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WHY STUDY PSYCHOLOGY AT MASSEY UNIVERSITY?

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ABSTRACT

The present study examined why students choose to study psychology at Massey University. In particular, the present study wished to determine whether or not students were driven by personality as stated in research carried out by J. L. Holland, or whether or not they were driven by the market-related model of career choice. That is, the present study wished to assess how effective the marketing of Massey University and/or psychology was in attracting students to these areas. The present study found that the marketing of Massey University and psychology did attract students. Further studies may research what keeps students interested in psychology and why there are large numbers of students enrolling in postgraduate courses in this area.

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CHAPTER ONE

GENERAL STATISTICS

REASONS BEHIND THE INCREASING NUMBERS IN PSYCHOLOGY

PART ONE: OVERVIEW

The numbers of students choosing to study psychology at a tertiary level in New Zealand have increased dramatically over the last two decades. The present study aims to examine why this increase is occurring. It may be that influences in a student's environment are contributing to the rising numbers. These influences include parental and peer pressures, guidance counsellor advice, reading materials along with having psychology as a secondary school subject. Another factor that seems to be playing a part in this increase is the gender of potential psychology students. More women than men are now studying, graduating, and working in the psychological field. This increase seems to be due to differing goals and ambitions of the genders. The present study will also review career theories and discuss the usefulness of these in determining the career choice of individuals. In particular, the present study will discuss the vocational theory of career choice developed by J. L. Holland (1972). This theory examines how an individual's personality can determine the type of career path they choose. In comparison to the vocational theory of career choice, there will be discussion on a new type of career choice model, the market-related model of career choice. This theory will focus on how effective the advertising and market campaigns are in attracting potential candidates to certain occupations or particular universities and university courses. The present study will first review the general statistics behind the increasing numbers of psychology students.

PART TWO: GENERAL STATISTICS

Since the early 1980s there has been a worldwide surge in the number of students studying psychology at a tertiary level (McDonald, 1997; McGovern, Furumoto, Halpern, Kimble & McKeachie, 1991; Sheppard, 1993). Alone, the number of bachelor degrees being awarded in psychology has increased by 59% over the last seventeen years (McDonald, 1997). Australian Universities are now producing 6,000 psychology graduates a year. At present this is twice the number of students who have completed a baccalaureate in psychology over the last fifty years in Australia (Over, 1983; Taft & Ross, 1988). For example, in Australia there were over 15,000 qualified psychology graduates in 1980 compared to only 1,000 in 1974 (Over, 1981). In fact, a degree in psychology is now only exceeded by degrees in law and education in Australia (McNicol, 1988). Studies of North American students have also reinforced this trend with a large number of freshman students choosing to complete qualifications in psychology (Howard, Pion, Gottfredson, Flattau, Oskamp, Pfafflin, Bray & Burstein, 1986; Titley & Titley, 1982). In 1992 there were 60,000 psychology graduates in North America compared to only 39,000 in 1985 (McDonald, 1997). This increase can be seen in Figure 1. In fact, the most predominant degree in Northern California is the general psychology degree (Messer, 1997). This trend has also been observed in New Zealand Universities. For example, in 1973 there were a total of 40 degrees awarded in the Social Sciences including psychology (Education Statistics of New Zealand, 1974). This number has increased substantially with now over 12,000 students a year graduating in the same area (Education Statistics of New Zealand, 1996).

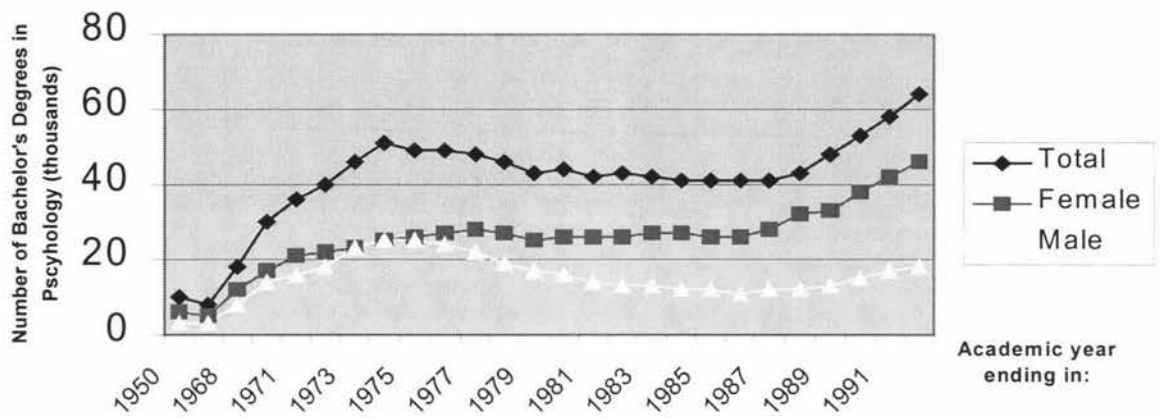


Figure 1. Graph Showing the increasing numbers of Psychology students in North America (McDonald, 1997).

Not only is the number of baccalaureate degrees awarded increasing, but also the number of students deciding to continue on to postgraduate level in psychology is also increasing (Over, 1983). In particular, students choosing to complete postgraduate studies in psychology in New Zealand have increased from approximately 10 in the 1970s to over 200 by 1996 (Education Statistics of New Zealand, 1996). This trend is also common in Australia, with the number of students choosing to complete a fourth year (Honours) in psychology increasing from over 200 in 1974 to 450 by the early 1980s (Over, 1983).

Although this increase in student numbers may be beneficial for psychology in general, there appear to be no specific reasons why students are choosing to enrol in psychology. Some researchers have even gone as far as to say that there are no clear reasons why students study psychology at all (Titley & Titley, 1982). However, some research does suggest that there are several influencing factors that contribute toward a student's decision to enrol in psychology. These factors include environmental influences, together with the gender and ambitions of the potential students. Each of these concepts will be discussed in turn, beginning with the influence of environmental aspects.

PART THREE: ENVIRONMENTAL ASPECTS

Environmental aspects may be described as contributing factors that originate from the student's surrounding environment. These include facets such as parental and peer influences, guidance counsellor advice, reading materials, as well as certain secondary school subjects. All these elements play a potential part in the future career choices of adolescents.

Of the environmental factors mentioned, parental influence on career decision making is thought to have a strong impact as to whether or not adolescents choose to continue their education or enter the work force (Ahmed, Alam, & Alam, 1996; Blustein, Phillips, Jobin-Davies, Finkelberg, & Roarke, 1997; Farmer, 1983; Hodgkinson, 1996). One particular study assessed how sixteen-year-old students in New South Wales chose subjects for their senior year of secondary school. It was found that 70% of these students consulted with their parents about their career choices (Warton & Cooney, 1997). Another study examined how parental influence affected students in North America, the United Kingdom, and Switzerland. This research again showed that parental involvement featured strongly in the students' choice to continue to tertiary education (Downing & D'Andrea, 1974). However, parental influence was far stronger for the North American and English groups than it was for the Swiss students. This is because the Swiss students placed less importance on the opinions of their parents than the other two groups (Downing & D'Andrea, 1974).

It may be suggested that if parents have a strong influence on adolescent career decision making, then adolescent peer groups should also have a similar influence. Most secondary school students place importance on the views and ideas of their friends. In fact, choices that people make are usually strongly influenced by significant others (Solas, 1996). But does this influence affect their plans to attend tertiary institutions and in

particular study psychology? A survey involving psychology undergraduates at three Australian Universities (La Trobe, Melbourne, and Monash) attempted to address this issue. They concluded that only 10% of these students placed importance on the influence of friends and peer groups (Over, 1983). On the other hand, a similar and more recent study of New South Wales students reported that 65% of students consulted their friends about their career decisions (Warton & Cooney, 1997).

If studies of parental and peer influence seem ambiguous, what other variables can explain why students are choosing to study psychology? Other environmental factors have been shown to exert a strong influence over potential psychology students. For instance, having psychology as a school subject can foster future study in that subject area (Ahmed, Alam, & Alam, 1996; Griggs, Jackson & Meyer, 1989). A North American study of a large number of undergraduates accepted into psychology courses at Indiana University-Purdue University in Indianapolis (IUPUI) found that 77% of students had studied psychology at secondary school (Metzner, Rajecki, & Lauer, 1994). Of those 77% of students, approximately 48% of women and 39% of men placed importance on having psychology as a secondary school subject. This also contributed to their decision to declare psychology as their major (Metzner, Rajecki, & Lauer, 1994). In a similar study conducted in Australia 20% of psychology students surveyed stated that they had studied psychology at a secondary school level before choosing to enrol in psychology at a tertiary level (Over, 1983). Thus it may be inferred that having studied psychology at secondary school may influence a student's decision to study psychology at a tertiary level. In fact some researchers have stated that exposure to psychology at secondary school is the primary determinant for the future study of psychology at a tertiary level (Titley & Titley, 1982; Titley & Vattono, 1972).

