situations into account. Nearly 60% of the items focused on ensuring personal rights (Furnham & Henderson 1983). Furnham & Henderson (1981) found that females scored higher in the CSES when compared to other inventories and that there was a greater difference in the scores between males and females.

The Adult Self-Expression Scale (ASES) was similar to the CSES and was developed because there was not an inventory that had been validated in the adult population (Galassi & Galassi 1978). The ASES, a 48- item scale, was developed by Gay, Hollandsworth & Galassi (1975) and included 4 original and 29 rewritten items from the CSES (Galassi & Galassi 1978). Validity studies for this scale were found to be similar to those obtained for the CSES (Hollandsworth, Galassi & Gay 1977). However the literature revealed that this inventory had not been used as extensively as the CSES.

2.3.4 Assertiveness Inventory (AI)

Description and measurement values

The Assertiveness Inventory (AI), of Gambrill & Richey was first published in 1975 (Appendix L, Part 1). It was a 40-item scale, self-report inventory. It was a two-dimensional inventory (Rabin & Zelner 1992) because it measured both the level of anxiety and the level of assertiveness. The respondents were first

required to record the amount of discomfort (anxiety) that would be felt in the AI situations on a Likert scale 1-5[10] which yielded the Assertion Inventory of Discomfort (AI.D). Thereafter the respondents were required to assess the likelihood or response probability to the same situation but on a separate Likert scale of 1-5[11] (Gambrill & Richey 1975) which generated the Assertion Inventory of Probability (AI.P) response. Scores for both inventories ranged between 200 and 40. The 5-point Likert scale was arranged so that the direction of scoring was towards anxiety and towards non-assertiveness. Therefore the higher the score on the scale on the AI.D the greater the anxiety, and the higher the AI.P score, the lower the level of assertiveness.

Gambrill & Richey found that the scores for males and females were fairly similar. They also established that women were more likely to pair a high anxiety (much; very much on the Likert scale) with a high probability response (rarely; never do it), whereas the males were more likely to act assertively in spite of feeling anxious. A difference in levels of anxiety was noted between men and women (Furnham & Henderson 1981). On studies performed on two groups of students in consecutive years the average score (Gambrill & Richey 1975) for men ranged between:

90.28 - 94.38(±22.06-19.48) for AI.D

103.68 -104.85 (±15.5 -16.46) for AI.P

scores for women between

94.67 - 96.34 (±21.97 - 20.21) for AI.D

102.68 - 103.97 (±17.5 - 5.27) for AI.P

Advantages and disadvantages

Furnham & Henderson (1983) found that AI had the lowest correlation across inventories ($0.24[CSES]<r<0.62[W\text{-}L\ AI]$) but felt that the inventory was useful because some subjects would still behave assertively in spite of the feelings of discomfort. In addition to this, they also felt that other inventories were influenced more by emotional attitude than behaviour probability. The AI has been positively correlated with CSES. The test-retest reliability coefficient for AI subsets was 0.81 for AI.D and 0.87 for AI.P (Galassi & Galassi 1978). According to Furnham & Henderson (1981) not much psychometric testing had been done on AI.D. and that this inventory had not been used extensively for measuring AI.D and AI.P.

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[10] Scale: 1 = none, 2= a little, 3= a fair amount, 4 = much and 5 = very much

[11] Scale: 1= always do, 2= usually do it, 3= do it about half the time, 4 = rarely do it and 5= never do it.

2.3.5 Sundel Assertiveness Scale

Description and measurement values

Of particular interest to this author was the Sundel Assertiveness Scale (SAS) because it was this inventory that concentrated on measuring situational assertiveness in the work place (Appendix M, Part 1). The SAS was developed by Sundel and Sundel and appeared in a book written specifically for human service workers (Sundel & Sundel 1981). The SAS was divided into two sections. The first concentrated on measuring the specific degree of difficulty in a specific area, for example with patients, colleagues, subordinates, supervisors or allied professionals with whom a subject may have had assertiveness problems (Appendix M, Part 1). The second part of the questionnaire was a 25-item scale which used a 5-point Likert scale[12]. This was further subdivided into five specific areas which dealt with situations involving the following five groups of individuals:

- patients: first subset of five items 1-5
- colleagues: second subset of five items 6-10
- subordinates: third subset of five items 11-15
- supervisors: fourth subset of five items 16-20
- allied professionals: fifth subset of five items 21-25 (Sundel & Sundel 1981, pp20-23).

The highest possible score was 125 and the lowest 25. The maximum for each subset of five was 25. A subset score (of each of the five items) of less than 15 indicated that problems were likely in that area (Sundel & Sundel 1981, p23). An overall score of 75 was therefore the lowest score where an individual would not be experiencing problems with assertiveness. When this inventory was tested on human service workers employed in public and private institutions, the average score was 99.37. For the purposes of cross validation, there should also be a correlation between the specific areas of difficulty identified in the first section of the questionnaire and the appropriate subset score of the second section.

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[12] 1 = never or almost never true of me, 2 = rarely true of me, 3 = sometimes true of me, 4 = usually true of me, 5 = always or almost always true of me.

Advantages and disadvantages

In a 1992 study by Rabin & Zelner, 87 social workers were evaluated using the SAS and AI. These authors argued that it was necessary to obtain a global overview of assertiveness, as well as a specific measurement in the workplace of the social workers used in the study. Because Sundel & Sundel (1981) reported only on group norms, Rabin & Zelner (1992) performed validity tests on SAS using the Pearson correlation[11] between AI (AI.P & AI.D) and the SAS. The sample used for the Pearson correlation comprised 21 psychiatrists, social workers, nursing, physical therapists and a matched sample of 23 colleagues located by members of the first sample (n=44). The sex composition of the sample was not mentioned in the article. Table 2 reflected that global assertiveness as measured by AI, and situational assertiveness as measured by SAS were strongly correlated (Table 2, Figure 3). Rabin & Zelner (1992) demonstrated "convergent validity" for SAS with AI.

Table 2: Pearson's correlation of AI and SAS to test for the degree of relationship and convergent validity between these two inventories (Rabin & Zelner 1992).

	Sundel and Sundel: Situational assertiveness				
		Patients	*Colleagues*	*Subordinates*	*Allied professionals*
Gambrill and Richey: General assertiveness	Degree of Anxiety AI.D	0.71	0.63	0.56	0.76
	Probability of Behaviour AI.P	0.75	0.74	0.54	0.84

* n=45 p<0.001

* Note the discrepancy of the (n) in the text and (n) in Table 2. This was not accounted for in the journal article.

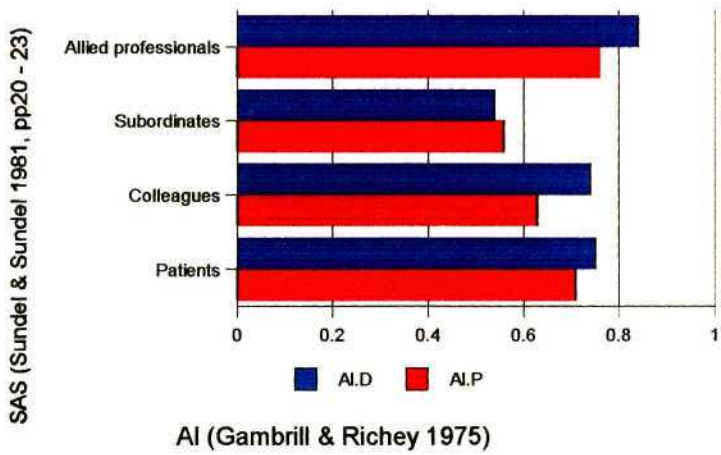

Figure 3: Pearson's correlation of SAS and AI (from Rabin & Zelner 1992)

[11] Pearson's correlation, also known as product-moment correlation, systematically compares "two relatively continuous distributions". It specifies the degree of relationship of two variables using a standardised form, rho ***r***. ***r*** ranges between +1,00 (a positive correlation) and -1.00 (a negative correlation). The closer ***r*** is to +1 or -1 the greater the relationship between the two variables (Nunnally 1967, pp 109-112), and therefore the greater the validity.

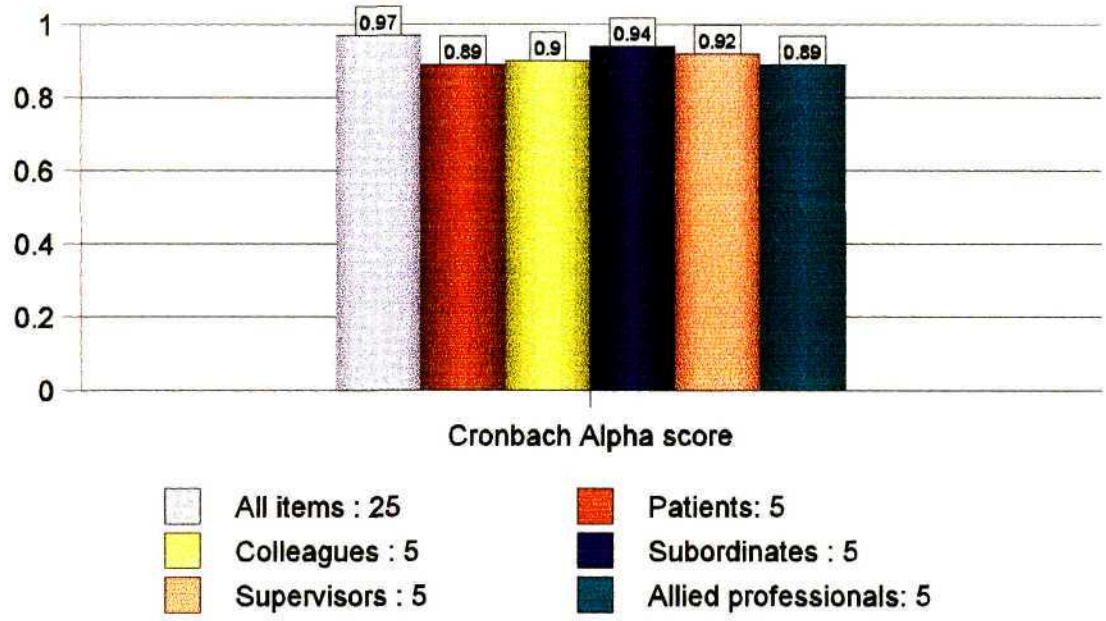

Figure 4: Reliability test for SAS using the Cronbach alpha score

The same population was used as a reliability check. The reliability tests on SAS involved the computing of the Cronbach Alpha of SAS and its sub sets (Rabin & Zelner 19 92) (Figure 4). The lowest alpha score was 0.88. According to Nunnally (1967, pp 210-211), coefficient alpha determined the reliability of internal consistency. It should be the first measurement obtained before other tests were applied because it provides a good estimate of reliability in most instances. A score of 0.30 on a 40-item test would have been considered too low, and the inventory deemed not reliable. The lowest score that one could accept is 0.60. The alpha score of 0.88 for all items was therefore well above the acceptable level of 0.60.

2.3.6 Comparison, assessment and discussions across the reviewed assertiveness inventories

Difficulties Associated with assertiveness Inventories

As mentioned previously, assertiveness was multidimensional and with the many inventories that were available, it was difficult to correlate findings across inventories. This was confounded further by the different subject samples used in the various studies (Furnham & Henderson 1981).

By using clustered data, ANOVA and item analysis, the evaluation of assertiveness employing the AI (Gambrill & Richey 1975), the RAS (Rathus 1973) or the CSES (Galassi, *et al* 1974), variations in assertiveness performance could have been obscured especially when total scores were used and had a bearing on the results (Ruben & Ruben 1989). An unassertive person may have been scored as assertive because of an instrument's distribution over QAAB, which may have failed to focus on areas where this individual may not have been assertive.

Apart from the difficulties of comparing dissimilar inventories, the items on the inventories varied from each other both qualitatively and quantitatively. Some inventories may have been measuring the probability of behaving assertively by focusing on positive and negative assertive behaviour such as receiving compliments or expressing an opinion. Others may have been concentrating on the amount of discomfort or anxiety (affective/emotional response) evoked when behaving assertively.

The response format of the various inventories differed as well, some used a binary format (true/false) such as the W-L AI. Others used the 6-point (-3 → +3) Likert scale as found in the RAS or the 5-point (0 →4) Likert scale in the CSES (Furnham & Henderson 1981, citing Breggs, Cheek & Buss 1980).
Furnham & Henderson (1983) stated that there has been no systematic categorisation of the various assertiveness inventories.

Comparison of the Wolpe-Lazarus Assertion Inventory with other reviewed assertiveness inventories
Table 3 contained the original 30 items from the W-L AI. A comparison has been made by this researcher with the items appearing on the CSES, RAS, SAS and AI. The purpose of this comparison was to determine the extent to which items had been borrowed from the W-L AI for use in the other inventories. Sixty seven percent of the items from CSES corresponded with W-L AI, whereas the RAS overlapped by 43% and the AI by 33%. The SAS could have been linked to 23% of the W-L AI items. It was noted from Table 3, that the overlaps between the SAS, AI and the W-L AI were more tenuous than the other inventories because 23% (SAS) and 27% (AI) were obtained from the "somewhat similar" (SS) grouping rather than the "exactly the same" (ES), "semantically different" (±) and "similar" (SI) groupings, which were more closely associated with the items on the original W-L AI. This could have accounted for the reason why the AI had the lowest correlation when compared to the other inventories (Furnham & Henderson 1983). This meant that the AI was a more independent measure and demonstrated once again that the AI concentrated on a different dimension of assertiveness.

Table 3: Comparison of Items from W-L AI (Wolpe & Lazarus 1966 P43) with CSES (Galassi, et al 1974), RAS (Rathus 1973), SAS (Sundel & Sundel 1981pp 20-22) and AI (Gambrill & Richey 1975).

	Comparison with the W-L AI scale	CSES		RAS		SAS		AI	
		comp-arison	item number	comp-arison	item number	comp-arison	item number	comp-arison	item number
1	Are you inclined to be overapologetic?	ES	5						
2	Would you be very reluctant to change a garment bought a few days previously which you discover to be faulty?	SI	3	SS	14			SS	25
3	If a friend unjustifiably criticises you do you express your resentment there and then?	ES	48			SS?	4	SS	39
4	Do you usually try to avoid "bossy" people?								
5	If you arrived late at a meeting would rather stand than go to a front seat which could only be secured with a fair degree of conspicuousness?	ES	39						
6	Do you protest out loud when someone pushes in front of you in a queue?	SI	1	SI	28				
7	Is it difficult for you to upbraid a subordinate?					SS	13		
8	Do you avoid complaining about the poor service in a restaurant or elsewhere?			±	25			SI	23
9	Are you able to contradict a domineering person?								
10	If someone "stole" into your parking place would you merely drive on?								
11	If a salesman has gone to considerable trouble to show you some merchandise which is not quite suitable do you have difficulty saying"no"?	ES	17	±	5			SS	4
12	Do you generally express what you feel?	SS	49	SI	21			SS	12
13	If you heard that one of your friends was spreading false rumours about you, would you hesitate to "have it out" with him?	SS	32	SI	22				
14	Would you have difficulty in soliciting funds for a worthy cause?								
15	Do you usually keep your opinions to yourself?	±	18	SS	29	SS	6		
16	Do you find it difficult to begin a conversation with a stranger?			SI	10			SI	15
17	Are you able openly to express love and affection?	SI	20	SS	21				
18	If food which is not to your satisfaction is served up at a restaurant would you complain about it to the waiter?	±	15	±	15				
19	Are you careful to avoid hurting other people's feelings?	SI	12	SS	4				
20	If you were at a lecture and the speaker made a statement that you considered erroneous, would you question it?	SS	21	SS	18	SS	23		
21	If an older and respected person made a statement with which you strongly disagreed, would you express you own point of view?	SI	23			SS	21	SS	26
22	Do you usually keep quiet "for the sake of peace"?	SS	24	SI	24	SS	22		
23	If a friend makes what you consider to be an unreasonable request are you able to refuse?	ES	27			SS?	8	SS	32
24	If after leaving a shop you notice that you have been given short change, do you go back and point out the error?	±	26						
25	If a policeman should forbid you to enter premises which you are in fact fully entitled to enter would you argue with him?								
26	If a close and respected relative were annoying you, would you smother your feelings rather than express your annoyance?	±	28	±	15				
27	Do you find it easier to show anger towards people of your own sex than to members of the opposite sex?	SS	30						
28	Is it difficult for you to compliment and praise others?	SS	49					SS	16
29	Do you have a close confidant with whom you can discuss virtually anything?								
30	Do you admire people who justifiably strike back when they have been wronged?							SS	28
TOTAL &% ES:	ES : Exactly the same, word for word	5	17%	0	0%	0	0%	0	0%
TOTAL &% ±	±: Semantic differences arise because the wording has been rearranged but in essence exactly the same question is being asked.	4	13%	4	13%	0	0%	0	0%
TOTAL &% SI	SI Similar but the differences arise because the wording has been extensively altered.	5	17%	4	13%	0	0%	2	7%
TOTAL &% SS	SS Somewhat similar, the situation is the same but the circumstances have been altered	6	20%	5	17%	7	23%	8	27%
	Accounts an overall total of		67%		43%		23%		33%

QAAB Analysis of the Five assertiveness Measurements

The five selected assertiveness inventories, W-L AI, RAS, CSES, AI and SAS (Appendices H; J; K; L; M, Parts 2) have been compared using QAAB as the basis (Table 4 & Figure 5). It was noted that the means for each inventory was 25 because each score was calculated as a percentage to facilitate comparisons across inventories. AI had the smallest standard deviation (±3.8) which meant that the spread was more even than for the other inventories and that there was a better if not equal spread across the 4 areas of QAAB.

Table 4: QAAB Analysis of the 5 Inventories Evaluated: % distribution (Appendices H; J; K; L; M: Parts 2)

	PR	PI	NR	NI	MEAN (SD)
AI W-L	0	23	19	58	**25 (±4.91)**
RAS	9	19	9	63	**25 (±5.08)**
CSES	0	27	12	61	**25(±5.14)**
AI	5	30	25	40	**25(±3.8)**
SAS	4	4	36	56	**25(±5.06)**
MEAN (SD)	**3.6(±1.94)**	**20.6(±3.19)**	**20.2(±3.29)**	**55.6(±3.02)**	

AI W-l and CSES had no items in the positive responding (PR) quadrant of QAAB. The RAS had the highest representation in the PR quadrant with 9%, which was still well below the ideal of 25%. The positive initiating (PI) quadrant was better represented. SAS had the lowest representation with 4% and was low in comparison to all the other measurements. In the negative responding quadrant (NR), RAS had the lowest score and fell below the ideal of 25%. All inventories recorded their highest score in the negative initiating (NI) quadrant. AI recorded the lowest score in this area. RAS had the largest score in NI and also displayed an equal spread in the other three quadrants (Figure 5). Neither CSES nor AI W-L had any score in the PR quadrant. Although SAS was represented in all areas of QAAB, it still concentrated heavily on the negative aspects of assertion, NR and NI.

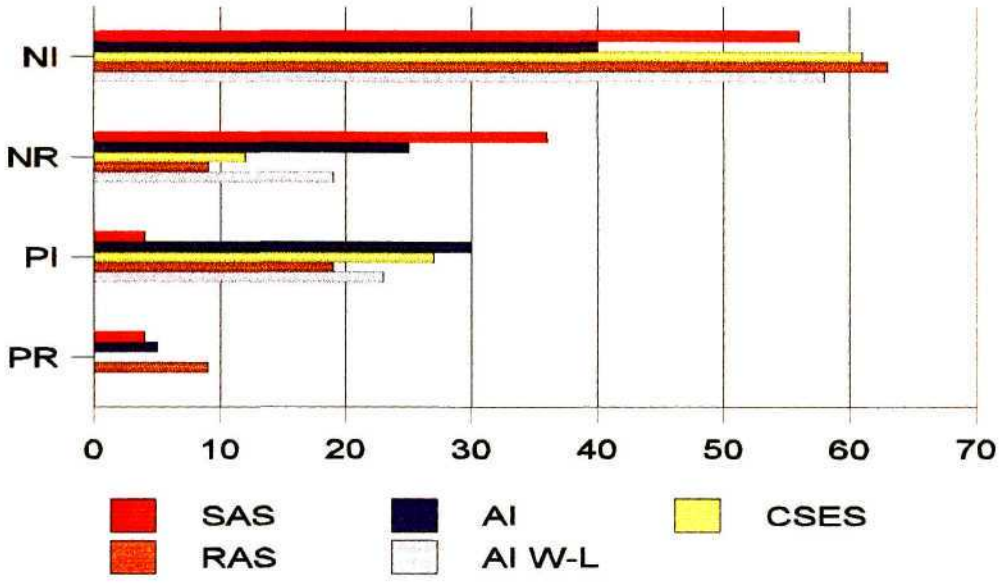

Figure 5: Graphic representation of the analysis of QAAB

2.3.7 Discussion on choice of inventory for measuring assertiveness and anxiety

The W-L AI has been rendered into factors by various authors (Furnham & Henderson 1983), RAS (Furnham & Henderson 1983; Futch, Scheirer & Lisman 1982; Nevid & Rathus 1979; Law, Wilson & Crassini 1979), CSES (Furnham & Henderson 1983), AI.D (Furnham & Henderson 1983) and ASES (Hollandsworth, Galassi & Gay 1977). Specific areas where assertive behaviour was lacking could be identified using the factor method. Although a global score may have been within acceptable limits, areas of weakness could have been masked in a global score and the factor method would be able to highlight the areas where problems occurred.

By utilising SAS, one would be able to establish the areas where difficulties in situational assertiveness actually arose. Because the main area of this research author was to establish the problems of situational assertiveness of dietitians in the health service environment, the SAS appeared to be the most appropriate instrument despite the lack of questions in the positive assertiveness area. The previous section, highlighted the shortcoming of SAS in the positive quadrants of QAAB. Statement numbers 21, 23, 24 and 25 of SAS (Appendix M) would require adjustments to make them appropriate to the dietetic profession. It could be argued that in the professional situation, the professional would have to focus on the negative dimensions of assertiveness to ensure individual and professional rights. Dietetics is a female dominated profession and

these are the areas that have been shown as lacking in assertiveness of female (Furnham & Henderson 1981).

Validity and reliability tests had previously been performed on SAS using health service workers (Rabin & Zelner 1992). Gambrill and Richey (1975), highlighted that it was not only the situation which affected levels of assertiveness but the degree of anxiety that was an important predictor of assertive behaviour especially in females. This was because females tended to be inhibited by anxiety whereas males were not (Gambrill & Richey (1975).

A cursory glance at Table 4 revealed that the SAS had not much to recommend it. This was in terms of the number of studies and the number of subjects within the studies involved in the use of this instrument. Rabin & Zelner (1992) administered the AI and the SAS together. AI.P measured global assertiveness, AI.D the degree of discomfort or anxiety and the SAS the situational assertiveness. They concluded that job satisfaction was influenced by situational assertiveness and not by general assertiveness.

Gambrill and Richey (1975) established that increased anxiety was positively paired with the likelihood of females not behaving assertively. It would therefore have been appropriate to link measures of anxiety with those of assertiveness. This could have been done by either

- administering the AI.D and AI.P together with SAS or
- including a Likert scale with the SAS using the same terms as in the AI.D.

The former would probably have been a better option because the AI.D has been extensively validated. However, it would have been more valuable to measure the degree of anxiety as a paired measure on the SAS and for this reason the AAS was developed for this study (Appendix D).

2.3.8 Evaluation of instruments for measuring self-efficacy

Sherer *et al* (1982) developed the Sherer Self-efficacy Scale which consisted of two sub-instruments the Sherer General Self-efficacy Scale and the Sherer Social Self-efficacy Scale. The instrument was tested on 376 undergraduate students, registered for introductory psychology. The response was rated on a 14-point Likert scale[12]. The original instrument had 36 items but 14 items did not meet the stipulated criterion[13] and

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[12] Ranging from "strongly disagree" to "strongly agree." The 14- point Likert scale is not an error, the scale for the original instrument was actually that size.

[13] A scree test accorded the number of factors to be rotated using the varimax method (Sherer *et al* 1982, citing Cattell 1966). The resulting factor structure gave the optimum number of factors without affecting the overall variance. Any item that loaded less than .40 was discarded.

were discarded. Table 5 shows the factor loading of the final 23 items selected. A subsequent study (Sherer & Adams 1983), found that both sub-instruments had adequate reliability (Cronbach $\alpha = 0.86$ and 0.71 respectively). The second study involved 101 subjects, 45 male and 56 female, who were also students from introductory psychology. This time, items were rated on a 5-point Likert scale instead of the original 14-point scale. The maximum score obtainable was 85 on the Sherer General Self-efficacy Scale and 30 on the Sherer Social Self-efficacy Scale. The mean score obtained from the sample was 64.31 (± 8.58) on Sherer General Self-efficacy Scale and 21.20 (± 3.63) on the Sherer Social Self-efficacy Scale. When compared to the RAS, general self-efficacy and specific self-efficacy were associated with assertiveness but not synonymous with it (Sherer & Adams 1983). General self-efficacy and social self-efficacy are also positively correlated to self-esteem, locus of control and personal adjustments. These authors, in

Table 5: Factor loadings of items from the Sherer Self-efficacy Scale (Sherer *et al* 1982)

	Item		Loading Factor
Sherer General Self-Efficacy Scale			
1	When I make plans, I am certain I can make them work		.486
2	One of my problems is that I cannot get down to work when I should.	(R)	.390
3	If I can't do a job the first time, I keep trying until I can.		.560
4	When I set important goals for myself , I rarely achieve them.	(R)	.560
5	I give up in things before completing them.	(R)	.631
6	I avoid facing difficulties.	(R)	.439
7	If something looks too complicated, I will not even bother to try.	(R)	.687
8	When I have something unpleasant to do, I stick to it until I finish it.		.433
9	When I decide to do something. I go right to work on it.		.428
10	When trying to learn something new, I soon give up if I am not initially successful.	(R)	.690
11	When unexpected problems occur, I don't handle them well.	(R)	.547
12	I avoid trying to learn new things when they look too difficult for me.	(R)	.665
13	Failure just makes me try harder.		.546
14	I feel insecure about my ability to do things.	(R)	.522
15	I am a self -reliant person.		.438
16	I give up easily.	(R)	.688
17	I do not seem capable of dealing with most problems that come up in life.	(R)	.539
Sherer Social Self-Efficacy Scale			
1	It is difficult for me to make new friends .	(R)	.701
2	If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.		.591
3	If I meet someone interesting who is hard to make friends with, I'll soon stop trying to make friends with that person.	(R)	.473
4	When I'm trying to become friends with some how seems uninterested at first, I don't give up easily.		.607
5	I do not handle myself will in social gatherings.	(R)	.619
6	I have acquired my friends through my personal abilities at making friends.		.640

Note - (R) denotes items recoded in direction of high self-efficacy

consultation with Sherer *et al* (1982) agreed that the Sherer General Self-efficacy Scale was the more useful of the two sub-instruments. This was confirmed by (Magaletta & Oliver 1999), who used the 17-items of the Sherer General Self-efficacy Scale in a study linking self-efficacy with the hope construct of will and ways. See Magaletta & Oliver (1999).

A recent instrument presented in the literature is the Schwarzer General Self-efficacy Scale developed by (Schwarzer 1993, cited by Schwarzer *et al* 1997). This instrument has the advantage of being relatively short, consisting of 10 items only. The 4-point Likert scale is set from [14]one to four. The score range is 10 - 40. In this study, the average score for all items was between 24.52 and 33.15 (Schwarzer *et al* 1997). Although German in origin, this instrument has also been tested on Costa Rican and Chinese students. The Schwarzer General Self-efficacy Scale has also been translated into English, French, Hebrew, Hungarian, Turkish, Czech and Slovak. Test-retest reliability performed on 1660 German adults over a one and two year period was "very satisfactory" according to Schwarzer *et al* (1997). These authors have established that the psychometric properties of this instrument have been confirmed in three languages (German, Spanish and Chinese). Table 6 gives the results, average scores and correlations for each item.
This instrument is not a suitable substitute for domain specific self-efficacy (Schwarzer *et al* 1997). Schwarzer *et al* (1997) also suggest that this instrument could be used to establish the mental health of a sample population.

Table 6: Item means and corrected item - total correlation for 10 self-efficacy items in German, Spanish and Chinese from Schwarzer *et al* (1997).

	Berlin (n=420)		Costa Rica (n=943)		Hong Kong (n=293)	
Item	Mean	Correlation	Mean	Correlation	Mean	Correlation
1	2.82	.39	3.09	.25	2.86	.66
2	3.18	.45	3.74	.36	2.40	.46
3	2.66	.50	3.17	.35	1.96	.53
4	2.38	.57	3.32	.56	2.34	.76
5	2.93	.61	3.21	.61	2.24	.74
6	2.69	.67	3.34	.63	2.81	.72
7	3.06	.54	3.22	.64	2.54	.76
8	2.33	.50	3.64	.51	2.46	.56
9	2.81	.56	3.08	.54	2.72	.69
10	2.92	.47	3.34	.52	2.19	.72
Total Mean max 40	27.78		33.15		24.52	
SD calc on the $\bar{x}$ of each item	± 0.52		± 0.47		± 0.54	
Alpha	.84		.81		.91	

[14] 1=not true at all, 2=Barely true, 3= moderately true and 4= exactly true

Discussion on choice of instrument for research purposes

The choice lies between the Sherer General Self-efficacy Scale and the Schwarzer General Self-efficacy Scale. An analysis of these two scales was performed where the contents of the scales were compared to the three items making up self-efficacy expectations as described in Figure 2 (Tables 7, 8). These three items were the decision to perform the activity (DP), the amount of effort expounded (AE) and the perseverence in the face of adversity (PA). Although the Schwarzer General Self-efficacy Scale was a shorter and simpler instrument, when scrutinising the results of the analysis, it was found that the spread over the three areas of self-efficacy expectations was more evenly distributed in the Sherer General Self-efficacy Scale than in the Schwarzer General Self-efficacy Scale. For this reason it was decided that the Sherer General Self-efficacy Scale was be a more suitable instrument. For the purposes of this research project the Sherer General Self-efficacy Scale will be shortened to the Self-efficacy Scale (SES).

Table 7: Sherer Self-efficacy Scale: Analysis of contents measured against: DP decision to perform; AE amount of effort expounded; PA persistence in adversity

	Item	DP	AE	PA
	Sherer General Self-efficacy Scale			
1	When I make plans, I am certain I can make them work		X	
2	One of my problems is that I cannot get down to work when I should.(R)		X	
3	If I can't do a job the first time, I keep trying until I can.			X
4	When I set important goals for myself, I rarely achieve them. (R)	X		
5	I give up in things before completing them.(R)			X
6	I avoid facing difficulties.(R)	X		
7	I something looks too complicated, I will not even bother to try. (R)	X		
8	When I have something unpleasant to do, I stick to it until I finish it.			X
9	When I decide to do something. I go right to work on it.	X		
10	When trying to learn something new, I soon give up if I am not initially successful.(R)			X
11	When unexpected problems occur, I don't handle them well.(R)			X
12	I avoid trying to learn new things when they look too difficult for me.(R)		X	
13	Failure just makes me try harder.			X
14	I feel insecure about my ability to do things.(R)	X		
15	I am a self -reliant person.	X		
16	I give up easily.(R)		X	
17	I do not seem capable of dealing with most problems that come up in life.(R)	X		
	Totals	7	4	6
	As percentages	41%	24%	35%

Table 8: Schwarzer General Self-efficacy Scale: Analysis of contents: DP decision to perform; AE amount of effort expounded; PA persistence in adversity

	Item	DP	AE	PA
	Schwarzer General Self-efficacy Scale			
1	I can always manage to solve difficult problems if I try hard enough.		X	
2	If someone opposes me, I can find means and ways to get what I want.			X
3	It is easy for me to stick to my aims and accomplish my goals.		X	
4	I am confident that I could deal efficiently with unexpected events.	X		
5	Thanks to my resourcefulness, I know how to handle unforseen situations.	X		
6	I can solve most problems if I invest the necessary effort.		X	
7	I can remain calm when facing difficulties because I can rely on my coping abilities.	X		
8	When I am confronted with a problem, I can usually find several solutions.		X	
9	If I am in a bind, I can usually think of something to do.		X	

2.3.9 Evaluation of instruments for measuring job satisfaction

Of the majority of the articles reviewed, Hackman and Oldham (1980; 1975; 1974) were cited most frequently for the use of their instrument which measured job/interpersonal satisfaction in the work setting (Fried, Hollenbeck, Slowick, Tiegs & Ben-David 1999; Tharenou & Harker 1984 and Leung 1997).

This instrument which is widely used for measuring job satisfaction forms part of the job diagnostic survey (JDS) which was developed by Hackman & Oldham in1974; 1975. In the JDS, job satisfaction was divided into general satisfaction defined as "An overall measure of the degree to which the employee is satisfied and happy with the job", and specific satisfaction which is related to:

- job security,
- pay and other compensations
- peers and coworkers (social satisfaction)
- supervision
- opportunity for growth (Hackman & Oldham 1975).

Butler & Ehrlich (1991) in their study on health workers, used 6 items from the general and specific measures of job satisfaction (citing Hackman & Lawler 1971) to measure satisfaction. Tharenou & Harker (1984) used five items from the JDS and (Fried *et al* 1999) also used six items from the JDS. Leung (1997) selected 3 items from the Hackman & Oldham scale (citing Hackman & Oldham 1974) on a seven-point Likert scale [15] when comparing the relationship between satisfaction, commitment and performance. A summary and detailed information of these studies for easy reference is shown in Table 9.

Kaldenberg & Becker (1991) developed their own four-item scale, referred to in this project as the Kaldenberg & Becker Job Satisfaction Questionnaire (Appendix F). This scale was used on their sample consisting of self-employed dentists (n = 327). A 5-point Likert scale[16] was employed and they reported an internal consistency of $\alpha = 0,82$. Appendix F contains the specific items used. Scores for items 1, 3 & 4 are reversed. This means the higher the score the greater the Job satisfaction rate. A factor component analysis conducted on the five items accounted for 65% of the variance. It is quite probable that the average mean of dentists who are not self employed would be lower.

Discussion on Choice of Instrument for Research Purposes

It will be noted that the ranges of items used to measure job satisfaction vary between 3 and 6 (Table 9). The instrument used by Kaldenberg & Becker (1991) is a more finely tuned instrument because it uses the total score of all items added together instead an average of the scores. For the purpose of this research the instrument of Kaldenberg & Becker (1991) appeared to be the most suitable. One would obviously have to change the reference to 'dentistry' in the instrument (Appendix F) to that of 'dietetics' to make the instrument appropriate.

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[15] End points of scale range from strongly disagree to strongly agree.

[16] Strongly agree coded as 1.

Table 9: Comparison of various studies using instruments for measuring job satisfaction

Instrument	No. of scale-items	Likert scale range	Score Range	Sample size	Mean and SD	α Score	Reference
Hackman & Oldham (1974)	3	1-7*	1-7	231 retail chain employees	5,24 (0,42)	0,74	(Leung 1997)
Hackman & Oldham (1974)	5	1-7*	1-7	166 electrical apprentices	5,03 (1,08)	0,89	(Tharenou & Harker 1984)
from JDS General satisfaction	5	1-7*	1-7	658 Cross section of employees	4,52 (1,18)	0,76	(Hackman & Oldham 1975)
JDS Hackman & Oldham (1975)	6	1-7*	1-7	3663 Cross section of employees	5,10 (1,08)	0,80	(Fried *et al* 1999)
Kaldenberg & Backer 1991	4	1-5*	4-20	327 dentists	14,17 (4,11)	0,82	Kaldenberg & Becker (1991)
Michigan organisational assessment questionnaire	3	1-7**	1-7	270 hotel managers	5,41 (0,73)	reliability estimate 0,67	(Hochwarter *et al* 1999)

* 1 = strongly agree score then reversed to give a greater score to greater job satisfaction
**1 = strongly disagree

2.4 Development of the Model: Factors Affecting Assertiveness

From the forgoing literature, a model, Factors Affecting Assertiveness (FAA) (Figure 6), has been constructed to show the interrelationship of the various factors referred to in Chapters 1 and 2 and their effect on the Quadrant Areas of Assertive Behaviour (QAAB) (Figure 1). Linked closely to assertiveness were the levels of anxiety (Gambrill & Richey 1975; Wolpe 1973, p80). The various components of the FAA are described in detail and thereafter the interactions within the model (Figure 6).

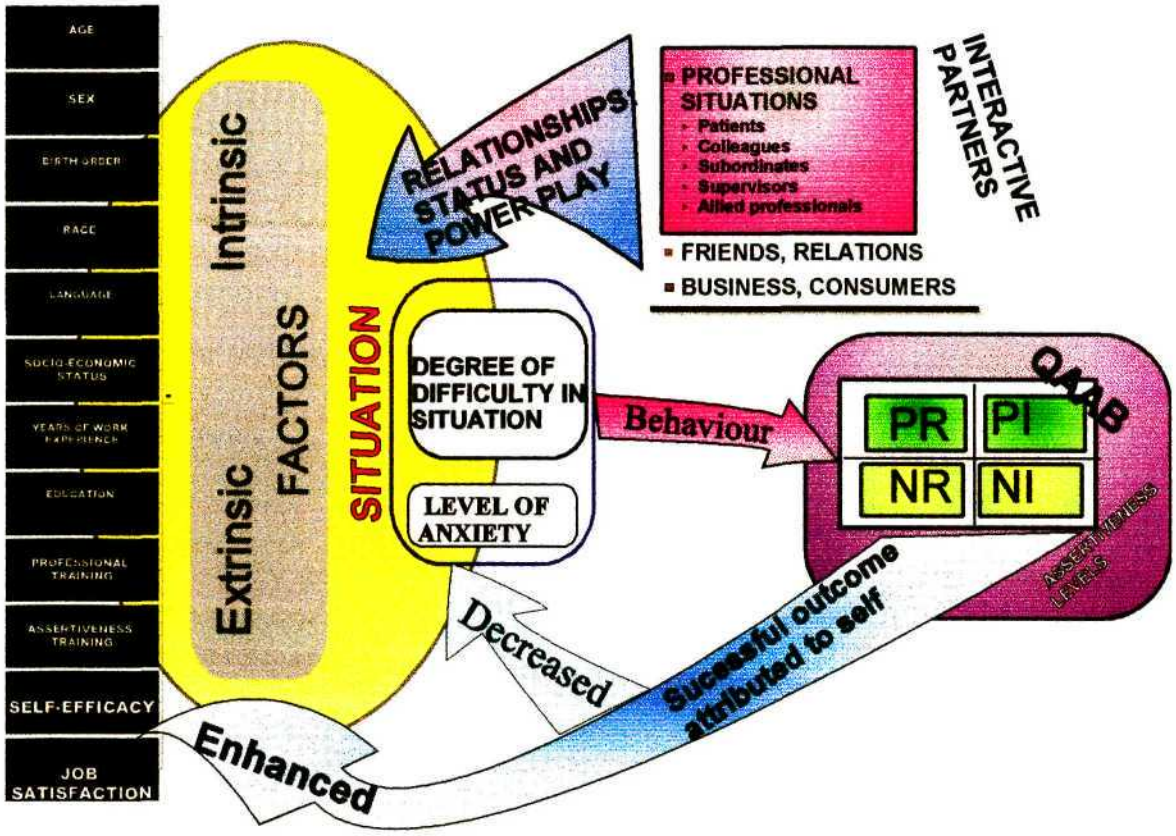

Figure 6: Factors Affecting Assertiveness (FAA)

2.4.1 Intrinsic and Extrinsic Factors

Intrinsic and extrinsic factors have been listed on the left-hand side of FAA. Assertiveness formed part of the interpersonal skills (IPS) and one of the newer inventories for measuring assertiveness was referred to as the Scale of Interpersonal Behaviour (Gilbert & Allan 1994). These authors used assertiveness and interpersonal behaviour interchangeably. As mentioned previously, underlying factors that affected IPS and therefore assertive behaviour, have been variously ascribed to race, culture and language (Furnham 1979), which would include attitudes to child raising practices in the family home. Age, sex, socio-economic status

(Gilbert & Allan 1994) also affected IPS. One could argue that the family composition, for example the single parent, nuclear or extended family could affect IPS. Similarly the composition of siblings in a family and the position of an individual within the siblings affected the behaviour of that individual (Dinkmeyer & Dreikurs 1963, pp 21-23). For example whether an individual was the eldest, middle or youngest in the family, could also have had a bearing on IPS. These factors are a "fact of life" and have been classed as intrinsic[17] factors by this researcher.

Factors such as education, professional training, work exposure and assertiveness training have been classed as extrinsic[18] factors. This is because the individual has the power to change and influence these factors. Intrinsic and extrinsic factors would therefore influence the person's IPS and levels of assertiveness. FAA displays how the "Intrinsic factors"[19], which included "age, sex, birth order, race, language, socio-economic status and years of work experience" and "Extrinsic factors", which included "education (pre and post registration qualifications), professional training (university attended), assertiveness training, level of self-efficacy and job satisfaction" impacted on an individual's degree of difficulty with assertiveness and the degree of anxiety.

2.4.2 Situation and Interactive Partners

The situation and interactive partners are listed in the top right-hand side of the FAA. The "Situation" is derived from the "Status" and "Power" of the persons with whom an individual would interact and they have been termed the "Interactive partners". "Friends and relations" and "business/consumer" situations, although important, do not fall within the scope of this project but are mentioned because they are part of the "Situation".

Of particular interest in this project were the "Professional situations" in which an individual would have to interact such as with "Patients, colleagues, subordinates, supervisors and allied professionals". It was necessary to identify the particular areas of professional interaction, so that the situation in which dietitians experienced difficulty asserting themselves, could be specified. The situation contributes toward levels of assertiveness and anxiety.

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[17] Intrinsic: Existing in a thing as a natural or permanent quality (Liebeck & Pollard 1997, p274).

[18] Extrinsic Not inherent (Little & Onions 1962, p663).

[19] "....." Items in inverted commas refer to the items shown in Figure 6.

One could argue that the majority of professionals would probably be assertive enough to deal with subordinates. However, as the power relationship between individuals and their interactive partners changes, that is, as the power and the status of the interactive partners increases, so the power of the individuals would decrease relative to the interactive partners. This would in turn lead to a greater "degree of difficulty" and higher "levels of anxiety". This differential effect of power and status therefore contributes to situational assertiveness.

2.4.3 Other factors associated with assertiveness

Other factors associated with assertiveness are in the centre of the FAA (Figure 6). The levels of "degree of difficulty in a situation" and "level of anxiety" were hypothesized to affect assertiveness levels via the "Quadrant Areas of Assertive Behaviour (QAAB)" (Figure 2). There was thought to be an interactive effect between "Degrees of difficulty and anxiety" and "QAAB," where individuals who have been successful in behaving assertively would find that anxiety decreased on subsequent occasions and this is also thought to have a positive effect on levels of "self-efficacy" in the extrinsic factors (Bandura 1986 cited by Lent & Hackett 1987). It was theorised that once the behaviour has been executed there could still be a measure of anxiety felt but a successful outcome would have served to enhance "self-efficacy" in future encounters, provided that the outcome was attributed to that person's behaviour and not to luck or chance (Shelton 1990).

It was also supposed that "job satisfaction" would have a two-way effect on the levels of assertiveness. An individual who had difficulty behaving assertively may have had lower levels of "job satisfaction" and an individual who had lower levels of "job satisfaction" may also have been less assertive and more anxious in the work place.

The theory of FAA was that the professional may act assertively, depending on the "intrinsic or extrinsic factors", "the Situation," the degree of difficulty of the assertiveness and the amount of anxiety felt. Behaving assertively in spite of a daunting situation, a high level of anxiety and a high degree of difficulty, the professional would have enhanced the levels of self-efficacy and levels of job satisfaction and thereby improved the overall levels of assertiveness and decreased the amount of anxiety felt.

2.4.4 Conclusions drawn from the model: Factors Affecting Assertiveness

Using Figure 6 as the basis for selection, the instrumentation chosen should provide data on the following:

- the individual details on intrinsic and extrinsic factors,
- the levels of situational assertiveness in the various areas of professional interaction,

- the assertiveness levels in the various areas of QAAB,
- the degree of difficulty and the level of anxiety experienced when behaving assertively,
- the levels of self-efficacy,
- job satisfaction ratings

which when analysed and compared with each other will give the relationships, the correlations, the differences and effect of the variables on each other to see whether the assumption made in the FAA were valid.

2.4.5 Summary

A variety of inventories that measure assertiveness have been presented. These were assessed for suitability in the measurement of assertiveness levels. It was decided to utilitise the SAS with appropriate changes made to unsuitable items. An anxiety inventory has been compiled using the SAS as the basis. SAS also has a scale which measures the degree of difficulty encountered in situational assertiveness. Other inventories evaluated included scales that measured levels of self-efficacy and job satisfaction.

CHAPTER 3 METHODOLOGY

3.1 Survey Design

The purpose of the study was firstly, to establish in which of the two negative areas, of the Quadrant Areas of Assertive Behaviours (QAAB), a representative sample of registered dietitians was more assertive. Secondly, was to identify the degree of difficulty with assertiveness, the levels of anxiety and the levels of assertiveness with five specific groups of individuals in the workplace and the interaction of these variables with each other. Thirdly, the purpose was to determine whether the degree of difficulty with assertiveness, the overall level of anxiety and overall level of assertiveness were related to the intrinsic and extrinsic factors. The factors included age, sex, birth order, race, language (culture and religion), socio-economic status (from fathers' occupation), years of work experience, education (pre- and post registration training), professional training (university attended), assertiveness training, self-efficacy and job satisfaction levels. Fourthly to determine whether levels of self-efficacy were related to the degree of difficulty with assertiveness, the levels of anxiety, the levels of assertiveness, the intrinsic and extrinsic factors, where dietitians were employed[1] and the areas of dietetic practice[2]. Fifthly to determine whether levels of job satisfaction were related to the degree of difficulty with assertiveness, the levels of anxiety, the levels of assertiveness, the intrinsic and extrinsic factors, where dietitians were employed and the areas of dietetic practice.

Dillman (1978, pp39-40) maintained that if the target population was spread over a wide geographical area and if there was sufficient time to allow for it, a postal survey would be the most appropriate and cost-effective method of reaching the sample. These conditions applied to the target population of registered dietitians in South Africa because they were spread over a wide geographical area, and because there was enough time available, a postal survey was undertaken.

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[1] Where dietitians were employed was divided into state (including state, semi-state and educational institutions) and private (including private companies and self employment).

[2] Areas of dietetic practice included, community nutrition, food service management, therapeutic nutrition and various combinations of these three.

3.2 Population and Sample Selection

The sample population was drawn from dietitians who were currently registered with the HPCSA in 1999, who had received undergraduate training in the RSA and who were residing in the RSA. A computer-generated sample selection produced a random sample of 321 names from the list of 1131 female dietitians. All 29 male dietitians were also included in the sample. This gave a sample size of 350 which was deemed to be satisfactory in relation to the expected return-rates and the parameters of a Master's dissertation, according to the statistician consulted (Faulds 2000). The HPCSA list of registered dietitians indicated where qualifications were obtained and any dietitians with undergraduate qualifications from outside the RSA were excluded because they did not fulfill the requirement for locally trained dietitians and could have confounded the influence on assertiveness. The next name on the computer-generated list was used as a substitute for those dietitians who were excluded on the grounds of not being trained locally. Dietitians with addresses outside the RSA and those dietitians known to be employed overseas were also excluded because they did not fulfil the specified requirement of being a resident in South Africa. They were also replaced with substitute names from the computer-generated list.

Dietitians trained and resident in South Africa were selected to ensure that differences arising between groups would be because of training and work conditions in South Africa and not because of influences due to different training and work exposure experienced outside the country.

3.3 Variables Included in the Study

Explanation of the questionnaire

3.3.1 Subproblem one: variables included

It was theorised that the dietitians would have difficulties within certain areas of the Quadrant Area of Assertive Behaviour (QAAB) especially in the negative areas of negative responding (NR) and negative initiating (NI) assertiveness because females had particular difficulties in the area of negative assertion (Furnham & Henderson 1983).

To obtain a variable for this subproblem, an analysis of the Probability of Assertive Behaviour Scale (PABS) was required. QAAB was used to identify the NR and NI items on the PABS so that these could be compared and contrasted for possible differences. A QAAB analysis performed on the PABS revealed that one question each fell in the two positive quadrants of QAAB namely, positive responding (PR) and positive initiating (PI) for positive assertiveness (Appendix B). The result of the QAAB analysis corresponded with findings of Furnham & Henderson (1983, p86) where they stated, "the majority of inventories ignore difficulties in responding to expressions of positive emotion".

It was decided that one question each in the positive areas of QAAB would not be suitable variables for analysis because they would be too small to represent the sample. The literature also indicated that positive assertiveness was not problematic for females (Furnham & Henderson 1981). For these two reasons, the positive areas were omitted from the analysis and only NR and NI were investigated.

In the negative assertiveness quadrants, the negative responding (NR) quadrant consisted of 9 questions and the negative initiating (NI) quadrant of PABS consisted of 14 questions. Variables NR and "NI unadjusted (NI U)"[3] were obtained from the QAAB analysis of PABS (Appendix B). NR was the total score of the nine statements numbered 2, 3, 5, 7, 8, 10, 18, 24 and 25 of PABS. "NI U" was the total score of the fourteen statements numbered 1, 4, 6, 9, 11, 12, 13, 14,15, 16, 17, 21, 22, 23 of PABS. There was a difference in the total numbers of statements contributing to the two scales NR and "NI U". To facilitate statistical analysis with NR, the "NI U" was divided by 14 and multiplied by 9 to give NI which was then comparable to NR. An analysis of these two variables would indicate whether or not there was any difference in levels of assertiveness in the two negative areas of assertion.

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[3] "NI U" referred the scale NI before it was adjusted arithmetically ($*^{9}/_{14}$) to facilitate comparison of means.

3.3.2 Subproblem two: variables included

It was assumed that the degrees of difficulty, and the levels of anxiety would increase progressively, and that the levels of assertiveness would decrease progressively when subjects dealt with the five groups of individuals (situational areas) namely; patients, colleagues, subordinates, supervisors and allied professionals.

Variables required for the analysis for Subproblem two included the scores each of the AC statements, and overall score of AAS up to question 25 and the overall score of PABS and the scores of the Five Anxiety Scales of AAS and the Five Assertiveness Scales of PABS. Questions 22 and 26 of AAS were similar questions where question 26 had the added dimension of race. Questions 24 and 27 of AAS were similar questions where 27 had the added dimension of gender. The individual scores for these two paired items 22 and 26; 24 and 27 from AAS were to be compared to test for effect of the added dimensions of race and gender on the overall level of anxiety.

3.3.3 Subproblem three: variables included

It was presumed that the overall level of anxiety and the overall level of assertiveness of dietitians, would be influenced or vary according to certain intrinsic and extrinsic factors. Variables that were required were the AAS and PABS scores and the intrinsic and extrinsic variables of age, sex, birth order, race, language (culture and religion), socio-economic status, years of work experience, education (pre and post registration qualification), professional training (university attended), assertiveness training, self-efficacy and job satisfaction levels.

Changes were made to some variables to condense the range of the scales. This was done to facilitate analysis and to render meaningful results.

Age

Age was changed from a continuous variable to a discrete variable by placing subjects into four age groups of almost equal numbers.

They were divided as follows:

Group 1	up to and including the age of 25 years
Group 2	26 - 30 years
Group 3	31 - 35 years
Group 4	36 years and older

It was expected that the older the subjects the lower the degree of difficulty in dealing with others, the lower the overall level of anxiety and the greater the overall level of assertiveness (Furnham & Henderson 1981).

Language

Language was used to reflect culture. There were originally twelve categories for language. This variable was reduced to three categories, namely Afrikaans, English and indigenous languages. Indigenous languages included IsiXhosa, SeSotho, Sepedi, SeTwsana, TshiVenda and IsiZulu. There were too few subjects in the various indigenous language categories to treat them separately.

Socio-economic status (fathers' occupation)

Socio-economic status was measured using fathers' occupation (Schlemmer & Stopforth 1979, p10). From the questionnaire these occupations were placed into Rank Order of CASS Occupational groups (Schlemmer & Stopforth 1979, p10) comprising twenty groups. Twenty groups were problematic in regression analysis and for this reason these twenty groups were condensed into four coded groups (Table 10).

The first category, classed as "Professional", comprised individuals with prestige scale scores of more than 80 and was from groups 1 to 3. The second category, "Semi-professional", comprised individuals with prestige scores of between 71 and 73 and were from groups 4 to 7. The third category, "Clerical", had prestige scores between 64 and 68 and were from groups 8 to 13. The fourth category "Manual, routine non-manual and menial" had prestige scores of less than 60 and were from groups 13 to 20 (Table 10). These new groups were chosen using the logical breakdown from Schlemmer & Stopforth (1979, p10). It was expected that the higher the socio-economic status the lower the degree of difficulty in dealing with others, the lower the overall level of anxiety and the greater the overall level of assertiveness.

Table 10: Fathers' occupation

CASS occupational group (Schlemmer & Stopforth 1979, p10).	Rank & coding order groups	CASS Prestige scale	coded groups for analysis
Independent and high professional	1	82	Professional
High managerial, executive and administrative in large organizations	2	81	
Salaried professionals	3	80	
Semi-professional	4	73	Semi-professional
Lower executive and administrative	5	72	
Production managers, technical executives, works foreman, executive inspectors	6	72	
Representatives, agents, salesmen	7	71	
Owners and executives in small commerce and services	8	68	Clerical
Senior clerical	9	67	
Less senior clerical	10	66	
Working proprietor of small commerce & services	12	64	Manual, routine non-manual and menial
Manual foreman and high craft	14	58	
Skilled artisan/craft in manufacturing and "other".	15	56	
Skilled artisan/craft in construction	16	52	
Routine non manual and equivalent status	17	52	
Menial routine and labour activities	20	20	

Education (pre- and post registration qualifications)

The level of education was divided into two categories. Firstly, qualifications for registration and secondly, post registration qualifications in dietetics. Post registration qualifications included Dietetic Honours, Masters in Dietetics and PhD degrees. It was expected that those subjects with post registration qualification in dietetics would have lower degrees of difficulty in dealing with others, lower overall level of anxiety and greater overall level of assertiveness.

Professional training

Professional training was gauged by the university at which the subject graduated. Although the subjects were asked at which specific university they qualified, the universities were condensed into three groups,

namely Afrikaans, English and *Other* to facilitate analysis and render meaningful results. *Other* were institutions for the previously disadvantaged students. The medium of instruction (language) was expected to have an effect on the degree of difficulty with assertiveness, overall level of anxiety and overall level of assertiveness.

Assertiveness training

Assertiveness training was divided into three sections of none, between one and four hours and more than four hours. To ensure that a meaningful result was achieved from the statistical analysis, assertiveness training was condensed from the original three sections into two sections of less than four hours and more than four hours. This researcher theorised that if dietitians had attended an assertiveness training course of less than four hours it would probably have been a one day lecture or workshop. If they attended assertiveness training for more than four hours it was more than likely that the training consisted of a series of workshops or lectures. A series of lectures would have had a greater effect on the subjects' behaviour. It was expected that those subjects who had attended assertiveness training for more than four hours would have had a lower degree of difficulty in dealing with others, lower overall level of anxiety and greater overall level of assertiveness.

Self-efficacy

Self-efficacy, was measured using the SES scale and analysed for total and mean scores. It was expected that the higher the self-efficacy levels, the lower the degree of difficulty in dealing with others, the lower the overall level of anxiety and the greater the overall level of assertiveness.

Job satisfaction

Job satisfaction was measured using the KBJSS and analysed for total and mean scores. It was expected that those subjects who had higher levels of job satisfaction would have had lower degrees of difficulty in dealing with others, lower overall level of anxiety and greater overall level of assertiveness.

3.3.4 Subproblem four: variables included

It was hypothesized that the levels of self-efficacy would have been related to a variety of factors namely the degrees of difficulty with assertiveness, overall level of anxiety experienced, and overall level of assertiveness. Levels of self-efficacy would have also been related to the intrinsic and extrinsic factors, where dietitians were employed and the area of dietetic practice. The variables required for this analysis were the scores of AC, overall scores of AAS and PABS, and the variables of age, sex, birth order, race, language (culture and religion), socio-economic status, years of work experience, education (pre- and post

registration qualification), professional training (university attended), assertiveness training, and job satisfaction levels, where dietitians were employed and the areas of dietetic practice.

3.3.5 Subproblem five: variables included

It was proposed that the levels of job satisfaction would have been related to a variety of factors namely the degrees of difficulty with assertiveness, overall level of anxiety experienced, and overall level of assertiveness. Levels of job satisfaction would also have been related to the intrinsic and extrinsic factors, where dietitians were employed, and the areas of dietetic practice. The variables required for this analysis were the scores of AC, overall scores of AAS and PABS, and the variables of age, sex, birth order, race, language (culture and religion), socio-economic status, years of work experience, education (pre and post registration qualification), professional training (university attended), assertiveness training, levels of self-efficacy, where dietitians were employed and the areas of dietetic practice.

3.4 Survey Materials and Approaches

3.4.1 The questionnaire and formats of scales for measuring variables

A questionnaire containing the scales for measuring variables was compiled. The questionnaire comprised two sections. Section One dealt with demographics which included questions on age (in years), sex, birth order, race (requested to answer whether black, coloured, Indian or white), language (culture and religion), socio-economic status (fathers' occupation), years of work experience, education (pre- and post registration qualifications), professional training (university/ies attended), assertiveness training, where dietitians were employed, areas of practice as a dietitian, and length of employment in their current situation. These questions were posed to obtain information on intrinsic and extrinsic factors influencing levels of anxiety and assertiveness. Section Two consisted of a number of tables containing scales for assessing variables. These were the degrees of difficulty with assertiveness (measured by the Assertiveness Checklist, AC, Appendix C) and the levels of anxiety (measured by the Assertiveness Anxiety Scale, AAS, Appendix D), the levels of assertiveness (measured by the Probability of Assertive Behaviour, PABS, Appendix A), the levels of self-efficacy (measured by the Self-efficacy Scale, SES, Appendix E) and the levels of job satisfaction (measured by the Kaldenberg and Becker Job Satisfaction Scale, KBJSS, Appendix F). These variables were to be used as dependent and independent variables.

Assertiveness Checklist

The first table in the questionnaire, the Assertiveness Checklist (AC) was a self-assessment scale. Subjects rated themselves according to the degree of difficulty experienced, when dealing with the specified five groups at various hierarchical levels in the workplace. The AC also included a sixth group which dealt with individuals outside the workplace. The five groups in the workplace were listed in the questionnaire as follows:

- Patients/Clients hereafter referred to as "patients",
- Co-worker(s)/Colleagues - hereafter referred to as "colleagues",
- Supervisee(s)/Employee(s)/Subordinate(s) including dietetic interns - hereafter referred to as "subordinates",
- Supervisor/Employer - hereafter referred to as "supervisors",
- Professionals from other disciplines - hereafter referred to as "allied professionals",
- Others, specify - hereafter referred to as "specified others".

The AC was a 6-item, 5-point Likert Scale, with 1 = No difficulty, 2 = A little difficulty, 3 = A fair amount of difficulty, 4 = More difficulty and 5 = A great deal of difficulty. Increased scores indicated greater degrees of difficulty in the specified areas.

Assertiveness Anxiety Scale

The second table in the questionnaire contained the scale, the Assertiveness Anxiety Scale (AAS). AAS comprised five subset scales collectively referred to as the "Five Anxiety Scales of AAS" and measured the amount of anxiety experienced when subjects dealt with the five specified groups of individuals at various hierarchical levels in the workplace. These were patients, colleagues, subordinates, supervisors and allied professionals. The AAS scale was a 27-item, 5-point Likert scale, where 1 = No anxiety, 2 = A little anxiety, 3 = A fair amount of anxiety, 4 = More anxiety and 5 = A great deal of anxiety. The greater the total score the greater the amount of anxiety experienced.

The score of AAS to measure overall anxiety was taken from the first 25 items only. This was because items 26 and 27 were attached to the scale to give the added dimension of race and gender to see whether these two aspects would have an effect on the levels of anxiety. Item 26 was similar to item 22 and item 27 was similar to item 24.

The Five Anxiety Scales of AAS were designated as follows: Subset one of AAS, was the Anxiety Scale with Patients and measured the level of anxiety when the subjects interacted with the patients. Subset two of AAS, was the Anxiety Scale with Colleagues and measured the levels of anxiety when dealing with colleagues. Subset three of AAS was the Anxiety Scale with Subordinates and measured the levels of anxiety when dealing with subordinates. Subset four of AAS was the Anxiety Scale with Supervisors and measured levels of anxiety when the subjects were dealing with supervisors. Subset five of AAS was the Anxiety Scale with Allied Professionals and measured levels of anxiety when the subjects interacted with allied professionals.

Probability of Assertive Behaviour Scale

The third table contained the scale for measuring assertiveness, the Probability of Assertive Behaviour Scale (PABS). PABS comprised five subset scales collectively referred to as the "Five Assertiveness Scales of PABS" and measured the amount of assertiveness experienced when subjects dealt with the five specified groups of individuals at various hierarchical levels in the workplace. These were patients, colleagues, subordinates, supervisors and allied professionals. The PABS was a 25-item, 5-point Likert Scale, where 1 = Never or almost never true of me, 2 = Rarely true of me, 3 = Sometimes true of me, 4 = Usually true of me and 5 = Always or almost always true of me. Items numbered on the PABS as 3, 5, 7, 8,12,13,15, 19, 20, 22, 24 and 25 were indicated by Sundel & Sundel (1981, pp21-22) as items to be reversed, where scores of 1 and 5 were exchanged, 2 and 4 exchanged and 3 remained the same.

The Five Assertiveness Scales of PABS were designated as follows: Subset one of the PABS was the Scale of Assertiveness with Patients and measured the levels of assertiveness when the subjects interacted with the patients. Subset two of the PABS was the Assertiveness Scale with Colleagues and measured the level of assertiveness when the subjects interacted with their colleagues. Subset three of the PABS was the Assertiveness Scale with Subordinates and measured the levels of assertiveness when the subjects interacted with their subordinates. Subset four of the PABS was the Assertiveness Scale with Supervisors and measured levels of assertiveness when the subjects interacted with their supervisors. Subset five of the PABS was the Assertiveness Scale with Allied Professionals and measured levels of assertiveness when the subjects interacted with allied professionals.

The overall score of PABS measured the overall level of assertiveness. The higher the score the greater the overall level of assertiveness. If the subjects scored an overall total of less than 75 they would have been considered as having difficulties with assertiveness. A total score of 99.37 was mentioned in the literature as the mean for health service workers in the USA (Sundel & Sundel 1981, p23).

Self-efficacy Scale

The fourth table contained the instrument, the Self-efficacy Scale (SES) which measured the levels of self-efficacy. This was a 17-item, 5-point Likert scale instrument, where 1 = Never or almost never true of me, 2 = Rarely true of me, 3 = Sometimes true of me, 4 = Usually true of me and 5 = Always or almost always true of me. Items 2, 4, 5, 6, 7,10,11, 12, 14, 16, and 17 were scores to be reversed, where 1 and 5 were exchanged, 2 and 4 exchanged and 3 remained the same. The higher the total of SES, the greater were the self-efficacy levels.

Kaldenberg & Becker Job Satisfaction Scale

The fifth table contained the instrument, the Kaldenberg & Becker Job Satisfaction Scale (KBJSS) which was used to measure the levels of job satisfaction. This was 4-item, 5-point Likert scale instrument where 1 = Strongly agree, 2 = Agree, 3 = Don't know, 4 = Disagree and 5 = Strongly disagree. The score of the positive items, numbers 1, 3 and 4 were reversed where 1 and 5 were exchanged, 2 and 4 exchanged and 3 remained the same. The higher the total scores were, the higher the levels of job satisfaction.

3.4.2 Pilot survey

A pilot study using dietitians in the employ of the university and local hospitals was undertaken to evaluate the questionnaire to be used in the research project. Individuals were asked to comment on the various aspects of the questionnaires regarding their understanding of what was required of them and to highlight questions that they found difficult to answer or that were ambiguous. A discussion between the project

supervisors, members of the Discipline of Dietetics and Human Nutrition at the University of Natal and this researcher was held to finalise the questionnaire. Suggestions for improvements were then implemented.

3.4.3 Postal survey

Three hundred and fifty questionnaires were mailed to the sample group from the target group of 1260 dietitians. Each envelope contained a covering letter, the questionnaire in the form of an A5 booklet and a stamped addressed return envelope with the respondents' names and addresses affixed on the reverse of the envelope to facilitate the administration of the returned items (Appendix N). Mail items returned because of errors in the address, were corrected and re-mailed. Where items were returned because the address was no longer valid, additional random names were generated and questionnaires sent to the new recipients.

After a month, all outstanding recipients (n = 265) were mailed a reminder in the form of a postcard. It would have been more elegant to mail a complete set of questionnaires and stamped return envelopes again but the budget did not allow for this. Those who indicated that they had not received the original questionnaire were either mailed, faxed or e-mailed replacement questionnaires. Once analysis of the sample commenced on the 17 December 1999, no further replacement items were sent.

3.5 Data Manipulation and Coding for Analysis

3.5.1 Subproblem one: data analysis

It was theorised that the dietitians would have difficulties within certain areas of the Quadrant Area of Assertive Behaviour (QAAB) especially in the negative areas of negative responding (NR) and negative initiating (NI) assertiveness.

So that the NR quadrant could be compared and contrasted with the NI quadrant for possible differences, the total and means of NI were adjusted from NI U to NI. The analysis program SPSS (Statistical Package for Social Sciences) defines the paired samples *t*-test as " A statistical test of the null hypothesis that two population means are equal. It is used when the observations for the two groups can be paired in some way. (For example, when the same person is observed before and after a treatment.) Pairing is used to make the two groups as similar as possible. Observed differences between the groups can then be attributed more readily to the variable of interest." In this case it was to see whether the subjects were more assertive in the NR or NI of QAAB.

3.5.2 Subproblem two: data analysis

It was assumed that the degrees of difficulty (AC) and the level of anxiety (AAS) would increase progressively, and that the overall level of assertiveness (PABS) would decrease progressively when subjects dealt with the five groups of individuals (situational areas) namely; patients, colleagues, subordinates, supervisors and allied professionals. The first five questions in AC and the Five Anxiety Scales of AAS and Five Assertiveness Scales of PABS with the groups of individuals in the workplace, measured the five specific situational areas. The Wilcoxon Signed-Rank Test was used on AC and on the means of each of the Five Anxiety and Assertiveness Scales. This meant that there was a total of ten pairs of means for AC and the overall AAS and PABS. The statistical programme, SPSS defines the Wilcoxon Signed-Rank Test as "A nonparametric procedure used with two related variables to test the hypothesis that the two variables have the same distribution. It makes no assumptions about the shapes of the distributions of the two variables. This test takes into account information about the magnitude of differences within pairs and gives more weight to pairs that show large differences than to pairs that show small differences. The test statistic is based on the ranks of the absolute values of the differences between the two variables."

For the added dimension of race and gender from the AAS scale, a paired samples *t*-test was performed pairing the means of statements 22 and 26 as well as of statements 24 and 27.

3.5.3 Subproblem three: data analysis

For subproblem three it was theorised that the overall level of anxiety as measured by AAS and the overall level of assertiveness of dietitians as measured by PABS, would be influenced or vary according to the following intrinsic and extrinsic factors: age, sex, birth order, race, language (culture/religion), socio-economic status, years of work experience, education (pre and post registration training), professional training (university attended), assertiveness training, self-efficacy and job satisfaction.

The overall level of anxiety from AAS and the overall level of assertiveness from PABS, were tested against the age groups using the Kruskal-Wallis Test. SPSS defines Kruskal-Wallis test as "A nonparametric equivalent to one-way ANOVA. Tests whether several independent samples are from the same population. Assumes that the underlying variable has a continuous distribution, and requires an ordinal level of measurement." Kruskal-Wallis was also used to test the relationship between levels of anxiety and assertiveness with birth order, socio-economic status and race.

The Mann-Whitney test was used to compare overall level of anxiety and overall level of assertiveness against the professional training (university attended) and education (pre and post registration qualifications). The Mann-Whitney U test was defined by SPSS as "A nonparametric equivalent to the t test. Tests whether two independent samples are from the same population. It is more powerful than the median test since it uses the ranks of the cases. Requires an ordinal level of measurement. U is the number of times a value in the first group precedes a value in the second group, when values are sorted in ascending order." Faulds (2000) maintained that "The Mann-Whitney, Wilcoxon and Kruskall-Wallis are excellent alternatives to their parametric alternatives with powers of 90% plus"

Pearson correlation was defined by SPSS as "A measure of linear association between two variables. Values of the correlation coefficient range from -1 to 1. The sign of the coefficient indicates the direction of the relationship, and its absolute value indicates the strength, with larger absolute values indicating stronger relationships." Pearson correlation was used to correlate the overall level of assertiveness (PABS total), overall level of anxiety (AAS total) with sex, years of employment, levels of self-efficacy (SES total), exposure to assertiveness training and levels of job satisfaction (KBJSS total).

Step-wise regressions were also used to identify which of the variables were the strongest predictors of the overall level of anxiety and overall level of assertiveness. SPSS described linear regression as follows: "Regression Analysis(:) Estimation of the linear relationship between a dependent variable and one or more independent variables or covariates. Linear Regression estimates the coefficients of the linear equation, involving one or more independent variables, that best predict the value of the dependent variable. For

example, you can try to predict a salesperson's total yearly sales (the dependent variable) from independent variables such as age, education, and years of experience." There are many options or variations in using multiple regression. A popular one and the one used here the step-wise, selects predictors one by one, stopping the analysis when no further predictors improves the prediction statistically significantly (Faulds 2000).

3.5.4 Subproblem four: data analysis

It was theorised that levels of self-efficacy would have been related to a variety of factors, namely degrees of difficulty with assertiveness as measured by the AC, overall level of anxiety as measured by AAS, overall level of assertiveness as measured by PABS, age, sex, birth order, race, language, socio-economic status, years of work experience, education, professional training, assertiveness training, job satisfaction, where dietitians were employed and areas of dietetic practice. A step-wise regression analysis was performed using self-efficacy as the dependent variable and the other factors as independent variables.

3.5.5 Subproblem five: data analysis

It was theorised that levels of job satisfaction would have been related to a variety of factors, namely degrees of difficulty with assertiveness as measured by the AC, overall level of anxiety as measured by AAS, overall level of assertiveness as measured by PABS, age, sex, birth order, race, language, socio-economic status, years of work experience, education, professional training, length of exposure to assertiveness training, self-efficacy, where dietitians were employed and areas of dietetic practice. A step-wise regression analysis was performed using job satisfaction as the dependent variable and the other factors as independent variables.

CHAPTER 4 POPULATION AND SAMPLE CHARACTERISTICS

4.1 Demographic Analysis of Dietetics in South Africa Using the HPCSA Register of Dietitians: The Target Population

4.1.1 Development of the dietetics profession

An analysis using the HPCSA register of dietitians was performed so that a global view of the target population, HPCSA registered dietitians, could be obtained. Of the 1260 dietitians registered at the HPCSA, in September 1999, 96.6% (n=1,217) were female and 3.4% (n=43) were male (Hoffman 1999).[1]

An analysis of the initial 1999 list of registered dietitians at the HPCSA, disclosed the following information on the dietetic profession. One dietitian on the HPCSA register was originally registered in 1949, and 5 were registered in the 1950's. From the 1970's, 1980's and 1990's the total number of registered dietitians rose from 72 to 417 and finally to 1260. In the early 1980's, registration of dietitians and undergraduate dietetic students with the HPCSA became compulsory which would have partially accounted for the growth in numbers during the 1980's. In 1993, registered dietitians numbered 730, which demonstrates that there has been real growth in the profession even though a number of dietitians would have retired over the years and discontinued their registration. The dietetics profession has undergone exponential growth in the last 10 years (Table 11 & Figure 7) and the conclusion drawn from this, is that dietetics is a young profession with more than half of the professionals having 10 or less years' experience.

Table 11: Numbers of dietitians currently registered from 1949 to date

Years	Numbers registered per decade	As a percentage	Running totals registered per decade	As a percentage
1949	1	0.08	1	0.08
1950 -1959	4	0.32.	5	0.40
1960 - 1969	7	0.56	12	0.95
1970 - 1979	60	4.76	72	5.71
1980 - 1989	345	27.38	417	33.10
1990 - 1999	746 (on register) plus 97(on database) = 843	59.21	1260	100.00

[1] Note that there is a discrepancy in the number of registered dietitians. The HPCSA register of dietitians (n=1163) and the information obtained from the IT help desk of the HPCSA (n=1260) differ. This is because the register made available by the HPCSA, was printed out at the beginning of 1999. Updated information obtained from Hoffman was information available on the data base at the HPCSA but was not available as a hard copy for this researcher to use.