The reading interests of secondary school students may also contribute to their choosing to study psychology. Many psychological books as well as newspapers and magazines discussing psychology are available to the public. Anecdotal evidence also suggests that adolescents are more likely to enhance their interest in psychology by reading popular social teenage magazines. These magazines are generally packed with “pop psychology” questionnaires on every thing from how to improve your “love life” to how to be more “social and out-going”. A study of reasons why undergraduates in Australia chose to study psychology found that 53% of undergraduates in this study had read books and magazines (including popular teenage magazines) covering the topic of psychology (Over, 1983). This was the single biggest factor influencing whether or not these students chose to major in psychology.

Advice from guidance counsellors or careers advisers about future career plans is often used to help senior secondary school students make the best and most informed decisions that they can about their future. This is also common amongst students deciding to study psychology at a university level. Of those students studying at IUPUI 70% percent placed importance on contact with a career counsellor when deciding to choose to study psychology (Metzner, Rajecki, & Lauer, 1994). A study of New South Wales secondary school students found that 64% of students consulted their school counsellors about career decisions (Warton & Cooney, 1997). Indeed, it has been said, “a caring competent adviser can be a powerful retention agent [in aiding students in educational and career goals]” (Noel, 1978, p. viii, cited in Titley & Titley, 1982).

Several other environmental factors may be shown to influence a student's decision to study psychology. For example, talking to other psychology students or graduates about the courses offered by the department can influence a student to study psychology. For example, 37% of psychology students at IUPUI had contacted others including mentors before deciding to choose to study psychology (Metzner, Rajecki, & Lauer, 1994).

Another study found that 46% of New South Wales secondary students had contacted students in previous years before deciding upon their courses (Warton & Cooney, 1997). Research has also found that contact with psychology either through working in the field or through contact with a professional psychologist can influence the decisions of undergraduates. For instance, 25% of Australian students who had contact with a professional psychologist and 15% of Australian students who had worked in the psychological field chose to study psychology at a tertiary level (Over, 1983).

Environmental factors are not the only influences a person may have to cope with when deciding whether to study psychology. It has been discovered that the gender of a potential student can be a determining factor. The present study will now review the trend towards a gender shift in psychology and the possible reasons behind it.

PART FOUR: IS GENDER A FACTOR?

Over the last decades there has been a trend towards an increase in the number of women studying psychology (Keyes & Hogberg, 1990; McGovern, Furmoto, Halpern, Kimble, & McKeachie, 1991). In Australian Universities women outnumber men by three to one in psychology courses (McDonald, 1997; Over, 1983). This is also true of some North American

Universities with 74% of new psychology majors studying at Indianapolis being women (Metzner, Rajecki, & Lauer, 1994). Also, 72% of women in North America at Liberal Arts colleges and 62% in State Universities choose social occupations including working in psychological fields such as mental health and counselling (Gottfredson & Holland, 1975). Again, this trend is occurring in New Zealand Universities. From 1973 to 1994 the number of women graduating from New Zealand Universities with a Social Sciences degree in subjects including psychology increased from a total of 18 to over 400 (Education Statistics of New Zealand, 1974; Education Statistics of New Zealand, 1996). In comparison, there were only 200 male graduates with the same qualification in 1994 (Education Statistics of New Zealand, 1996).

Why is this gender imbalance occurring? Research has shown that men and women are motivated by different factors when deciding upon a career path and it is these differing ambitions that determine their choice of career. In particular, research suggests that some female students appear to be motivated by idealistic, altruistic, and nurturing factors (such as helping people) whereas male students appear to be motivated by the tangible rewards (money, power, status) offered by the job their degree may gain them (Betz & Fitzgerald, 1987; Solas, 1996; Todisco, Hayes, & Farnill, 1995). One particular survey of psychology graduates at Creighton University (USA) found that female graduates were more likely to work in fields of social work, care work, youth probation, nursing, and therapy (Ware & Meyer, 1981). Male students from the same survey were more likely to be interested in areas such as research, computer programming, sales, management, and business.

In more North American research, 62% of women studying psychology at IUPUI stated that helping others was one reason why they chose to study psychology, while only 54% of the men in the sample acknowledged this (Metzner, Rajecki, & Lauer, 1994). As with the previous research, this study found that women were interested in working in the human service areas and hospitals. Men on the other hand, showed more propensities to work in business, scientific areas, and non-psychology related fields (Metzner, Rajecki, & Lauer, 1994).

Men and women were asked to talk about their reasons for studying psychology, together with their career hopes and aspirations in research carried out on undergraduate psychology students at Australian Universities. The desire to work with people was a strong influencing factor, with 77% of women stated that this influenced their decision. Alternatively, this influenced only 65% of the men in this group (Over, 1983). This difference was reflected in the types of jobs that the students' stated they wished to pursue. Women were more likely to list altruistic jobs such as counselling and working in the mental health industry than men (Over, 1983). However, men in the sample were more interested in working in areas of business such as practice, management, and advertising where there are more financial rewards (Over, 1983). Another study examining the career choices of Israeli men and women found similar results. The men in this study were more interested in working in areas of management and supervision. On the other hand, the women were interested in areas of employment like mental health; community services, and cultures (Gati, Givon & Osipow, 1995).

This research may go some of the way to explaining the gender shift noted in psychology courses over the years. If men are more motivated by factors such as possible advancement, security, money, career status, and prestige it would seem that they are less likely to choose to study psychology as, in general it does not offer these rewards (Gati, Givon, & Osipow, 1995; Grady, 1987; Solas, 1996; Todisco, Hayes, & Farnill, 1995). Women appear to be motivated by internal, altruistic, nurturing factors and are, therefore, more likely to choose an altruistic area of study such as psychology to develop their career from.

In conclusion, there has been an increase in the number of people choosing to study psychology at a tertiary level. Environmental influences such as parental and peer pressure, guidance counsellor advice and the reading materials of certain subjects could be some of the possible general reasons given to explain the increasing numbers of psychology students. As well as these influences, gender seems to be a factor contributing to the growing number of psychology students. This appears to be due to the differing goals and ambitions of both men and women. However, there are specific theories used to explain why students choose certain career paths. The following section will discuss these theories of career development. In particular, this section will concentrate on the work done by Holland (1972), including discussion on the affect personality has on career choice. There will also be discussion on a new theory of career choice, the market-related model of career choice. This model will look at how advertising and marketing campaigns can attract students to differing occupations as well as certain universities and university courses.

CHAPTER TWO

CAREER DEVELOPMENT THEORIES

THEORETICAL REASONS BEHIND CAREER CHOICE

PART ONE: DEFINITIONS AND GENERAL THEORIES

Career development is defined as the process an individual usually goes through when deciding upon their chosen career. Career development involves a variety of cognitive and behavioural activities that help generate information about an individual and their working environment (Solberg, Good, Fischer, Brown, & Nord, 1995). That is, career development examines the way an individual considers, plans for, and implements both educational and vocational decisions (Phillips & Imhoff, 1997; Phillips & Strohmer, 1982). Thus, career development involves a range of dynamic, complex, and individualistic processes, including a range of personal beliefs and values (Mutha, Takayama, & O'Neil, 1997).

Because career development is a complex process “a broad range of interventions and assessment techniques [have] become available and [are] centered around helping people identify, select, enter, and function effectively in careers” (Osipow, 1983, p. 276). These inventories also go some way to explaining why people choose to enter certain occupations or choose to attend tertiary institutions. These career development inventories can fall into five different groups; trait, sociological, developmental, behavioural, and vocational theories. Each of these have distinctive points and ideas behind why people choose certain careers that will be addressed in turn.

The first group of these theories is the trait theories. These state that it is important to match an individual's abilities and interests with the world's vocational opportunities (Osipow, 1983; Newbold, 1975). The Strong Interest Inventory (Hansen & Campbell, 1985) is a practical example of this concept. This inventory contains over three hundred items that gather

information on individual likes, indifference, and dislikes to listed occupations, school subjects, leisure activities, people, and their own characteristics (Walsh & Osipow, 1986). From this information the inventory determines what an individual can do and likes doing, and provides a list of job areas that would suit that person best.

The second group consists of the sociological theories of career choice. These theories are based on the concept that societal circumstances beyond the control of the individual contribute to career choice (Osipow, 1983). It is therefore important for the individual to learn to deal effectively with their environment. For instance, inheriting a business from one's parents is an example of circumstances being beyond the control of the individual that leads to a career choice. Another example of this concept is educational achievement. If an individual's surrounding environment (including parental influences) place importance on education, the individual is more likely to also place importance on education and hence perform well in this area. This theory has also been known as the accident or reality theory (Newbold, 1975).

Developmental theories form the third group of career assessments. These theories state that an individual clearly develops a defined image of the self and self-concepts as they grow (Newbold, 1975; Osipow, 1983). That is, individuals develop images of the occupational world and compare those to their self-image when they are making their career decisions. The accuracy of their career decision is then centered on how well their self-concepts match their vocational concepts (Newbold, 1975; Osipow, 1983). People prefer to work in areas where their self-concepts and self-images match up

to their vocational ideas and once individual and career are matched they “live happily ever after” (Osipow, 1983, p. 153). For instance, a student may join the debating club at secondary school and meet a teacher who inspires them to study politics, which in turn fosters the student’s interest in political debate, and thus contributes to the student entering parliament.