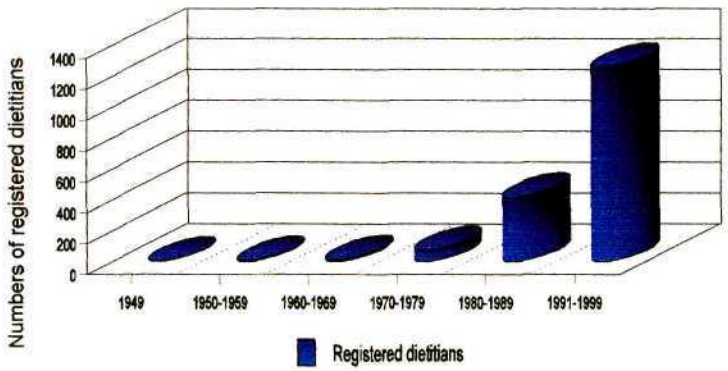

Figure 7: Numbers of registered dietitians in decades since 1949

2.3.1 Minimum requirements for registration and training institutions

There were several ways to conform to the minimum requirements for registration as a dietitian with the former South African Medical and Dental Council and the current HPCSA. These were:

- a basic dietetic degree which could have been a BSc(Diet), a B(Diet), a BSc(Home Econ) with majors in nutrition and diet therapy plus a Postgraduate Diploma in either Dietetics or Hospital Dietetics
- an integrated degree, BSc (Diet) which incorporated the equivalent of the Postgraduate Diploma in Dietetics as part of the degree or
- a basic biological/medical but non-dietetic BSc plus a Diploma in Therapeutic Dietetics (initially) or a two year Medical Honours degree in Dietetics (latterly) which included dietetic subjects and incorporated an equivalent to the Postgraduate Diploma in Dietetics.

A number of institutions in the Republic of South Africa, train dietitians for their first dietetic degree. These are the Universities of Pretoria, Stellenbosch, Natal, Potchefstroom, Orange Free State, Medunsa, Western Cape and the North. According to the HPCSA register of dietitians (1999), the graduates from these institutions are represented as follows: Pretoria 317, Stellenbosch 233, Natal 155, Potchefstroom 145, Medunsa 52, Orange Free State 109, Western Cape 32, and the North 23 (Table 12 & Figure 8). The Universities of Pretoria, Stellenbosch and Potchefstroom have trained dietitians since the late 1940's and early 1950's and were traditionally Afrikaans medium universities.

The University of Natal, traditionally an English medium university, has been training dietitians since the early 1970's. The Universities of the Orange Free State and Western Cape were also traditionally Afrikaans medium universities and have been training dietitians since the early 1980's and 1990's respectively. Medunsa since the late 1970's and the University of the North since the early 1990's were the universities who historically trained

Black dietitians in the medium of English. In the mid 1980's the University of Cape Town initially offered a postgraduate Diploma in Therapeutic Dietetics. This University has subsequently offered a BSc Medical Honours degree to graduates of three year biological, non-dietetic BSc Degrees since 1990. The University of Cape Town has 70 graduates and is an English medium university.

Table 12: University graduates according to the HPCSA analysis

University	Graduate numbers	University	Graduate numbers
Pretoria	317	Cape Town	70
Stellenbosch	233	Medunsa	52
Natal	155	Western Cape	32
Potchefstroom	145	the North	23
Orange Free State	109		

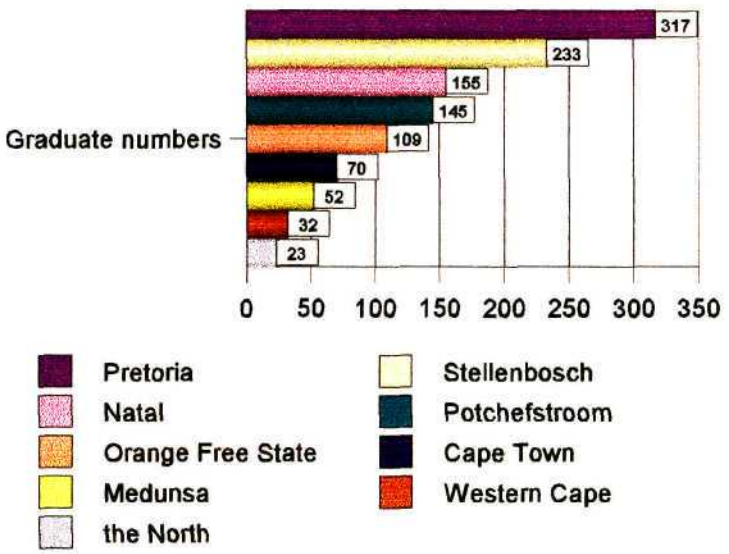

Figure 8: South African University Graduates in Dietetics as registered with the HPCSA in 1999

4.1.3 Home language and place of residence

Scrutinizing the numbers graduating from the Afrikaans medium universities of Pretoria, Stellenbosch, Western Cape, Potchefstroom and the Orange Free State, the majority of dietitians would have been Afrikaans speaking. The next largest group would have been english-speaking dietitians and the next largest group would be made up of individuals speaking one of the nine indigenous languages.

Looking at places of residence, of the 1163 dietitians in the HPCSA register, 433 (37%) of dietitians lived in Gauteng, 292 (25%) in the Western Province, 122 (11%) in KwaZulu Natal (Table 13). The Northern Cape

had the least number of dietitians 17 (1%). Two percent of South African registered dietitians reside outside the country.

Table 13: Distribution of Dietitians in South Africa (n=1163)

Province	Numbers of Dietitians	Distribution		Population numbers (1996 census) mil	% population distribution in RSA
		total %	just in RSA		
Gauteng	433	37	38	7.348	18
Western Cape Province	292	25	26	3.957	10
KwaZulu Natal	122	11	11	8.417	21
North Western Province	71	6	6	3.355	8
Free State	69	6	6	2.634	6
Eastern Cape	55	5	5	6.303	16
Northern Province	46	4	4	4.929	12
Mpumalanga	37	3	3	2.801	7
Northern Cape	17	1	1	0.840	2
Outside South Africa	18	2			
Unknown	3				
Total	1163			40.584	

When compared to the population distribution according to the 1996 South African Census, it was noted that Gauteng had the largest number of dietitians which was disproportionate to the population distribution. A paired sample *t*-test revealed that there was a significant (p =0.03) difference in the between distribution of dietitians in the nine provinces and the population distribution in the nine provinces (Table 14, Figure 9). Information provided by the HPCSA analysis was used to compare the target and research populations to establish whether the research population was representative of the target population.

Table 14: Paired sample *t* -test comparing distribution of dietitians and the population in RSA

Paired differences between dietitians and RSA population distribution					t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
122.38	139.97	46.66	14.79	229.97	2.62	8	**0.03**

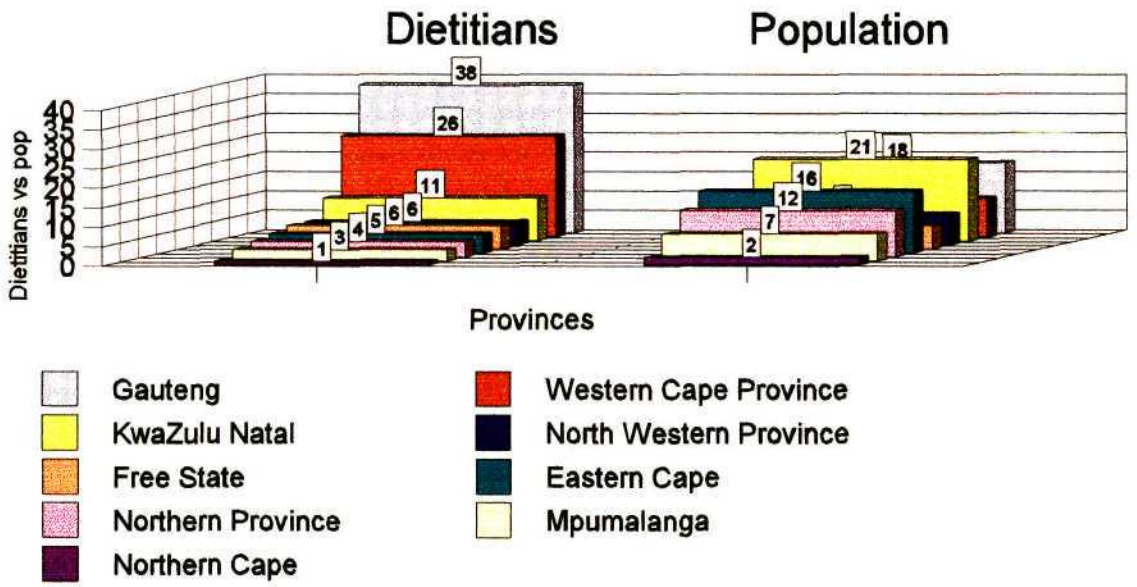

Figure 9: Comparison of the distribution of dietitian in RSA with population distribution

4.2 Demographics of the Research Sample

Initially 85 subjects responded. After a reminder, a further 60 questionnaires were returned making a total of 145 useable questionnaires. Of the 145 questionnaires returned, 10 were male and 135 female respondents. The demographic variables of the research sample were as follows:

4.2.1 Age and age categories

The average age of the sample was 32.4 years (±8.56). When divided into the age categories 17,9% were 25 years and younger, 36.6% were between 26 and 30 years, 20% were 31 to 35 years and 25.5% were older than 36. This reiterated the youthfulness of the sample where more than half, 54.5% were 30 years and younger (Table 15).

Table 15: Age category (n=145)

	Frequency	Valid Percent	Cumulative Percent
< 26 years	26	17.9	17.9
26 - 30 years	53	36.6	54.5
31 - 35 years	29	20.0	74.5
36 years and older	37	25.5	100.0

4.2.2 Sex distribution

The distribution of male and female was 10 (6.9%) male and 135 (93.1%) female, (Table 16). Registered male dietitians made up 3.4% of the profession in the HPCSA analysis. Males made up 6.9% of the research sample because rather than sampled, all the registered male dietitians were chosen for the sample and mailed the questionnaire.

Table 16: Distribution of sex in the sample (n=145)

	Frequency	Valid Percent
Male	10	6.90
Female	135	93.80

4.2.3 Birth order

Of the subjects 39% (n=57) were the eldest in their families, 26% were the second eldest (n=38), 22% (n=32) the third sibling and 12% (n=18) were born fourth or later (Table 17). It was expected that position of birth order would affect the levels of assertiveness (Murawski, Miederhof & Rule 1995).

Table 17: Birth order of subjects (n=145)

Birth order	Frequency	Percent	Cumulative Percent
1st	57	39.30	39.30
2nd	38	26.20	65.50
3rd	32	22.10	87.60
4th and later	18	12.40	100.00

4.2.4 Racial composition of the sample

Subjects were asked whether they were black, coloured, Indian, white or specified other. The research sample consisted of 10% (n=15) black, 2% (n=3) coloured, 6% (n=8) Indian, 81% (n=118) white and less than 1% (n=1) other individuals (Table 18). The majority of Indians spoke English (n=7) as a home language and all the coloured subjects spoke Afrikaans as a home language. It was expected that race would influence the levels of assertiveness and anxiety (Furnham 1979).

Table 18: Racial composition of the sample (n=145)

	Frequency	Valid percent	Cumulative percent
White	118	81.40	81.40
Black	15	10.30	91.70
Indian	8	5.50	97.20
Coloured	3	2.10	99.30
Other	1	0.70	100.00

4.2.5 Home language

As previously shown in the HPCSA analysis, the largest number of degrees had been awarded by the Afrikaans institutions. In the sample and as expected, Afrikaans also comprised the majority of home languages, 50% (n=73). This was followed by English 36% (n=52), TshiVenda 5% (n=7), Sepedi 3% (n=5), other (mainly German, n=3) 3% (n=5), SeSotho 1% (n=2) and IsiZulu1% (n=1), (Table 19). These findings agreed with those obtained from the HPCSA analysis. A total of 15 indigenous home languages were listed which was the same as the number of black subjects in the sample (Table 19). This meant that the black subjects listed one of the indigenous languages as a home language and not English or Afrikaans as was found in the other racial groups.

Table 19: Home language

	Frequency	Valid Percent	Cumulative Percent
Afrikaans	73	50.30	50.30
English	52	35.90	86.20
TshiVenda *	7	4.80	91.00
Sepedi *	5	3.40	94.40
other	5	3.40	97.80
SeSotho *	2	1.50	99.30
IsiZulu *	1	0.7	100
IsiXhosa, IsiNdebele, SeTwsana, XiTsonga & SiSwati *	0	0	100
* indigenous languages total	15		

4.2.6 Socio-economic status.

Father's occupation was used to measure socio-economic status where the occupations from the questionnaires were ranked and coded according to Schlemmer & Stopforth's guide (1979, p10). It was noted that almost 70% (n=96) of the sample fell within the top five rank and coding order of

- Independent and high professional
- High managerial, executive and administrative in large organizations
- Salaried professionals
- Semi-professional and
- Lower executive and administrative occupations (Table 20).

Of the subjects19% (n=27) were ranked in the top group of the rank and coding order which were the Independent and high professional occupations. The results of the condensed rankings of occupations were: "professional" 53.2% (n=74), "semi-professional" 21.6% (n=30), "clerical" 14.4% (n=20), and labourer, non-labour routine and menial" 10.8% (=15) (Table 21). Once again the majority, 53% of the sample fell in the higher socio-economic group of "professional".

Table 20: Fathers' occupation - socio-economic status (n=140)

CASS occupational group (Schlemmer & Stopforth 1979, p10).	Rank & coding order	Frequency of the research sample	Valid Percent	Cumulative Percent
Independent and high professional	1	27	19.30	19.30
High managerial, executive and administrative in large organizations	2	25	17.90	37.10
Salaried professionals	3	22	15.70	52.90
Semi-professional	4	7	5.00	57.90
Lower executive and administrative	5	15	10.70	68.60
Production managers, technical executives, works foreman, executive inspectors	6	1	0.70	69.30
Representatives, agents, salesmen	7	7	5.00	74.30
Owners and executives in small commerce and services	8	10	7.10	81.40
Senior clerical	9	3	2.10	83.60
Less senior clerical	10	2	1.40	85.00
Working proprietor of small commerce & services	11	5	3.60	88.60
Farmers (excepting very large and industrialized operators)	14	4	2.90	91.40
Manual foreman and high craft	15	5	3.60	95.00
Skilled artisan/craft in manufacturing and "other".	16	1	0.70	95.70
Skilled artisan/craft in construction	17	4	2.90	98.60
Menial routine and labour activities	20	2	1.40	100.00
	Total	140	100.00	

Table 21: Results of the condensed groupings for socio-economic status

Socio-economic status	Frequency	Valid Percent
Professional	74	53.20
Semi-professional	30	21.60
Clerical	20	14.40
Labourer, non-labour routine and menial	15	10.80

4.2.7 Years of work experience

The average total number of years that the subjects (n=144) were employed was 7.6 (±6.7) years ranging between 0 and 31 years. This supported the view that dietetics in South Africa was a relatively young profession where the mean number of years experience was less than 10 years.

4.2.8 Education, (pre- and post registration training)

The results showed that the largest number of subjects 46% (n=66) obtained a 3-year BSc Dietetics Degree. Thirteen percent (n=19) completed a 3-year B Dietetics degree and four percent (n=6) completed a BSc Home Economics degree. Of these 91 graduates, 77 proceeded to a Postgraduate Diploma in (Hospital) Dietetics to complete the minimum requirements for registration as a dietitian. Twenty percent (n=29) completed the 4-year integrated BSc Dietetics degree. Six percent (n=9) completed the Postgraduate Diploma in Therapeutic Dietetics in conjunction with a non-dietetic BSc and 8% (n=11) the BSc Medical Honours also with a non-dietetic BSc degree.

Postgraduate qualifications obtained beyond minimum registration prerequisites included 15% (n=21) BSc Honours in Dietetics, 8% (n=11) MSc degrees in Dietetics and less than 2% (n=2) PhD degrees. This meant that almost a quarter of the sample of 145, twenty-three percent (n=34) had higher level dietetics qualifications. It was expected that higher qualifications would lead to lower degrees of difficulties with assertiveness, lower rates of anxiety and higher levels of assertiveness.

Of the sample, 14% (n=21) had additional qualifications outside the area of dietetic practice. These included diplomas in theology, aerobics instruction, oral hygiene, strategic planning and an MBChB.

4.2.9 Professional training - (university attended)

The University of Pretoria had the highest numbers 29% (n=56) of attendees which matched the findings of the HPCSA analysis (Table 12). Subjects attended the following universities in decreasing order of numbers, Stellenbosch 19% (n=37), Natal 17% (n=33), Potchefstroom 9% (n=18), Cape Town 8% (n=16), Orange Free State 7% (n=9), Medunsa 6% (n=9), University of the North 3% (n=5), University of the Western Cape 2% (n=4) (Table 22). Two percent (n=4) obtained post registration qualifications outside South Africa. The total percentages added up to more than 100% because some of the subjects trained in more than one institution.

Table 22: University/ies attended

University of	N	percent	valid percent	University of	N	percent	valid percent
Pretoria	56	40.00	29.32	Cape Town	16	11.00	8.38
Stellenbosch	37	26.00	19.37	Medunsa	9	6.00	4.71
Natal	33	23.00	17.28	the North	5	3.00	2.62
Orange Free State	9	7.00	4.71	Western Cape	4	3.00	2.09
Potchefstroom	18	12.00	9.42	Outside RSA (post -reg qual)	4	3.00	2.09
				total	191	134	100

These trends compared with HPCSA analysis except for the following pairs of the Universities of Cape Town and Orange Free State and the Western Cape and the North which showed a reverse of the trends. This meant that there was a difference between the target population and the research population in the numbers that attended these Universities. In terms of the numbers qualified at the various institutions, overall versus numbers in the research sample, the Pearson correlation analysis yielded a significant correlation (p=0.00) between the findings of the HPCSA and the research results (Table 23). There was therefore a strong correlation (r=0.96) between the target and research population regarding attendance at university.

Table 23: Correlation of universities attended in HPCSA analysis and in the findings of the research sample

	HPCSA::Research sample
Pearson Correlation	0.96
Sig. (2-tailed)	0.00
N	9

** Correlation is significant at the 0.01 level (2-tailed).

4.2.10 Assertiveness training

The majority of the dietitians, 63% (n=92) had no formal training in assertiveness, 21% (n=31) had between 1 and 4 hours and 15% (n=21) had more than 4 hours, less than 1% (n=1) did not answer the question (Table 24). This meant that 85% of the sample had either none or less than four hours training in assertiveness which showed that there was either limited opportunity, interest or knowledge of assertiveness training amongst dietitians.

Table 24: Attendance of formal assertive training sessions (n=144)

	Frequency	Valid Percent
No training	92	63.90
One to four hours training	31	21.50
More than four hours	21	14.60

4.2.11 Areas of practice as a dietitian

Three main areas of practice, were specified in the Medical, Dental and Supplementary Health Service Professions Act, 1974, the Regulations Defining the Scope of Dietetics 1991, as community nutrition, food service management and therapeutic nutrition. An additional area that could be specified by the subjects was also listed in the questionnaire. When analysed, it was noted that the design of this question allowed subjects to answer yes in more than one area. The number of dietitians involved in community nutrition was 28, in therapeutic nutrition 89, in food service management 37, and other areas 41. Those who were not working at all, totalled 12.[2] Those who had retired (n=3) had been classified into areas where they were previously employed.

When the "areas worked in" were analysed differently by separating those who worked exclusively in one area then it was seen that 35% (n=51) worked in a combination of the three areas of therapeutic nutrition, community nutrition and food service management, 31% (n=45) exclusively in therapeutic nutrition, 6% (n=9) worked exclusively in community nutrition, 6% (n=8) were in food service management.

Fourteen percent (n=20) worked exclusively in other areas such as education, research or outside the profession, 8% (n=12) were not working at all and 35% (n=51), worked in a combination of two or more of the three specified areas of community nutrition food service management, therapeutic nutrition and "specified other" such as education or research (Table 25). This would have implications in later analysis where subjects would be classified either as working in a combination of areas which would not be specified or as exclusively in one area.

[2] It was assumed that those who were not working would have answered according to previous experience

Table 25: Area of practice (n=145)

Area of practice	Number exclusively involved in the 1st column items	% of total
In various combinations of therapy, community and food service	51	35
Therapeutic nutrition	45	31
Other	20	14
Not working at all	12	8
Community nutrition	9	6
Food service management	8	6

4.2.12 Where dietitians were employed and length of employment in current situation.

The state employed 29% (n=39) of the dietitians in the sample (Table 26). Self-employed dietitians made up 27% (n=36) and the private sector employed 17% (n=23) dietitians. Educational institutions employed 8% (n=10), non governmental organisations (NGO), (n=3) and other specified groups (n=3) employed 2% each. Dietitians in combined employment of institutions and themselves numbered 14% (n=19). Of the combination of employers the largest number of dietitians in combined employment was between private companies (n=10) and self-employment where dietitians acted as consultants to private companies. The length of employment in the subjects' current situation varied between 0 and 23 years, the mean was 3.98 (±3.9) years. The mean and standard deviation once again attested to the lack of depth in experience and the youthfulness of the profession.

Table 26: Employers of Dietitians (n=133)

Employer	Frequency	Valid Percent
State	39	29.30
Self employed	36	27.10
Private company	23	17.30
Combinations of the above	19	14.30
Educational institution	10	7.50
NGO	3	2.30
Other	3	2.30

Summary

From the demographic information the profile of the average dietitian was a white, Afrikaans, female in her late twenties to early thirties, employed either by the state or self-employed. She probably attended the University of Pretoria and had a Bachelor of Science (Dietetics), a Postgraduate Diploma in (Hospital) Dietetics and had no formal training in assertiveness. This dietitian was probably the eldest daughter of a father in one of the top five socio-economic occupations. She was working in all three areas of dietetics or exclusively in therapeutic nutrition in Gauteng and been in her current situation for 4 years (Figure 10). That she was in her late twenties to early thirties but had been her current position for four years was suggestive of time taken off for marriage and raising children.

The results of the research sample corresponded to the HPCSA analysis in the following areas, language and university attended.

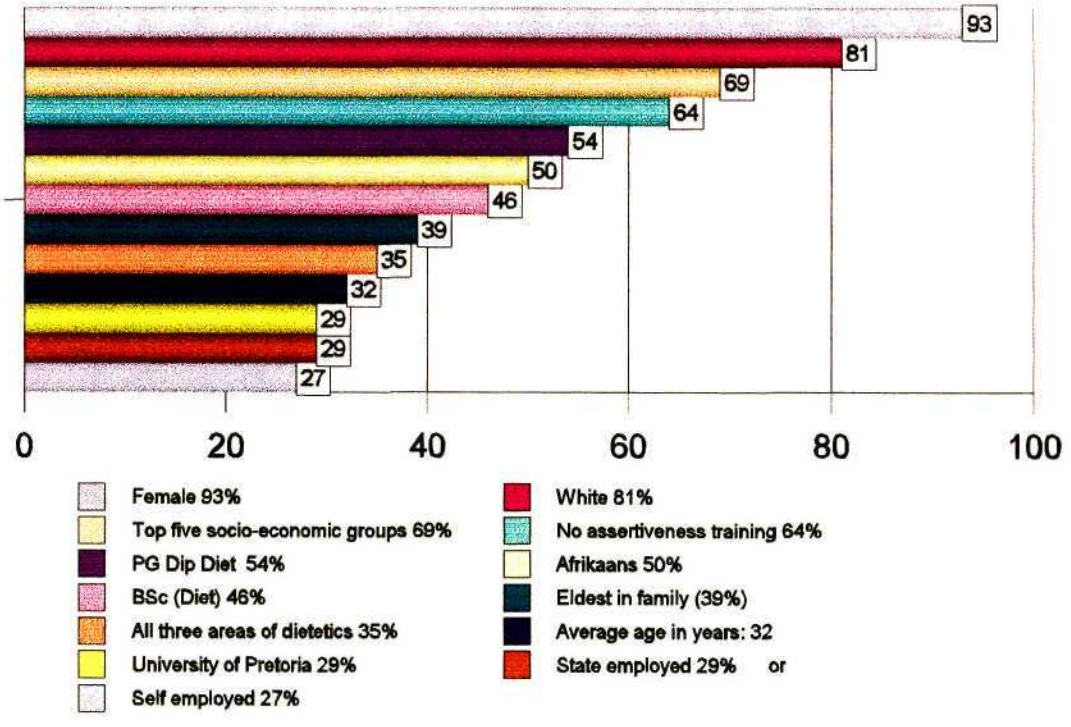

Figure 10: The profile of the average dietitian in the sample

4.3 Results of Scales Measuring the Variables, Sample Size, Range, Means, Standard Deviations and Totals

4.3.1 Negative Responding (NR) Scale and Negative Inititiating (NI) Scale of QAAB

The NR and NI Scale of QAAB comprised questions from PABS. The greater the score the higher the levels of assertiveness. The mean for NR was 34.41(±4.37) and for NI was 33.62 (±4.45)(Table 27). Because this was a derived scale, there were no means with which these results could be compared. Sundel & Sundel (1981 p23) stated that a less than 15 for five items on the PABS was cause for concern. Therefore for a score of less than 18, for the total of nine items would have been a problem. This figure of 18 has been used as the test level. The average of 34.41 and 33.62 were acceptable levels of assertiveness in the negative areas of QAAB.

Table 27: NR and NI means range and standard deviations (n=145)

	Range	Minimum	Maximum	Mean	Mean per item	Std. Deviation
NR	34.00	10.00	44.00	34.41	3.82	4.37
NI	36.00	9.00	45.00	33.62	3.74	4.45

A one sample *t*-test on both mean of NR and NI revealed that they were both significantly greater ($p = 0.00$)[3] than the test value of 18 (Table 28).

Table 28: One sample *t*-test, testing the NR and NI mean against the test value 18 (n=145)

	Test Value=18					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
NR	45.23	144	0.00	16.41	15.69	17.12
NI	42.33	144	0.00	15.62	14.89	16.35

[3] It must be noted that for all the significance tests in the programme SPSS, that column space for only 3 decimal places after the decimal point have been allocated. This meant that a score of p=0.000 was in actual fact a score of or a score less than p=0.0005. Wherever a significance of p=0.00 was given in the tables or the text in this dissertation it should be translated as being $p \leq 0.0005$.

4.3.2 The Assertiveness Checklist (AC)

The Assertiveness Checklist (AC) was used by the subjects to give an indication of the specific areas where they may have encountered difficulties in assertiveness. Individual scores were rated out of five. Lower scores (1 - 2) indicated no or little difficulty in behaving assertively. A middle score (3) indicated a fair amount of difficulty and higher scores (4 - 5) indicated more or a great deal of difficulty. The higher the score the greater the amount of difficulty was experienced in dealing with groups of individuals. The subjects in the sample measured a mean of 1.38 (±0.69) when rating interaction with patients (Table 29). When dealing with colleagues, subjects rated themselves as 1.70 (±0.82). With subordinates the subjects' mean rate was 1.63 (±0.77). The mean rate for dealings with supervisors was 1.99 (±1.01). Dealings with allied professionals were rated at 1.96 (±0.90) and with *specified others* at 1.87 (±1.18). It was noted that the standard deviation of the means was about half of the mean which meant that there was a wide range of answers. The degrees of difficulty were low for all five groups of individuals which meant that the subjects had few perceived difficulties in dealings with the five groups. This was an unexpected result. It was expected that there would be a progressive increase in the degree of difficulty starting with lower levels with patients and finishing on higher levels with allied professionals. Colleagues and supervisors went against the expected trend.

Fifty-eight of the 350 respondents specified with whom they had encountered problems and/or made comments regarding home language or job satisfaction. Where subjects were requested to specify with whom, they had particular difficulties amongst allied professionals (n=31),[4] doctors were mentioned most often at 25 times with

Table 29: Assertiveness Checklist (AC) - range, means and standard deviations.

Interaction with	N	Range	Min	Max	Mean	Std. Deviation
Patients	145	4	1	5	1.38	0.69
Colleagues	144	4	1	5	1.70	0.82
Subordinates	140	3	1	4	1.64	0.78
Supervisors	138	4	1	5	1.99	1.00
Allied professionals	143	4	1	5	1.97	0.90
Specified others	45	4	1	5	1.87	1.18

varying degrees of difficulties ranging from four down to one (Table 30). What was interesting was that of the 25 subjects who listed doctors as individuals with whom they had difficulties only eight of the 25 rated them at

[4] Note: although a total of 31 subjects had responded, the total in the table was 41 because some respondents specified more than one allied professional (Table 30).

three and higher indicating that the other 17, had little or no difficulty with doctors. Although this corresponded with the levels found in the means of AC (Table 29), it was an unexpected result because Conway *et al* (1996) indicated that women had lower perceived status than men and would therefore be less assertive with men. Dietitians were predominantly female, and were anticipated to be less assertive with the allied professionals and especially doctors because doctors belonged to a predominantly male profession.

Other allied professionals excluding the doctors, were specified by the subjects as nurses, professors and heads of disciplines, pharmacists, physiotherapists, psychologists and non-registered practitioners. Of this group totalling 16, three registered a level of three, the rest, 13 in total registered two and less also indicating that dietitians had little or no difficulty with these professionals (Table 30).

Table 30: Specified difficulties with allied professionals (n=31)

Allied professionals	n		Level of difficulty
Doctors	6		Level 1 no difficulty
	11		Level 2 a little difficulty
	6		Level 3 a fair amount of difficulty
	2		Level 4 more difficulty
Total	**25**		
Nurses	1		Level 1 no difficulty
	4		Level 2 a little difficulty
	2		Level 3 a fair amount of difficulty
Total	**7**	7	
Professors and heads of discipline	1		Level 1 no difficulty
	2		Level 2 a little difficulty
	1		Level 3 a fair amount of difficulty
Total	**4**	4	
Pharmacists	**2**	2	Level 3 a fair amount of difficulty
Physiotherapists	**1**	1	Level 2 a little difficulty
Psychologists	**1**	1	Level 1 no difficulty
Non-registered practitioners	**1**	1	Level 2 a little difficulty
		16	

4.3.3 Assertiveness Anxiety Scale

The Assertiveness Anxiety Scale (AAS) was used to measure the level of anxiety felt when subjects had to respond in specified situations. Individual scores were rated out of five. Lower scores (1 - 2) indicated no or little anxiety, a middle score (3) indicated a fair amount of anxiety and higher scores (4 - 5) indicated more or a great deal of anxiety. The higher the score the greater the levels of anxiety. The total mean score for the overall AAS was 50.02 (±14.60). The minimum and maximum scores for AAS were 27 and 93 with the range

at 66. The minimum and maximum scores of Five Anxiety Scales of AAS with the five individual groups were four and 23. The results of the Five Anxiety Scales of AAS were as follows: Anxiety Scale with Patients 9.40 (±3.05); Anxiety Scale with Colleagues 10.29 (±3.42); Anxiety Scale with Subordinates 9.68 (±3.61); Anxiety Scale with Supervisors 10.68 (±3.64) and Anxiety Scale with Allied Professionals 9.97 (±4.22). The mean score for the two additional questions on race and gender were 4.43 (±1.88)(Table 31). It appeared that individuals experienced greater levels of anxiety when dealing with colleagues and supervisors than when dealing with patients. This was an expected result because individuals of lower rank would be more concerned about what others thought of them which could give rise to anxiety (Gilbert & Allen 1994).

Table 31: Assertiveness Anxiety Scale (AAS) range, means and standard deviation (n = 145)

	Range	Minimum	Maximum	Mean	Std. Deviation
Overall score for measuring anxiety (excluding ques 26&27)	66	27	93	50.02	14.60
Anxiety Scale with Patients	16	5	21	9.40	3.05
Anxiety Scale with Colleagues	16	5	21	10.29	3.42
Anxiety Scale with Subordinates	19	4	23	9.68	3.61
Anxiety Scale with Supervisors	18	5	23	10.68	3.64
Anxiety Scale with Allied professionals	19	4	23	9.97	4.22
Anxiety Scale with Allied Professionals & Race and Gender.	9	1	10	4.43	1.88

AAS was a contrived scale from two different scales. These were the situations originally described by Sundel & Sundel (1981, pp20 -22) which were altered to suit dietetics and used the Likert Scale terms of the Assertive Inventory - Discomfort (AI.D) (Gambrill & Richey 1975) which described the levels of anxiety in AAS. For this reason there were no previous results available for comparison. The mean score per question of AI.D was 2.39 for females and 2.4 for males from the study on social science students (Gambrill & Richey 1975). With reservation, the AI.D figures could be used as an indication of expected levels of anxiety in AAS. The average mean score for each statement of AAS, was $({}^{50.02}/_{25}) = 2.01$ which was lower than the 2.39 - 2.4 for AI.D. These results could have had one of two explanations. Firstly it could have been an indication that the difference found was because the two scales differed from each other or secondly because there was actually a difference between the sample cited in the literature and the research sample.

A one sample *t*-test was performed, where the test mean used, was the computed mean from AI.D (2.39*25), where 25 was the total number of statements in the overall AAS (Table 32). The dietitians scored significantly lower (p=0.00) in their levels of anxiety when compared to the social science graduates of the Gambrill & Richey (1975) sample. However, as stated previously this result would need to be viewed with reservation.

Table 32: One sample *t*-test, testing the overall total AAS score against computed mean from AI.D 2.39 * 25 = 59.75 (Gambrill & Richey 1975) (n=143)

Test Value=59.75							
	Mean	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
AAS score	50.18	-7.8	142	0.00	-9.58	-11.99	-7.16

4.3.4 Probability of Assertive Behaviour Scale

The Probability of Assertive Behaviour Scale (PABS) was used to measure the likelihood of an assertive response when subjects had to rate the trueness of statements applicable to themselves. The statement score was rated out of five. Lower scores (1 - 2) indicated that the statement was never or rarely true of them, a middle score (3) indicated sometimes true of them and higher scores (4 - 5) indicated usually or always true of them. The greater the score, the higher the probability of assertive behaviour. The Five Assertiveness Scales of PABS, were the Assertiveness Scale with Patients, the Assertiveness Scale with Colleagues, the Assertiveness Scale with Subordinates, the Assertiveness Scale with Supervisors and the Assertiveness Scale with Allied Professionals.

The overall PABS mean of the research sample was 94.80 (±9.90) and the minimum, and maximum scores were 25 and 125, with a range of 56 (Table 33). The minimum and maximum scores for the Five Assertiveness Scales of PABS ranged from 9 to 25. The scores for the Assertiveness Scale with Patients 17.92 (±2.43), the Assertiveness Scale with Colleagues 18.43 (±3.10), the Assertiveness Scale with Subordinates 19.34 (±2.55), the Assertiveness Scale with Supervisors 18.82 (±2.79) and the Assertiveness Scale with Allied Professionals 20.19 (±2.94). Contrary to expectations and despite higher anxiety levels, the dietitians' level of assertiveness when dealing with patients was lower than when dealing with allied professionals.

Table 33: Probability of Assertiveness Behaviour Scale (PABS) range, means, standard deviation (n=145)

	Range	Minimum	Maximum	Mean	Std. Deviation
Total score for overall Probability of Assertive Behaviour	56	68	124	94.71	9.93
Assertiveness Scale with Patients	14	11	25	17.92	2.43
Assertiveness Scale with Colleagues	16	9	25	18.43	3.10
Assertiveness Scale with Subordinates	13	12	25	19.34	2.55
Assertiveness Scale with Supervisors	12	13	25	18.82	2.79
Assertiveness Scale with Allied Professionals	13	12	25	20.19	2.94

In the literature the expected overall level of assertiveness of health professionals on the PABS was rated at 99.37 and scores of less than 15 for each of the Five Assertiveness Scales of PABS, indicated that there would be assertiveness difficulties (Sundel & Sundel 1981, p23). A one sample *t*-test was performed, using 99.37 as a test mean, the dietitians scored significantly lower (p=0.00) in their levels of assertiveness when compared to the human service workers (Sundel & Sundel 1981, p23) (Table 34).

Although the assertiveness levels of the dietitians were significantly lower than the test value (99.37, American human service workers) they were still above the minimum acceptable level of (15x5)=75. The South African dietitians had been compared with human service workers from the USA and one would have expected USA human service workers to have higher assertiveness rates. When the Five Assertiveness Scales of PABS were tested against the minimum value of 15, all five scale results were significantly higher (p=0.00) than the test

Table 34: One sample *t*-test, testing the overall total PABS score against the test value 99.37 (n=142)

Test Value=99.37						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Overall PABS score	-5.36	141	0.00	-4.44	-6.08	-2.80

value (15) (Table 35). This meant that the dietitians were significantly more assertive with all five groups of individuals. This result agreed with the results of AC.

Table 35 One sample *t*-test, testing the Assertiveness Scales with the five groups of individuals against the test value 15 (n=143)

Test Value=15							
	Mean	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Assertiveness Scale with Patients	17.91	14.22	142	**0.00**	2.91	2.50	3.31
Assertiveness Scale with Colleagues	18.49	13.86	142	**0.00**	3.49	2.99	3.99
Assertiveness Scale with Subordinates	19.44	21.82	142	**0.00**	4.45	4.04	4.84
Assertiveness Scale with Supervisors	18.82	16.31	142	**0.00**	3.82	3.36	4.28
Assertiveness Scale with Allied Professionals	20.19	20.93	142	**0.00**	5.19	4.69	5.67

4.3.5 Self-efficacy Scale (SES)

The Self-efficacy Scale (SES) was used to measure the levels of self-efficacy. Subjects had to rate the trueness of statements related to themselves. Statement scores were rated out of 5. Lower scores (1 - 2) indicated that the statement was never or rarely true of them, a middle score (3) indicated sometimes true of them and higher scores (4 - 5) indicated usually or always true of them. The greater the score the higher the levels of self-efficacy. The minimum and maximum scores for the instrument were 49 and 85 with a range of 36. The mean for the sample was 69,90 (±7,81) (Table 36).

Table 36: Self-efficacy scale range mean and standard deviation

	N	Range	Minimum	Maximum	Mean	Std. Deviation
SES Total	143	36	49	85	69.90	7.81

In the 1982 study by Sherer *et al* a 14-point (step) Likert scale was used on the SES. The mean score of 376 introductory psychology students was 172.65(±27.31). An arithmetical computation of 172.65 x $^{5}/_{14}$ = 61.66

would make the mean equivalent to the SES mean which was used in this research project. Sherer & Adams (1983) used a 5-point(step) Likert scale on 101 introductory psychology students and their mean was 64.31 (±8.58). The SES mean of the dietitians was significantly higher (p=0.00) than the two means mentioned in the literature (Table 37). This was a pleasing result because raised levels of self-efficacy meant that dietitians had the belief and ability to perform well as dietitians.

Table 37: One sample *t*-test, testing the SES against the test values 61.66 (Sherer & Adams 1983) & 64.31 (Sherer *et al* 1982) (n=143)

Self-efficacy Mean	Test Values	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
69.9	61.66	12.61	142	0.00	8.24	6.95	9.53
	64.31	8.55	142	0.00	5.59	4.30	6.88

4.3.6 Kaldenberg & Becker Job Satisfaction Scale

The Kaldenberg & Becker Job Satisfaction Scale (KBJSS) was used to measure the levels of job satisfaction. Subjects had to rate their agreement with the given statements. Statement scores were rated out of five. Lower scores (1 - 2) indicated that the subjects strongly agreed or agreed to the statement, a middle score (3) indicated that they did not know and higher scores (4 - 5) indicated that they disagreed or strongly disagreed with the statement. The scores were then reversed so that the greater the total score, the higher the levels of Job Satisfaction. The minimum and maximum scores for the instrument were 5 and 25 respectively. The mean for the sample was 12.63 (±4.08) (Table 38).

Table 38: Kaldenberg & Becker Job satisfaction scale range mean and standard deviation (n=142)

	Range	Minimum	Maximum	Mean	Std. Deviation
Job satisfaction	16	4.00	20.00	12.63	4.08

The KBJSS had originally been tested on dentists. Their score was 14.17 (Kaldenberg & Becker 1991). When tested against the test score of 14.7, dietitians scored significantly lower (p=0.00) than the dentists (Table 39). This was a disappointing result because it meant that dietitians were generally dissatisfied with regard to the job. A few subjects chose to comment on job satisfaction in their questionnaires. Dissatisfaction was expressed at the poor remuneration (n=3) and difficulty finding employment as dietitians (n=4). It was also noted that a number of those who were mailed did not respond because they had found employment outside the country.

Table 39: One-Sample *t*-test on KBJSS testing the value 14.7

Test Value=14.17 (Kaldenberg & Becker 1991)						
Job satisfaction mean	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
12.64	-4.45	143	**0.00**	-1.52	-2.20	-0.85

Summary

The results of the scales for measuring the variables could be summarised by giving a profile of the average dietitian. This dietitian rated herself between one and two on a scale of five when dealing with the five groups of individuals, indicating that she had little or no difficulty with any of them. She expressed greater degrees of difficulty with colleagues, supervisors and allied professionals and less with patients and subordinates. Greater anxiety was experienced when dealing with supervisors, colleagues and allied professionals and especially if the allied professionals were of a different race and gender. Her overall assertiveness levels were lower than the American human service worker but higher than the 75 minimum (any figure less than 75 would be indicative of a problem with assertiveness). Contradicting the results of the anxiety levels, the average dietitian was most assertive with allied professionals and least assertive with patients. Assertiveness levels of the average dietitian when dealing with the five groups of individuals rated significantly higher than the cutoff point of 15 where problems would have occurred.

The self-efficacy of the average dietitian was higher than groups quoted in the literature (Sherer & Adams 1983; Sherer *et al* 1982). However, job satisfaction levels were lower than those for dentists (Kaldenberg & Becker 1991).

CHAPTER 5 RESULTS AND DISCUSSION

The purpose of the study was to establish, in a representative sample of registered dietitians, the degree of difficulty with assertiveness, the amount of anxiety, the levels assertiveness, levels of self-efficacy and the amount of job satisfaction. Thereafter it was to determine the interaction of these variables with each other, as well as the effect of the intrinsic and extrinsic factors on these variables. The effect of the situation on the degree of difficulty with assertiveness, levels of anxiety and assertiveness were also to be measured. These situations would include the individuals involved, their relative prestige (power levels) and an area in the Quadrant Areas of Assertive Behaviour (QAAB) in which the subjects may have experienced difficulties. Negative responding (NR) and the negative initiating (NI) areas were the two aspects that were investigated. The Five Anxiety Scales of AAS and the Five Assertiveness Scales of PABS, measured the ranges of levels of anxiety and assertive with the five groups of individuals in the workplace with whom the subjects may have experienced difficulties.

The following subproblems needed to be addressed:
Subproblem one: To measure and identify the two negative areas of assertion in QAAB to establish in which area the subjects were most assertive.

Subproblem two: To identify the degree of difficulty with assertiveness, the levels of anxiety and the levels of assertiveness with five specific groups of individuals in the workplace and the interaction of these variables with each other.

Subproblem three: To determine whether the degree of difficulty with assertiveness, the overall level of anxiety and the overall level of assertiveness were affected by the intrinsic and extrinsic factors. The factors included age, sex, birth order, race, language, socio-economic status, years of work experience, education, professional training, assertiveness training, self-efficacy and job satisfaction levels.

Subproblem four: To determine whether levels of self-efficacy were affected by the degree of difficulty with assertiveness, the overall level of anxiety, the overall level of assertiveness, the intrinsic and extrinsic factors, by the employers of dietitians and by the area of dietetic practice.

Subproblem five: To determine whether levels of job satisfaction were affected by the degree of difficulty with assertiveness, the overall level of anxiety, the overall level of assertiveness, the intrinsic and extrinsic factors, by the employers of dietitians and by the area of dietetic practice. The reliability of the scales and the results of the research subproblem was presented and discussed.

5.1 Reliability of Data Collection Scales

A number of scales measuring the variables were used for various aspects of the subjects' behaviour. These were the NI and NR Scales of PABS, Assertiveness Checklist (AC), the Five Anxiety Scales of AAS and the overall Assertiveness Anxiety Scale (AAS), the Five Assertiveness Scales of PABS and the overall Probability of Assertive Behaviour Scale (PABS), the Self-efficacy Scale (SES) and the Kaldenberg & Becker Job Satisfaction Scale (KBJSS). An Alpha reliability was computed on all the above-mentioned scales. According to SPSS "Reliability analysis allows you to study the properties of measurement scales and the items that make them up. The Reliability Analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Example. Does my questionnaire measure customer satisfaction in a useful way? Using reliability analysis, you can determine the extent to which the items in your questionnaire are related to each other, you can get an overall index of the repeatability or internal consistency of the scale as a whole, and you can identify problem items that should be excluded from the scale. Alpha (Cronbach) (This) is a model of internal consistency, based on the average inter-item correlation." The closer the alpha coefficient was to one the greater the reliability, with a figure of 0.60 the lowest score acceptable (Nunnally 1967, pp210-211).

5.1.1 Negative Responding (NR) Scale and Negative Inititiating Unadjusted (NIU) Scale of QAAB

Two scales derived from PABS to measure the negative assertiveness of the Quadrant Areas of Assertive Behaviour, were the NR and NI Scales. The mean for the NI scale was obtained from NIU which was multiplied by $^{9}/_{14}$ to facilitate comparison with NR. The NR Scale of QAAB consisted of nine statements from PABS and measured the levels of negative responding assertiveness. The reliability coefficient for the NR was 0,51 which meant that the NR was a reliable indicator of the negative responding assertiveness of the subjects (Appendix O, Table 1), when 0.50 was considered the cut off point for reliability as suggested by Faulds (2000). He was prepared to accept a figure of 0.50 for group comparisons (though clearly this was too low for individual scores).

The NIU Scale of QAAB consisted of fourteen statements and measured the levels of negative initiating assertiveness. The reliability coefficient for the NIU Scale was 0.72 which meant that the NIU was a highly reliable indicator for measuring levels of negative initiating assertiveness in subjects (Appendix O, Table 2).

5.1.2 The Assertiveness Checklist (AC)

Of the six items in the AC, the first five items measured the degree of difficulty with individuals in the workplace. The sixth item was omitted from the reliability test for two reasons. Firstly, the sixth item was

for individuals outside the work place and secondly, only a limited number of subjects (n=44) had rated this item. Five of the six items from AC were therefore used to test the reliability. The reliability coefficient for the AC was 0,80 which meant that the AC was a highly reliable indicator of the degree of difficulty as expressed by the subjects (Appendix O, Table 3).

5.1.3 The Five Anxiety Scales from AAS and the overall Assertiveness Anxiety Scale (AAS)

The Anxiety Scale with Patients which measured the overall level of anxiety when the subjects interacted with patients had a reliability coefficient alpha of 0.71. This meant that the Anxiety Scale with Patients was a highly reliable indicator for measuring levels of anxiety when dealing with patients (Appendix O, Table 4).

The Anxiety Scale with Colleagues which measured the levels of anxiety when dealing with colleagues had a reliability coefficient alpha of 0.74. This meant that Anxiety Scale with Colleagues was a highly reliable indicator of anxiety when dealing with colleagues (Appendix O, Table 5).

The Anxiety Scale with Subordinates which measured the levels of anxiety when dealing with subordinates had a reliability coefficient alpha of 0.85. This meant that the Anxiety Scale for Subordinates was a highly reliable indicator of anxiety when dealing with subordinates (Appendix O, Table 6).

The Anxiety Scale with Supervisors which measured levels of anxiety when the subjects were dealing with supervisors had a reliability coefficient alpha of 0.75. This meant that the Anxiety Scale with Supervisors was a highly reliable indicator of anxiety when dealing with supervisors (Appendix O, Table 7).

The Anxiety Scale with Allied Professionals which measured the levels of anxiety when the subjects interacted with allied professionals had a reliability coefficient alpha of 0.91. This meant that the Anxiety Scale with Allied Professionals was the most reliable of all the scales. The Anxiety Scale with Allied Professionals was a highly reliable indicator of anxiety when dealing with allied professionals (Appendix O, Table 8).

The AAS measured the overall level of anxiety when dealing with all the groups. The reliability coefficient alpha was measured at 0.93 which meant that AAS was a reliable indicator of anxiety (Appendix O, Table 9). The results from all these scales could therefore be interpreted as being correct.

5.1.4 The Five Assertiveness Scales of PABS and the Probability of Assertive Behaviour Scale(PABS)
The Assertiveness Scale with Patients which measured the levels of assertiveness when the subjects interacted with the patients, had a reliability coefficient alpha of 0.07. This meant that the Assertiveness Scale with Patients was not a reliable indicator of levels of assertiveness when dealing with patients (Appendix O, Table 10) because the reliability coefficient was lower than the cutoff of 0.50.

Items PA3 and PA5 were the two items with the lowest item correlation -0.19 and -0.16 and when they were removed from the analysis, the scale approached reliability with a score of 0.48 (Appendix O, Table 11). A low Alpha score was because some of the statements in the scale were answered so that they contradicted the trend set by the other answers in the same scale. This was an unexpected result because Rabin & Zelner (1992), reported a reliability coefficient of 0.89 for Assertiveness Scale with Patients. One of the reasons for this unexpected result could have been because of the way dietitians interpreted the statements. The scale was presented in English and since the majority of the subjects did not speak English as a home language this may have accounted for the anomaly. PA 3 and PA5 were the only two statement scores which were reversed when being scored. Some dietitians may have thought that it was acceptable to respond in a non assertive manner in these two instances. Statement PA3 dealt with the "client's" non adherence to instructions which some dietitians may have thought more appropriate/assertive to ignore rather than to address. Statement PA5 was an aggressive statement which dietitians may have thought was assertive and also answered differently to the rest of the statements in the Assertiveness Scale with Patients. Results obtained from this scale had to be interpreted with caution.

The Assertiveness Scale with Colleagues which measured the level of assertiveness when the subjects interacted with their colleagues had a reliability coefficient alpha of 0.58. This meant that the Assertiveness Scale with Colleagues was a reliable indicator (Appendix O, Table 12) when 0.50 was considered the cut off point for reliability as suggested by Faulds (2000). Rabin & Zelner (1992) reported a reliability coefficient of 0.90 with colleagues when subjects were social workers.

The Assertiveness Scale with Subordinates which measured the levels of assertiveness when the subjects interacted with their subordinates had a reliability coefficient alpha of 0.32. This meant that the Assertiveness Scale with Subordinates was not a reliable indicator of assertiveness in dealings with subordinates (Appendix O, Table 13). This was also an unexpected result because Rabin & Zelner (1992), reported a reliability coefficient of 0.94 for this scale. Item PA15 had a very low correlation with the rest of the scale (r=0.02). This item was an aggressive statement which some dietitians may have thought was assertive. It could also have been that the wording was not appropriate to the South African or the dietetic context.

The Assertiveness Scale with Supervisors which measured levels of assertiveness when the subjects interacted with their supervisors, had a reliability coefficient alpha of 0.53 (Appendix O, Table 14) which meant that the Assertiveness Scale with Supervisors was a reliable indicator of assertiveness with supervisors when 0,50 was considered the cut off point for reliability as suggested by Faulds (2000) who was prepared to accept a figure of 0.50 when measuring groups as opposed to individuals. Rabin & Zelner (1992) reported a reliability coefficient of 0.92 with supervisors.

The Assertiveness Scale with Allied Professionals which measured levels of assertiveness when the subjects interacted with allied professionals had a reliability coefficient alpha of 0.72 (Appendix O, Table 15). This meant that the Assertiveness Scale with Allied Professionals was the most reliable of the five scales. The Assertiveness Scale with Allied Professionals was therefore a highly reliable indicator of assertiveness when dealing with allied professionals. Rabin & Zelner (1992) reported a reliability coefficient of 0.89 with allied professionals.

The reliability of PABS which measured the overall level of assertiveness with all five groups of individuals had a reliability coefficient alpha of 0.80 which meant that the overall PABS was a highly reliable indicator of assertiveness (Appendix O, Table 16). Rabin & Zelner (1992) reported a reliability coefficient of 0.97 for the overall scale. The reliability coefficient of the overall PABS contradicted the lower levels of reliability found in two of the Five Assertiveness Scales. The reason why the overall scale was reliable when compared to the Five Assertiveness Scales was because the PABS was a longer scale than each of the Five Assertiveness Scales. The longer the scale the better the chances of it being reliable, especially if the trend of the answers of each subject was in the same direction (Faulds 2000).

5.1.5 Self-efficacy Scale (SES)

The alpha reliability of SES was measured at 0.86 (Appendix O, Table 17). This meant that SES was a highly reliable indicator of self-efficacy. Interpretation of results from this scale would not be problematic because SES was a reliable scale.

5.1.6 The Kaldenberg & Becker Job Satisfaction Scale (KBJSS)

The alpha reliability of KBJSS was measured at 0.83 (Appendix O, Table 18). This meant that KBJSS was a highly reliable indicator of job satisfaction. Interpretation of results from this scale would not be problematic because KBJSS was a reliable scale.

Summary

The scales measuring the negative initiating in QAAB, degrees of difficulty with assertiveness (AC), overall level of anxiety (AAS), overall level of assertiveness (PABS), levels of self-efficacy (SES) and job satisfaction (KBJSS) were all reliable indicators of the specific variables they were measuring. The Five Scales of Anxiety were also reliable indicators of the levels of anxiety when dealing with the five groups of individuals, patients, colleagues, subordinates, supervisors and allied professionals. Of the Five Scales of Assertiveness, one scale, namely the Scale of Assertiveness with Allied Professional was a reliable indicator of levels of assertiveness with allied professionals. The negative responding (NR) of QAAB and the two scales, the Scale of Assertiveness with Colleagues and the Scale of Assertiveness with Supervisors were borderline but acceptable as reliable indicators when groups were being measured. The remaining two scales, the Scales of Assertiveness with Patients and with Subordinates were not reliable scales and interpretation of these results would need to be approached with caution.

5.2 Results of Statistical Analysis of the Variables

5.2.1 The effect of Negative Responding and Negative Initiating on levels of assertiveness

It was theorised that dietitians would have difficulty in the two negative areas of QAAB, negative responding (NR) and negative initiating (NI). A paired sample *t*-test was performed on the two means of NR and NI scales, created from PABS using the QAAB. This test showed that the subjects(n=145)[1] were significantly (p=0.003) more assertive in the negative responding area than in the negative initiating area of QAAB (Table 40).

Table 40:Correlation and paired differences in QAAB of NR and NI statements in PABS (n=145)

	Mean	Std. Deviation	Std. Error Mean
QAAB Negative Responding (NR) Total	34.41	4.37	0.36
QAAB Negative Initiating (NI) adjusted total	33.62	4.45	0.37

Correlation	Correlation	Sig.
QAAB NR & QAAB NI adjusted total	0.75	**0.00**

Paired Differences								
	Mean Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		*t*	df	Sig. (2-tailed)
				Lower	Upper			
QAAB Neg Resp & QAAB Neg Init adjusted total	0.78	3.14	0.26	0.27	1.30	3.01	144	**0.003**

This meant that the subjects were more likely to respond assertively, than to initiate negative assertion. For example they were more likely to be assertive when responding to criticism rather initiating a negative assertion such as confronting a supervisor or upbraiding a subordinate when it was appropriate. Although negative assertion was referred to in the literature (Furnham & Rawles 1994; Gilbert and Allan 1994; Furnham & Henderson 1983, citing Gambrill 1970; Golden 1980) no differentiation was made between negative responding and negative initiating behaviour. It was stated that females tended to lack skills dealing with negative behaviour, males with positive behaviour (Furnham & Rawles 1994) and that females were more positively assertive in taking the initiative (Furnham & Henderson 1981) but no distinction was

[1] It must be noted that the size of the sample (n) varied in the different analyses. The reason for this discrepancy is that the statistical package, SPSS disregards incomplete records that would affect the values of the scales, accounting for the various values of the sample size (n).

made between the two aspects of negative assertion. An explanation of the findings in this research could have been ascribed to the inhibition of subjects who may have found it easier to respond rather than to initiate negative behaviour (Gilbert & Allan 1992).

4.1.4 Degrees of difficulty and overall levels of anxiety and assertiveness-in the situation

It was theorised that the degrees of difficulty with assertiveness of the subjects as measured by AC would increase progressively when the following groups of individuals were dealt with, patients, colleagues, subordinates, supervisors and allied professionals, and that this would be positively associated (paired) with increased anxiety as measure by the Five Anxiety Scales and negatively associated with decreasing assertiveness as measured by the Five Assertiveness Scales.

Assertiveness Checklist

The assertiveness checklist (AC) was scrutinised for the dietitians' self perception of their difficulties with the five groups: patients, colleagues, subordinates, supervisors and allied professionals in the workplace. A Wilcoxon signed ranks test revealed a number of significant results (Table 41).

Table 41: Wilcoxon signed ranks test on the assertiveness checklist (AC)

	Paired tests		Z	*Asymp. Sig. (2-tailed)
	Less Difficulty	More difficulty		
1	**Patients <**	**Supervisors**	**-6.13[1]**	**0.00**
2	**Patients <**	**Allied professionals**	**-6.11[1]**	**0.00**
3	**Patients <**	**Colleagues**	**-4.45[1]**	**0.00**
4	**Subordinates <**	**Supervisors**	**-4.14[1]**	**0.00**
5	**Patients <**	**Subordinates**	**-4.10[1]**	**0.00**
6	**Colleagues <**	**Supervisors**	**-3.86[1]**	**0.00**
7	**Subordinates <**	**Allied professionals**	**-3.32[1]**	**0.01**
8	**Colleagues <**	**Allied professionals**	**-2.88[1]**	**0.04**
9	Colleagues	Subordinates	-1.29[2]	0.20
10	Supervisors	Allied professionals	-0.56[2]	0.57

[1] Based on negative ranks. [2] Based on positive ranks. * asymptotic significance[2]

[2] Asymptotic significance is, " the significance based on the asymptotic distribution of a test statistic. Typically, a value of less that 0.05 is considered significant. The asymptotic significance is based on the assumption that the data set is large. If the data set is small or poorly distributed, this may not be a good indication of significance". SPSS definition.

The following statistically significant paired[3] interactions were highlighted:

The subjects rated themselves as having less difficulty in dealing with patients than with all the other groups (p=0.00) (Table 41, Rows 1- 3 & 5). There was no difference between the dealings of subordinates and colleagues (Table 41, Row 9). Subjects had less difficulty in dealing with colleagues than with supervisors or allied professionals (Table 41, Rows 6 & 8). They did not experience significantly more difficulty when dealing between allied professionals and supervisors (Table 41, Row 10). These results could be interpreted that the subjects had little or no difficulty with patients when compared to other groups of individuals.

Five Anxiety Scales of AAS

The Wilcoxon signed ranks test on the Five Anxiety Scales of AAS measuring levels of anxiety revealed the following information (Table 42). There were significant differences in the amount of anxiety the dietitians felt when dealing between the following highlighted pairs in descending order. The greatest difference in levels of anxiety were felt in dealings between supervisors and patients (Table 42, Row 1) and

Table 42: Wilcoxon signed ranks test on the Five Anxiety Scales of AAS

	Paired items		Z	Asymp. Sig. (2-tailed)
	Less anxiety	**More anxiety**		
1	**Patients <**	**Supervisors**	**-4.36[1]**	**0.00**
2	**Patients <**	**Colleagues**	**-4.02[1]**	**0.00**
3	**Subordinates <**	**Supervisors**	**-3.9[1]**	**0.00**
4	**Colleagues <**	**Subordinates**	**-2.81[2]**	**0.01**
5	Patients	Allied professionals	-1.56[1]	0.12
6	Colleagues	Supervisors	-1.35[1]	0.18
7	Colleagues	Allied professionals	-1.03[2]	0.30
8	Patients	Subordinates	-0.7[1]	0.48
9	Subordinates	Allied professionals	-1.27[1]	0.21
10	Supervisors	Allied professionals	-1.9[2]	0.06

[1] Based on positive ranks.
[2] Based on negative ranks.

[3] When running numerous pair-wise significance tests, there were statistical problems that could arise, such as inflated Type 1 errors. It was decided to stay with the simple two score comparisons because the Z-scores were well within the borderline and it was felt unnecessary to use a post-hoc procedure on a Friedman test layout as described by Marascuilo & McSweeney (1977).

thereafter between patients and colleagues (Table 42, Row 2) followed on by patients and supervisors (Table 42, Row 3). The least anxiety was felt when subjects dealt with patients (Table 42, Rows 1, 2, 5 & 8).

Five Assertiveness Scales of PABS

The Five Assertiveness Scales of PABS measured the differences between the probability of assertive behaviour of the subjects when they dealt with the different groups of patients, colleagues, subordinates, supervisors and allied professionals. The Wilcoxon ranks test, tested significant differences of assertiveness levels between the following highlighted pairs in descending order (Table 43).

Table 43: Wilcoxon signed ranks test of the Five Assertiveness Scales of PABS

	Paired items				Z	Asymp. Sig. (2-tailed)
	Less assertive		**More assertive**			
1	Patients	U	Allied professionals	R	-7.06[1]	
2	Patients	U	Subordinates	U	-6.18[1]	
3	**Colleagues <**	**R**	**Allied professionals**	**R**	**-5.72[1]**	**0.00**
4	**Supervisors <**	**R**	**Allied professionals**	**R**	**-5.14[2]**	**0.00**
5	Colleagues	R	Subordinates	U	-3.54[1]	
6	Patients	U	Supervisors	R	-3.48[1]	
7	Subordinates	U	Allied professionals	R	-3.27[1]	
8	Subordinates	U	Supervisors	R	-2.56[2]	
9	Patients	U	Colleagues	R	-2.02[1]	
10	Colleagues	R	Supervisors	R	-1.53[1]	0.13

[1] Based on negative ranks. [2] Based on positive ranks.
R=reliable scale U=less reliable scale

Although the greatest difference was between patients and allied professionals (Table 43, Row 1) and the next greatest difference was between patients and subordinates (Table 43, Row 2) the reliability of the Assertiveness Scale with Patients and Subordinates was below 0.50. This meant that these two paired results should be ignored. The differences between colleagues and allied professionals (Table 43, Row 3) and supervisors and allied professionals (Table 43, Row 4) was also significant and contrary to

expectations subjects showed greater assertiveness towards allied professionals than to either colleagues or supervisors (Table 43, Rows 3 & 4).

It was expected that dietitians would have the lowest levels of assertiveness with allied professionals because of the difference in status between dietitians and the allied professionals (Gilbert & Allan 1994). Although Rabin and Zelner (1992) measured all five areas of assertiveness, they did not report on the specific levels for each area. This was unfortunate because it would have been useful to have compared the results. Gilbert & Allen (1994) found that assertiveness difficulties were associated with unfavourable social comparisons. In this research project it was expected that dietitians might have compared themselves unfavourably to allied professionals and would therefore have been less assertive with them than with the other groups. The findings in this research did not support this theory.

Correlation between the overall levels of anxiety and assertiveness

The two scales, AAS and PABS, measuring overall levels of anxiety and assertiveness were expected to be negatively correlated. A correlational analysis revealed that these two scales were significantly negatively correlated (r=-0.39 & p=0.00)(Table 44). This confirmed the theory that increased anxiety would lead to decreased assertiveness (Gambrill & Richey 1975).

Table 44: Correlation between AAS and PABS (n=145)

		Overall assertiveness
Overall anxiety	Pearson Correlation	-0.39
	Sig. (2-tailed)	**0.00**

** Correlation is significant at the 0.01 level (2-tailed).

AC, the Five Anxiety Scales of AAS and the Five Assertiveness Scales of PABS - a comparison

A two tailed t-test on AC, the Five Anxiety Scales of AAS and the Five Assertiveness Scales of PABS yielded significant differences between the scale means of each scale (p=0.00). It was noted that there were a number of discrepancies between self rated difficulties in dealing with various groups, anxiety ratings, and the levels of assertiveness (Table 45). The most striking of these was the low anxiety rates when dealing with patients together with lower reported rates of difficulty but coupled with the lowest assertiveness levels when one would have expected the highest level of assertiveness. The Assertiveness Scale with Patients was not reliable which could have accounted for this discrepancy. Another possibility was that dietitians may have equated assertiveness with rudeness when dealing with patients. This could also be a reason for the low levels of assertiveness with patients, especially those in private practice. This result could also have been interpreted as meaning that although the subjects did not perceive any

Table 45: Comparison of AC, the Five Anxiety Scales and the Five Assertiveness Scales

AC means arranged in order of decreasing difficulties		AAS means arranged in order of decreasing anxiety		PABS means arranged in order of increasing assertiveness		
	Mean		Mean			Mean
Supervisors	1.99	Supervisors	10.67	Patients	U	17.94
Allied professionals	1.96	Colleagues	10.31	Colleagues	R	18.47
Colleagues	1.70	Allied professionals	10.00	Supervisors	R	18.83
Subordinates	1.63	Subordinates	9.72	Subordinates	U	19.35
Patients	1.38	Patients	9.40	Allied professionals	R	20.20

R=reliable scale
U=unreliable scale

difficulties with patients and were not anxious in their dealings with them, they were also less assertive. Responses about relationships with employers and allied professionals were also inconsistent. Although the subjects allocated a relatively high degree of difficulty and a medium rating of anxiety in dealing with allied professionals, they rated the highest assertiveness scores with allied professionals (the Assertiveness Scale with Allied Professionals was reliable). In this last instance one would have to question whether the respondents who said that they behaved assertively with allied professionals actually did behave assertively.

This was interpreted that there was a certain amount of anxiety when dealing with allied professionals, dietitians were also more assertive with them because the dietitians could have recognised or were conscious of the fact that they needed to be assertive with allied professionals. Therefore, despite anxieties and perceived difficulties dietitians were more assertive with allied professionals than with any other group. As mentioned previously this was an unexpected result because it had been speculated that dietitians would have felt that they were of a lower status and would have been more subservient towards allied professional rather than assertive. This was similar to the finding of Gilbert & Allan (1994), that an unfavourable social comparison was a larger predictor of increased anxiety than of decreased assertiveness.

The only consistent finding in this comparison, was that of the dietitians' relationship with subordinates where they had higher ratings of assertiveness coupled with lower anxiety rates and lower perceived degrees if difficulty with them.

The Five Anxiety Scales and the Five Assertiveness Scales

Paired samples *t*-tests and paired samples correlations were performed on the paired statements of AAS and PABS. (That is, statements one from each list, paired with each other, statements 2 paired with each other, and so on, up to statements 25 paired with each other). Except for statements 3 and 15, all had significant negative correlations ($p<0.05$ and 0.00) between the pairs (Appendix O, Table 20). It will be remembered that these two statements had been the cause of the problems in the 2 subset scales of PABS, the Assertiveness Scale with Patients and the Assertiveness Scale with Subordinates. Statements 3 and 15 of the AAS were not significantly negatively correlated with the same statement from PABS. This meant that instead of lower levels of anxiety being paired with higher levels of assertiveness, contrary to expectations, the lower levels of anxiety were paired with lower level of assertiveness. The paired Statements 3 and 15 were different in AAS and PABS because they had been changed in the AAS so that the amount of anxiety had been felt, could be gauged. The means for the paired statement 3 were AAS: 1.88 (±.93) and PABS: 2.88 (±1.04). The means for paired statement 15 were AAS: 1.49 (± 0.76) and PABS: 3.98 (±0.99). The reason for the non correlation was probably due to the rewording, which changed the meaning of the statements on AAS so that they were no longer gave the same meaning as the paired statements on PABS.

The negative correlation of the remainder of the scales was expected. Anxiety and assertive behaviour were negatively correlated, meaning that lower anxiety rates would lead to higher assertive rates when dealing with individuals in the workplace.

5.2.3 Overall levels of anxiety and assertiveness-the effect of intrinsic and extrinsic factors

It was supposed that the overall level of anxiety as measured by AAS and overall level of assertiveness of the subjects as measured by PABS, varied according to the following intrinsic and extrinsic factors: age, sex, birth order, race, language, socio-economic status, years of work experience, education (pre- and post registration training), professional training (university attended), assertiveness training, self-efficacy levels, and job satisfaction levels.

Overall levels of anxiety and assertiveness-the effect of age

Although the dietitians between the ages of 31 and 35 showed the highest overall level of anxiety (Figure 11), the levels did not differ significantly across the age groups when using the Kruskal Wallis test, chi squared (p=0,67) (Table 46).

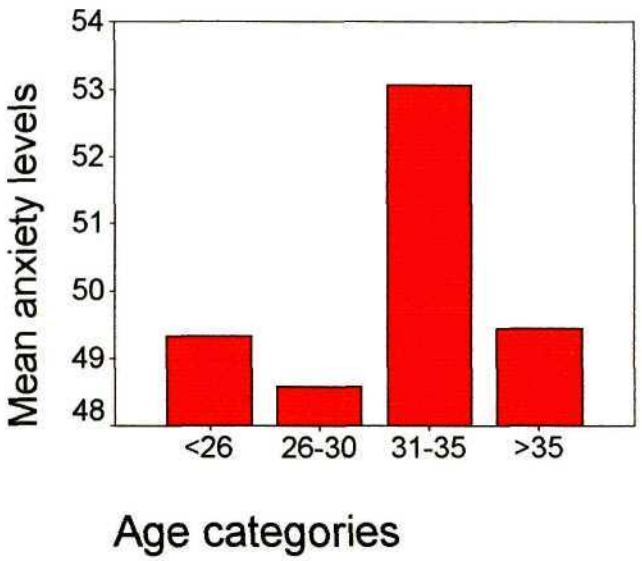

Figure 11: Overall anxiety level and age

Table 46: AAS: Overall level of anxiety and the influence of age (n=145)

Age category	Total AAS	n	Mean rank
< 26 years	49.35	26	70.85
26 -30 years	48.58	53	69.16
31 -35 years	53.07	29	80.93
36 years and older	49.46	37	73.8
Kruskal Wallis Test: Chi-Square=1.56, df =3, Asymp. Sig. = 0.67			

Grouping Variable: age category

The increase overall level of anxiety in the 31-35 year age group was unusual because it was thought that as the dietitians matured they would become less anxious. One of the reasons for this unusual result was thought to have been a consequence of being away from the workplace on accouchement leave and just recently returned. It has been established that there was a separation anxiety in mothers of young babies and that this was more pronounced when the babies were 3 months compared to when they were 6 months old (Symons & McCleod 1994). A cross tabulation comparing those who have worked in their present position for a year and less and those who have been in their present position for more than a year revealed that only one such person in the 31-35 year age group fell into the category of being in their current position for one year and less (Table 47). However, this could not have been construed as meaning that individuals had recently been away from work on accouchement leave. In many instances, they would have been considered as still employed when taking accouchement leave. It was also noted in the results (Chapter 4.1)

that the average dietitian was in her late twenties to early thirties but had only been in her current position for 4 years where one would have expected more. This could also have been ascribed to time taken off for marriage and raising a family. No questions relating to the marital status or the family situation of individuals had been included in the questionnaire which meant that this premise could not be tested.

Table 47: Cross tabulation grouping: One year and less and more than one year in their current position with the age categories

Duration in current position	1year and less	more than one year	Total
age categories	1.00	2.00	
<26	6	18	24
26-30	7	44	51
31-35	1	26	27
>35	4	30	34
Total	18	118	136

Another reason mooted for this unexpected result could have been because of the "age thirty transition" which occurs in the 28-33 year period (Louw, van Ede & Louw 1998, p 511). This is the age when individuals especially women have role-overload from stress caused by caring for children and also having a demanding job (*ibid*, p533). It could perhaps be the role overload in this age group which has given this result.

It was found that the age group 31-35 years had the lowest overall level of assertiveness, thereafter the youngest group of less than 26 years of age (Figure 12). This was followed by the age group 26-30 years, and the highest overall level of assertiveness were found in the age group 36 years and older. These results were not significant when using the Kruskal Wallis test, chi squared (p=0.14), (Table 48).

Table 48: Overall level of assertiveness and the influence of age (n=145)

age category	PABS means	n	Mean Rank
< 26 years	93.62	26	68.13
26-30 years	93.85	53	73.30
31 -35 years	91.66	29	61.59
36 years and older	97.54	37	84.93
Kruskal Wallis Test: Chi-Square = 5.49; df = 3; Asymp. Sig. = 0.14			

It was theorised that the older the individual, the greater the overall level of assertiveness (Furnham & Henderson 1981). Other researchers,(Louw 1998, p517, citing Jones & Meredith 1996) regarded assertiveness as a personality trait[4] and stated that levels of assertiveness showed very little change over time.