The fourth group consists of the behavioural theories of career development based on the social learning theory proposed by Bandura (1969). This concept is centered on identifying and explicating personal and environmental events that shape individual decisions about career prospects. More simply, people bring a set of genetic and socially inherited attributes to their environments. These attributes and environments interact to give self-views and those then influence an individual’s work related behaviours (Osipow, 1983). An example of this concept is role modeling. For instance, ethnic minorities often have stereotypes attached to them dictating whether or not they will succeed in certain areas (such as education). The use of role models provides these groups with some positive reinforcement showing them that they can do well in certain areas.

Vocational theories of career choice form the final group of career theories. The main premise of these theories is that vocational choices are related to personality (Osipow, 1983). Career choices are seen as an extension of personality and an attempt to bring personal and behavioural styles into one’s working environment (Osipow, 1983). J. L. Holland has done the most influential work in this area. The basic gist of Holland’s work centers around the concept that the choice of occupation is an expressive art reflecting a person’s motivations, knowledge, ability, and personality

(Holland, 1985). Holland's vocational theory states that there are six basic occupational environments which match with six basic personalities types (Holland, 1985; Varca & Schaffer, 1982). Each of these six concepts can be used to describe personality type, work environments, and college majors (Harrington, Feller, & O'Shea, 1993) These six concepts are the Realistic, Investigative, Artistic, Social, Enterprising, and Conventional types. Each of these will be discussed in turn.

PART TWO: HOLLAND'S WORK: THE SIX TYPES IN DETAIL

The realistic (R) environment is masculine, asocial, and mechanical (Lerner & Galambos, 1984; Tuck, Rolfe, & Adair, 1994; Varca & Schaffer, 1982). People who have these personality traits are more likely to work in areas such as engineering, mechanics, building, and practical hands-on vocations (Holland, 1972).

Investigative (I) personalities think abstractly and are scientifically minded (Lerner & Galambos, 1983; Tuck, Rolfe, & Adair, 1994; Varca & Schaffer, 1982). People who resemble this type may work in areas of technology, science, mathematics, and medicine (Holland, 1972).

The artistic (A) type is thought to be independent, expressive, and sensitive (Lerner & Galambos, 1984; Tuck, Rolfe, & Adair, 1994; Varca & Schaffer, 1982). Noticeably, individuals with these characteristics work in areas of creativity such as drama, advertising, photography, and art (Holland, 1972).

Social (S) personalities are emotional, empathetic, and understanding (Lerner & Galambos, 1984; Tuck, Rolfe, & Adair, 1994; Varca & Schaffer, 1982). People of this type prefer to work in areas such as teaching, nursing, social work, and mental health (Holland, 1972).

The enterprising (E) individual is political and sociable, working in areas such as sales and leadership (Lerner & Galambos, 1984; Tuck, Rolfe, & Adair, 1994; Varca & Schaffer, 1982). In comparison, conventional (C) people are clerically minded, conforming, and orderly (Lerner & Galambos, 1984; Tuck, Rolfe, & Adair, 1994; Varca & Schaffer, 1982). These individuals thrive in occupations such as accounting, business, and travel (Holland, 1972).

Holland proposes that each individual resembles one of these six types and that people search for work environments that allow them to use their dominant abilities and skills reflected in these types (Harrington, Feller, & O'Shea, 1993; Holland, 1985; Keeling & Tuck, 1979; Osipow, 1983). For example, a social person would more likely want to work and perform better in a social environment among people of the same personality type (Holland, 1985). Once this match-up happens "people find environments reinforcing and satisfying" (Holland, 1985, p. 53-55).

Not only did Holland hypothesize six types, he also stated that they can be presented on a two dimensional hexagonal model in a related manner (Prediger, 1982). The hexagonal is used to provide a way of showing where a type falls in relation to the other types and what types they are more closely related to. The distance along a straight line between any two points in the model shows how "close relations [are] represented by short distances on the hexagon" (Holland, Whitney, Cole & Richards, 1969, p. 16). Simply, the closer a type appears to another on the hexagon, the greater the correlation between those types (Betz & Fitzgerald, 1987; Crabtree & Hales, 1974).

PART THREE: THE SELF-DIRECTED SEARCH

From this theory Holland developed inventories for measuring an individual's resemblance to each of these types. One of these measures is the Self-Directed Search (SDS). Holland developed the Self-Directed Search as a measure of occupational interest (Holland, 1985; Walsh & Osipow, 1986). The SDS was developed to increase the number of people a counsellor could assist and also to provide both vocational and educational advice for those who did not see vocational counsellors (Bloor, 1992; Keeling & Tuck, 1979; Walsh & Osipow, 1986).

The SDS measures how each person is related to the six Holland's types (Realistic, Investigative, Artistic, Social, Enterprising, Conventional (RIASEC)) and determines where they lie on the hexagonal (Holland, 1985). From there the SDS can be used to help an individual explore occupations that should be of interest to them (Tuck & Keeling, 1986).

The SDS consists of five different tasks. First, subjects are asked to list occupations that they have considered working in. They are then asked to indicate a like or dislike for a list of activities based on each of the six work environments (RIASEC). Under those same headings the subject is asked to indicate whether or not they can perform certain things well. Then they indicate "yes" or "no" to jobs that appeal to them. Finally, subjects are asked to rate how they think they compare to others of their same age (Holland, Keeling, & Tuck, 1982). At the end of the process the subject is left with a ranked order for each of the types. The highest score indicates the ideal working environment for that individual (Iachan, 1984).

There are a number of advantages to this specific measure. First, it helps a person learn about themselves and their job choices and career aspirations (Holland, 1972). Through this, it may increase a person's understanding of themselves and their environment. The process also increases the number of job alternatives considered and the amount of satisfaction one may have with their current vocational aspirations (Walsh & Osipow, 1986). Second, the SDS has a number of practical advantages. It is easy to administer (Bloor, 1992; Keeling & Tuck, 1979) as well as being both inexpensive and simple to use (Bloor, 1992; Walsh & Osipow, 1986).

Finally, the SDS provides a number of safe guards. First, a person's resemblance to each of the six types is defined in five different ways (as mentioned earlier). Second, personal assessments are used conservatively, and the individual is asked to search for all job types that fall under their three highest scores on the SDS, not just those of their highest score. Third, individuals are asked to compare their final code with that of their occupational daydreams and seek help if conflict between these occurs. Finally, individuals are advised to refer to a counsellor if they need more information (Walsh & Osipow, 1986).

In order for an inventory to be considered an effective measure it must display a certain amount of validity and reliability. That is, the inventory must measure what it states to and do so accurately (Bloor, 1992). Specific research has been carried out on Holland's concept and the Self-Directed Search to prove that both contain validity and reliability in predicting vocational choice.

PART FOUR: THE VALIDITY AND RELIABILITY OF THE SELF-DIRECTED SEARCH

The general validity of both Holland's theory of career development and the validity of the SDS have been tested and proven, and there is now widespread acceptance of the RIASEC groups (Crabtree & Hales, 1974; Keeling & Tuck, 1979; Rounds & Tracey, 1996). For instance, the similarity of the SDS to other vocational interest inventories has been tested and it has been found that a similar configuration of interests is common with other inventories (Cole & Hansen, 1971; Holland, 1985). More specifically, the predictive efficacy of the interest scales (RIASEC) appears to equal or exceed that of other inventories the scales were compared to with a reported an internal consistency range of .81 to .91 (Holland, 1985). The interest scales (RIASEC) also have moderate validity for predicating occupational membership and choice of job training, as well as equalling and exceeding the predictive validity of similar inventories (Holland, 1985). That is, the SDS accurately predicts what type of job a person is suited for based on the personality type they have as well as if not better than other inventories.

Test retest data has shown that Holland's theory has moderate consistency, with a spearman coefficient of .82 to .93 (Bloor, 1992). That is, Holland's concepts have been proven to be stable over time. The test retest data for the SDS is also stable over time (Walsh & Osipow, 1986). Unfortunately, the SDS has little construct validity in the sense that there is no assurance that an individual pursuing an occupational field will be successful in that particular area (Bloor, 1992). However, the SDS has shown concurrent

validity by being able to predict the difference between people simultaneously in different occupations (Walsh & Osipow, 1986). That is the questions used in the SDS can separate out each of the six types accurately, providing an exact assessment of each type based on the way they answer the questions asked in the SDS.

Specific areas of validity and reliability have been studied in relation to the SDS and Holland's research. These include research related to gender, ethnicity, and specific sample groups. Research has looked into the similarities and differences between men and women in relation to both Holland's scales and the usefulness of the Self-Directed Search. One particular study assessed how men and women differed in terms of the RIASEC categories. It was thought that these differences would be important for career counseling in predicting the level of satisfaction a person may have in their job. The study found that there very little gender difference for the RIASEC categories and that those males and females performed similarly on the RIASEC types (Anderson, Tracey & Rounds, 1997).

Another study asked undergraduates to characterize occupations represented by the six types using adjectives describing each type. The research found that males and females of the same personality type (RIASEC) used the same adjectives to describe occupations (Westbrook & Molla, 1976, cited in Holland, 1985). The test retest carried out six weeks later produced a positive correlation of .64 to .79. This means that the measure provided similar results once a period of time had passed between the first test and second.

Research examining the New Zealand Revision of the SDS found that the RIASEC types were a better fit for men than women (Tuck & Keeling, 1992). In fact, some researchers have stated that the “differences among national or ethnic groups is smaller than the differences between men and women of the same group” (Holland & Gottfredson, 1992). Although gender differences in the SDS occur and men and women report different interests, all reported interests could be identified as types on the Holland’s scales (Hansen, Collins, Swanson, & Froad, 1993). So, although there may be differences for men and women on the scales, generally the results for men and women support hypotheses for all RIASEC types (Holland, 1985).

Cross-cultural studies on the reliability and validity of Holland’s scales and the SDS have been carried out to provide a measure of the usefulness of Holland’s concept. One way to gather information on the international usefulness of an inventory is to translate that inventory into other languages. In particular, the SDS has been translated into 20 different languages (Rounds & Tracey, 1996). One study found that 94 female and 39 male bilingual Spanish secondary school students suffered from language and cultural differences when completing the inventory (Fouad, Cudeck, & Hansen, 1984). In fact, one shortcoming of the SDS is that the manual provides no information on how translations were made (Hansen, 1987). Because of this, information can be lost, or new meanings added when translations occur. Thus, giving rise to a completely different test, and reducing the validity of that measure.

Research has also been carried out on different ethnic groups who have the same first language. One particular study looked at the differences between Hispanic and Caucasian groups on the scales and found that both groups performed similarly. In fact, this study also found that results for African Americans and Caucasians, and rich and poor individuals all supported the definitions proposed by Holland describing each of the RIASEC types (Kaufman & McLean, 1996). Another study compared Caucasian and African American samples of 370 secondary school students who came from a variety of social and economic statuses. This research found that there was no difference in the structure of interests of the low or high socio-economic groups of either ethnicity ($p < .01$). However, the study did find that the low socio-economic group fit the RIASEC scales better (Ryan, Tracey, & Rounds, 1996).

A study comparing American and African males scores on the Holland scales found that both groups performed similarly ($p < .05$) (Dagenias, 1987). In fact, tests of the validity of the SDS for different ethnic groups found that there was common validity for New Zealand, North American, and Canadian subjects (Hansen, 1987). It has also been shown that the SDS provides good construct validity and reliability when the North American data is compared to Australian, New Zealand, Canadian, Japanese, Swiss, Italian, Nigerian, Guyana, and Danish data (Walsh & Osipow, 1986). However, more research needs to be done in this area and it is of importance that the SDS is made available in the first languages of all its users (Fouad, Cudeck, & Hansen, 1984).

Holland has also been criticized for only using high ability secondary school and college students in samples when testing the validity of his work. Hence, several studies have been completed to counter this effect.

One study asked 370 secondary and 223 college students to complete the inventory containing the RIASEC scales. This study found that the Holland model was standard for both groups, and provided extensive support for the validity of the hexagonal model proposed by Holland (Tracey & Rounds, 1995).

Another study compared the effects of the Self-Directed Search, the Vocational Preference Inventory (VPI) and a control group in a secondary school sample. It was found that the students who completed the SDS and VPI were more satisfied with their current occupational choices and were more likely to consider more occupational alternatives than the control group. Up to three weeks later, those subjects who had completed the SDS were more consistent with their personality traits and reported less need to see a career counsellor (Zerner & Schnuelle, 1976, cited in Walsh & Osipow, 1986).

A North American study took a sample of Investigative (I-type) subjects and tested the predictability of that personality trait being present in those subjects from freshman level to senior level at secondary school, and on to employment. The study found that the SDS had good positive predictability for up to seven years after the study was carried out (O'Neil & Magoon, 1977, cited in Holland, 1985).

Finally, another study tested seniors in rural schools that were mainly from low socio-economic status groups. The jobs of the subjects' parents were mainly trade occupations (such as construction). This study found that the subjects fit into the Holland scales in the same way studies of high ability subjects from high socio-economic groups did ($p < .01$) (Crabtree & Hales, 1974).

In conclusion, there appear to be many theories behind career choice. Included in these theories is the vocational theory of career choice. This theory states that personality needs to be matched to occupations. J.L. Holland did the most influential work in this area by developing six occupational and six personality types (RIASEC). Holland also developed the Self-Directed Search, an inventory that works to help match a subject's personality with the appropriate occupational group. Both Holland's concepts of career choice, the six categories, and the Self-directed Search have shown to be highly valid and reliable. This theory and the other vocational theories go some way to explaining why students choose to attend tertiary institutions and possibly study psychology. However, there appears to be a new non-theoretical model of career choice that may determine why or why not certain individuals choose certain occupations. The present study will call this the market-related model of career choice. This concept involves examining the way certain occupations and universities advertise themselves in order to attract people to their area.

CHAPTER THREE

A NEW “THEORY” OF CAREER DEVELOPMENT

THE MARKET-RELATED MODEL

PART ONE: DEFINITION OF THE MARKET-RELATED MODEL

Marketing can be defined as a social and managerial process in which an individual or group obtain what they need and want through creating and exchanging products of value with other individuals (Anderson & Dobson, 1994; Kotler, Armstrong, Saunders, & Wong 1996). A market may be termed as a set of potential buyers of a product or service (Kotler, Armstrong, Saunders & Wong, 1996). That is, a market is a group of people that can be identified by common characteristics, interests or problems, that can use a product to their advantage, that can afford to buy the product, and that can be reached through some medium (Russell & Verill, 1986). Overall, marketing is concerned about attracting the client to the organisation and its service (Rynes & Barber, 1990). For example, a gymnasium will market itself and the equipment that it offers to the public in order to attract people to that gymnasium to use that equipment.

In this day and age, universities and schools or departments within universities are seen as markets and managed in that way. With the continuing rise in the cost of education and the increasing commercialisation of New Zealand educational institutions, both schools and tertiary institutions need to work harder at attracting the 'right' types of clients to their organisation (Davies & Ellison, 1992). It has therefore become important for tertiary institutions to market themselves and their schools in an effective manner in order to attract fee-paying clients.

The market-related model works on these concepts. That is, the market-related model states that advertising and marketing are strong determinants upon the career decisions that students' make. This type of marketing is evident at Massey University and within the School of Psychology. Both groups make an effort to market themselves to the best of their advantage in order to attract students to their areas.

PART TWO: MASSEY UNIVERSITY'S MARKETING STRATEGY

Massey University markets itself in two very distinct ways. First, the University advertises its location and second, the University uses its academic reputation to attract students. Massey University's main campus is located in the North Island City of Palmerston North. To attract potential students to this specific campus, the University markets both the highlights of its specific location and those of Palmerston North City. Because Massey University and Palmerston North are linked, it is important to attract the potential student to the city of Palmerston North (Evening Standard, 25 May 1998, p. 11). Massey University does this by marketing Palmerston North as a "great student city" that caters for the "recreational needs of the student". By boasting Palmerston North's excellent shopping and restaurant facilities, along with easy to reach recreational and sporting activities, marketeers hope to attract potential students away from their home towns into a city full of "exciting student potential" (Degree Arts [BA], 1998; Excellence New Zealand Education Directory, 1997).

Research has shown that a visit to the potential site of work or study can influence an individual to work or study at that site. For example, a study carried out on the influencing ability of an on site visit to a petrochemical company found that a site visit positively influenced job acceptance (Turban, Campion & Eyring, 1995). This was largely due to the fact that the potential worker had the chance to gain a 'feel' for the place, along with meeting potential co-workers, supervisors and management. This is also true of potential students. Seventh Form secondary school students are encouraged to attend the open days offered by Massey University (Courses Galore: New Zealand's Training Guide: A Handbook of Training Information, 1994). These open days allow the potential student to not only

gain a feel for university life, but also have the opportunity to attend lectures of interest to them as well as being free to explore the campus and interact with both students and academic staff alike.

Not only does Massey University market the location of their campus; the University also markets their academic reputation to potential students. First, the University markets its 70-year tradition of academic excellence (Degree Arts [BA], 1998). Second, Massey University advertises the national and international reputation it has for both teaching and research, stating that a qualification from Massey University will give potential students a “variety of exciting career paths both in New Zealand and overseas” (Undergraduate Programme Handbook: Humanities and Social Sciences, 1998). Third, Massey University places great emphasis on being New Zealand’s “largest and most technologically advanced” university, offering up to date computer laboratories, and leading the way in research in New Zealand and overseas (Excellence New Zealand Education Directory, 1997).

Finally, Massey University offers the potential student several benefits that do not directly relate to the location of either the University or the academic reputation. One of these benefits is the Student Association that helps students’ deal with problems such as fee increases, as well as a free Health and Counselling Service to all internal students. Along with these, Massey University offers reasonable living costs for the large number of Halls of Residence available to the student population (Rose, 1996).