Why there was a decrease in the overall level of assertiveness in the group 31-35 years of age, albeit not significant, could perhaps have been ascribed to a "mid-career" crisis where individuals may have been away from the work place to start a family, as was discussed previously under anxiety. It was interesting to note that with the decrease in assertiveness in the 31-35 year age group there was a concomitant non significant, increase in the overall level of anxiety which would have contributed to the decreased overall level of assertiveness (Gambrill & Richey 1975). This finding requires further investigation.

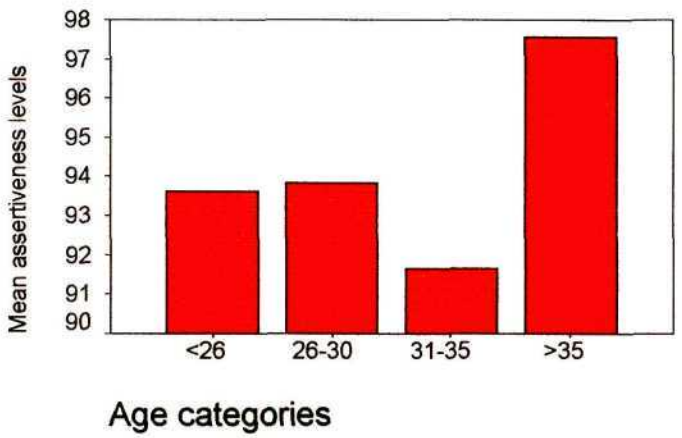

Figure 12 Overall level of assertiveness and the effect of age

Levels of anxiety and assertiveness-the effect of sex

An analysis of the Five Anxiety Scales of AAS revealed that there was no significant situational differences in levels of anxiety (range of p=0.16 → 0.91) (Table 49) when sex was used as the independent variable,

Table 49: Levels of anxiety in all Five Anxiety Scales and the effect of sex

Test Statistics	Patients	Colleagues	Subordinates	Supervisors	Allied professionals
Mann-Whitney U	586.50	650.00	486.00	538.50	551.50
Z	-0.63	-0.12	-1.42	-1.01	-0.90
Asymp. Sig. (2-tailed)	0.53	0.91	0.16	0.32	0.37

Grouping Variable: SEX

[4] A personality trait "is defined as a relatively constant characteristic of a person that determines the consistency of the person's behaviour" (Louw 1998, p 515, citing Plug *et al* 1997)

This implied that there was no difference in levels of anxiety between men and women when dealing with the five groups of individuals.

The overall level of anxiety was not significantly related to the sex of the sample and the square of means confirmed this. Although it had been expected that men would experience less anxiety than women, this was not significant (p=0,30) (Table 50).

Table 50: Overall level of anxiety and the effect of sex (n=145)

Sex	n	Mean AAS	Mean Rank
Male	10	46.20	59.60
Female	135	50.30	73.99
Mann-Whitney U = 541.00; Z = -1.05; Asymp.Sig. (2-tailed) = 0.30			

Grouping Variable: Sex

Gambrill & Richey (1975) found that the only significant difference in levels of anxiety between men and women was in the group of women who had difficulties with assertiveness whereas Furnham & Henderson (1981) stated that females were more anxious than males. The size of the research sample of men (n=10) was small and may not have given a meaningful result which could also have accounted for there being no difference between the sexes.

An analysis of the Five Assertiveness Scales of PABS revealed one significant piece of information when comparing the effect of sex in a situation. Men were significantly more (p=0.006) assertive than women were, when dealing with their supervisors (Table 51).

Table 51: Levels of assertiveness in all Five Assertiveness Scales of PABS

Test Statistics	Patients U	Colleagues	Subordinates U	Supervisors	Allied professionals
Means male	16.50	19.10	19.00	21.00	21.90
Means female	18.02	18.44	19.47	18.65	20.05
Mann-Whitney U	405.50	586.00	581.50	319.50	427.00
Z	-2.07	-0.63	-0.67	-2.76	-1.90
Asymp. Sig. (2-tailed)	0.04	0.53	0.51	**0.006**	0.06

1 Grouping Variable: SEX
U Unreliable scale

Men may have been less intimidated by the rank of the individuals and therefore responded more assertively with their supervisors than women. Furnham & Henderson (1981) stated that men had less difficulty in areas of negative assertion where they had to respond to criticism and for this reason were probably able to respond assertively to their supervisors.

Overall level of assertiveness was not influenced by the sex of the subjects (p=0.36) (Table 52). Although Hess *et al* (1980 cited by Furnham & Henderson 1981) maintained that assertiveness was influenced by sex role behaviours that were specific to different cultures, it could be interpreted that in the professional situation, males and females responded at the similar levels of assertiveness. In a study on a cross-cultural sample of subjects from the USA, Finland, Japan and Korea, it was found that the sex of the sample accounted for less than 1% of the variance in assertiveness (Thompson & Klopf 1995) and that the effect of sex was less in the same population than across populations (Galassi & Galassi 1979).

Table 52: Overall level of assertiveness and the effect of sex (n=145)

Sex	n	PABS means	Mean Rank
Male	10	97.5	84.65
Female	135	94.5	72.14
Mann-Whitney U = 558.50; Z = -0.91; Asymp. Sig. (2-tailed) = 0.36			

1 Grouping Variable: Sex

Levels of anxiety and assertiveness-the effect of birth order

An analysis of AAS and PABS using birth order as a grouping variable and the Kruskal-Wallis test revealed that levels of anxiety and assertiveness were not affected by birth order (p=0.44 & 0.85) (Tables 53, 54). It had been expected that levels of anxiety and assertiveness would have been affected by birth order but the results did not support this. It had been found previously that birth order did affect some aspects of assertiveness (Murawski *et al* 1995).

Table 53: Overall level of anxiety and the effect of birth order (n=145)

Birth order	n	Mean AAS	Mean Rank
Eldest	57	50.28	73.96
Second child	38	51.95	77.08
Third child	32	45.72	62.84
Fourth child or later	18	52.78	79.39
Kruskal Wallis: Test Chi-Square = 2.68; df = 3.00; Asymp.Sig. = 0.44			

Grouping Variable: Birth order

Table 54:Overall level of assertiveness and birth order (n=145)

Birth order	n	PABS means	Mean Rank
Eldest	57	94.37	71.35
Second child	38	94.37	71.92
Third child	32	94.66	72.67
Fourth child or later	18	96.61	81.08
Kruskal Wallis Test: Chi-Square = 0.78; df = 3 Asymp. Sig.= 0.85			

Grouping Variable: Birth order

Levels of anxiety and assertiveness-the effect of race

Neither the overall level of anxiety nor the overall level of assertiveness were affected by race (p=0.13 & 0.65) (Tables 55, 56). This was an unexpected result because some authors indicated that levels of assertiveness were affected by race (Thompson & Klopf 1995; Furnham 1979). The first authors found that culture (race) accounted for 12% of the variance in levels of assertiveness (Thompson & Klopf 1995).

Table 55: Overall level of anxiety - the effect of race (n=144)

Race	n	Mean AAS	Mean Rank
Black	15	46.53	59.63
Coloured	3	39.67	38.83
Indian	8	43.25	55.69
White	118	51.26	76.13
Kruskal Wallis Test: Chi-Square = 5.58; df = 3; Asymp. Sig 0.13			

Grouping Variable: Race

Table 56: Overall level of assertiveness - the effect of race (n=144)

Race	n	PABS mean	Mean Rank
Black	15	97.13	82.77
Coloured	3	95.67	81.83
Indian	8	97.5	80.19
White	118	94.5	70.44
Kruskal Wallis Test: Chi-Square = 1.62; df = 3, Asymp.Sig.= 0.65			

Grouping Variable: Race

The result in this study could have been explained by the fact that dietetics was a high status occupation amongst blacks, coloureds and Indians in South Africa (Furnham 1979) and for this reason these groups acted as assertively as their white counterparts.

When whites were compared to blacks[5], it was found that the white subjects were significantly more anxious when compared to the blacks (p=0.017) but that there was no significant difference in the levels of assertiveness (p=0.19) (Table 57). The explanation for the increased anxiety amongst the whites may be accounted for again, by reason that dietetics may not have been considered a high status profession amongst the white subjects. This could explain their increased anxiety when dealing with others in the workplace because unfavourable social comparisons gave rise to feelings of anxiety (Gilbert & Allan 1994).

Table 57: Overall levels of anxiety and assertiveness - comparison of whites with blacks (n=143)

	AAS mean	n	Mean Rank
Whites	51.47	116	75.98
Blacks	44.59	27	54.89
Statistics: Mann-Whitney U = 1104, Z = -2.39, Asymp.Sig. (2-tailed) = 0.017			
	PABS mean	n	Mean Rank
Whites	94.30	116	69.83
Blacks	97.15	27	81.31
Statistics: Mann-Whitney U=1314.50, Z=-1.30, Asymp.Sig. (2-tailed) = 0.19			

Grouping Variable: Race

Levels of anxiety and assertiveness-the effect of language

Language was divided into Afrikaans, English and indigenous languages so that a meaningful result could be obtained. Each of these languages was compared to a combination of the other languages. The anxiety levels of Afrikaans speaking subjects tended to be greater when compared to the combination of English and indigenous languages (p=0.07) (Table 58).

Table 58: Means and significance of PABS & AAS when language is used as an exclusive grouping variable ie Afrikaans is compared to a combination of the balance of languages

	Means				Mean rank		Asympt significance	
	AAS	Combination of balance of languages	PABS	Combination of balance of languages	AAS	PABS	AAS	PABS
Indigenous	47.07	50.14	98.21	93.89	59.03	81.6	0.12	0.34
English	47.27	51.28	95.53	93.62	63.74	72.93	0.2	0.17
Afrikaans	52.01	47.58	92.72	95.97	77.29	71.24	0.07	0.09

[5] comprising black, Indian and coloured subjects

Levels of assertiveness were not significantly affected when Afrikaans was the language but there was a trend towards lower assertiveness (p=0.09). The implication of this, was that the Afrikaans speakers were inclined to be anxious and this had a negative influence (not significant) on their reported levels of assertiveness.

Levels of anxiety and assertiveness-the effect of socio-economic status

Levels of anxiety and assertiveness were not affected by socio-economic status (p=0.40 & 0.78) (Table 59). This was an unexpected result because it was argued that increased socio-economic status would lead to less anxiety and higher levels of assertiveness. Conway *et al* (1996) inferred that high status individuals were assertive and dominant and Furnham & Henderson (1981), stated that increased socio-economic status served to increase the levels of assertiveness.

Table 59: Overall levels of anxiety and assertiveness-the effect of socio-economic status (n=137)

AAS	Socio-economic status	n	AAS mean	Mean Rank
	Professional	72	49.22	67.32
	Semi-professional	30	54.03	77.15
	Clerical	20	51.15	72.10
	Labourer, non-labour routine and menial	15	46.2	56.63
Kruskal Wallis Test: Chi-Square = 2.98; df = 3; Asymp. Sig. = 0.40				
PABS	Socio-economic status	n	PABS mean	Mean rank
	Professional	72	95.5	72.20
	Semi-professional	30	93.63	64.52
	Clerical	20	94.05	67.55
	Labourer, non-labour routine and menial	15	93.6	64.53
Kruskal Wallis Test: Chi-Square = 1.07; df = 3; Asymp. Sig. = 0.78				

Grouping Variable: socio-economic status

Training for a professional qualification may have negated the effect of the socio-economic status. In the guide to coding for socio-economic status, instructions were given that if the female subject's own occupation was higher than that of her father, she should be coded for her own occupation (Schlemmer & Stopforth 1979, p8). From this it could have been construed that training received to improve one's own socio-economic status could have counteracted the effect of the father's socio-economic status if it had been

lower than that of his daughter. In this study it had been decided to code socio-economic status of the father to obtain a differential in socio-economic status to facilitate the investigation of anxiety and assertiveness.

Levels of anxiety and assertiveness-the effect of work experience

Pearson correlations were computed between the years of experience and AAS and PABS scores. Levels of anxiety and assertiveness were not significantly affected by the years of work experience ($p = 0.86$ & 0.10) (Table 60). This was also an unexpected result because it was anticipated that more experience would have reduced anxiety and increased assertiveness. Rabin & Zelner (1992) found a strong correlation of years of work experience and levels of assertiveness in their study of social workers which contradicted the results in this research project.

Table 60: Overall levels of anxiety and assertiveness - years of work experience (n=142)

Number of years working	AAS score	PABS score
Pearson Correlation	0.015	0.14
Sig. (2-tailed)	0.86	0.10

Levels of anxiety and assertiveness - the effect of education

Neither levels of anxiety nor assertiveness were affected by the level of education (p=0.43 & 0.95) (Table 61). In other words whether subjects had pre-registration training only or post-registration training there was no effect on levels of assertiveness or anxiety. This was an unexpected result because it had been postulated that the increased levels of education would have led to a higher overall level of assertiveness and a lower overall level of anxiety.

Table 61: Overall levels of anxiety and assertiveness-the effect of education(n=143)

		n	Mean rank	Sum of ranks
Anxiety score	Post registration qualification	27	66.39	1792.50
	Pre-registration qualification	116	73.31	8503.50
Statistics: Mann-Whitney U = 1414.50; Z = -0.78; Asymp.Sig.(2-tailed) = 0.43				
		n	Mean rank	Sum of ranks
Assertiveness score	Post registration qualification	27	72.43	1955.50
	Pre-registration qualification	116	71.9	8340.5
Statistics: Mann-Whitney U = 1554.50, Z = -0.06, Asymp.Sig. (2-tailed) = 0.95				

Levels of anxiety and assertiveness- professional training (the effect of university attended)

The Kruskal - Wallis test revealed that neither levels of anxiety nor levels of assertiveness were significantly affected by the university attended (p=0.18 & 0.79) (Table 62). It was expected that the venue of professional training would have affected the levels of anxiety and assertiveness because of the different educational approaches used by the various universities.

Table 62: Overall levels of anxiety and assertiveness-the effect of professional training (n=143)

Overall anxiety	n	Mean Rank
Afrikaans universities	84	76.47
Black universities	11	71.18
English universities	47	62.69
Kruskal Wallis Test: Chi-Square = 3.39; df = 2; Asymp. Sig. = 0.18		
Overall assertiveness	n	Mean Rank
Afrikaans universities	84	70.35
English universities	47	71.71
Black universities	11	79.36
Kruskal Wallis Test: Chi-Square = 0.47; df = 2; Asymp. Sig. = 0.79		

Grouping Variable: Universities

It is the opinion of Charlton (2000), that English universities are more liberal, less hierarchical, rigid and authoritarian than Afrikaans universities who are inclined to be more conservative, hierarchical, rigid and authoritarian. A more relaxed attitude toward students would have led to lower anxiety with authority figures and therefore increased assertiveness. Wolpe & Lazarus (1968, p 38) stated that the "inhibited personality" high in anxiety and low in assertiveness were the product of a conventional conformist environment. It was therefore expected that the product of an Afrikaans university would be more anxious and less assertive than graduates from an English university.

Levels of anxiety and assertiveness - the effect of assertiveness training

Although assertiveness training had a significant negative effect on the levels of anxiety (p=0.05), in that assertiveness training could have reduced the amount of anxiety experienced, the training had no effect on the levels of assertiveness (p=0.47) (Table 63). This was an unexpected result because it had been

presumed that training in assertiveness would have increased the levels of assertiveness. It had been theorised that if an individual had more than four hours of assertiveness training that it would have been more than a "one off" experience. Ruben & Ruben (1985) listed a number of reasons why assertiveness training programmes have failed. Amongst these were inadequate definitions of assertiveness, difficulties with models of training and a lack of preparation of the trainer. Details were not asked of the respondents as to the quality and suitability of training programmes they attended which meant that the actual reason for the programme failing, if indeed this was the problem, could not be ascertained. It must also be remembered that the overall level of assertiveness of the entire sample was still well above the minimum levels of acceptability (>75). It could also have been ascribed to the fact that those dietitians who undertook assertiveness training were initially less assertiveness and now showed no difference with the rest of the group because they had been brought up to the same level.

Table 63: Overall levels of anxiety and assertiveness - the effect of assertiveness training (n=142)

Length of assertiveness training	Mean of overall anxiety	n	Mean Rank
< 4 hours	51.14	121	74.29
> 4 hours	44.71	21	55.4
Statistics: Mann-Whitney U = 932.5, Z=-1.94, Asymp. Sig. (2-tailed) = **0.05**			
Length of assertiveness training	Mean of overall assertiveness	n	Mean Rank
< 4 hours	94.74	121	70.45
> 4 hours	96.14	21	77.55
Statistics: Mann-Whitney U =1143.50 , Z=-0.73, Asymp. Sig. (2-tailed) = 0.47			

1 Kruskal Wallis Test

Levels of anxiety and assertiveness - the effect of self-efficacy

Levels of anxiety were significantly negatively correlated (r= 0.52; p =0.00) and levels of assertiveness were significant positively correlated (r=0.55; p=0.00) with levels of self-efficacy (Table 64, 65). The implication was that levels of self-efficacy would rise when the overall levels of anxiety decreased and/or when overall levels of assertiveness decreased. Linear regression using self-efficacy as the predictor showed that self-efficacy accounted for 27% of the variance in the levels of anxiety (Table 64) and 30% of the variance in the levels of assertiveness (Table 65). This indicated that the models were relatively weak indicators of anxiety.

Table 64: Linear regression of overall level of anxiety and self-efficacy (n=142)

Model Summary				
	R	R Square	Adjusted R Square	Std. Error of the Estimate
Model 1	0.52	0.27	0.27	12.51
1 Predictors: (Constant), self-efficacy total				

ANOVA					
Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	8332.01	1	8332.01	53.20	**0.00**
Residual	22082.62	141	156.61		
Total	30414.63	142			
1 Predictors: (Constant), self-efficacy total 2 Dependent Variable: AAS score					

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model 1	B	Std. Error	Beta		
(Constant)	118.67	9.45		12.56	0.00
Self-efficacy total	-0.98	0.13	-0.52	-7.29	**0.00**
1 Dependent Variable: AAS score Regression equation for model 1: Anxiety=+118.67 + (-0.98) self-efficacy					

A *t*-test revealed that levels of assertiveness were significantly affected by levels of self-efficacy (p=0.00). This could be interpreted as meaning that increased levels of self-efficacy played a decisive role in the subjects' ability to assert themselves. This was an expected result because self-efficacy was the belief in ones' ability and the possession of the skill to perform specific behaviours and it was anticipated that subjects with higher levels of self-efficacy would be more assertive and less anxious.

Table 65: Linear regression with overall level of assertiveness and self-efficacy (n=142)

Model Summary						
	R	R Square	Adjusted R Square		Std. Error of the Estimate	
Model 1	0.55	0.30	**0.30**		8.30	
1 Predictors: (Constant), self-efficacy total						
ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Model 1	Regression	4222.77	1	4222.77	61.32	**0.00**
	Residual	9710.53	141	68.87		
	Total	13933.30	142			
1 Predictors: (Constant), self-efficacy total 2 Dependent Variable: PABS score						
Coefficients						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Model 1	(Constant)	46.08	6.27		7.35	0.00
	Self-efficacy	0.70	0.09	0.55	7.83	0.00
1 Dependent Variable: PABS score Regression equation for model 1: Assertiveness = +46.08 + (-0.70) self-efficacy						

Levels of anxiety and assertiveness - the effect of job satisfaction

There was a significant negative correlation between levels of anxiety and job satisfaction (r = - 0.28; p = 0.00) and a significant positive correlation between levels of assertiveness and job satisfaction(r= 0.24; p=0.004) (Table 66). This meant that levels of anxiety decreased and levels of assertiveness increased with increased job satisfaction. Although this was a significant and expected result the correlations were not very strong being closer to nought than to one.

Table 66: Correlations : AAS, PABS and job satisfaction (n=142)

Paired Samples Correlations						
		Mean	Std. Deviation	Std. Error Mean	Correlation	Sig.
Pair 1	Job satisfaction total	12.63	4.09	0.34	-0.28	**0.00**
	AAS score	50.18	14.69	1.23		
Pair 2	Job satisfaction total	12.63	4.09	0.34	0.24	**0.00**
	PABS score	94.82	9.94	0.83		

Levels of anxiety - a multiple regression using significant independent variables

All variables with a significant effect on the overall level of anxiety, were used as independent variables in a multiple stepwise regression analysis (Table 67). These were the overall level of assertiveness, self-efficacy, age, job satisfaction, Afrikaans speaking vs combination of other languages, whites vs blacks, Afrikaans universities vs other universities, assertiveness training less than 4 hours vs more than 4 hours.

Table 67: Multiple regression: using variables that had shown a relationship with the overall level of anxiety

Model Summary				
	R	R Square	Adjusted R Square	Std. Error of the Estimate
Model 1	0.60	0.37	0.36	11.79
2	0.65	0.42	0.41	11.29
1 Predictors: (Constant), Overall assertiveness 2 Predictors: (Constant), Overall assertiveness, self-efficacy				

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Model 1	(Constant)	135.69	9.62		14.10	0.00
	Assertiveness	-0.90	0.10	-0.60	-8.93	0.00
2	(Constant)	151.32	10.14		14.92	0.00
	Assertiveness	-0.67	0.12	-0.45	-5.78	0.00
	Self-efficacy	-0.54	0.15	-0.29	-3.69	0.00
1 Dependent Variable: Anxiety Regression equation for model 1: Overall anxiety = +135.69 + (-0.90)overall assertiveness Regression equation for model 2: Overall anxiety = +151.32 + (-0.67)overall assertiveness + (-0.54) self-efficacy						

Excluded variables					
	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
Model 2					Tolerance
Age	0.07	1.03	0.31	0.09	0.98
Job satisfaction	-0.09	-1.28	0.20	-0.11	0.90
Afrikaans speaking vs other	-0.10	-1.48	0.14	-0.13	1.00
Whites vs other races	-0.09	-1.41	0.16	-0.12	0.97
Afrikaans universities vs other universities	-0.10	-1.48	0.14	-0.13	1.00
Assertiveness training <4 hours vs more than 4 hours	-0.07	-1.03	0.31	-0.09	0.93

Overall level of assertiveness was the greatest predictor of the overall level of anxiety and accounted for 36% of the variance. Therefore, of all the variables identified, the overall level of assertiveness contributed most to the overall level of anxiety at 36%. Assertiveness and self-efficacy together accounted for 41% of the variance. The implication was that although assertiveness and self-efficacy accounted for 41%, other factors not identified would have accounted for balance of 59% meaning that assertiveness and self-efficacy

accounted for less than half of the variance found in anxiety. Excluded variables which had a p value greater than 0.05, in model 2, and were therefore not significant, were age, job satisfaction, Afrikaans speaking vs other languages, whites vs other races, Afrikaans universities vs other universities and assertiveness training less than 4 hours vs more than 4 hours.

Overall level of assertiveness-a multiple regression using significant independent variables

All variables that were shown to have had a significant effect on the overall level of assertiveness were used as independent variables in a multiple regression analysis (Table 68). The overall level of anxiety was the greatest predictor of the overall level of assertiveness and accounted for 37% of the variance. Anxiety and self-efficacy together accounted for 44% of the variance. Excluded variables in Model 2, which had a p value greater than 0.05 and therefore not significant, were age, job satisfaction, Afrikaans speaking vs combination of other languages, whites vs black, Afrikaans universities vs other universities and assertiveness training less than 4 hours vs more than 4 hours.

Table 68: Multiple regression: using variables that had shown some relationship the overall level of assertiveness

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.60	0.37	0.36	7.91
2	0.66	0.44	0.43	7.47
1 Predictors: (Constant), Overall anxiety 2 Predictors: (Constant), Overall anxiety, self-efficacy				

Coefficients		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	115.27	2.37		48.62	0.00
	Anxiety	-0.41	0.05	-0.60	-8.93	**0.00**
2	(Constant)	81.43	8.34		9.76	0.00
	Anxiety	-0.29	0.05	-0.44	-5.78	**0.00**
	Self-efficacy	0.40	0.10	0.32	4.21	**0.00**

1 Dependent Variable: Overall assertiveness
Regression equation for model 1: Overall assertiveness = +115.27 + (-0.41) anxiety
Regression equation for model 2: Overall assertiveness = +81.43 + (-0.29) anxiety + (0.40) self-efficacy

Excluded variables	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
Model 2					Tolerance
Age	0.11	1.77	0.08	0.15	1.00
Job satisfaction	0.03	0.47	0.64	0.04	0.89
Afrikaans speaking vs other	-0.02	-0.36	0.72	-0.03	0.98
Whites vs other races	-0.02	-0.37	0.71	-0.03	0.96
Afrikaans universities vs other universities	-0.02	-0.36	0.72	-0.03	0.98
Assertiveness training <4 hours vs more than 4 hours	-0.10	-1.51	0.13	-0.13	0.94

Summary

The results of the analyses revealed that the following factors influenced the overall level of anxiety. These were the overall level of assertiveness, self-efficacy and job satisfaction. Overall level of anxiety of dietitians decreased with the increase of these three factors. Assertiveness training reduced anxiety. The "whites only" group had a higher overall level of anxiety than the combined black group. Overall anxiety was not affected by race when all four groups, black, coloured, Indian and white were analysed together. Overall level of anxiety was not affected by age but there was trend which showed higher anxiety levels (not significant) in the 31-35 year-old age group. The Afrikaans speaking groups showed a trend (not significant) towards greater anxiety than the combined other languages. There were no differences in the overall level of anxiety in the "other groups" when compared to English and indigenous languages. Sex, birth order, socio-economic status, years of work experience and education had no significant effect on anxiety.

The analyses revealed that the following factors affected the overall level of assertiveness. These were anxiety, self-efficacy and job satisfaction. Rabin & Zelner (1991) found that increased assertiveness levels led to increased job satisfaction which substantiated the findings in this research project. The overall level of assertiveness increased as anxiety decreased and self-efficacy and job satisfaction increased. Levels of assertiveness with supervisors was significantly higher in males than in females. Age, although not a significant factor, showed a decrease in levels of assertiveness in the 31-35 year old groups of dietitians. The other factors had no effect on the overall level of assertiveness.

5.2.4 Factors affecting self-efficacy

It was theorised that levels of self-efficacy would have been affected by a variety of factors, namely

- degrees of difficulty with assertiveness as measured by the AC,
- the five levels of anxiety when subjects dealt with groups of individuals in the workplace, patients, colleagues, subordinates, supervisors and allied professionals, and overall level of anxiety as measured by AAS,
- the five levels of assertiveness when subjects dealt with groups of individuals in the workplace and overall level of assertiveness as measured by PABS,
- age, sex, birth order, race, language, socio economic status, years of work experience, education, professional training, assertiveness training, job satisfaction, the place of employment ({state or semi-state} and {private or semi-private}), and areas of employment (community nutrition only, food service management only, therapeutic nutrition only, a combination of these three areas, or outside the area of dietetic practice).

A stepwise regression analysis was performed, using the named factors as independent variables and self-efficacy as the dependent variable. It was found that four variables were significant predictors of self-efficacy. These were the overall level of assertiveness, anxiety levels when dealing with allied professionals, assertiveness training and degrees of difficulty with assertiveness as measured by the AC (Table 69). These four variables accounted for 45% of the variance in the levels of self-efficacy.

When focussing on self-efficacy as the dependent variable one would not have expected both the level of anxiety and level of assertiveness to become predictors because they were correlated to each other as well. As soon as one of these became a predictor, in this case the level of assertiveness, one could expect just an aspect of anxiety to become a predictor (Faulds 2000). A typical feature of multiple regression was that of "diminishing returns", where after the second step, R and R^2 increased very slowly (Faulds 2000).

Table 69: Model summary of the stepwise regression - self-efficacy

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.57	0.33	0.32	6.79
2	0.65	0.42	0.40	6.36
3	0.67	0.45	0.43	6.23
4	0.69	0.47	0.45	6.10

1 Predictors: levels of assertiveness as measured by PABS
2 Predictors: levels of assertiveness, anxiety levels when dealing with allied professionals (subset 5 of AAS).
3 Predictors: levels of assertiveness, anxiety levels when dealing with allied professionals, assertiveness training.
4 Predictors: levels of assertiveness, anxiety levels when dealing with allied professionals, assertiveness training, degrees of difficulty with assertiveness as measured by the AC.

Self-efficacy and overall level of assertiveness, were positively correlated (r=0.55; p=0.00). Self-efficacy and overall levels of anxiety when dealing with allied professionals were negatively correlated (r =- 0.52; p=0.00). Self-efficacy levels increased with exposure to assertiveness training. Self-efficacy and degrees of difficulty with assertiveness were negatively correlated (r=-0.38; p=0.00). This meant that self-efficacy was positively influenced by the overall level of assertiveness and assertiveness training and negatively affected by levels of anxiety when dealing with allied professionals and with greater degrees of difficulty in behaving assertively. It was interesting to note that exposure to assertiveness training had not affected the level of overall levels of assertiveness but served to enhance levels of self-efficacy. This training could have contributed to the subjects' belief in themselves which led to an increase in self-efficacy but not to higher overall level of assertiveness. This could have meant that exposure to assertiveness training did not improve assertiveness but had a positive effect on self-efficacy. Stake & Pearlman (1980) found that assertiveness training had increased the levels of self-esteem of a group of women. Although self-esteem and self-efficacy are not synonymous, it could be argued that an increase in self-esteem would also lead to an increase in self-efficacy.

Model 4 of the stepwise regression showed that overall level of assertiveness(p =0.00), anxiety levels when dealing with allied professionals (p=0.00), assertiveness training (p =0.019), degrees of difficulty with assertiveness as measured by the AC (p=0.024) were the significant predictors in measuring self-efficacy (Table 70).

Table 70: Model 4 of the stepwise regression: predictors of self-efficacy

	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
Model 4	B		Beta		
(Constant)	51.28	8.06		6.37	0.00
Overall level of assertiveness as measured by PABS	0.26	0.07	0.33	3.72	0.00
Anxiety levels when dealing with allied professionals	-0.54	0.16	-0.29	-3.27	0.00
Aassertiveness training	1.94	0.81	0.18	2.38	0.02
Degrees of difficulty with assertiveness as measured by the AC	-0.46	0.20	-0.18	-2.29	0.02

Predictor for self-efficacy levels
Multiple regression equation Model 4:
Self-efficacy= +51.28 +(+0.26) overall assertiveness + (-0.54) anxiety levels when dealing with allied professionals + (1.94) assertiveness training +(-0.46) degree of difficulty as measured by AC.

It was noted that the overall level of assertiveness and assertiveness training had positive *t*-test scores (*t*=6.37 & 2.38) and that anxiety levels when dealing with allied professionals and degree of difficulty with assertiveness had negative scores (*t*=-3.27 & -2.29). This agreed with the correlations shown earlier and was expected. All other independent variables were excluded in the stepwise regressions because they were not significant.

Because age had previously had an erratic effect on anxiety and assertiveness, it was decided to analyse self-efficacy and age categories using the Mann Whitney to test for the significance of the effect of age on the levels of self-efficacy. Age was not significant (*p*=0.22) (Table 71).

Table 71: Mann-Whitney U test on significance of age on self-efficacy

Age range	n	Self-efficacy Mean Rank
Thirty something	29	64.4
Other age groups	116	75.15
Statistics: Mann-Whitney U = 1432.50, Z = -1.23, Asymp. Sig.(2-tailed) = 0.22		

A graphic representation of the results showed that there was a trend towards lower self-efficacy levels in the 31 to 35 year old age group of dietitians (Figure 13) who had previously shown trends towards higher anxiety and lower assertiveness.

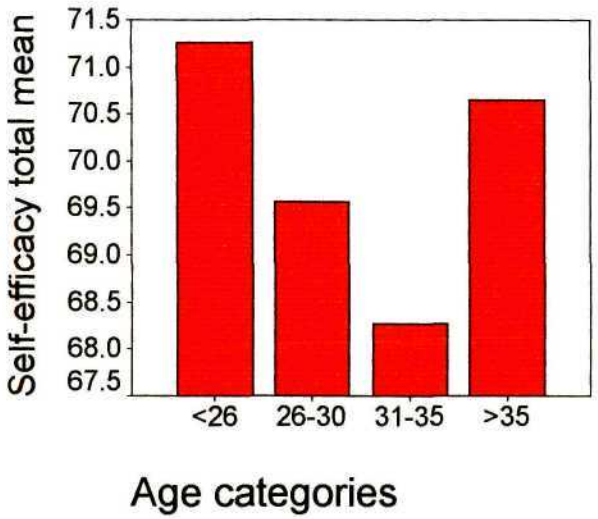

Figure 13: Self-efficacy and the effect of age

Summary and discussion

Four variables contributed to the levels of self-efficacy. The overall level of assertiveness accounted for the largest variance found in the self-efficacy and thereafter in decreasing amounts, the anxiety levels with allied professionals (negative effect), length of assertiveness training (positive effect) and the overall degrees of difficulty (as measured by AC) with assertiveness (negative effect). Three of the four predictors for self-efficacy had to do with assertiveness, including the training for assertiveness. Anxiety accounted for one of the four variables.

5.2.5 The factors affecting job satisfaction

It was theorised that levels of job satisfaction would have been affected by a variety of factors, namely

- degrees of difficulty with assertiveness as measured by the AC,
- the five levels of anxiety when subjects dealt with groups of individuals in the workplace, patients, colleagues, subordinates, supervisors and allied professionals and overall level of anxiety as measured by AAS,
- the five levels of assertiveness when subjects dealt with groups of individuals in the workplace and overall level of assertiveness as measured by PABS,
- age, sex, birth order, race, language, socio economic status, years of work experience, self-efficacy, education, professional training, and length of exposure to assertiveness training, place of employment ({state or semi-state} and {private or semi-private}) and areas of employment (community nutrition only, food service management only, therapeutic nutrition only, a combination of these three areas, or outside the area of dietetic practice).

A stepwise regression analysis was performed, using the named factors as independent variables and job satisfaction as the dependent variable. It was found that four variables were significant predictors of job satisfaction. These were the degree of difficulty with assertiveness as measured by the AC, overall level of assertiveness, sex (female), English home language and levels of self-efficacy. These four items accounted for 27% of the variance found in levels of job satisfaction which meant that these items accounted for about a quarter of the variance in levels of job satisfaction and that other unidentified factors accounted for about three quarters of variance (Tables 72, 73). This meant that these factors had not contributed a great deal to the variance and therefore they were not that important.

Table 72: Model summary of the stepwise regression - job satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.36	0.13	0.12	3.91
2	0.46	0.21	0.19	3.74
3	0.51	0.26	0.23	3.65
4	0.54	0.29	0.27	3.57

1 Predictors: Degrees of difficulty with assertiveness as measured by the AC
2 Predictors: Degrees of difficulty with assertiveness as measured by the AC, Sex,
3 Predictors: Degrees of difficulty with assertiveness as measured by the AC Sex, English speaking
4 Predictors: Degrees of difficulty with assertiveness as measured by the AC, Sex, English speaking, levels of self-efficacy

Table 73: Model 4 of stepwise regression: predictors of job satisfaction

	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
Model 4	B		Beta		
(Constant)	1.25	4.81		0.26	0.80
Degrees of difficulty with assertiveness as measured by the AC	-0.37	0.12	-0.29	-3.02	0.00
Sex	5.34	1.69	0.27	3.16	0.00
English speaking	-2.08	0.75	-0.24	-2.79	0.01
Self-efficacy level	0.11	0.05	0.22	2.32	0

1 Dependent Variable: Job satisfaction
Predictors for multiple regression equation Model 4
Job satisfaction = +1.25 + (-0.37) degree of difficulty with assertiveness + (5.34)sex + (-2.08) English speaking + (0.11) self-efficacy.

Job satisfaction and overall degree of difficulty with assertiveness were negatively correlated (r= -0.31; p = 0.00). Job satisfaction rated higher in females (n=134)($\bar{x}$ 12.87 ±4.04) than in males (n=10) ($\bar{x}$=9.70 ± 4.06). Levels of job satisfaction were higher in English speakers (n=52)($\bar{x}$=13.92 ±3.82) than the combination of other languages (n=92)($\bar{x}$=11.92 ± 4.11) and job satisfaction was positively correlated with self-efficacy (r= 0.31; p = 0.00). The dietitians' job satisfaction improved with the decreasing overall

degrees of difficulty in the work place and increasing levels of self-efficacy. This was an expected result. Job satisfaction was greater in females and English speakers. As the number of male respondents in the sample was small (n=10) was such a large discrepancy in between the numbers of the two sexes further investigation into this finding would probably not yield any useful information.

It was initially thought that the reason why English speakers had a higher job satisfaction rate was because significantly more subjects were employed in the private sector (p =0.00) than for the public or semi public institutions (Table 74).