PART THREE: SCHOOL OF PSYCHOLOGY'S MARKETING PLAN

The School of Psychology within Massey University also markets itself in order to attract potential students into that area of expertise. Like the marketing of Massey University, the School of Psychology targets the majority of its advertising toward senior secondary school students. This is done in two distinct ways. First, the School provides students with an insight into what psychology is and what it has to offer on an intellectual level. For many students psychology is not a subject that they have studied at a secondary school level, and many potential students may be somewhat sceptical about studying a degree that they know little or nothing about. To overcome this problem, the School of Psychology aims the majority of its marketing at describing what psychology is and what it can offer. For instance, most of the literature sent to New Zealand secondary schools defines psychology as being a “social and biological science, that is an ever-growing and fascinating area that examines human behaviour” (Degree Arts [BA], 1998; Undergraduate program Handbook: Humanities & Social Sciences, 1998; School of Psychology Undergraduate Prospectus, 1999).

After defining what psychology is, the School of Psychology moves on to describe what studying psychology can offer a potential student. The school does this through the use of four distinct terms. That is, psychology offers “breadth, expertise, opportunity, and environment” (Study Psychology at Massey University, 1998). First, the School boasts of the breadth of learning psychology can offer a student. Psychology offers potential students a wide range of papers, that can be studied specifically or study in conjunction with papers from other degrees (School of Psychology Undergraduate Prospectus, 1999).

Second, the Massey University School of Psychology states that a degree from their school offers expertise. That is, the School of Psychology can

offer a “dynamic and productive group of academic staff whose research skills are renowned both nationally and internationally” (Study Psychology at Massey University, 1998). This is used to attract those students who hope to continue their studies to a post-graduate level and require supervisors and topics for research projects.

Third, psychology is said to offer the potential student “plenty of opportunities”. That is, the School of Psychology has close links to other schools within Massey University so that students can combine degrees and diplomas with their psychology papers (Study Psychology at Massey University, 1998). This also helps the student career wise by offering them a wide and varied degree (School of psychology Undergraduate Prospectus, 1999). Finally, the Massey University School of Psychology offers the potential student a friendly and supportive environment (Study Psychology at Massey University, 1998). The School of Psychology boasts a wonderful and helpful group of administration staff along with a strong bicultural focus (School of Psychology Undergraduate Prospectus, 1999). All of these facets are used to attract the potential student to the School of Psychology and continue a degree in psychology.

PART FOUR: ADVERTISING MEDIUMS

The market-related model relies on the advertising mediums available to the potential student population in order to operate. Both Massey University and the School of Psychology use the market-related model and therefore rely on the advertising media available to them in order to attract potential students to their institutions. Both of these units mainly use various forms of print-based literature to advertise. Included in this literature are posters and booklets. These are generally sent to New Zealand secondary schools describing Massey University and the School of Psychology, in order to attract students to their institutions. For instance, Massey University uses a

general publication called the “Flying Start 99” (1999). This publication offers students information on what to expect at Massey University, studying tips, how to apply for accommodation, as well as information on the service the library provides. It also prepares the potential student by offering the student information on calculating fees, textbook costs, Student Allowance and Student Loan applications, as well as providing maps of the Massey University campus. On the other hand, the School of Psychology produced a poster displaying a pointing finger with a huge “We Want You!” caption. This poster is designed to both catch the potential student’s eye and interest them in studying psychology at Massey University. These posters usually contain a freepost response slip to forward back to the school and/or University. Through filling in these response slips, the students can obtain more detailed information about the University and the specific school within that University.

Massey University also uses liaison officers to talk about the University in general. This includes discussion about accommodation available to students, fees payable, counselling services and the Student Association. These liaison officers generally visit New Zealand secondary schools to discuss the advantages of attending their particular university. Although they discuss the university in general, they also offer potential students the opportunity to ask questions about the specific schools and the courses that they offer. Massey University also publishes a booklet called “Getting Started on Your Degree Studies” (Weir, 1997). This book is produced by the liaison officer and is used in conjunction with the visit. This book contains general information on how to study for a degree, as well as clearly showing the potential student what types of papers and how many academic points are needed for their chosen degree. The booklet also clearly states that potential students should feel free to contact the liaison officer at anytime should they need more information.

Both Massey University and certain schools within the University use local radio stations to market themselves. This includes advertisements describing particular schools and what gaining a qualification from that school can offer a potential student. These radio advertisements usually offer the potential student the opportunity to ring and request more information from the University.

More recently television and Internet websites contain information for potential students on certain universities and the schools within that university. Television advertising offers the University the chance to compete on a broader scale. That is, they have the opportunity to gain access to potential students who may no longer be at secondary school. This gives the University the chance to attract more students and therefore attract more revenue to their establishment. With the introduction of the Internet and websites, another new potential student base can be marketed and recruited from.

The advertising of a university and its respective schools is important in attracting potential students to the university and to specific courses. It could be that the way a university markets itself is a strong determining factor in attracting a student to the University. It may be that this is the only determinant, or it could be that marketing has nothing to do with why a student chooses a particular university let alone a certain degree.

The present study derived several research objectives for measuring whether subjects would be influenced by career choice theories or by the way in which a certain university advertises itself and its departments. These will be discussed presently.

CHAPTER FOUR

RESEARCH QUESTIONS AND OBJECTIVES

The present study had three different types of respondents. These were current secondary school students, current university students, and others including employed and unemployed subjects as well as students studying at other tertiary institutions. The present study made several predictions. These predictions can be grouped into four main sets; demographic hypotheses, hypotheses related to Holland's competencies and activities questionnaires, Massey University Marketing hypotheses, and Psychology Marketing hypotheses.

The first group of hypotheses examined questions specifically related to the Demographics section of the present study.

- First, the present study predicted that there would be more females than males at Massey University and studying psychology;
- Second, the present study also predicted that subjects were more likely to be/have been day students enrolled at coeducational secondary schools;
- Third, the present study predicted that the majority of secondary students would be interested in attending Massey University, and the majority of non-secondary school students would currently be enrolled at Massey University;
- Finally, the present study predicted that the majority of secondary school students would be interested in studying psychology and the majority of non-secondary school students would currently be enrolled in psychology courses.

The second group of hypotheses centres around Holland's Activities and Competencies questionnaires used in the present study.

- First, it was predicted that based on these two questionnaires, female subjects in the present study would have more social personalities and wish to work in social environments, and males in the present study would have more realistic personalities and wish to work in realistic environments;
- Second, the present study predicted that the majority of subjects thinking of enrolling or enrolled in psychology would have social personalities;
- Third, it was predicted that Holland's scales (RIASEC) would not be influenced by the ethnicity of subjects;
- Finally, the present study predicted that whether or not a subject was at secondary school would have little or no affect on how well they performed on the Holland (RIASEC) scales.

The third group of hypotheses centred on the Massey University Marketing questionnaire.

- First, it was predicted that the media advertising of Massey University would attract both secondary school and non-secondary school students to study at Massey University;
- Second, it was predicted that posters advertising Massey University would also attract subjects to enrol at Massey University;
- Third, it was predicted that secondary school students would be more likely to enrol at Massey University due to advertising than other subjects;
- Finally, the present study predicted that friends and parental influence would have an affect on students' decisions to enrol at Massey University.

The final set of hypotheses centred on the Psychology Influence Questionnaire. This questionnaire was used to determine where students had obtained information about psychology and what interested them in studying psychology.

- First, it was predicted that parental influence would affect secondary school students to study psychology but would not affect non-secondary school students to study psychology;
- Second, it was predicted that secondary school students would be influenced by their friends to study psychology, but non-secondary school students would not be influenced by their friends to enrol in psychology;
- Third, it was predicted that media advertising of psychology would be a strong influencing factor as to whether subjects chose to study psychology or not;
- Fourth, the present study predicted that posters about psychology would strongly influence secondary school student's decision to study psychology;
- Finally, non-secondary school students would be more influenced to study psychology after receiving specific information from psychology departments.

Each of these sets of hypotheses was tested against three different groups of subjects. The first group of subjects consisted of current secondary school students from secondary schools around New Zealand. The majority of these subjects were in their Sixth Form or Seventh Form year. The second group of subjects consisted of current university students, in particular students attending Massey University. The final group of subjects consisted of all other subjects including current tertiary students, employed and unemployed subjects. All of these subjects had indicated an interest in studying psychology at Massey University.

CHAPTER FIVE

RESEARCH METHODOLOGY

Subjects

The subject pool consisted of over 2000 males and females. This subject pool was composed of potential students who had requested information from the Massey University School of Psychology on courses available in psychology. This group consisted of subjects who had forwarded back a response slip indicating an interest in studying psychology at Massey University. The subjects obtained response slips from either Massey University School of Psychology posters, or from “Study Psychology at Massey University” booklets sent to all secondary schools in New Zealand.

Random selection involved taking every fourth entry from the subject pool. From the original pool of 2000, a random sample of 500 subjects was selected. A final group of 199 valid returns was acquired. This group consisted of 111 secondary school students and 88 non secondary school students, including those students enrolled at tertiary institutions together with employed and unemployed subjects. There were 23 male students and 176 female students.

Materials.

The materials included five different questionnaires (see Appendix 1). The first questionnaire was the Demographics Questionnaire. This questionnaire was prepared specifically for the current study. The Demographics Questionnaire consisted of twenty-two questions. All questions attempted to gain background knowledge into the subjects’ gender, age, culture, education level and qualifications, as well as general information on where they heard about Massey University and general information on where they had heard about psychology.