Table 74: Chi-square analysis of English speakers and others X public and private sector(n=113)

Area of employment		Home language		Total
		English	Other	
State and para state		8	43	51
Private and semi-private		29	33	62
Total		37	76	113
Chi-Square	Value	df	Asymp. Sig. (2-sided)	
Pearson Chi-Square	12.74	1	**0.00**	

1 Computed only for a 2x2 table
2 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.85.

However, an independent t-test revealed no significant difference of job satisfaction between the private and public sectors (p=0.125 - 0.126) (Table 75).

Table 75: Independent sample *t*-test of job satisfaction and type of employment

	Employment	n	Mean	Std. Deviation	Std. Error Mean
Job satisfaction total	State and para state	51	12.04	4.17	0.58
	Private and semi-private	60	13.25	4.07	0.52

	t-test for Equality of Means					95% Confidence Interval of the Difference	
Job satisfaction total	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	-1.55	109.00	0.13	-1.21	0.78	-2.76	0.34
Equal variances not assumed	-1.54	105.21	0.13	-1.21	0.79	-2.77	0.35

A stepwise linear regression with job satisfaction as the dependent variable and English speakers and sector employed as independent variables excluded the sector employed as predictor because it was not significant. When English Speakers were measured for levels of anxiety using the Five Anxiety Scales only the Anxiety Scale with Subordinates (p=0.017) and the Anxiety Scale with Supervisors (p=0.03) yielded significant results, with English speakers being less anxious than the combination of other language speakers. This could have perhaps explained why the English speakers had higher rates of job satisfaction because they were less anxious in the work situation with subordinates and supervisors than the combination of other language speakers with whom they were compared (Table 76).

Table 76: Independent sample analysis of English speakers and levels of anxiety

	Anxiety Scale with Subordinates	Anxiety Scale with Supervisors
Mann-Whitney U	1797.50	1852.50
Z	-2.40	-2.16
Asymp. Sig.(2-tailed)	**.017**	**0.03**

1 Grouping Variable: English only

Because age had previously had an erratic effect on anxiety, assertiveness and self-efficacy, it was decided to analyse job satisfaction and the age categories using the Mann Whitney to test for the significance of the effect of age on the levels of self-efficacy. Age was not significant (p =0.09) (Table 77).

Table 77: Mann-Whitney test on significance of age on job satisfaction

Age range	n	Job satisfaction
Thirty something	29	60.72
Other age groups	115	75.47
Statistics: Mann-Whitney U = 1326.00, Z = -1.71, Asymp. Sig. (2-tailed) = 0.09		

Graphic representation of the results showed that there was a trend towards lower job satisfaction levels in the 31 to 35 year old age group of dietitians who had previously shown trends towards higher anxiety and lower assertiveness and lower self-efficacy (Figure 14).

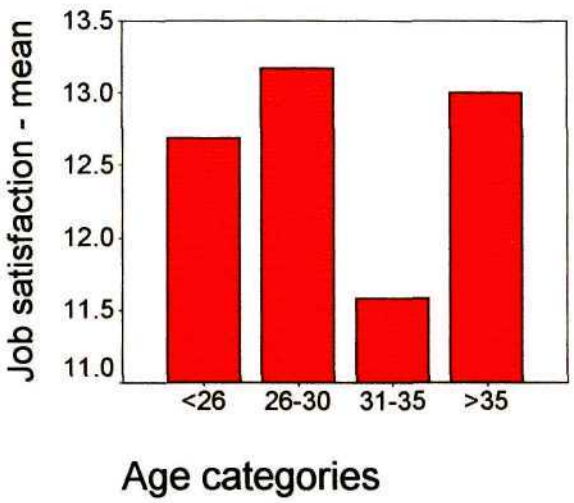

Figure 14: Job satisfaction and the effect of age

Summary of all findings

It was theorised that dietitians would experience problems in the negative areas of QAAB. Overall scores were within acceptable levels with scores in the negative responding area being greater than in the negative initiating areas. The implication is that dietitians do not have problems with assertiveness

It was expected that dietitians would experience increasing degrees of difficulty with assertiveness with patients, colleagues, subordinates, supervisors and allied professionals. Dietitians had the least difficulties with patients and the most with supervisors and allied professionals. Although these results were expected, the degree of difficulty ranged between 1 and 2 on a scale of 5 meaning that they experienced little or no difficulty with any of these individuals.

It was expected that dietitians would express greater anxiety with the allied professionals and thereafter in decreasing amounts with supervisors, subordinates, colleagues and patients. Contrary to expectations, dietitians showed greater anxiety with supervisors, colleagues and less with allied professionals. Understandably they were less anxious with subordinates and colleagues because they were less threatened by them.

It was supposed that dietitians would be most assertive with patients and show decreasing amounts of assertiveness with colleagues, subordinates, supervisors and allied professionals. Two of the scales with patients and subordinates were not reliable and had to be disregarded. Contrary to expectations, dietitians were more assertive with allied professionals than with colleagues or supervisors in spite of being more anxious with the allied professionals, so they acted assertively despite feelings of anxiety.

It was expected that the paired question in the two scales AAS and PABS would be negatively correlated with each other. Apart from two exceptions, this was the case. This mean that in the majority of cases greater anxiety was correlated with lower assertiveness and vice versa.

It was surmised that the overall levels of anxiety and assertiveness would be influenced by the intrinsic and extrinsic factors. The only two strong predictors of anxiety and assertiveness were self-efficacy and job satisfaction. None of the demographic variables were significant and could therefor be considered irrelevant to this study.

Predictors for levels of self-efficacy included overall levels of assertiveness, anxiety levels when dealing with allied professionals, assertiveness training and degree of difficulty with assertiveness. Predictors for levels of job satisfaction included, degree of difficulty with assertiveness, the sex of the dietitian, being English speaking and levels of self-efficacy.

Of interest and despite non significance was the effect of age on anxiety, assertiveness, self-efficacy and job satisfaction where the age group 31-35 showed a trend of raised anxiety and lowered levels of assertiveness, self-efficacy and job satisfaction (Figure 15).

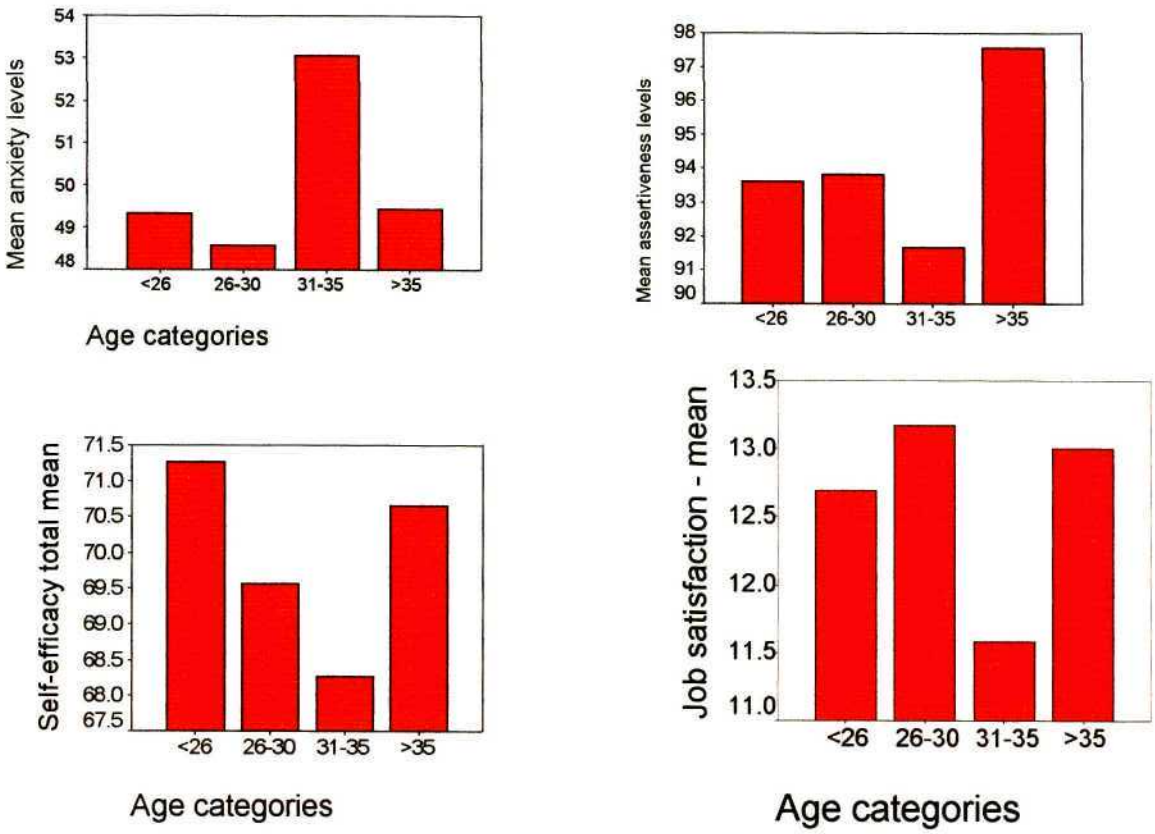

Figure 15: Age: anxiety, assertiveness, self-efficacy and job satisfaction

CHAPTER 6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Profile of the Average Dietitian

From the results of this study it was established that the average dietitian was a white, Afrikaans speaking, female in her late twenties to early thirties, employed either by the state or self-employed. She attended the University of Pretoria and obtained a Bachelor of Science in Dietetics and a Postgraduate Diploma in (Hospital) Dietetics. She has no formal assertiveness training. She was the eldest daughter of an individual from the top five socio-economic occupations. Her area of practice covers all three areas of dietetics and she is therefore mostly a generalist but with therapeutic nutrition being a close alternative. She has been in her current position for 4 years and has been employed for a total of seven and a half years.

She rated herself between one and two on a scale of one to five, in the degree of difficulty with assertiveness when dealing with groups of individuals, indicating that she had little or no difficulty with all five groups in the workplace. She expressed greater degrees of difficulty with colleagues, supervisors and allied professionals and less with patients and subordinates. She experienced greater anxiety when dealing with supervisors, colleagues and allied professionals and especially if the allied professionals were of a different race and gender. Her overall level of assertiveness at 94.8 although significantly less than the American service worker, 99.7, was well above the minimum rate of 75.

The average dietitian was most assertive with allied professionals and least assertive with colleagues contradicting the results of the anxiety levels. Although she rated low in her assertiveness with patients this result had to be disregarded because the Assertiveness Scale with Patients had a very low reliability coefficient of less than 0.1. Assertiveness levels of the average dietitian when dealing with each of the five groups of individuals rated significantly higher than the cutoff point of 15 where problems would have occurred. The self-efficacy of the average dietitian was higher than groups quoted in the literature (Sherer & Adams 1983; Sherer et al 1982) but her job satisfaction levels were significantly lower when compared to dentists in the USA (Kaldenberg & Becker 1991).

6.2 Scales and Meanings of Variables

6.2.1 Demographic variables

The demographic variables were as follows. One hundred and forty-five questionnaires were returned of 350 that were posted. The average age of the sample was 32.4(±8.56) years, emphasising the youthfulness of the profession. Ten males (6,9%) and 135 females completed the questionnaires, whereas males made up only 3.4% of dietitians registered with the HPCSA. Thirty seven percent (n = 57) of the dietitians were the eldest child in the family while 25% (n=38) were the second born, 22% (n = 32) the third born and 12% (n = 18) fourth born or later. This meant that more than a third of the sample was the eldest in their family. The racial composition of the sample was 81.4 % (n = 118) white, 10.3% (n = 15) black, 5.5 % (n = 8) Indian, 2.1% (n = 3) coloured and less than 1% (n=1) other. Although this did not represent the demographic distribution of race in this country, it was a true reflection of the racial profile of the dietitians when one considered that the universities who produced the most dietitians were the historically white universities. The majority of the dietitians were Afrikaans speaking 50% (n =73), thereafter, in decreasing numbers English 36% (n=52), TshiVenda 5% (n=7), Sepedi 3% (n=5), other, mainly German 3% (n=5), SeSotho 1% (n=2) and IsiZulu 1% (n=1). This agreed with distribution in the racial profile and the universities attended.

Dietitians were coded for socio-economic status as follows, professional 53.2 % (n=74), semi-professional 21.6% (n = 30), clerical 14.4% (n=20), labourer, non-labour routine and menial 10.8% (n=15). This meant that the majority of dietitians came from homes of professionals. The dietitians have been employed for an average of 7,6 (±6,7) years. This meant that dietitians on average have less than ten years experience. The high standard deviation was a reflection of the wide range of between 0 and 31 years employment. Almost a quarter of the dietitians, 23% (n=34), in the sample had postgraduate qualifications higher than registration requirements.

The largest number of dietitians attended the University of Pretoria 40% (n=29.3), thereafter, in decreasing numbers the Universities of Stellenbosch 19.4% (n=37), Natal 17.3% (n=33), Potchefstroom 9.4% (n=18), Cape Town 8.4% (n=16), Orange Free State 4.7% (n=9), Medunsa 4.7% (n=9), the North 2.1% (n=5), and Western Cape 2.1% (n=4). This was significantly correlated to the findings of the HPCSA analysis(χ=0.98 and p =0.00) meaning that the sample was represented of the population. The majority of dietitians 63.9 % (n=92) had not attended assertiveness training programmes, 21.5% (n=31) had less than 4 hours exposure while only 14.6% (n=21) had more than four hours of formal training.

The largest number of dietitians was involved in a combination of areas of dietetic practice 35% (n=51), thereafter, in decreasing numbers: therapeutic nutrition 31% (n=45), other 14% (n= 20), not working at all

8% (n=12), community nutrition 6% (n=9) and food service management 6% (n=8). Most dietitians were involved in all three areas of dietetic practice. The state was the largest employer of dietitians 29.3% (n=39) thereafter in decreasing numbers were self-employed 27.1% (n=36), private companies employed 17.3% (n=23), educational institutions employed 7.5% (n=10), NGO's 2.3% (n=3), other 2.3% (n=3), and various combinations of state, self employment, private companies and educational institutions employed 14.3% (n=19). Dietitians had been in their current position for 3,78 years (±3.91). The standard deviation was an indication of the range of years in the current position.

6.2.2 Variables from the scales

On the negative responding (NR) scale and negative initiating (NI) scale, dietitians scored significantly higher levels for NR behaviour (p=0.00). This meant that they were better at responding in negative situations than initiating negative assertion.

Dietitians rated themselves with greater degrees of difficulty with assertiveness when dealing with supervisors 1.99(±1.00), thereafter in decreasing amounts with allied professionals 1.97 (±0.90), colleagues 1.70(±0.82), subordinates 1.64(±0.78) and the least amount with patients1.38 (±0.69). The high levels of the standard deviations were indicative of the wide range of responses.

On the Five Anxiety Scales of AAS, dietitians indicated that they were most anxious when dealing with supervisors 10.68(±3.64) and thereafter with decreasing levels of anxiety with colleagues 10.29 (±3.42), allied professionals 9.97 (±4.22), subordinates 9.68 (±3.61), and patients 9.40 (±3.05). The overall score for anxiety (excluding questions 26 & 27) was 50.02 (±14.60) which was significantly lower (p=0.00) than the score of 59.75 mentioned in the literature (Gambrill & Richey 1975).

On the Five Assertiveness Scales of PABS, dietitians indicated that they were most assertive when dealing with allied professionals 21.19 (±2.94), thereafter with decreasing levels of assertiveness with subordinates 19.34 (±2.55), supervisors 18.82 (±2.79), colleagues 18.43 (±3.10), and patients 17.92 (±2.43). The overall score for assertiveness was 94.71 (±9.93) which was significantly lower (p=0.00) than the score of 99.37 mentioned in the literature (Sundel & Sundel 1981, p23) but well above the minimum cutoff level of 75.

The levels of self-efficacy were 69.9(±7.81) which were significantly higher (p =0.00) than that of students (61.66 & 64.31) in the USA (Sherer & Adams 1983; Sherer *et al* 1982). The job satisfaction levels of 12.63(±4.08) for dietitians were significantly lower than the 14.17 for Dentists in the USA (Kaldenberg & Becker 1991).

6.3 Specific Conclusions and Recommendations

6.3.1 Scales for measuring variables

Conclusions

The scales used for measuring the degree of difficulty with assertiveness (AC), the overall level of anxiety (AAS), the overall level of assertiveness (PABS), self-efficacy, and job satisfaction were found to be reliable as measures for the specified variables. The conclusion draw is, that the findings of the analyses using these scales could be used and interpreted with confidence.

All Five Anxiety Scales of AAS, and three of the Five Assertiveness Scales of PABS which measured assertiveness with colleagues, supervisors and allied professional were also reliable. The two remaining scales that measured assertiveness levels with patients and with subordinates had problems with reliability (α <0.50). An article in the literature (Rabin & Zelner 1992) had shown these scales to be reliable and it was therefore assumed that they would not have presented problems in this study.

Recommendations

If further investigations were to be attempted using the Five Scales of Assertiveness, the problem statements, numbers 3 and 5,of the Assertiveness Scale with Patients and statement 15 of the Assertiveness Scale with Subordinates should be rewritten and tested before any further investigation be undertaken.

6.3.2 Quadrant Areas of Assertive Behaviour

Conclusions

Dietitians were more scored significantly more in the negative responding (NR) areas($\bar{x}$ =34.14 ±14.37) of Quadrant Areas of Assertive Behaviour (QAAB) than in the negative initiating (NI) areas ($\bar{x}$ =33.62 ±4.45) of QAAB. The conclusion drawn is that dietitians found it easier to respond rather than to initiate assertive behaviour. The implication was that dietitians may need to learn to be proactive and address issues before they become problems.

Recommendations

Further investigation would be needed to establish why dietitians were more assertive in the negative responding areas than in the negative initiating areas. It could be reasoned that dietitians might need to be more pro-active and initiate negative assertion before having to respond assertively in a negative situation.

6.3.3 Degrees of assertiveness

Conclusions

In the self rated scale, the Assertiveness Checklist, which measured the degree of difficulty with assertiveness, dietitians rated themselves with relatively low degrees of difficulties when dealing with the five different groups. None of the scores exceeded two out of five which indicated that they had little or no difficulty with any of the groups. A figure of more than three out of five would have indicated a problem. As was expected, dietitians indicated that they had a significantly greater degree of difficulty with Allied professionals and Supervisors($p = 0$) (Conway *et al* 1996; Gilbert & Allen 1994). But the extent of the difficulties were smaller than expected. The majority of the dietitians in this study were female 93.6%(n=135). The majority of the doctors as part of the allied professions were male. It was expected that the females would have been less dominant and less assertive (Conway *et al 1996*). Gilbert and Allen (1994) noted that where the rank of the other individual was greater, the individual with the lower rank would be more subservient and less assertive. This meant that dietitians contradicted the findings in the literature by having fewer difficulties with assertiveness than expected and coped adequately with groups of individuals in the workplace.

6.3.4 Anxiety levels

Conclusions

Dietitians were less anxious when compared to introductory psychology students. This could have been expected because dietitians were qualified professionals who were more mature than entry level students. What was interesting was that English speakers showed less anxiety with subordinates and supervisors than the other groups. English speakers attended mainly English universities which were more liberal and less rigid and authoritarian than Afrikaans universities (Charlton 2000). It may have been this aspect which made English-speaking dietitians less anxious. It was interesting to note, that in spite of increasing anxiety rates, dietitians were most assertive with the allied professionals when compared with their colleagues (z=-5.72) and supervisors (z= -5.14). This could have been interpreted that they may have held the allied professionals in deference but that this had not deterred them from being assertive. These findings were contrary to expectations because it had been theorised that increased anxiety would lead to dietitians being less assertive with allied professionals whereas assertiveness was not a problem.

6.3.5 Assertiveness levels

Conclusions

In the Assertiveness Scale with Colleagues, dietitians rated 18.43, in the Assertiveness Scale with Supervisors they rated 18.82 and in the Assertiveness Scale with Allied Professionals they rated 21.19. All of these were higher than the 15 minimum cut off point. South African dietitians ($\bar{x}$ =94.71 were

significantly lower (p =0.00) in the overall levels of assertiveness when compared to the American human service workers($\bar{x}$.= 99.37), although the overall rate for South African dietitians was still higher than the score of 75. This score was considered to be the lowest acceptable level. An individual with a score less than 75 was rated as having difficulty or problems with assertiveness. This was a pleasing result because it had been expected that dietitians would have had difficulties with assertiveness in the workplace. Once again this contradicted the predications of the research problem which stated that because dietetics was a female dominated profession, dietitians would lack assertiveness. South African dietitians although less assertive than American health workers are sufficiently assertive in the workplace not to experience problems.

6.3.6 Intrinsic and extrinsic factors

Conclusions

The following variables had a significant effect on anxiety and assertiveness levels. Anxiety levels were significantly negatively correlated with assertiveness levels (r=-0.38, p=0.00), self-efficacy and job satisfaction. The conclusion here is that individuals who have higher overall levels anxiety would be less assertive, have lower levels of self-efficacy and have less job satisfaction.

The "whites only" group and the Afrikaans speaking group when compared to the combination of other language speakers, had a significantly higher overall level of anxiety. Assertiveness levels were significantly negatively correlated with anxiety levels, and positively to self-efficacy and job satisfaction levels. The conclusion here is that individuals who have higher overall levels of assertiveness would be less anxious, have higher levels of self-efficacy and have greater job satisfaction. English speakers also had significantly higher levels of job satisfaction and were significantly less anxious in their dealings with supervisors and subordinates.

A number of the intrinsic and extrinsic factors did not have a significant impact on anxiety and assertiveness which was contrary to expectations. Age had an erratic effect on both anxiety and assertiveness. The age group 30 - 35 had the highest anxiety levels ($\bar{x}$ = 83.07) but this was not significantly different from the other age groups (p =0.67). This same age group also had the lowest levels of assertiveness ($\bar{x}$ = 91.66) although not significantly different from the other age groups (p = 0.14). The levels of self-efficacy (p=0.22) ($\bar{x}$=68.28) and job satisfaction (p=0.09)($\bar{x}$=11.59) showed the opposite trend to anxiety but once again this was not significant. It was speculated that this trend could have been ascribed to a "mid career" crisis in this age group.

Neither anxiety nor assertiveness were affected by the following factors: the sex of the subjects, birth order, race (except for "whites only" on anxiety) socio-economic status, language (except for Afrikaans only on anxiety), length of work experience, levels of education (registration and post registration qualifications) and assertiveness training. The lack of effect of most of the intrinsic and extrinsic factors could perhaps have been ascribed to the professional training which would have changed attitudes and practices of the subjects. These results could also have been due to a homogenous sample or population.

Recommendations

The reason for the "mid-career" crisis, whether it in fact existed and how it should have been managed would require further investigation. The reason for the decrease in assertiveness of dietitians in their early thirties would need to be established. Both the youngest and the second eldest groups would probably benefit from either an assertiveness training course and although it may not increase assertiveness, it would have a positive affect on self-efficacy as has been shown in this study. It may be beneficial for those individuals who are returning to work after a period of absence, to attend counselling sessions or self-efficacy improvement courses.

6.3.7 Self-efficacy

Conclusions

Self-efficacy was higher in dietitians than in the comparison group of introductory psychology students. This was an encouraging trend because of the strong influence of self-efficacy on the subjects' ability to perform well and it was also the predictor of the increasing overall level of assertiveness and decreasing anxiety as shown in this study. This meant that problems that dietitians were experiencing as a female dominated profession could not be ascribed to a lack of self-efficacy and assertiveness.

6.3.8 Job satisfaction

Of concern were the lower levels of job satisfaction of the dietitians ($\bar{x}$ = 12.64) when compared to the dentists in the USA($\bar{x}$ =14.17) (Kaldenberg & Becker 1991). Low pay and difficulty in finding employment were mentioned by some of the responding dietitians as a reason for poor job satisfaction and it was noted that a number of dietitians had left South Africa to find employment outside the country.

Recommendation

Lower levels of job satisfaction should be investigated further. The problem of poor job satisfaction could be addressed in a number of ways. Self employed dietitians were the second largest of the employment groups and will probably become the largest group in the future. It would therefore be important for universities to consider producing dietitians who more were suitably equipped to practice privately. It is

recommended that the emphasis on training dietitians be changed from that of "employee" to that of "employer." More emphasis could also be placed on the business, financial and practice management aspects of entrepreneurial dietetics, be it during undergraduate training or as postgraduate short courses. By implementing these recommendations it was hoped that the job satisfaction of dietitians could be improved.

6.3.9 Amended Factors Affecting Assertiveness (AFAA)

An amended model, AFAA (Figure 16), from the original model Factors Affecting Assertiveness (FAA) (Figure 6, Chapter 2.4) has been constructed using the results of this research project. It was found that the overall levels of anxiety of the dietitians, overall levels of assertiveness and self-efficacy interacted with each other. The overall level of anxiety was reduced when either the overall level of assertiveness or self-efficacy were high. Assertiveness training and job satisfaction levels had a positive effect on self-efficacy. Job satisfaction interacted with self-efficacy and they had a mutually enhancing effect on each other. The only other two items from the intrinsic and extrinsic list that had any effect were home language and the sex of the sample. These two items did not affect assertiveness significantly as originally theorised but were predictors for the levels of job satisfaction where female and English speakers had significantly greater levels of job satisfaction.

The AFAA is a much simpler model than FAA. Its purpose was to demonstrate the results of, and to highlight the specific characteristics of dietitians in the research sample. The groups of individuals in the workplace have been arranged in the order of influence in the test boxes attached to the three "cogs," of firstly the decreased degree of difficulty with assertiveness, secondly, decreased anxiety and thirdly increased assertiveness. It was decided that because self-efficacy and job satisfaction were so integral to the process of anxiety and assertiveness that they be taken out of the intrinsic and extrinsic factors and placed in the central flow of interactional effects. Decreased anxiety, increased self-efficacy and increased assertiveness has been placed in the three central "cogs' of AFAA showing the interactional effect of each of these variables on the other. Levels of self-efficacy had the most extensive effect because it not only affected anxiety and assertiveness but also had an effect on job satisfaction and the degree of difficulty with assertiveness. Job satisfaction in turn was affected by two of the intrinsic and extrinsic factors that of being female and English speaking. The balance of the intrinsic and extrinsic factors have been removed. It will also be noted that QAAB has been changed to reflect the area where dietitians were most assertive. The NR area is represented as a larger area than the NI area.

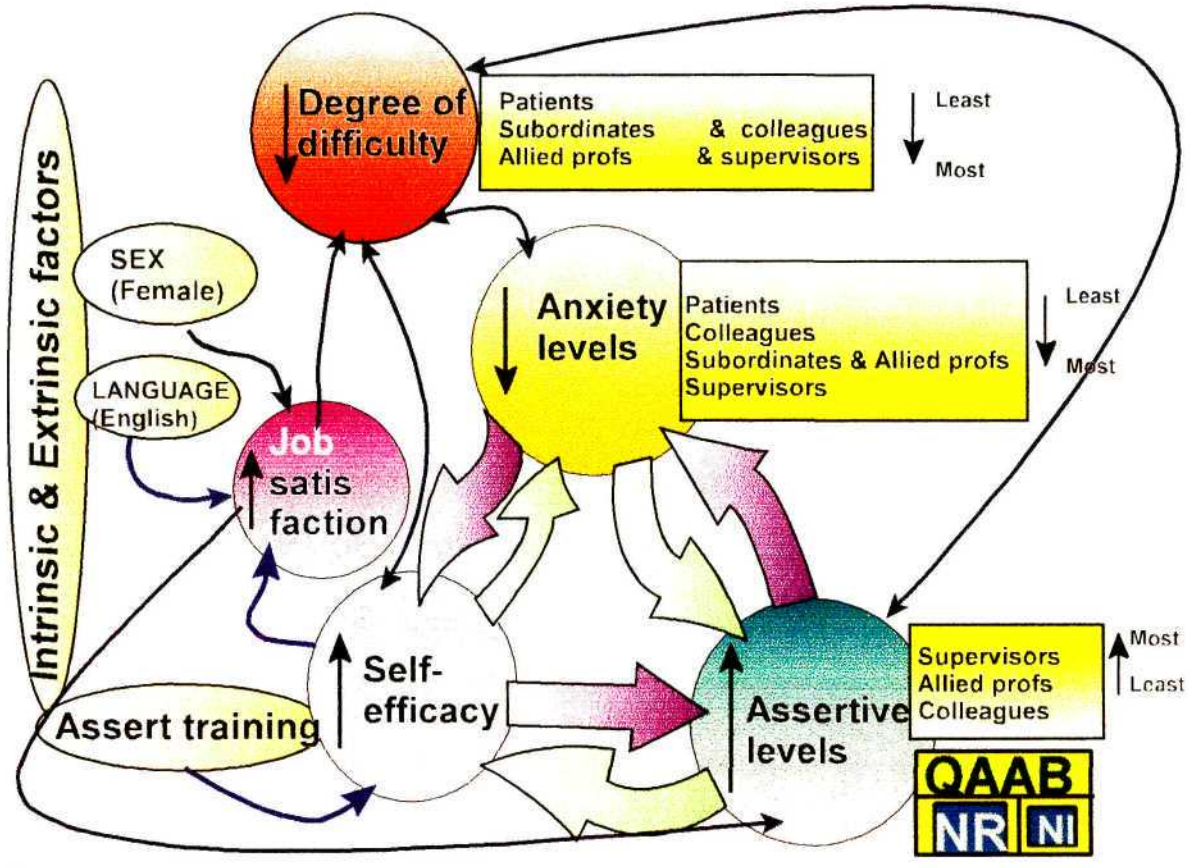

Figure 16: Amended Factors Affecting Assertiveness

The study of the profession of dietetics yielded some interesting results. Dietitians were less anxious and more assertive than they were theorised to be. They had excellent levels of self-efficacy which showed that they had the skill and abilities as well as the belief in those abilities. The only cause for concern was the lower levels of job satisfaction. Now that this problem has been highlighted, it can be brought to the attention of the profession in the hope that it can be addressed.

Finally the original hypothesis was unsubstantiated. The perceived problems associated with dietetics as a female dominated profession including not being able to maximize their effectiveness, having to await instructions from the medical practitioner, poor pay and low prestige were not due to increased levels of anxiety and a lack of assertiveness. Other reasons for these perceived problems will need to be investigated.

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APPENDIX A: PROBABILITY OF ASSERTIVE BEHAVIOUR SCALE (PABS)

Table 3 is similar to table 2. Please go through Table 3 and now indicate the probability or likelihood of your displaying the behaviour if actually presented with the situation.

For example, if you rarely apologise when you are at fault, you would mark a "2" after that item.

Utilize the following scale to indicate your response probability:

1 = never or almost never true of me
2 = rarely true of me
3 = sometimes true of me
4 = usually true of me
5 = always or almost true of me.

Indicate the extent to which you would behave in the manner described by the following statements by marking **one** of the appropriate numbers 1-5.

		Never/ almost never true of me	Rarely true of me	Sometimes true of me	Usually true of me	Always/almost true of me
1	When a client arrives more than five minutes late for his/her appointment, I end the session on time.	1	2	3	4	5
2	When a client asks me how I handle my personal problems and I don't want to divulge this, I refocus the client on his/her difficulty.	1	2	3	4	5
3	When a client tells me that s/he didn't have time to do the assignment that s/he had agreed to do, I accept that and go on to the next issue.	1	2	3	4	5
4	If a client failed to pay his/her fee for services, I would discuss this matter with him/her at the first available opportunity.	1	2	3	4	5
5	If a client calls to cancel an appointment, I say something to try to make him/her feel bad.	1	2	3	4	5
6	In a staff meeting, I will voice my opinions when I think I should, even when I disagree with my peers.	1	2	3	4	5
7	When co-workers ask me personal questions, I answer them because I'm too uncomfortable to refuse.	1	2	3	4	5
8	When a colleague asks me to serve on a committee, I agree to it even if I don't want to serve.	1	2	3	4	5
9	If a co-worker borrowed money from me, I would ask him/her to pay it back.	1	2	3	4	5
10	When a co-worker repeatedly asks me to cover for him/her so that s/he can conduct personal business, I refuse.	1	2	3	4	5
11	When a worker that I am supervising arrives late for our supervisory session, I end the session on time.	1	2	3	4	5
12	When a worker is late in handing in reports, it irritates me and I lose my temper.	1	2	3	4	5

		Never/ almost never true of me	Rarely true of me	Sometimes true of me	Usually true of me	Always/almost true of me
13	When a supervisee uses work time to conduct personal business that interferes with his/her responsibilities, I become anxious and do not discuss this with him/her.	1	2	3	4	5
14	When I observe a supervisee being rude or providing incorrect information to a client, I call him/her aside at the first available opportunity to discuss the situation .	1	2	3	4	5
15	I am proud of my reputation for being strict with my supervisees, and I take every opportunity to let them know I'm boss.	1	2	3	4	5
16	If I were given an unfair job evaluation, I would try to get my boss to change the evaluation.	1	2	3	4	5
17	If my boss told me to do something I thought was wrong, I would try to convince him/her that it should not be done.	1	2	3	4	5
18	When I want assistance with my work, I ask my superior for help.	1	2	3	4	5
19	When my boss compliments me on my work, I feel embarrassed and don't know what to say.	1	2	3	4	5
20	If my supervisor has criticized my work, I let him/her know how I feel by telling everyone else in the office how unfairly I've been treated.	1	2	3	4	5
21	If a doctor asked for my opinion of a patient's condition on a ward round, I would state it even if it disagreed with the doctor's position.	1	2	3	4	5
22	When a physician makes a recommendation for a patient that I don't agree with, I accept his/her decision without expressing my viewpoint or asking him/her to support his/hers.	1	2	3	4	5
23	If a specialist physician prescribed an inappropriate diet for a patient and I disagreed, I would give my opinion and ask him/her if all the facts I had presented were taken into consideration.	1	2	3	4	5
24	When the hospital superintendent questions me on why I inserted a naso-gastric tube into a patient and whether I can substantiate my answer, I get so nervous I can't answer properly.	1	2	3	4	5
25	When it is necessary for me to intervene with the chief matron on behalf of a patient who is not receiving all the items prescribed on the menu, I get flustered and fail to make a convincing presentation of my patient's situation.	1	2	3	4	5

APPENDIX B: QAAB ANALYSIS OF PABS

question number		QAAB ALLOCATION			
		PR	PI	NR	NI
1	When a client arrives more than five minutes late for his/her appointment, I end the session on time.				X
2	When a client asks me how I handle my personal problems and I don't want to divulge this, I refocus the client on his/her difficulty.			X	
3	When a client tells me that s/he didn't have time to do the assignment that s/he had agreed to do, I accept that and go on to the next issue.			X	
4	If a client failed to pay his/her fee for services, I would discuss this matter with him/her at the first available opportunity.				X
5	If a client calls to cancel an appointment, I say something to try to make him/her feel bad.			X	
6	In a staff meeting, I will voice my opinions when I think I should, even when I disagree with my peers.				X
7	When co-workers ask me personal questions, I answer them because I'm too uncomfortable to refuse.			X	
8	When a colleague asks me to serve on a committee, I agree to it even if I don't want to serve.			X	
9	If a co-worker borrowed money from me, I would ask him/her to pay it back.				X
10	When a co-worker repeatedly asks me to cover for him/her so that s/he can conduct personal business, I refuse.			X	
11	When a worker that I am supervising arrives late for our supervisory session, I end the session on time.				X
12	When a worker is late in handing in reports, it irritates me and I lose my temper.				X
13	When a supervisee uses work time to conduct personal business that interferes with his/her responsibilities, I become anxious and do not discuss this with him/her.				X
14	When I observe a supervisee being rude or providing incorrect information to a client, I call him/her aside at the first available opportunity to discuss the situation .				X
15	I am proud of my reputation for being strict with my supervisees, and I take every opportunity to let them know I'm boss.				X
16	If I were given an unfair job evaluation, I would try to get my boss to change the evaluation.				X
17	If my boss told me to do something I thought was wrong, I would try to convince him/her that it should not be done.				X
18	When I want assistance with my work, I ask my superior for help.			X	

question number		QAAB ALLOCATION			
		PR	PI	NR	NI
19	When my boss compliments me on my work, I feel embarrassed and don't know what to say.	X			
20	If my supervisor has criticized my work, I let him/her know how I feel by telling everyone else in the office how unfairly I've been treated.		X		
21	If a doctor asked for my opinion of a patient's condition on a ward round, I would state it even if it disagreed with the doctor's position.				X
22	When a physician makes a recommendation for a patient that I don't agree with, I accept his/her decision without expressing my viewpoint or asking him/her to support his/hers.				X
23	If a specialist physician prescribed an inappropriate diet for a patient and I disagreed, I would give my opinion and ask him/her if all the facts I had presented were taken into consideration.				X
24	When the hospital superintendent questions me on why I inserted a naso-gastric tube into a patient and whether I can substantiate my answer, I get so nervous I can't answer properly.			X	
25	When it is necessary for me to intervene with the chief matron on behalf of a patient who is not receiving all the items prescribed on the menu, I get flustered and fail to make a convincing presentation of my patient's situation.			X	
	TOTAL	1	1	9	14

APPENDIX C: ASSERTIVENESS CHECKLIST (AC)

Rate on a scale 1 - 5, the groups of people in the table below, where you have

1 = no difficulty
2 = a little difficulty ,
3 = a fair amount of difficulty,
4 = more difficulty,
5 = the most difficulty, being assertive.