All subjects were asked to complete questions one to ten. Questions eleven to fifteen were designed specifically for current secondary school students to complete. All non-secondary school students were asked to omit these questions and complete questions sixteen through to twenty-two which had been designed specifically for that participant group.

The second questionnaire was the Activities Questionnaire. This questionnaire consisted of thirty questions taken directly from the Activities Questionnaire of the Self-Directed Search. Because the subject pool consisted of New Zealand subjects it was decided that the New Zealand Revision of The Self-Directed Search (Holland, Keeling & Tuck, 1982) be used. This questionnaire was also used because of its proven validity for testing job competencies of both secondary and non secondary subjects, as well as having good validity and reliability for all ethnic groups. The Self-Directed Search had also previously been tested on psychology students and had shown reliability and validity in this area. The Activities Questionnaire consisted of thirty questions asking subjects to circle 'L' for like and 'D' for dislike to the activities they liked to do or did not like to do. Each set of five questions was related to one of the six Holland's scales (Realistic, Investigative, Artistic, Social, Enterprising, or Conventional (RIASEC)).

The third questionnaire was the Competencies Questionnaire. This questionnaire was again taken directly from the New Zealand Revision of the Self-Directed Search. This questionnaire consists of thirty yes/no questions. Subjects were asked to circle 'Y' for yes to certain activities they could do well and circle 'N' for no activities they had never done or could not perform well. Again, each set of five questions was related to one of each of the six Holland's scales (RIASEC).

The fourth questionnaire was the Level of Influence (Psychology) Questionnaire. This questionnaire was developed for the present study and consisted of thirty-three statements designed to measure the level of influence specific statements had on whether or not a subject chose to study psychology. Subjects were asked to indicate a level of influence by circling a number from one to five. Circling a '1' indicated a low level of influence, a '5' indicated a high level of influence, and a 'NA' indicated that the statement was not applicable to that particular subject.

The final questionnaire was the Massey Marketing Questionnaire. This questionnaire was again designed for the present study and consisted of twenty-three statements related to why or why not a student chose to attend Massey University. These questions were targeted around the marketing adjectives of Massey University. Again, subjects were asked to circle a number ranging from one to five to show a level of influence, where '1' indicated a low level of influence, '5' a high level, and 'NA' showed that the statement was not applicable to that particular subject.

Procedure

Each of the original 500 subjects were sent a questionnaire, a covering letter describing the purpose of the study together with detailed descriptions of which sections they were to complete, and a self-addressed postage paid return envelope for the completed questionnaire to be returned to Massey University in. The covering letter contained an introduction about the present study, the purpose of it and a detailed explanation on what each subject had to do. Current secondary school students were asked to complete only questions one to fifteen of the Demographics Questionnaire, all of the Activities Questionnaire, all of the Competencies Questionnaire, all of the Level of Influence (Psychology) Questionnaire, and all of the Massey Marketing Questionnaire. Non secondary

school students were asked to complete questions one to ten and questions sixteen to twenty-two of the Demographics Questionnaire, all of the Activities Questionnaire, all of the Competencies Questionnaire, all of the Level of Influence (Psychology) Questionnaire, and all of the Massey Marketing Questionnaire.

Each subject was asked to return the completed questionnaires in self-addressed postage-paid return envelope within two weeks of receiving it. Subjects were told that their information would remain confidential and would only be used in conjunction with the present study. Subjects were provided with contact numbers of both the researcher and the researcher's supervisor should they wish to discuss the information pertaining to the present study further.

Only completed returns were accepted for use in the present study. Any "return to sender" questionnaires were re-addressed to another randomly selected subject from the database so that the subject pool always remained constant at 500. A total of 225 subjects participated in the present study. However, only 199 valid returns were received. All returns were carefully scrutinised before being accepted for use in the present study. All valid returns were then sent for computer coding and statistical analysis.

CHAPTER SIX

RESULTS

PART ONE: DEMOGRAPHICS RESULTS

There were 199 subjects in the present study. Of these 199 subjects, 88.4% were female and 11.6% were male. Females at secondary school accounted for 49.2% of the current subjects while 39.2% of females were current non-secondary school subjects. Males at secondary school made up 6.5% of the total number of students while 5.1% of males were current non-secondary school subjects. This distribution can be seen in Figure 2. A chi square test was used to determine the statistical significance of this difference. It found, $\chi^2 (2, N = 199) = .006, p > 1.0$, showing there was no significant difference in the numbers of male and female subjects at secondary school or not at secondary school in the present study.

The majority of the subjects in the present study were New Zealand Europeans/Pakehas, making up 88.3% of the present number of subjects. Maori subjects made up 5.9% of the total numbers while there were 3.7% Asian subjects and 2.1% Pacific Islander subjects. Figure 3 shows this distribution. Figure 3 also shows the retrospective numbers of secondary school and non-secondary school subjects who identify with each of the ethnic categories. Again, there was no significant difference between secondary school and non-secondary school subjects in regards to ethnic group, with chi-square of $\chi^2 (3, N = 188) = 1.7, p > 1.0$.

The present study consisted of 111 secondary school students and 88 non-secondary school students. Most secondary school students in the present study were only attending secondary school, with 9% of these students also being employed. Of the 88 non-secondary school students, 29.4% were enrolled at Massey University, 28.2% were enrolled at another university, 15.3% were enrolled at other tertiary institutions (such as polytechnics), while 20% were employed and 7.1% unemployed. A chi-square was used to evaluate the statistical significance of this difference. It found, $\chi^2 (5, N = 196) = 166.87, p < .001$, so there was a significant difference between secondary school and non-secondary school students' present situation.

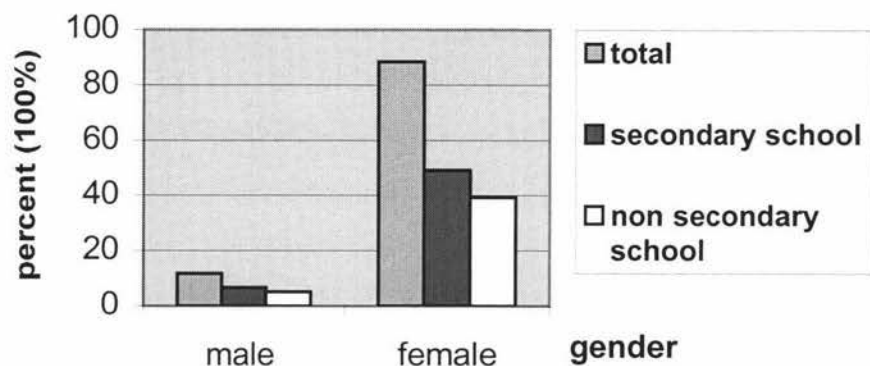


Figure 2. Graph showing percentage of male and female students in the present study.

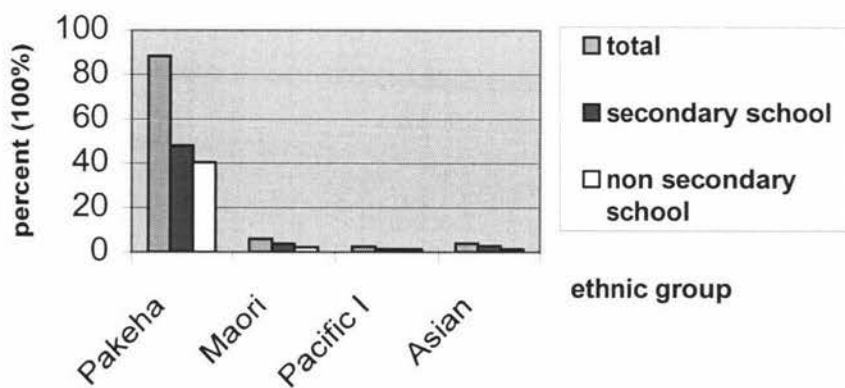


Figure 3. Graph Showing the Ethnic distribution of the present study.

The majority of the present subjects were or had been day students at secondary school. That is, 52.1% of secondary school subjects and 41.2% of non-secondary school subjects were day students. Only 3.6% of secondary school students and 1.5% of non-secondary school students had attended boarding schools, with 1% of secondary school students and 0.5% of non-secondary school students in the present study being correspondence subjects. There was no significant difference between the secondary school and non-secondary school students in reference to the type of secondary school student that they were, with $\chi^2(2, N = 196) = .90, p > 1.0$.

The present study found that 55% of secondary school students went to single-sex schools. However, only 31.8% of non-secondary school students attended single-sex schools. 45% of secondary school students went to coeducational schools, whilst 68.2% of non-secondary school students in the present study attended coeducational schools. Statistical analysis found that there was a significant difference between secondary and non-secondary school students in regards to the type of school they attended. A chi square found that there was a significant difference between secondary school and non-secondary school students for attending co-educational schools, $\chi^2(3, N = 199) = 10.63, p < .001$. There was also a significant difference for these groups as to whether or not they attended single-sex schools, $\chi^2(3, N = 199) = 6.57, p < .01$. Very few of the subjects in the present study had attended church schools, with 19.8% of secondary school students and 9.1% of non-secondary attending this type of school. There was no significant difference between these groups.