		No difficulty	A little difficulty	A fair amount of difficulty	More difficulty	A great deal of difficulty
1	Patients/Client(s)	1	2	3	4	5
2	Co-worker(s)/colleagues	1	2	3	4	5
3	Supervisee(s)/Employee(s)/ Subordinate(s), includes dietetic interns	1	2	3	4	5
4	Supervisor/Employer	1	2	3	4	5
5	Professionals from other disciplines Specify:	1	2	3	4	5
6	Others, specify:	1	2	3	4	5

APPENDIX D: ASSERTIVENESS ANXIETY SCALE (AAS)

Please give a rating to **all statements** even if you feel some are not applicable to you. Many people experience anxiety when handling interpersonal situations in the workplace which requires them to assert themselves in some way, for example, when turning down a request, asking a favour, giving someone a compliment, expressing disapproval or approval, giving opinions and disagreeing with the opinions of others. Utilise the following scale to indicate degree of discomfort:

1 = no anxiety
2 = a little anxiety
3 = a fair amount of anxiety
4 = more anxiety
5 = a great deal of anxiety

Indicate the extent to which you would feel anxious in behaving in the following manner in response to the described situations by marking **one** of the appropriate numbers 1-5.

		No anxiety	A little anxiety	A fair amount of anxiety	More anxiety	A great deal of anxiety
1	When a client arrives more than five minutes late for his/her appointment, I end the session on time.	1	2	3	4	5
2	When a client asks me how I handle my personal problems and I don't want to divulge this, I refocus the client on his/her difficulty.	1	2	3	4	5
3	When a client tells me that s/he didn't have time to do the assignment that s/he had agreed to do, I don't accept this and ask for more detail.	1	2	3	4	5
4	If a client failed to pay his/her fee for services, I would discuss this matter with him/her at the first available opportunity.	1	2	3	4	5
5	If a client calls to cancel an appointment, I would insist that they reschedule another one.	1	2	3	4	5
6	In a staff meeting, I will voice my opinions when I think I should, even when I disagree with my peers.	1	2	3	4	5
7	When co-workers ask me personal questions, I do not answer them.	1	2	3	4	5
8	When a colleague asks me to serve on a committee, I do not agree to it, if I don't want to serve.	1	2	3	4	5
9	If a co-worker borrowed money from me, I would ask him/her to pay it back.	1	2	3	4	5
10	When a co-worker repeatedly asks me to cover for him/her so that s/he can conduct personal business, I refuse.	1	2	3	4	5
11	When a worker that I am supervising arrives late for our supervisory session, I end the session on time.	1	2	3	4	5
12	When a worker is late in handing in reports, it irritates me and I insist on a reason for the delay.	1	2	3	4	5
13	When a supervisee uses work time to conduct personal business that interferes with his/her responsibilities, I discuss this with him/her.	1	2	3	4	5

		No anxiety	A little anxiety	A fair amount of anxiety	More anxiety	A great deal of anxiety
14	When I observe a supervisee being rude or providing incorrect information to a client, I call him/her aside at the first available opportunity to discuss the situation.	1	2	3	4	5
15	I am proud of my reputation for being fair with my supervisees, and I take every opportunity to ensure impartiality.	1	2	3	4	5
16	If I were given an unfair job evaluation, I would try to get my boss to change the evaluation.	1	2	3	4	5
17	If my boss told me to do something I thought was wrong, I would try to convince him/her that it should not be done.	1	2	3	4	5
18	When I want assistance with my work, I ask my superior for help.	1	2	3	4	5
19	When my boss compliments me on my work, even if I feel embarrassed because it is not warranted, I accept graciously.	1	2	3	4	5
20	If my supervisor has criticized my work, I let him/her know how I feel by telling him/her how unfairly I've been treated.	1	2	3	4	5
21	If a doctor asked for my opinion of a patient's condition on a ward round, I would state it even if it disagreed with the doctor's position.	1	2	3	4	5
22	When a physician makes a recommendation for a patient that I don't agree with, I do not accept his/her decision and express my viewpoint or ask him/her to support his/hers.	1	2	3	4	5
23	If a specialist physician prescribed an inappropriate diet for a patient and I disagreed, I would give my opinion and ask him/her if all the facts I had presented were taken into consideration.	1	2	3	4	5
24	When the hospital superintendent questions me on why I inserted a naso-gastric tube into a patient and whether I can substantiate my answer, I answer properly, even if I get nervous.	1	2	3	4	5
25	When it is necessary for me to intervene with the chief matron on the behalf of a patient who is not receiving all the items prescribed on the menu, I make a convincing presentation of my patient's situation, even if I get flustered.	1	2	3	4	5
26	If a group of doctors, whose gender is opposite to mine, is near me at a lecture and were conversing rather loudly, I would ask them to be quiet or take their conversation elsewhere.	1	2	3	4	5
27	When the hospital superintendent, from an ethnic group other than mine, abruptly turns down my initial request for a meeting, I ask for another meeting at a later time.	1	2	3	4	5

APPENDIX E: SELF-EFFICACY SCALE (SES) (Sherer *et al* 1982)

Indicate the extent to which you would behave in the manner described by the following statements by marking **one** of the appropriate numbers 1-5.

1 = never or almost never true of me
2 = rarely true of me
3 = sometimes true of me
4 = usually true of me
5 = always or almost true of me

		Never/ almost never true of me	Rarely true of me	Sometimes true of me	Usually true of me	Always/almost always true of me
1	When I make plans, I am certain I can make them work.	1	2	3	4	5
2	One of my problems is that I cannot get down to work when I should.	1	2	3	4	5
3	If I can't do a job the first time, I keep trying until I can.	1	2	3	4	5
4	When I set important goals for myself, I rarely achieve them.	1	2	3	4	5
5	I give up on things before completing them.	1	2	3	4	5
6	I avoid facing difficulties.	1	2	3	4	5
7	If something looks too complicated, I will not even bother to try.	1	2	3	4	5
8	When I have something unpleasant to do, I stick to it until I finish it.	1	2	3	4	5
9	When I decide to do something. I go right to work on it.	1	2	3	4	5
10	When trying to learn something new, I soon give up if I am not initially successful.	1	2	3	4	5
11	When unexpected problems occur, I don't handle them well.	1	2	3	4	5
12	I avoid trying to learn new things when they look too difficult for me.	1	2	3	4	5
13	Failure just makes me try harder.	1	2	3	4	5
14	I feel insecure about my ability to do things.	1	2	3	4	5
15	I am a self-reliant person.	1	2	3	4	5
16	I give up easily.	1	2	3	4	5
17	I do not seem capable of dealing with most problems that come up in life.	1	2	3	4	5

APPENDIX F: KALDENBERG & BECKER JOB SATISFACTION SCALE (KBJSS) (Kaldenberg & Becker 1991)

The following inventory is designed to provide information about the way you feel about your work. Indicate how you generally feel about your job by by marking one of the appropriate numbers 1-5.

1 = strongly agree
2 = Agree
3 = Don't know
4 = Disagree
5 = Strongly disagree

		Strongly agree	Agree	Don't know	Disagree	Strongly disagree
1	I am satisfied with Dietetics as a career.	1	2	3	4	5
2	I would like to change careers if an attractive opportunity arose.	1	2	3	4	5
3	I would encourage young people to consider Dietetics as a career.	1	2	3	4	5
4	If I had a chance to start over I would still choose Dietetics	1	2	3	4	5

APPENDIX G: DEFINITIONS OF TERMS AND ABBREVIATIONS

Age: the actual age of the individual was asked and age would be presented as a continuous variable.

Allied health professional: referred specifically to the higher prestige members of the medical and nursing profession such as medical specialists and matrons of hospitals.

Anxiety: was the degree of distress or anxiousness felt when a situation requiring assertive behaviour presented itself. Levels of anxiety were measured by the Anxiety Assertiveness Scale (AAS).

Assertive behaviour: was measured by the Probability of Assertive Behaviour Scale (PABS) Assertive behaviour was defined as a skill or behaviour which included initiating and responding, negative and positive assertion. The Thesaurus of Psychological Index terms (1988) defined assertive behaviour as "Social skills enabling a person to refuse requests, express both positive and negative feelings, to initiate, engage in, and terminate conversations and make personal requests without suffering from excessive stress".

Assertiveness training: referred to the amount of time spent in formal training of assertiveness. The amount of exposure to assertiveness training was divided into three areas, no training, between one and four hours and more than four hours training.

Birth order: referred to whether an individual was the first, second, third fourth and later born.

Dietetic intern: A fourth year, postgraduate diplomate, training to be a dietitian.

Education level: Referred to the level of post registration training. Minimum training for registration was 3 year undergraduate & 1 year postgraduate, four year integrated undergraduate course or two year postgraduate honours after completion of a non-dietetic BSc.

Extrinsic- Intrinsic factors: Variables that could have affected the level of assertive behaviour. Intrinsic factors such as age, sex, birth order, race, and culture and religion (using home language as a measure), were termed as intrinsic because they could not be changed. Extrinsic factors were those variables that could be changed to a greater of lesser extent and included factors education-(pre and post registration training), professional training (university attended), length of assertiveness training, self-efficacy and job satisfaction.

Home language: Home language was used to identify the cultural back ground of subjects which according to Furnham (1979), had a considerable effect on the levels of assertiveness. The eleven official languages in South Africa , IsiXhosa, SeSotho, Sepedi, SeTwsana, TshiVenda, XiTsonga, SiSwati, IsiNdebele, Afrikaans, IsiZulu and English, have been listed in the instrument.

Job satisfaction as measured by Kaldenberg & Becker Job Satisfaction Scale (KBJSS) was quoted as being " .. a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience." (Hochwarter, Perrewé, Ferris & Brymer 1999, p 299, citing Smith, Kendall & Hulin 1969).

Professional training institution: referred to the university where the individual was trained for registration qualifications and included the undergraduate training and Postgraduate Diplomas in Dietetics.

Quadrant Areas of Assertive Behaviour (QAAB): was an integrated multidimensional model for evaluating assertiveness instruments, developed by this researcher. The four quadrant areas were

- positive responding assertiveness and included the respect of the rights of others,
- positive initiating assertiveness such as asking for favours,
- negative responding assertiveness included refusing requests,
- negative initiating assertiveness such as disagreeing with others (Arrindell & van der Ende 1985; Furnham & Henderson 1983).

Race: Subjects were asked, using the format of the University of Natal's registration form, whether they were Black, Coloured, Indian or White.

Registered dietitian: referred to dietitians registered with the Health Professionals Council of South Africa (HPCSA).

Sex: male or female.

Self-efficacy as measured by SES, was an ever-changing aspect of the "self-system" having self-regulating mechanisms that constantly interacted with the environment. This affected beliefs (can I do this?), motivation, personal capabilities and skills. Self-efficacy was influenced by past successes and failures *and* whether an individual attributed these outcomes to their own ability or to luck and chance (Sherer & Adams 1988, citing Bandura 1977).

Self-efficacy scale: (SES): measured general self-efficacy and consisted of a 17 item, 5 point Likert scale (1 = never or almost never true of me; 2 = rarely true of me; 3 = sometimes true of me; 4 = usually true of me; 5 = always or almost true of me). The maximum score obtainable on the Self-efficacy Scale was 85.

Theoretical prestige rating: A theoretical rating of groups of individuals on the assertiveness checklist (AC) with progressively increasing prestige rating has been constructed by using the Stevens & Cho (1985) table cited by Farmer et al(1998), as well as information gained from Gregerson (1999). These groups included allied medical health professionals; clients/patients; employees/supervisees/subordinates (including dietetic interns); peers/coworkers; and supervisors/superiors. Work done in the USA demonstrated that individuals in lower prestige jobs, would feel inferior and would therefore defer to individuals in higher prestige jobs.

Situational assertive behaviour: as measured by the Probability of Assertive Behaviour Scale referred to the specific work situations in which the asserter found himself. This included the people with whom the asserter interacted and the social context in which the exchange might have occurred.
Socio-economic status: The father's occupation was used to evaluate the socio-economic status of the individual. "A Guide to the coding of occupations in South Africa", (Schlemmer & Stopforth 1979, pp 54-57) would be used to assign individuals to occupational groups, in a range from 1 to 20 where group one was the highest occupational group and group twenty the lowest.

ABBREVIATIONS

AAS	Assertiveness Anxiety Scale
AI	Assertiveness Inventory
AI.D	Assertion Inventory of Discomfort
AI.P	Assertion Inventory of Probability
ASES	Adult Self-Expression Scale
CASS	Centre of Applied Social Science
CSES	College Self-Expression Scale
FAA	Factors Affecting Assertiveness
SE	Self-efficacy
SEE	Self-efficacy Expectations
SES	Self-efficacy Scale
HPCSA	Health Professionals Council of South Africa, previously the South African Medical and Dental Council

IPS	Interpersonal Skills
KBJSS	Kaldenberg & Becker Job Satisfaction Scale
NA	Negative Affectivity
NI	Negative Initiating
NR	Negative Responding
OE	Outcomes Expectations
PABS	Probability of Assertive Behaviour Scale
PI	Positive Initiating
PR	Positive Responding
QAAB	Quadrant Areas of Assertive Behaviour
RAS	Rathus Assertiveness Schedule
RSA	Republic of South Africa
SAS	Sundel Assertiveness Scale
SEE	Self-efficacy Expectations
SES	Self-efficacy Scale
GSES	General Self-efficacy Scale
SMT	Science, Maths and Technology
SPSS	Statistical Package for the Social Sciences
SSE	Specific Self-efficacy
USA	United States of America
W-L AI	Wolpe-Lazarus Assertiveness Inventory

APPENDIX H, PART 1: WOLPE-LAZARUS ASSERTION INVENTORY (W-L AI) (Wolpe & Lazarus 1968, p41).

Check the appropriate block

question number		Yes	No
1	Do you protest out loud when someone pushes in front of you in a queue?		
2	Is it difficult for you to upbraid a subordinate?		
3	Do you avoid complaining about the poor service in a restaurant or elsewhere?		
4	Are you inclined to be overapologetic?		
5	Would you be very reluctant to change a garment bought a few days previously which you discover to be faulty?		
6	If a friend unjustifiably criticises you do you express your resentment there and then?		
7	Do you usually try to avoid "bossy" people?		
8	If you arrived late at a meeting would rather stand than go to a front seat which could only be secured with a fair degree of conspicuousness?		
9	Are you able to contradict a domineering person?		
10	If someone "stole" into your parking place would you merely drive on?		
11	If a salesman has gone to considerable trouble to show you some merchandise which is not quite suitable do you have difficulty saying"no"?		
12	Do you generally express what you feel?		
13	If you heard that one of your friends was spreading false rumours about you, would you hesitate to "have it out" with him?		
14	Would you have difficulty in soliciting funds for a worthy cause?		
15	Do you usually keep your opinions to yourself?		
16	Do you find it difficult to begin a conversation with a stranger?		
17	Are you able openly to express love and affection?		
18	If food which is not to your satisfaction is served up at a restaurant would you complain about it to the waiter?		
19	Are you careful to avoid hurting other people's feelings?		
20	If you were at a lecture and the speaker made a statement that you considered erroneous, would you question it?		
21	If an older and respected person made a statement with which you strongly disagreed, would you express you own point of view?		
22	Do you usually keep quiet "for the sake of peace"?		
23	If a friend makes what you consider to be an unreasonable request, are you able to refuse?		

24	If after leaving a shop you notice that you have been given short change, do you go back and point out the error?		
25	If a policeman should forbid you to enter premises which you are in fact fully entitled to enter would you argue with him?		
26	If a close and respected relative were annoying you, would you smother your feelings rather than express your annoyance?		
27	Do you find it easier to show anger towards people of your own sex than to members of the opposite sex?		
28	Is it difficult for you to compliment and praise others?		
29	Do you have a close confidant with whom you can discuss virtually anything?		
30	Do you admire people who justifiably strike back when they have been wronged?		

APPENDIX H, PART 2: QAAB ANALYSIS OF THE WOLPE-LAZARUS ASSERTION INVENTORY

Check the appropriate block

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
1	Do you protest out loud when someone pushes in front of you in a queue?				X
2	Is it difficult for you to upbraid a subordinate?				X
3	Do you avoid complaining about the poor service in a restaurant or elsewhere?				X
4	Are you inclined to be overapologetic?				X
5	Would you be very reluctant to change a garment bought a few days previously which you discover to be faulty?				X
6	If a friend unjustifiably criticises you do you express your resentment there and then?			X	
7	Do you usually try to avoid "bossy" people?			X	
8	If you arrived late at a meeting would rather stand than go to a front seat which could only be secured with a fair degree of conspicuousness?		X		
9	Are you able to contradict a domineering person?				X
10	If someone "stole" into your parking place would you merely drive on?				X
11	If a salesman has gone to considerable trouble to show you some merchandise which is not quite suitable do you have difficulty saying"no"?			X	
12	Do you generally express what you feel?[1]		X		X
13	If you heard that one of your friends was spreading false rumours about you, would you hesitate to "have it out" with him?				X
14	Would you have difficulty in soliciting funds for a worthy cause?		X		
15	Do you usually keep your opinions to yourself?				X
16	Do you find it difficult to begin a conversation with a stranger?		X		
17	Are you able openly to express love and affection?		X		
18	If food which is not to your satisfaction is served up at a restaurant would you complain about it to the waiter?				X
19	Are you careful to avoid hurting other people's feelings?				X
20	If you were at a lecture and the speaker made a statement that you considered erroneous, would you question it?				X

[1] This statement has been assigned to two areas of QAAB

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
21	If an older and respected person made a statement with which you strongly disagreed, would you express you own point of view?				X
22	Do you usually keep quiet "for the sake of peace"?				X
23	If a friend makes what you consider to be an unreasonable request are you able to refuse?			X	
24	If after leaving a shop you notice that you have been given short change, do you go back and point out the error?				X
25	If a policeman should forbid you to enter premises which you are in fact fully entitled to enter would you argue with him?			X	
26	If a close and respected relative were annoying you, would you smother your feelings rather than express your annoyance?				X
27	Do you find it easier to show anger towards people of your own sex than to members of the opposite sex?				X
28	Is it difficult for you to compliment and praise others?		X		
29	Do you have a close confidant with whom you can discuss virtually anything?		X		
30	Do you admire people who justifiably strike back when they have been wronged?			X	
	TOTALS OUT OF 31	0	7	6	18
	% TOTALS	0%	23%	19%	58%

APPENDIX J, PART 1: RATHUS ASSERTIVENESS SCHEDULE (RAS)

(Rathus 1973).

Directions: Indicate how characteristic or descriptive each of the following statement is of you by checking in the appropriate column using the codes given below:

+3	very characteristic of me, extremely descriptive	-1	somewhat uncharacteristic of me, slightly nondescriptive
+2	rather characteristic of me, quite descriptive	-2	rather uncharacteristic of me, quite nondescriptive
+1	somewhat characteristic of me, slightly descriptive	-3	very uncharacteristic of me, extremely nondescriptive

		+3	+2	+1	-1	-2	-3
1	*Most people seem to be more aggressive and assertive than I am.* *						
2	I have hesitated to make or accept dates because of "shyness".*						
3	When the food served at a restaurant is not done to my satisfaction, I complain about it to the waiter or waitress.						
4	*I am careful to avoid hurting other people's feelings, even when I feel that I have been injured.**						
5	If a salesman has gone to considerable trouble to show me merchandise which is no quite suitable, I have a difficult time in saying "No".*						
6	*When I am asked to do something, I insist upon knowing why.*						
7	*There are times when I look for a good, vigorous argument.*						
8	*I strive to get ahead as well as most people in my position.*						
9	To be honest people often take advantage to me.*						
10	I enjoy starting conversations with new acquaintance and strangers.						
11	I often don't know what to say to attractive persons of the opposite sex.*						
12	I will hesitate to make phone calls to business establishments and institutions.*						
13	I would rather apply for a job or for admission to a college by writing letters that by going through with personal interviews.*						
14	I find it embarrassing to return merchandise.*						
15	If a close and respected relative were annoying me, I would smother my feelings rather than express my annoyance.*						
16	I have avoided asking questions for fear of sounding stupid.*						
17	*During an argument I am sometimes afraid that I will get so upset I will shake all over.**						
18	*If a famed and respected lecturer makes a statement which I think is incorrect, I will have the audience hear my point of view as well.*						

		+3	+2	+1	-1	-2	-3
19	*I avoid arguing over prices with clerks and salesmen.**						
20	When I have done something important and worthwhile, I manage to let others know about it.						
21	I am open and frank about my feelings.						
22	*If someone has been spreading false and bad stories about me, I see him (her) as soon as possible to " have a talk" about it.*						
23	I often have a hard time saying "No".*						
24	*I tend to bottle up my emotions rather than make a scene.**						
25	I complain about poor service in a restaurant and elsewhere.						
26	When I am given a compliment, I sometimes just don't know what to say.*						
27	*If a couple near me in a theatre or at a lecture were conversing rather. loudly. I would ask then to be quiet or to take their conversation elsewhere.*						
28	*Anyone attempting to push ahead of me in a line is in for a good battle.*						
29	*I am quick to express an opinion.*						
30	There are times when I just can't say anything.*						

Items in *italics* have been interpreted as a mixture of aggressive and assertive behaviour.
Scores of items with an * must be reversed.

APPENDIX J, PART 2: QAAB ANALYSIS OF THE RATHUS ASSERTIVENESS SCHEDULE

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
1	Most people seem to be more aggressive and assertive than I am. *				X
2	I have hesitated to make or accept dates because of "shyness".*	X			
3	When the food served at a restaurant is not done to my satisfaction, I complain about it to the waiter or waitress.				X
4	I am careful to avoid hurting other people's feelings, even when I feel that I have been injured.*				X
5	If a salesman has gone to considerable trouble to show me merchandise which is no quite suitable, I have a difficult time in saying "No".*			X	
6	When I am asked to do something, I insist upon knowing why.				X
7	There are times when I look for a good, vigorous argument.			X	
8	I strive to get ahead as well as most people in my position.				X
9	To be honest people often take advantage to me.*				X
10	I enjoy starting conversations with new acquaintance and strangers.		X		
11	I often don't know what to say to attractive persons of the opposite sex.*		X		
12	I will hesitate to make phone calls to business establishments and institutions.*		X		X
13	I would rather apply for a job or for admission to a college by writing letters that by going through with personal interviews.*	X			
14	I find it embarrassing to return merchandise.*				X
15	If a close and respected relative were annoying me, I would smother my feelings rather than express my annoyance.*				X
16	I have avoided asking questions for fear of sounding stupid.*		X		
17	During an argument I am sometimes afraid that I will get so upset I will shake all over.*			X	
18	If a famed and respected lecturer makes a statement which I think is incorrect, I will have the audience hear my point of view as well.				X
19	I avoid arguing over prices with clerks and salesmen.*				X
20	When I have done something important and worthwhile, I manage to let others know about it.		X		
21	I am open and frank about my feelings.		X		X
22	If someone has been spreading false and bad stories about me, I see him (her) as soon as possible to " have a talk" about it.				X

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
23	I often have a hard time saying "No".*				X
24	I tend to bottle up my emotions rather than make a scene.*				X
25	I complain about poor service in a restaurant and elsewhere.				X
26	When I am given a compliment, I sometimes just don't know what to say.*	X			
27	If a couple near me in a theatre or at a lecture were conversing rather. loudly. I would ask then to be quiet or to take their conversation elsewhere.				X
28	Anyone attempting to push ahead of me in a line is in for a good battle.				X
29	I am quick to express an opinion.				X
30	There are times when I just can't say anything.*				X
	TOTALS OUT OF 31	3	6	3	20
	% TOTALS	9%	19%	9%	63%

APPENDIX K, PART 1: THE COLLEGE SELF EXPRESSION SCALE (CSES) (Galassi *et al* 1974)

The following inventory is designed to provide information about the way you express yourself.
Please answer the question by checking the appropriate box from 0-4

0 = Almost always or Always;
1 = Usually
2 = Sometimes
3 = Seldom,
4 = Never or Rarely

Your answer should reflect how you generally express yourself in a situation.

		0	1	2	3	4
1	Do you ignore it when somebody pushes in front of you in a line?					
2	When you decide that you no longer wish to date someone, do you have marked difficulty telling the person of your decision?					
3	Would you exchange a purchase you discover to be faulty? (R)					
4	If you decided to change your major to a field which your parents will not approve, would you have difficulty telling them?					
5	Are you inclined to be over-apologetic?					
6	If you were studying and if your roommate were making too much noise, would ask him to stop? (R)					
7	Is it difficult for you to compliment and praise others?					
8	If your are angry at your parents, can you tell them? (R)					
9	Do you insist that you roommate does his fair share of the cleaning? (R)					
10	If you find yourself becoming fond of someone you are dating, would you have difficulty expressing these feelings to that person?					
11	If a friend who has borrowed $5.00 from you seems to have forgotten about it, would you remind this person? (R)					
12	Are you overly careful to avoid hurting other people's feelings?					
13	If you have a close friend whom your parents dislike and constantly criticize, would you inform your parents that you disagree with them and tell them of your friend's assets? (R)					
14	Do you find it difficult to ask a friend to do a favour for you?					
15	If food which is not to your satisfaction is served in a restaurant, would you complain about it to the waiter? (R)					
16	If your roommate without your permission eats food that he knows you have been saving, can you express your displeasure to him? (R)					
17	If a salesman has gone to a considerable trouble to show you some merchandise which is not quite suitable, do you have difficulty in saying no?					
18	Do you keep your opinions to yourself?					

		0	1	2	3	4
19	If friends visit when you want to study, do you ask them to return at a more convenient time? (R)					
20	Are you able to express love and affection to people for whom you care? (R)					
21	If you were in a small seminar and the professor made a statement that you considered untrue, would you question it? (R)					
22	If a person of the opposite sex whom you have been wanting to meet smiles or directs attention to you at a party, would you take the initiative in beginning a conversation? (R)					
23	If someone you respect expresses opinions with which you strongly disagree, would you venture to state your own point of view? (R)					
24	Do you go out of your way to avoid trouble with other people?					
25	If a friend is wearing a new outfit which you like, do you tell the person so? (R)					
26	If after leaving a store you realise that you have been "short-changed", do you go back and request the correct amount? (R)					
27	If a friend makes what you consider to be an unreasonable request, are you able to refuse? (R)					
28	If a close and respected relative were annoying you would you hide your feelings rather than express your annoyance?					
29	If your parents want you to come home for a weekend but you have made important plans, would you tell them of your preference? (R)					
30	Do you express anger or annoyance toward the opposite sex when it is justified? (R)					
31	If a friend does an errand for you, do you tell that person how much you appreciate it? (R)					
32	When a person is blatantly unfair, do you fail to say something about it to him?					
33	Do you avoid social contacts for fear of doing or saying the wrong thing?					
34	If a friend betrays a confidence, would you hesitate to express annoyance to that person?					
35	When a clerk in a store waits on someone who has come in after you, do you call his attention to the matter? (R)					
36	If you are particularly happy about someone's good fortune, can you express this to that person? (R)					
37	Would you be hesitant about asking a good friend to lend you few dollars?					
38	If a person teases you to the point that it is no longer fun, do you have difficulty expressing your displeasure?					

		0	1	2	3	4
39	If you arrive late for a meeting, would rather stand than go to a front seat which could only be secured with a fair degree of conspicuousness?					
40	If your date calls on Saturday night 15 minutes before you are supposed to meet and says that she (he) has to study for an important exam and cannot make it, would you express your annoyance? (R)					
41	If someone keeps kicking the back of your chair in a movie, would you ask him to stop? (R)					
42	If someone interrupts you in the middle of an important conversation, do you request that the person wait until you have finished? (R)					
43	Do you freely volunteer information or opinions in class discussions? (R)					
44	Are you reluctant to speak to an attractive acquaintance of the opposite sex?					
45	If you lived in an apartment and the landlord failed to make certain necessary repairs after promises to do so, would you insist on it? (R)					
46	If you parents want you home by a certain time which you feel is much too early and unreasonable, do you attempt to discuss or negotiate with them? (R)					
47	Do you find it difficult to stand up for your rights? (R)					
48	If a friend unjustifiably criticizes you, do you express your resentment there and then? (R)					
49	Do you express your feelings to others? (R)					
50	Do you avoid asking questions in class for fear of feeling self-conscious?					

Note - (R) denotes items to be recoded in opposite direction.

APPENDIX K, PART 2: QAAB ANALYSIS OF THE COLLEGE SELF EXPRESSION SCALE (CSES)

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
1	Do you ignore it when somebody pushes in front of you in a line?				X
2	When you decide that you no longer wish to date someone, do you have marked difficulty telling the person of your decision?				X
3	Would you exchange a purchase you discover to be faulty? (R)				X
4	If you decided to change your major to a field which your parents will not approve, would you have difficulty telling them?				X
5	Are you inclined to be over-apologetic?				X
6	If you were studying and if your roommate were making too much noise, would ask him to stop? (R)				X
7	Is it difficult for you to compliment and praise others?		X		
8	If your are angry at your parents, can you tell them? (R)				X
9	Do you insist that you roommate does his fair share of the cleaning? (R)				X
10	If you find yourself becoming fond of someone you are dating, would you have difficulty expressing these feelings to that person?		X		
11	If a friend who has borrowed $5.00 from you seems to have forgotten about it, would you remind this person? (R)				X
12	Are you overly careful to avoid hurting other people's feelings?				X
13	If you have a close friend whom your parents dislike and constantly criticize, would you inform your parents that you disagree with them and tell them of your friend's assets? (R)				X
14	Do you find it difficult to ask a friend to do a favour for you?		X		
15	If food which is not to your satisfaction is served in a restaurant, would you complain about it to the waiter? (R)				X
16	If your roommate without your permission eats food that he knows you have been saving, can you express your displeasure to him? (R)				X
17	If a salesman has gone to a considerable trouble to show you some merchandise which is not quite suitable, do you have difficulty in saying no?			X	
18	Do you keep your opinions to yourself?				X
19	If friends visit when you want to study, do you ask them to return at a more convenient time? (R)				X
20	Are you able to express love and affection to people for whom you care? (R)		X		

question number		QAAB ALLOCATION			
		PR	PI	NR	NI
21	If you were in a small seminar and the professor made a statement that you considered untrue, would you question it? (R)				X
22	If a person of the opposite sex whom you have been wanting to meet smiles or directs attention to you at a party, would you take the initiative in beginning a conversation? (R)		X		
23	If someone you respect expresses opinions with which you strongly disagree, would you venture to state your own point of view? (R)				X
24	Do you go out of your way to avoid trouble with other people?				X
25	If a friend is wearing a new outfit which you like, do you tell the person so? (R)		X		
26	If after leaving a store you realise that you have been "short-changed", do you go back and request the correct amount? (R)				X
27	If a friend makes what you consider to be an unreasonable request, are you able to refuse? (R)			X	
28	If a close and respected relative were annoying you would you hide your feelings rather than express your annoyance?				X
29	If your parents want you to come home for a weekend but you have made important plans, would you tell them of your preference? (R)			X	
30	Do you express anger or annoyance toward the opposite sex when it is justified? (R)				X
31	If a friend does an errand for you, do you tell that person how much you appreciate it? (R)		X		
32	When a person is blatantly unfair, do you fail to say something about it to him?			X	
33	Do you avoid social contacts for fear of doing or saying the wrong thing?				X
34	If a friend betrays a confidence, would you hesitate to express annoyance to that person?				X
35	When a clerk in a store waits on someone who has come in after you, do you call his attention to the matter? (R)				X
36	If you are particularly happy about someone's good fortune, can you express this to that person? (R)		X		
37	Would you be hesitant about asking a good friend to lend you few dollars?		X		
38	If a person teases you to the point that it is no longer fun, do you have difficulty expressing your displeasure?			X	
39	If you arrive late for a meeting, would rather stand than go to a front seat which could only be secured with a fair degree of conspicuousness?				X

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
40	If your date calls on Saturday night 15 minutes before you are supposed to meet and says that she (he) has to study for an important exam and cannot make it, would you express your annoyance? (R)				X
41	If someone keeps kicking the back of your chair in a movie, would you ask him to stop? (R)				X
42	If someone interrupts you in the middle of an important conversation, do you request that the person wait until you have finished? (R)				X
43	Do you freely volunteer information or opinions in class discussions? (R)		X		
44	Are you reluctant to speak to an attractive acquaintance of the opposite sex?		X		
45	If you lived in an apartment and the landlord failed to make certain necessary repairs after promises to do so, would you insist on it? (R)				X
46	If you parents want you home by a certain time which you feel is much too early and unreasonable, do you attempt to discuss or negotiate with them? (R)				X
47	Do you find it difficult to stand up for your rights? (R)				X
48	If a friend unjustifiably criticizes you, do you express your resentment there and then? (R)			X	
49	Do you express your feelings to others? (R)		X		X
50	Do you avoid asking questions in class for fear of feeling self-conscious?		X		
	TOTALS OUT OF 51	0	14	6	31
	% TOTALS	0%	27%	12%	61%

APPENDIX L, PART 1 : ASSERTION INVENTORY (AI)

(Gambrill & Richey 1975)

Table 1

Many people experience difficulty in handling interpersonal situations requiring them to assert themselves in some way, for example, turning down a request, asking a favor, giving someone a compliment, expressing disapproval or approval, etc. Please indicate your degree of discomfort or anxiety in the space provided *before* each situation listed below. Utilise the following scale to indicate degree of discomfort:

1 = none
2 = a little
3 = a fair amount
4 = much
5 = very much

Then, go over the list a second time and indicate *after* each item the probability or likelihood of your displaying the behavior if actually presented with the situation.*

For example, if you rarely apologise when you are at fault, you would mark a "4" after that item. Utilize the following scale to indicate response probability:

1 = always do it
2 = usually do it
3 = do it about half the time
4 = rarely do it
5 = never do it

**Note*. It is important to cover your discomfort rating (located in front of the items) while indicating response probability. Otherwise, one rating may contaminate the other and a realistic assessment of your behavior is unlikely. To correct for this, place a piece of paper over your discomfort rating while responding to the situation a second time for response probability.