The living arrangements of both the secondary school students and the non-secondary school students in the present study also produced significant results. Of the secondary school students in the present study 93.7% lived with their parents while only 3.6% lived in hostel accommodation. In contrast, only 46.5% of non-secondary school students lived with their parents while 30.2% lived in hostel accommodation. There was a significant difference between

secondary school students and non-secondary school students in the living arrangements for each group. Statistical analysis found a chi-square, $\chi^2(7, N = 197) = 55.75, p < .001$. The differences in living arrangements are demonstrated in Figure 4.

Secondary school students and non-secondary school students also differed in the type of qualifications they possessed. The highest qualification held by secondary school students in the present study was Sixth Form Certificate, with 60.4% of subjects having this qualification. However, for 37.5% of secondary school students in the present study the highest qualification was Fifth Form Certificate. Non-secondary school students highest qualification was Bursary (64.3% of non-secondary school students had this qualification). There was a significant difference in the means for the qualifications of the secondary school students and the non-secondary school students. Again, a chi-square was used to evaluate the statistical significance of this difference. It found, $\chi^2(6, N = 180) = 118.69, p < .001$, so the difference was significant.

The majority of secondary school students in the present study were in their seventh form year. That is, 63.5% of secondary school students were in their seventh form year at secondary school. However, 82.9% of non-secondary school students were in their first year of tertiary study. Again, there was a significant difference between these two groups, with chi-square of $\chi^2(3, N = 166) = 142.94, p < .001$.

The present study found that of the 111 secondary school students 20.4% were interested in attending Massey University, 12.4% were not interested, and 67.3% were unsure as to whether they would attend Massey University. Of the 88 non-secondary school students in the present study, 28.1% were currently enrolled at Massey University and 71.9% were not. The present study also found that of the 20.4% of secondary school students wishing to attend Massey University 81.9% were interested in studying psychology. Of those 12.4% of secondary school students not wishing to attend Massey University, 36.5% were interested in studying psychology.

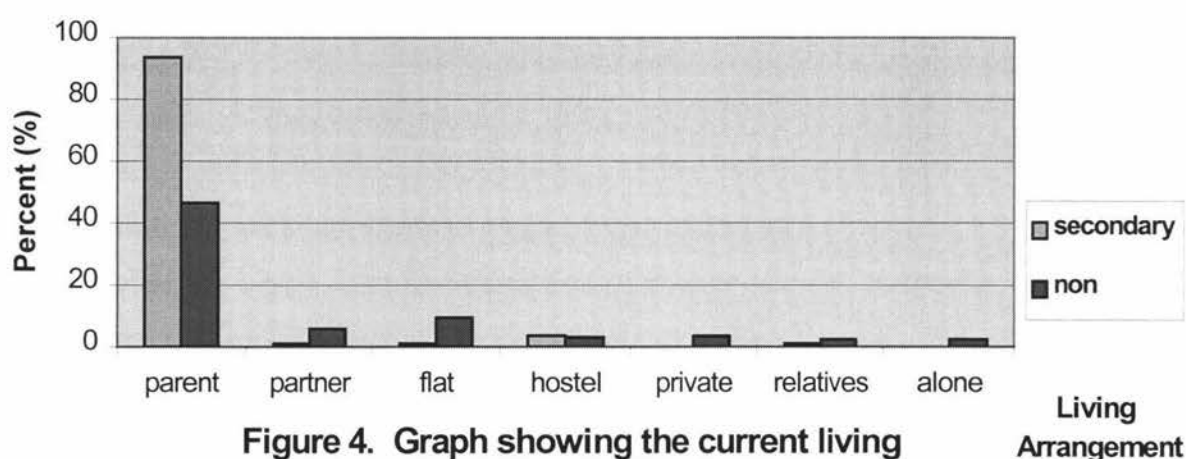


Figure 4. Graph showing the current living arrangements of both secondary and non-secondary school students in the present study

For those secondary school students who were unsure about attending Massey University 80.3% had considered studying psychology. In total, 75.2% of all secondary school students in the present study were interested in enrolling in psychology and 17.7% were not. Of the 88 non-secondary school students currently enrolled at Massey University 73.9% were currently also enrolled in psychology courses and 26.1% were not. Of those non-secondary school students not enrolled at Massey University, only 22.2% were enrolled in psychology elsewhere. In total, 36% the non-secondary school students were enrolled in psychology courses and 64% were not enrolled in psychology.

Both the secondary school and non-secondary school students had heard about Massey University from different sources. The majority (58.6%) of secondary school students had heard about Massey University from media sources (books, television, and the Internet), while 35.5% obtained their information from friends and 35.1% of these subjects obtained information from their parents and guardians. 32.4% of secondary school students had also obtained information about Massey University from school counsellors. The bulk of non-secondary school students obtained their information about Massey University from school counsellors (52.3%), from friends (47.7%), and from posters advertising

Massey University (46.6%). A chi square analysis found that there was only significant difference for secondary and non-secondary students hearing about Massey University from school counsellors, $\chi^2 (7, N = 198) = 7.96, p < .01$. These differences can be seen on Figure 5.

Secondary school students and non-secondary school students both heard about psychology from differing sources. Approximately 30.7% of secondary school students had heard about psychology from media sources, with 19.6% obtaining their information from specific information sent out on psychology, and 19.1% of these students obtaining information on psychology from their friends. Non-secondary school students mainly obtained their information about psychology from specific information gathered from psychology departments (21.1%). Of these subjects 19.6% obtained information about psychology from media sources and 17.1% obtained this information from school counsellors. These results are shown on Figure 6.

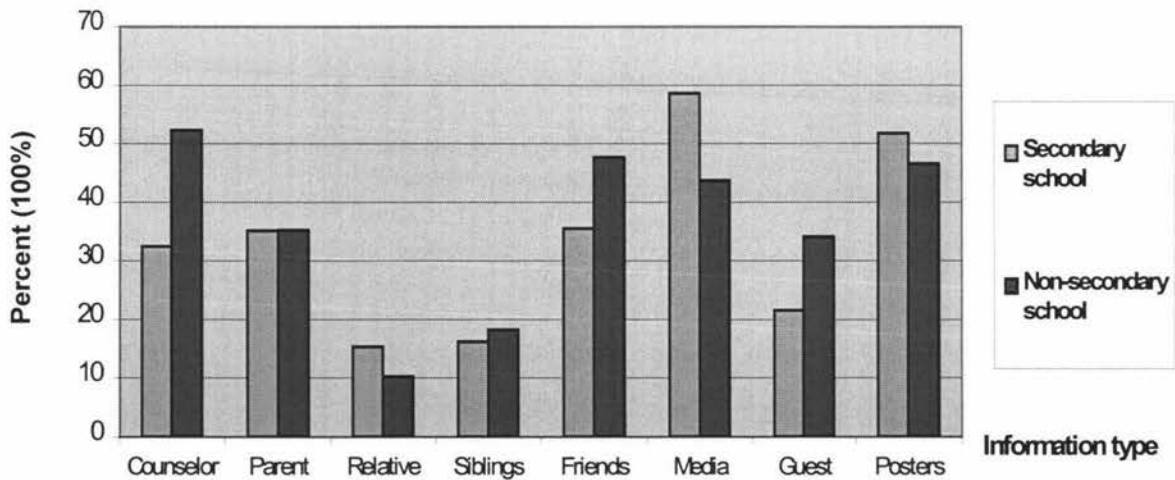


Figure 5. Graph showing where secondary school students and non-secondary school students heard about Massey University

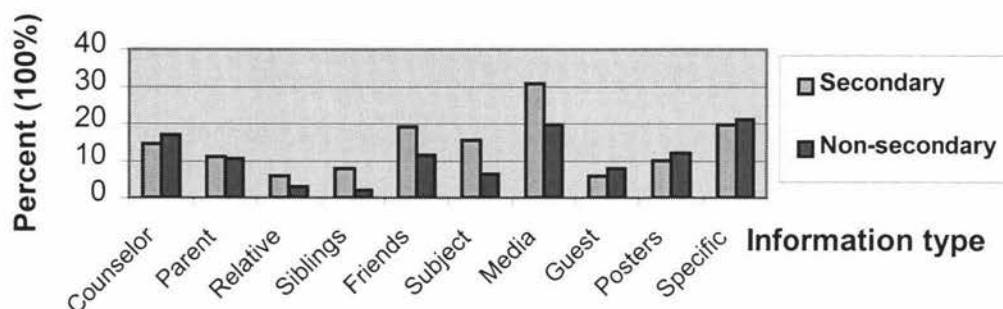


Figure 6. Graph showing where secondary school students and non-secondary school students heard about psychology

PART TWO: ACTIVITIES AND COMPETENCIES RESULTS

Results were also calculated for the activities and competencies part of the present study to produce information in relation to Holland's theory of career choice. Calculations were made to assess the total percentage of likes and dislikes for each of the Holland categories (RIASEC). Of the subjects in the present study only 26.9 % liked to complete Realistic activities while 73.1% disliked performing these tasks. The present study found that 42.2% of subjects liked to perform Investigative activities and 57.8% did not like doing these activities. Of the present subjects, 70.6% of the subjects in the present study liked to perform Artistic activities and 29.4% of the present subjects did not like performing Artistic activities. Of subjects in the present study 79.0% liked performing Social activities and 21% did not. The present study found that 60.9% of subjects enjoyed performing Enterprising activities and 42.6% of the present subjects liked to perform Conventional activities.