Degree of discomfort		Situation	Response probability
_____	1.	Turn down a request to borrow your car	_____
_____	2.	Compliment a friend	_____
_____	3	Ask a favor of someone	_____
_____	4.	Resist sales pressure	_____
_____	5.	Apologize when you are at fault	_____
_____	6.	Turn down a request for meeting or date	_____
_____	7.	Admit fear and request consideration	_____
_____	8.	Tell a person you are intimately involved with when he/she says or does something that bothers you	_____
_____	9.	Ask for a raise	_____
_____	10.	Admit ignorance in some area	_____
_____	11.	Turn down a request to borrow money	_____
_____	12.	Ask personal questions	_____
_____	13.	Turn off a talkative friend	_____
_____	14.	Ask for constructive criticism	_____
_____	15.	Initiate a conversation with a stranger	_____
_____	16.	Compliment a person you are romantically involved with or interested in	_____
_____	17.	Request a meeting or a date with a person	_____

Degree of discomfort		Situation	Response probability
_____	18.	Your initial request for a meeting is turned down and you ask the person again at a later time	_____
_____	19.	Admit confusion about a point under discussion and ask for clarification	_____
_____	20.	Apply for a job	_____
_____	21.	Ask whether you have offended someone	_____
_____	22.	Tell someone that you like them	_____
_____	23.	Request expected service when such is not forthcoming, e.g. in a restaurant	_____
_____	24.	Discuss openly with the person his/her criticism of your behavior	_____
_____	25.	Return defective items, e.g., store or restaurant	_____
_____	26.	Express an opinion that differs from that of the person you are talking to	_____
_____	27.	Resist sexual overtures when you are not interested	_____
_____	28.	Tell the person when you feel he/she has done something that is unfair to you	_____
_____	29.	Accept a date	_____
_____	30.	Tell someone good news about yourself	_____
_____	31.	Resist pressure to drink	_____
_____	32.	Resist a significant person's unfair demand	_____
_____	33.	Quit a job	_____
_____	34.	Resist pressure to "turn on".	_____
_____	35.	Discuss openly with the person his/her criticism of your work	_____
_____	36.	Request the return of borrowed items	_____
_____	37.	Receive compliments	_____
_____	38.	Continue to converse with someone who disagrees with you	_____
_____	39.	Tell a friend or someone with whom you work when he/she says or does something that bothers you	_____
_____	40.	Ask a person who is annoying you in a public situation to stop	_____

APPENDIX L, PART 2: QAAB ANALYSIS OF THE ASSERTION INVENTORY

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
1	Turn down a request to borrow your car			X	
2	Compliment a friend		X		
3	Ask a favor of someone		X		
4	Resist sales pressure			X	
5	Apologize when you are at fault				X
6	Turn down a request for meeting or date			X	
7	Admit fear and request consideration				X
8	Tell a person you are intimately involved with when he/she says or does something that bothers you				X
9	Ask for a raise		X		
10	Admit ignorance in some area				X
11	Turn down a request to borrow money			X	
12	Ask personal questions		X		
13	Turn off a talkative friend				X
14	Ask for constructive criticism				X
15	Initiate a conversation with a stranger		X		
16	Compliment a person you are romantically involved with or interested in		X		
17	Request a meeting or a date with a person		X		
18	Your initial request for a meeting is turned down and you ask the person again at a later time		X		
19	Admit confusion about a point under discussion and ask for clarification		X		
20	Apply for a job		X		
21	Ask whether you have offended someone				X
22	Tell someone that you like them		X		
23	Request expected service when such is not forthcoming, e.g. in a restaurant				X
24	Discuss openly with the person his/her criticism of your behavior			X	
25	Return defective items, e.g., store or restaurant				X
26	Express an opinion that differs from that of the person you are talking to				X

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
27	Resist sexual overtures when you are not interested			X	
28	Tell the person when you feel he/she has done something that is unfair to you				X
29	Accept a date	X			
30	Tell someone good news about yourself		X		
31	Resist pressure to drink			X	
32	Resist a significant person's unfair demand			X	
33	Quit a job				X
34	Resist pressure to "turn on".			X	
35	Discuss openly with the person his/her criticism of your work			X	
36	Request the return of borrowed items				X
37	Receive compliments	X			
38	Continue to converse with someone who disagrees with you				X
39	Tell a friend or someone with whom you work when he/she says or does something that bothers you				X
40	Ask a person who is annoying you in a public situation to stop				X
	TOTALS OUT OF 40	2	12	10	16
	% TOTALS	5%	30%	25%	40%

APPENDIX M, PART 1: SUNDEL ASSERTIVENESS SCALE (SAS)

(Sundel & Sundel 1981, pp 20-23)

ASSERTIVENESS CHECKLIST 1

Check (√) the person(s) listed below with whom you have problems being assertive. Underline the one that most concerns you.

* Client(s)
* Co-worker(s)
* Supervisee(s)/Employee(s)
* Supervisor/Employer
*Professionals from other disciplines (specify)
*Self
*Other (specify)

The Sundel Assertiveness Scale I (SAS I), is designed to help you isolate certain situations that create interpersonal difficulty. The SAS covers the five role areas included in the checklist: relationships with clients, co-workers, subordinates, superiors, and professionals from other disciplines.

SUNDEL ASSERTIVENESS SCALE I

Indicates the extent to which you would behave in the manner described by the following statements. Please answer the question by checking the appropriate block 1-5 according to the following code:

1= never or almost never true of me
2= rarely true of me
3= sometimes true of me
4= usually true of me
5= always or almost true of

Question		1	2	3	4	5
1	When a client arrives more than five minutes late for his/her appointment, I end the session on time.					
2	When a client asks me how I handle my personal problems and don't want to divulge this, I refocus the client on his/her difficulty.					
3	When a client tells me that s/he didn't have time to do the assignment that s/he had agreed to do, I accept that and go on to the next issue.*					
4	If a client failed to pay his/her fee for services, I would discuss this matter with him/her at the first available opportunity.					
5	If a client calls to cancel an appointment, I say something to try to make him/her feel bad.*					
6	In a staff meeting, I will voice my opinions when I think I should, even when I disagree with my peers.					
7	When co-workers asks me personal questions, I answer them because I'm too uncomfortable to refuse.*					
8	When a colleague asks me to serve on a committee, I agree to even if I don't want to serve.*					
9	If a co-worker borrowed money from me, I would ask him/her to pay it back.					

Question		1	2	3	4	5
10	When a co-worker repeatedly asks me to cover for him/her so that s/he can conduct personal business, I refuse					
11	When a worker that I am supervising arrives late for our supervisory session, I end the session on time.					
12	When a worker is late in handing in reports, it irritates me and I lose my temper.*					
13	When a supervisee uses agency time to conduct personal business that interferes with his/her responsibilities, I become anxious and do not discuss this with him/her.*					
14	When I observe a supervisee being rude or providing incorrect information to a client, I call him/her aside at the first available opportunity to discuss the situation .					
15	I am proud of my reputation for being strict with my supervisees, and I take every opportunity to let them know I'm boss.*					
16	If I were given an unfair job evaluation, I would try to get my boss to change the evaluation.					
17	If my boss told me to do something I thought was wrong, I would try to convince him/her that it should not be done.					
18	When I want assistance with my work, I ask my superior for help.					
19	When my boss compliments me on my work, I feel embarrassed and don't know what to say.*					
20	If my supervisor has criticized my work, I let him/her know how I feel by telling everyone else in the office how unfair I've been treated.					
21	If a judge asked for my opinion on a case, I would state it even if it disagree with the judge's position.					
22	When a physician makes a recommendation for a client that I don't agree with, I accept his/her decision without expressing my viewpoint or asking him/her to support his/her.*					
23	If a psychiatrist diagnosed a socially deprived client as a psychotic and I disagreed, I would give my opinion and ask him/her if all the facts I had presented were taken into consideration.					
24	When an attorney cross-examining me about my client asks me if I can back up my testimony, I get so nervous I can't answer properly.*					
25	When it is necessary for me to intervene with the police on behalf of a client, I get flustered and fail to make a convincing presentation of my client's situation.*					

Note - * denotes items to be recoded in opposite direction.

APPENDIX M, PART 2: QAAB ANALYSIS OF SUNDEL ASSERTIVENESS SCALE

		QAAB ALLOCATION			
question number		PR	PI	NR	NI
1	When a client arrives more than five minutes late for his/her appointment, I end the session on time.				X
2	When a client asks me how I handle my personal problems and don't want to divulge this, I refocus the client on his/her difficulty.			X	
3	When a client tells me that s/he didn't have time to do the assignment that s/he had agreed to do, I accept that and go on to the next issue.*			X	
4	If a client failed to pay his/her fee for services, I would discuss this matter with him/her at the first available opportunity.				X
5	If a client calls to cancel an appointment, I say something to try to make him/her feel bad.*			X	
6	In a staff meeting, I will voice my opinions when I think I should, even when I disagree with my peers.				X
7	When co-workers asks me personal questions, I answer them because I'm too uncomfortable to refuse.*			X	
8	When a colleague asks me to serve on a committee, I agree to even if I don't want to serve.*			X	
9	If a co-worker borrowed money from me , I would ask him/her to pay it back. .				X
10	When a co-worker repeatedly asks me to cover for him/her so that s/he can conduct personal business, I refuse			X	
11	When a worker that I am supervising arrives late for our supervisory session, I end the session on time.				X
12	When a worker is late in handing in reports, it irritates me and I lose my temper.*				X
13	When a supervisee uses agency time to conduct personal business that interferes with his/her responsibilities, I become anxious and do not discuss this with him/her.*				X
14	When I observe a supervisee being rude or providing incorrect information to a client, I call him/her aside at the first available opportunity to discuss the situation .				X
15	I am proud of my reputation for being strict with my supervisees, and I take every opportunity to let them know I'm boss.*				X
16	If I were given an unfair job evaluation, I would try to get my boss to change the evaluation.				X

question number		QAAB ALLOCATION			
		PR	PI	NR	NI
17	If my boss told me to do something I thought was wrong, I would try to convince him/her that it should not be done.				X
18	When I want assistance with my work, I ask my superior for help.		X		
19	When my boss compliments me on my work, I feel embarrassed and don't know what to say.*	X			
20	If my supervisor has criticized my work, I let him/her know how I feel by telling everyone else in the office how unfair I've been treated.			X	
21	If a judge asked for my opinion on a case, I would state it even if it disagree with the judge's position.				X
22	When a physician makes a recommendation for a client that I don't agree with, I accept his/her decision without expressing my viewpoint or asking him/her to support his/her.*				X
23	If a psychiatrist diagnosed a socially deprived client as a psychotic and I disagreed, I would give my opinion and ask him/her if all the facts I had presented were taken into consideration.				X
24	When an attorney cross-examining me about my client asks me if I can back up my testimony, I get so nervous I can't answer properly.*			X	
25	When it is necessary for me to intervene with the police on behalf of a client, I get flustered and fail to make a convincing presentation of my client's situation.*			X	
	TOTALS OUT OF 40	1	1	9	14
	% TOTALS	4%	4%	36%	56%

APPENDIX N: COVERING LETTER AND QUESTIONNAIRE

October 1999

Dear Colleague

RESEARCH PROJECT: ASSERTIVENESS IN REGISTERED DIETITIANS

I would appreciate it if you would assist me in a project I am currently undertaking which is looking at assertiveness in registered dietitians. There is very little information about the psychometric profile of dietitians and the information obtained from this study will assist the Discipline of Dietetics and Human Nutrition, University of Natal, in the planning of more effective undergraduate programmes. Your input will be invaluable to the project.

Your name is one of 320 computer generated randomly selected names. I would appreciate it if you would complete the enclosed questionnaire and let me have it back within a week. I have purposely made the return time short to encourage you to sit down straight away at the soonest opportunity and not to put the questionnaire in a drawer and forget about it. The questionnaire is quick and easy to complete. Colleagues who completed the pilot project took between 12 and 30 minutes and an average of 20 minutes to complete it.

I have included an addressed stamped envelope to assist you to complete this task.
Please read the instructions carefully. If you would prefer to have an e-mail copy please email me at Paterson@diet.unp.ac.za for a copy.

You will notice that your name appears on the return envelope. Please be assured that your information will be treated with the utmost confidentiality and your name on the envelope is for administrative purposes only.

The last few pages of the questionnaire are blank. Please feel free to expand on any aspects of the questionnaire it you would like to do so. If you need any questions explained I can be contacted at home 033 3304817.

Thanks

Marie Paterson RD(SA)
Nee van Cittert

INSTRUCTIONS FOR COMPLETION:

Please read the instructions at the beginning of each section before commencing with that section.

Please read each question or statement carefully before you answer.

You will notice that some questions require one answer only. Please make sure that in that case, you mark one answer only.

Once you have completed the questionnaire please check to see that you have answered all the questions. This will ensure that your questionnaire will be used in the survey.

QUESTIONNAIRE: ASSERTIVENESS IN REGISTERED DIETITIANS

OCTOBER 1999

Section 1

Please mark the appropriate block. Mark the relevant block with an X. Please mark one block only unless otherwise specified. Left hand click inside the appropriate block to access it.

1 What is your age?

Years	

2 Are you male or female?

Male	1	Female	2

3 What is the total number of years you have been employed as a dietitian since your registration?

Year		months	

4 In which of the following areas are you employed? Mark all that apply.

Community nutrition	1	Food service management	2
Therapeutic nutrition	3	Not working at all	4
Other, specify:			

5 If you are currently working, who are you working for?

State/provincial government	1	Private company	2
Non government organisation	3	Yourself	4
Educational institution	5	Other, specify:	

6 How long have you been employed in your current position?

Years		months	

7 Which language did you **mainly** speak at home when you were growing up? Please mark only one block.

IsiXhosa	1	SeSotho	2	Sepedi	3
SeTwsana	4	TshiVenda	5	XiTsonga	6
SiSwati	7	IsiNdebele	8	Afrikaans	9
IsiZulu	10	English	11	Other, specify:	

8 Are you?

Black	1
Coloured	2
Indian	3
White	4
Other, specify:	

9 What is/was your father's occupation?

_____

10 What are your post school qualifications? You may mark more than one of the following qualifications that are applicable to you.

3 Year BSc (Diet)	1	B Nutrition	7
Postgraduate Diploma in (Hospital) Dietetics	2	BSc Hons Diet	8
4 Year BSc Integrated degree	3	BSc Med Hons	9
B Dietetics	4	MSc (Diet)	10
Diploma in Therapeutic Dietetics	5	PhD / DSc	11
BSc Home Economics	6	Other, specify:	

11 Where did you attend university for your first degree and/or Postgraduate Diploma? You may mark more than one of the following universities that are applicable to you.

University of			
Cape Town	1	Potchefstroom	6
Medunsa	2	Pretoria	7
Natal	3	Stellenbosch	8
the North	4	Western Cape	9
Orange Free State	5	Outside RSA	10

12 How many hours have you been on formal assertiveness training?

0 hours	1
1-4 hours	2
more than 4 hours	3

13 What is your birth order?

1st child	1
2nd child	2
3rd child	3
4th or later.	4

SECTION 2

TABLE 1: ASSERTIVENESS CHECKLIST

Rate on a scale 1 - 5, the groups of people in the table below, where you have

1 = no difficulty 4 = more difficulty,

2 = a little difficulty , 5 = the most difficulty,

3 = a fair amount of difficulty,

being assertive.

		No difficulty	A little difficulty	A fair amount of difficulty	More difficulty	A great deal of difficulty
1	Patients/Client(s)	1	2	3	4	5
2	Co-worker(s)/colleagues	1	2	3	4	5
3	Supervisee(s)/Employee(s)/ Subordinate(s), includes dietetic interns	1	2	3	4	5
4	Supervisor/Employer	1	2	3	4	5
5	Professionals from other disciplines Specify:	1	2	3	4	5
6	Others, specify:	1	2	3	4	5

TABLE 2: ASSERTIVENESS ANXIETY SCALE

Please give a rating to **all statements** even if you feel some are not applicable to you. Many people experience anxiety when handling interpersonal situations in the workplace which requires them to assert themselves in some way, for example, when turning down a request, asking a favour, giving someone a compliment, expressing disapproval or approval, giving opinions and disagreeing with the opinions of others. Utilise the following scale to indicate degree of discomfort:

1 = no anxiety
2 = a little anxiety
3 = a fair amount of anxiety
4 = more anxiety
5 = a great deal of anxiety

Indicate the extent to which you would feel anxious in behaving in the following manner in response to the described situations by marking **one** of the appropriate numbers 1-5.

		No anxiety	A little anxiety	A fair amount of anxiety	More anxiety	A great deal of anxiety
1	When a client arrives more than five minutes late for his/her appointment, I end the session on time.	1	2	3	4	5
2	When a client asks me how I handle my personal problems and I don't want to divulge this, I refocus the client on his/her difficulty.	1	2	3	4	5
3	When a client tells me that s/he didn't have time to do the assignment that s/he had agreed to do, I don't accept this and ask for more detail.	1	2	3	4	5
4	If a client failed to pay his/her fee for services, I would discuss this matter with him/her at the first available opportunity.	1	2	3	4	5
5	If a client calls to cancel an appointment, I would insist that they reschedule another one.	1	2	3	4	5
6	In a staff meeting, I will voice my opinions when I think I should, even when I disagree with my peers.	1	2	3	4	5
7	When co-workers ask me personal questions, I do not answer them.	1	2	3	4	5
8	When a colleague asks me to serve on a committee, I do not agree to it, if I don't want to serve.	1	2	3	4	5
9	If a co-worker borrowed money from me, I would ask him/her to pay it back.	1	2	3	4	5

		No anxiety	A little anxiety	A fair amount of anxiety	More anxiety	A great deal of anxiety
10	When a co-worker repeatedly asks me to cover for him/her so that s/he can conduct personal business, I refuse.	1	2	3	4	5
11	When a worker that I am supervising arrives late for our supervisory session, I end the session on time.	1	2	3	4	5
12	When a worker is late in handing in reports, it irritates me and I insist on a reason for the delay.	1	2	3	4	5
13	When a supervisee uses work time to conduct personal business that interferes with his/her responsibilities, I discuss this with him/her.	1	2	3	4	5
14	When I observe a supervisee being rude or providing incorrect information to a client, I call him/her aside at the first available opportunity to discuss the situation.	1	2	3	4	5
15	I am proud of my reputation for being fair with my supervisees, and I take every opportunity to ensure impartiality.	1	2	3	4	5
16	If I were given an unfair job evaluation, I would try to get my boss to change the evaluation.	1	2	3	4	5
17	If my boss told me to do something I thought was wrong, I would try to convince him/her that it should not be done.	1	2	3	4	5
18	When I want assistance with my work, I ask my superior for help.	1	2	3	4	5
19	When my boss compliments me on my work, even if I feel embarrassed because it is not warranted, I accept graciously.	1	2	3	4	5
20	If my supervisor has criticized my work, I let him/her know how I feel by telling him/her how unfairly I've been treated.	1	2	3	4	5
21	If a doctor asked for my opinion of a patient's condition on a ward round, I would state it even if it disagreed with the doctor's position.	1	2	3	4	5
22	When a physician makes a recommendation for a patient that I don't agree with, I do not accept his/her decision and express my viewpoint or ask him/her to support his/hers.	1	2	3	4	5
23	If a specialist physician prescribed an inappropriate diet for a patient and I disagreed, I would give my opinion and ask him/her if all the facts I had presented were taken into consideration.	1	2	3	4	5
24	When the hospital superintendent questions me on why I inserted a naso-gastric tube into a patient and whether I can substantiate my answer, I answer properly, even if I get nervous.	1	2	3	4	5

		No anxiety	A little anxiety	A fair amount of anxiety	More anxiety	A great deal of anxiety
25	When it is necessary for me to intervene with the chief matron on the behalf of a patient who is not receiving all the items prescribed on the menu, I make a convincing presentation of my patient's situation, even if I get flustered.	1	2	3	4	5
26	If a group of doctors, whose gender is opposite to mine, is near me at a lecture and were conversing rather loudly, I would ask them to be quiet or take their conversation elsewhere.	1	2	3	4	5
27	When the hospital superintendent, from an ethnic group other than mine, abruptly turns down my initial request for a meeting, I ask for another meeting at a later time.	1	2	3	4	5

TABLE 3: PROBABILITY OF ASSERTIVE BEHAVIOUR SCALE

Table 3 is similar to table 2. Please go through Table 3 and now indicate the probability or likelihood of your displaying the behaviour if actually presented with the situation.

For example, if you rarely apologise when you are at fault, you would mark a "2" after that item. Utilize the following scale to indicate your response probability:

1 = never or almost never true of me

2 = rarely true of me

3 = sometimes true of me

4 = usually true of me

5 = always or almost true of me,

Indicate the extent to which you would behave in the manner described by the following statements by marking **one** of the appropriate numbers 1-5.

		Never/ almost never true of me	Rarely true of me	Sometimes true of me	Usually true of me	Always/almost always true of me
1	When a client arrives more than five minutes late for his/her appointment, I end the session on time.	1	2	3	4	5
2	When a client asks me how I handle my personal problems and I don't want to divulge this, I refocus the client on his/her difficulty.	1	2	3	4	5
3	When a client tells me that s/he didn't have time to do the assignment that s/he had agreed to do, I accept that and go on to the next issue.	1	2	3	4	5
4	If a client failed to pay his/her fee for services, I would discuss this matter with him/her at the first available opportunity.	1	2	3	4	5
5	If a client calls to cancel an appointment, I say something to try to make him/her feel bad.	1	2	3	4	5
6	In a staff meeting, I will voice my opinions when I think I should, even when I disagree with my peers.	1	2	3	4	5
7	When co-workers ask me personal questions, I answer them because I'm too uncomfortable to refuse.	1	2	3	4	5
8	When a colleague asks me to serve on a committee, I agree to it even if I don't want to serve.	1	2	3	4	5
9	If a co-worker borrowed money from me, I would ask him/her to pay it back.	1	2	3	4	5
10	When a co-worker repeatedly asks me to cover for him/her so that s/he can conduct personal business, I refuse.	1	2	3	4	5
11	When a worker that I am supervising arrives late for our supervisory session, I end the session on time.	1	2	3	4	5
12	When a worker is late in handing in reports, it irritates me and I lose my temper.	1	2	3	4	5

		Never/ almost never true of me	Rarely true of me	Sometimes true of me	Usually true of me	Always/almost always true of me
13	When a supervisee uses work time to conduct personal business that interferes with his/her responsibilities, I become anxious and do not discuss this with him/her.	1	2	3	4	5
14	When I observe a supervisee being rude or providing incorrect information to a client, I call him/her aside at the first available opportunity to discuss the situation .	1	2	3	4	5
15	I am proud of my reputation for being strict with my supervisees, and I take every opportunity to let them know I'm boss.	1	2	3	4	5
16	If I were given an unfair job evaluation, I would try to get my boss to change the evaluation.	1	2	3	4	5
17	If my boss told me to do something I thought was wrong, I would try to convince him/her that it should not be done.	1	2	3	4	5
18	When I want assistance with my work, I ask my superior for help.	1	2	3	4	5
19	When my boss compliments me on my work, I feel embarrassed and don't know what to say.	1	2	3	4	5
20	If my supervisor has criticized my work, I let him/her know how I feel by telling everyone else in the office how unfairly I've been treated.	1	2	3	4	5
21	If a doctor asked for my opinion of a patient's condition on a ward round, I would state it even if it disagreed with the doctor's position.	1	2	3	4	5
22	When a physician makes a recommendation for a patient that I don't agree with, I accept his/her decision without expressing my viewpoint or asking him/her to support his/hers.	1	2	3	4	5
23	If a specialist physician prescribed an inappropriate diet for a patient and I disagreed, I would give my opinion and ask him/her if all the facts I had presented were taken into consideration.	1	2	3	4	5
24	When the hospital superintendent questions me on why I inserted a naso-gastric tube into a patient and whether I can substantiate my answer, I get so nervous I can't answer properly.	1	2	3	4	5
25	When it is necessary for me to intervene with the chief matron on behalf of a patient who is not receiving all the items prescribed on the menu, I get flustered and fail to make a convincing presentation of my patient's situation.	1	2	3	4	5

TABLE 4: THE SELF-EFFICACY SCALE

Indicate the extent to which you would behave in the manner described by the following statements by marking <u>one</u> of the appropriate numbers 1-5.

1 = never or almost never true of me
2 = rarely true of me
3 = sometimes true of me
4 = usually true of me
5 = always or almost true of me

		Never/ almost never true of me	Rarely true of me	Sometimes true of me	Usually true of me	Always/almost always true of me
1	When I make plans, I am certain I can make them work.	1	2	3	4	5
2	One of my problems is that I cannot get down to work when I should.	1	2	3	4	5
3	If I can't do a job the first time, I keep trying until I can.	1	2	3	4	5
4	When I set important goals for myself, I rarely achieve them.	1	2	3	4	5
5	I give up on things before completing them.	1	2	3	4	5
6	I avoid facing difficulties.	1	2	3	4	5
7	If something looks too complicated, I will not even bother to try.	1	2	3	4	5
8	When I have something unpleasant to do, I stick to it until I finish it.	1	2	3	4	5
9	When I decide to do something. I go right to work on it.	1	2	3	4	5
10	When trying to learn something new, I soon give up if I am not initially successful.	1	2	3	4	5
11	When unexpected problems occur, I don't handle them well.	1	2	3	4	5
12	I avoid trying to learn new things when they look too difficult for me.	1	2	3	4	5
13	Failure just makes me try harder.	1	2	3	4	5
14	I feel insecure about my ability to do things.	1	2	3	4	5
15	I am a self -reliant person.	1	2	3	4	5
16	I give up easily.	1	2	3	4	5
17	I do not seem capable of dealing with most problems that come up in life.	1	2	3	4	5

TABLE 5: KALDENBERG & BECKER JOB SATISFACTION SCALE (Kaldenberg & Becker 1991)

The following inventory is designed to provide information about the way you feel about your work. **Indicate how you generally feel about your job** by by marking <u>one</u> of the appropriate numbers 1-5.

1 = strongly agree
2 = Agree
3 = Don't know
4 = Disagree
5 = Strongly disagree

		Strongly agree	Agree	Don't know	Disagree	Strongly disagree
1	I am satisfied with Dietetics as a career.	1	2	3	4	5
2	I would like to change careers if an attractive opportunity arose.	1	2	3	4	5
3	I would encourage young people to consider Dietetics as a career.	1	2	3	4	5
4	If I had a chance to start over I would still choose Dietetics	1	2	3	4	5

Thank you for your time.

APPENDIX O: CHAPTER 5 TABLES

Table 1: Alpha reliability of NR

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA2	30.92	11.77	.20	.49
PA3	31.79	13.41	-.02	.57
PA5	30.26	12.58	.15	.50
PA7	30.77	11.59	.31	.45
PA8	30.69	11.04	.37	.43
PA10	31.26	11.76	.22	.48
PA18	30.79	12.84	.10	.52
PA24	30.60	11.61	.34	.44
PA25	30.38	11.45	.44	.42

Alpha = .51

Table 2: Alpha reliability of NI unadjusted

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA1	49.23	33.95	.23	.72
PA4	49.06	34.12	.26	.71
PA6	48.64	33.08	.48	.69
PA9	49.35	33.27	.29	.71
PA11	49.02	33.92	.31	.71
PA12	48.74	36.76	.07	.73
PA13	48.65	32.00	.56	.68
PA14	48.50	32.63	.55	.68
PA15	48.61	38.41	-.07	.75
PA16	49.29	34.28	.28	.71
PA17	48.57	32.93	.55	.68
PA21	48.75	32.78	.54	.68
PA22	48.56	34.56	.30	.71
PA23	48.64	31.80	.55	.68

Alpha = 0.72

Table 3: Alpha reliability of AC (n=134)

Statement number of AC	Scale Mean Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
AC1	7.31	7.59	.54	.78
AC2	7.00	6.66	.66	.74
AC3	7.06	6.99	.63	.75
AC4	6.72	5.78	.69	.72
AC5	6.75	7.23	.43	.81

Alpha = 0.80

Table 4: Alpha reliability of Anxiety Scale with Patients (n=145)

Statement number of AAS	Scale Mean If Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
AAS 1	7.72	6.70	.47	.66
AAS 2	7.86	6.79	.52	.65
AAS 3	7.52	6.33	.45	.67
AAS 4	6.95	5.80	.50	.65
AAS 5	7.55	6.26	.43	.68

Alpha = 0.71

Table 5: Alpha reliability of Anxiety Scale with Colleagues (n=144)

Statement number of AAS	Scale Mean If Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
AAS 6	8.44	8.60	.39	.73
AAS 7	8.63	8.92	.44	.71
AAS 8	8.43	8.12	.54	.68
AAS 9	7.80	7.11	.61	.65
AAS 10	7.92	7.31	.55	.68

Alpha = 0.74

Table 6: Alpha reliability of Anxiety Scale with Subordinates (n=143)

Statement Number of AAS	Scale Mean if Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
AAS11	7.96	8.84	.65	.82
AAS12	7.64	8.22	.74	.79
AAS13	7.50	8.27	.69	.81
AAS14	7.57	7.81	.68	.81
AAS15	8.24	9.83	.53	.85

Alpha = 0.85

Table 7: Alpha reliability of Anxiety Scale with Supervisors (n=142)

Statement number from AAS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
AAS16	8.36	8.15	.63	.67
AAS17	8.52	7.98	.63	.66
AAS18	9.09	9.81	.37	.76
AAS19	8.94	10.03	.38	.75
AAS20	8.22	8.43	.59	.68

Alpha = 0.75

Table 8: Alpha reliability of Anxiety Scale with Allied Professionals (n=144)

Statement number from AAS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
AAS 21	7.97	12.13	.71	.90
AAS 22	7.88	11.42	.79	.88
AAS 23	8.02	10.85	.85	.87
AAS 24	8.03	11.41	.76	.89
AAS 25	8.17	12.13	.71	.90

Alpha = 0.91

Table 9: Alpha reliability of the overall AAS (n = 134)

Statement number for AAS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
AAS 1	48.93	204.16	.38	.93
AAS 2	49.07	204.64	.39	.93
AAS 3	48.75	198.52	.53	.93
AAS 4	48.17	194.07	.64	.92
AAS 5	48.78	202.30	.37	.93
AAS 6	48.75	201.39	.40	.93
AAS 7	48.94	203.79	.38	.93
AAS 8	48.75	196.85	.62	.93
AAS 9	48.08	194.31	.61	.92
AAS 10	48.21	191.85	.67	.92
AAS 11	48.86	197.17	.63	.92
AAS 12	48.54	195.86	.65	.92
AAS 13	48.38	195.11	.66	.92
AAS 14	48.45	191.87	.70	.92
AAS 15	49.15	191.53	.53	.93
AAS 16	48.20	193.73	.63	.92
AAS 17	48.37	191.55	.68	.92
AAS 18	48.97	201.96	.38	.93
AAS 19	48.81	203.04	.37	.93
AAS 20	48.06	194.20	.63	.92
AAS 21	48.57	195.72	.64	.92
AAS 22	48.47	194.35	.65	.92
AAS 23	48.63	193.27	.66	.92
AAS 24	48.62	195.01	.62	.92
AAS 25	48.78	196.18	.62	.92

Alpha = 0.93

Table 10: Alpha reliability of Assertiveness Scale with Patients (n = 142)

Statement Numbers of PABS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA1	14.59	3.55	.20	-.22
PA2	14.20	3.53	.30	-.33
PA3	15.05	5.75	-.19	.30
PA4	14.42	4.56	.04	.04
PA5	13.51	5.73	-.16	.23

Alpha = 0.07

Table 11: Alpha reliability of Assertiveness Scale with Patients without numbers 3 & 5 (n = 144)

Statement Numbers of PABS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA1	7.28	2.79	.31	.38
PA2	6.90	2.54	.50	.02
PA4	7.11	3.71	.14	.63

Alpha = 0.48

Table 12: Alpha reliability of Assertiveness Scale with Colleagues (n = 143)

Statement Numbers of PABS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA6	14.53	7.03	.30	.55
PA7	14.59	6.60	.35	.52
PA8	14.50	7.05	.22	.59
PA9	15.27	5.72	.36	.52
PA10	15.08	5.66	.48	.44

Alpha = 0.58

Table 13: Alpha reliability of Assertiveness Scale with Subordinates (n = 143)

Statement Numbers of PABS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA11	15.87	4.43	.10	.32
PA12	15.58	4.48	.14	.28
PA13	15.49	3.97	.33	.11
PA14	15.36	4.47	.21	.22
PA15	15.46	4.84	.02	.38

Alpha = 0.32

Table 15: Alpha reliability of Assertiveness Scale with Supervisors (n = 144)

Statement Numbers of PABS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA16	15.56	5.61	.24	.50
PA17	14.79	5.56	.44	.40
PA18	14.98	5.91	.23	.52
PA19	15.20	4.79	.39	.41
PA20	14.81	6.09	.22	.52

Alpha = 0.53

Table 14: Alpha reliability of Assertiveness Scale with Allied Professionals (n = 144)

Statement Numbers of PABS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA21	16.3750	6.0822	.4710	.6748
PA22	16.1875	5.9156	.4676	.6761
PA23	16.2847	5.7715	.4125	.7039
PA24	16.1111	5.7778	.5245	.6532
PA25	15.9028	6.0604	.5348	.6534

Alpha = 0.72

Table 16: Alpha reliability of overall PABS (n = 141)

Statement Numbers of PABS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PA1	91.48	93.07	.22	.80
PA2	91.09	90.51	.38	.79
PA3	91.91	97.86	.03	.81
PA4	91.31	92.23	.30	.80
PA5	90.38	96.05	.15	.80
PA6	90.87	91.13	.48	.79
PA7	90.92	92.50	.35	.80
PA8	90.82	92.16	.35	.80
PA9	91.60	90.08	.36	.79
PA10	91.43	91.30	.36	.79
PA11	91.28	92.73	.29	.80
PA12	90.96	97.33	.07	.81
PA13	90.88	88.25	.62	.78
PA14	90.75	88.95	.62	.78
PA15	90.84	99.66	-.06	.81
PA16	91.55	91.92	.34	.80
PA17	90.80	90.47	.56	.79
PA18	90.94	93.27	.30	.80
PA19	91.19	90.31	.39	.79
PA20	90.80	94.95	.21	.80
PA21	90.99	90.56	.53	.79
PA22	90.80	92.20	.39	.79
PA23	90.89	89.34	.52	.79
PA24	90.73	91.54	.44	.79
PA25	90.52	91.71	.49	.79

Alpha = 0.80

Table 17: Alpha reliability of SES (n = 142)

Statement Numbers of SES	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
SE1	65.96	56.04	.38	.86
SE2	66.42	52.39	.52	.85
SE3	65.96	55.12	.42	.86
SE4	66.01	54.13	.49	.86
SE5	65.87	53.18	.58	.85
SE6	66.25	52.87	.49	.86
SE7	66.05	51.98	.67	.85
SE8	66.46	55.51	.26	.87
SE9	66.23	55.44	.30	.86
SE10	65.91	53.19	.66	.85
SE11	66.27	54.77	.41	.86
SE12	65.92	53.75	.60	.85
SE13	66.19	53.18	.56	.85
SE14	66.30	51.32	.55	.85
SE15	65.89	55.09	.38	.86
SE16	65.70	53.56	.66	.85
SE17	65.75	55.42	.46	.86

Alpha = 0.86

Table 18: Alpha reliability of KBJSS (n=144)

Statement Numbers of KBJSS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
JS1	9.03	10.27	.71	.78
JS2	9.79	10.53	.60	.82
JS3	9.56	10.68	.60	.82
JS4	9.56	8.64	.78	.74

Alpha = 0.83

Table 19: Paired *t* - tests for AAS and PABS statements

		N	Correlation	Sig.
Pair 1	**state 1 AAS & state 1 PABS**	**145**	**-0.23**	**0.01**
Pair 2	**state 2 AAS & state 2 PABS**	**145**	**-0.21**	**0.01**
Pair 3	state 3 AAS & state 3 PABS	144	-0.10	0.22
Pair 4	**state 4 AAS & state 4 PABS**	**144**	**-0.45**	**0.00**
Pair 5	**state 5 AAS & state 5 PABS**	**145**	**-0.19**	**0.02**
Pair 6	**state 6 AAS & state 6 PABS**	**144**	**-0.47**	**0.00**
Pair 7	**state 7 AAS & state 7 PABS**	**144**	**-0.22**	**0.01**
Pair 8	**state 8 AAS & state 8 PABS**	**145**	**-0.31**	**0.00**
Pair 9	**state 9 AAS & state 9 PABS**	**145**	**-0.36**	**0.00**
Pair 10	**state 10 AAS & state 10 PABS**	**143**	**-0.29**	**0.00**
Pair 11	**state 11 AAS & state 11 PABS**	**143**	**-0.29**	**0.00**
Pair 12	**state 12 AAS & state 12 PABS**	**143**	**-0.12**	**0.16**
Pair 13	**state 13 AAS & state 13 PABS**	**145**	**-0.35**	**0.00**
Pair 14	**state 14 AAS & state 14 PABS**	**145**	**-0.39**	**0.00**
Pair 15	state 15 AAS & state 15 PABS	143	0.04	0.66
Pair 16	**state 16 AAS & state 16 PABS**	**144**	**-0.28**	**0.00**
Pair 17	**state 17 AAS & state 17 PABS**	**144**	**-0.36**	**0.00**
Pair 18	**state 18 AAS & state 18 PABS**	**143**	**-0.50**	**0.00**
Pair 19	**state 19 AAS & state 19 PABS**	**145**	**-0.36**	**0.00**
Pair 20	**state 20 AAS & state 20 PABS**	**145**	**-0.16**	**0.05**
Pair 21	**state 21 AAS & state 21 PABS**	**144**	**-0.40**	**0.00**
Pair 22	**state 22 AAS & state 22 PABS**	**145**	**-0.25**	**0.00**
Pair 23	**state 23 AAS & state 23 PABS**	**145**	**-0.18**	**0.03**
Pair 24	**state 24 AAS & state 24 PABS**	**145**	**-0.47**	**0.00**
Pair 25	**state 25 AAS & state 25 PABS**	**145**	**-0.42**	**0.00**