An independent t-test was performed to see whether or not the activities scores were affected by several factors. These factors were the gender of the present subjects, whether or not they were enrolled in secondary school, whether or not they were interested in attending Massey University, and whether or not they were interested in studying psychology. The present study found that there were no significant results between males ($\underline{M} = 14.83$) and females ($\underline{M} = 16.37$) in the present study and the type of activities they liked to perform in terms of each of the Holland's subscales. However, specific activities were liked more by the differing genders. For instance, there was a significant difference in the means for driving for males ($\underline{M} = 0.62$) and females ($\underline{M} = 0.27$), $t(194) = -3.30$, $p < .001$. There was also a significant difference in the means for writing letters for males ($\underline{M} = 0.57$) and females ($\underline{M} = 0.88$), $t(196) = 2.90$, $p < .001$. There was a significant difference in the means for belonging to social clubs males ($\underline{M} = 0.59$) and females ($\underline{M} = 0.83$), $t(195) = 2.67$, $p < .01$. Finally, there was also a significant difference in the means for caring for children for males ($\underline{M} = 0.52$) and females ($\underline{M} = 0.79$), $t(199) = 2.72$, $p < .001$.

There were no significant results to whether or not secondary school students ($\underline{M} = 16.51$) and non-secondary school students ($\underline{M} = 15.18$) differed in the types of activities they liked to do, $t(196) = 1.11$, $p > 1.0$. An independent t-test showed there was no significant for enrolled at Massey University ($\underline{M} = 15.04$) and not enrolled at Massey University ($\underline{M} = 16.17$) for the activities, $t(86) = -1.1$, $p > 1.0$. There were also no significant results for the activities for enrolled in psychology ($\underline{M} = 16.03$) and not enrolled in psychology ($\underline{M} = 15.50$) for activities $t(83) = .55$, $p > 1.0$.

Similar analysis was carried out for the competencies portion of the present study. This analysis also found that the majority of subjects could perform social activities well. That is, 90.7% of subjects in the present study enjoyed social activities and 9% did not. In this section, the second highest grouping of

likes fell under the investigative category, with 77.3% enjoyed these tasks and 22.7% did not enjoy tasks in this category. Of the present subjects, 61.7% were competent at enterprising tasks, while 54.6% of the present subjects liked to perform Artistic tasks. However, only 39.8% of subjects in the present study liked to perform Realistic tasks and 35.4% of subjects in the present study liked to perform Conventional tasks.

Statistical analysis was also carried out for the difference between the gender and the competencies, and found that there were no significant results overall $t(197) = .70, p > 1.0$. However, some of the individual competency questions did provide significant results. For instance, there was a significant difference in the means for males ($M = 60.9\%$) and females ($M = 29.5\%$) in the means for repairing electrical machines, $t(199) = 9.00, p < .001$. There was also a significant difference in the means for males ($M = 91.3\%$) and females ($M = 63.4\%$) for operating power tools, $t(196) = 7.11, p < .01$. Subjects in the present study differed in whether or not they liked to make mechanical drawings. There was a significant difference in the means for males ($M = 30.4\%$) and females ($M = 9.7\%$), $t(199) = 8.28, p < .001$. The present study also found a significant difference in the means for dancing for males ($M = 8.7\%$) and females ($M = 37.1\%$), $t(198) = 7.35, p < .01$. There was also a significant difference in the means for being a good host for males ($M = 73.9\%$) and females ($M = 94.3\%$), $t(199) = 11.46, p < .001$. Table 1 shows the overall significance between the genders for the Holland's scales.

There was an overall significant difference in the means for subjects at secondary school ($M = 18.49$) and for subjects not enrolled at secondary school ($M = 16.75$) for the competencies, $t(197) = 3.12, p < .001$. However, the present study found that there was no significant difference in the means for those students enrolled at Massey University ($M = 16.48$) and not enrolled at Massey University ($M = 16.97$), $t(87) = -.49, p > 1.0$. There was also no significant difference in the means for those subjects enrolled in psychology ($M = 17.84$) and those not enrolled in psychology ($M = 16.16$), $t(84) = 1.78, p > 1.0$.

Table 1. Table showing the overall significant independent t-test results found between the genders in the present study.

Factor	Mean	Number (N)	Significance
Driving - Male	0.62	21	p<.001
- Female	0.27	175	
Letters – Male	0.57	23	p<.001
- Female	0.88	175	
Social Clubs – Male	0.59	22	p<.01
- Female	0.83	175	
Caring Kids – Male	0.52	22	p<.001
- Female	0.79	175	
Repair Elect – Male	0.61	21	p<.001
- Female	0.29	175	
Power Tools – Male	0.91	23	p<.01
- Female	0.63	175	
Mechanical – Male	0.30	23	p<.001
- Female	0.10	175	
Dancing – Male	0.09	23	p<.01
- Female	0.37	175	
Good Host – Male	0.74	23	p<.001
- Female	0.94	175	

PART THREE: MASSEY UNIVERSITY MARKETING RESULTS

The present study also examined the differences between the Massey University Marketing strategy and the gender of the subjects. This analysis found that there was no significant difference in the means for male ($\underline{M} = 2.22$) and female ($\underline{M} = 2.12$) subjects in relation to the Massey University Marketing Questionnaire, $t(190) = .399$, $p > 1.0$. However, the present study also found that there was a significant result in the means for current secondary school students ($\underline{M} = 2.29$) and non-secondary school students ($\underline{M} = 1.79$) $t(197) = 3.54$, $p < .001$, for the Massey Marketing Questionnaire. Individual differences between students enrolled at secondary school and non-secondary school students in regards to the Massey Marketing factors can be seen on Table 2. The present study also found that there was not a significant difference in the means for the ethnic groups in the present study, $F(3,178) = .92$, $p > 1.0$. The overall distribution of mean likes and dislikes for the Massey Marketing questions are shown in Table 3.

Table 2. Table showing the significant differences for secondary school or non-secondary school students across the Massey University Marketing Factors.

Factor	Mean (Secondary)	Mean (Non)	Significance
Flat Finding	2.45	1.76	$p < .01$
Knowledge City	1.88	1.33	$p < .01$
Computer	2.38	1.41	$p < .001$
Transport	2.45	1.83	$p < .01$
Climate	2.08	1.48	$p < .01$
Paper Fees	2.46	1.57	$p < .001$
Australasia's Rep	2.72	1.82	$p < .001$
National Rep	2.67	1.91	$p < .001$

Table 3. Table showing the ranked mean (scale 1-5) level of influence for each Massey Marketing Factor for both secondary and non-secondary school students in the present study.

Massey Marketing Factor	Mean	SD
Largest City	2.31	1.37
Knowledge City	2.53	1.29
Climate	2.54	1.29
Shopping/Restaurant	2.60	1.38
Second Choice	2.66	1.58
Health/Counselling	2.69	1.31
Computer Facilities	2.79	1.30
Halls of Residence	2.91	1.41
Paper Fees	2.96	1.48
Social Activities PN	2.96	1.44
City Council	2.97	1.30
Transport	2.99	1.42
Library	3.01	1.34
Travel	3.03	1.60
Technological	3.06	1.32
Flat Finding	3.09	1.43
Social Activities MU	3.11	1.42
Australasia Reputation	3.12	1.37
National/Inter Reputation	3.12	1.33
Academic Reputation	3.13	1.43
Beautiful Environment	3.15	1.40
Parent Attended	3.27	1.60
Extramural	3.30	1.41

PART FOUR: PSYCHOLOGY MARKETING RESULTS

Analysis of the Psychology Influence Questionnaire also found that there were no significant differences between the means for males ($\underline{M} = 1.95$) and females ($\underline{M} = 2.16$), $t(195) = -1.3$, $p > 1.0$. However, certain questions in this section did provide significant results. For instance, there was a significant difference in the means for males ($\underline{M} = 2.39$) and females ($\underline{M} = 3.34$) in regards to working with children, $t(197) = 2.67$, $p < .01$. The Psychology Influence Questionnaire was not affected by the specific ethnicity of the subjects in the present study. That is, statistical analysis found no significant results, $F(3, 176) = .70$, $p > 1.0$. There was also no significant difference in the results for those students enrolled at secondary school or not on the Psychology Influence Questionnaire. However, several specific questions provided specific significance in relation to whether or not students were currently enrolled at secondary school or not. That is, there was a significant difference in the means for secondary school students ($\underline{M} = 2.70$) and non-secondary school students ($\underline{M} = 2.06$) in regards to being their own boss, $t(197) = 2.7$, $p < .001$. There was also a significant difference in the means for secondary ($\underline{M} = 2.99$) and non-secondary school students ($\underline{M} = 2.55$) in reference to the type of money they would like to earn, $t(197) = 3.1$, $p < .001$. Table 4 shows the distribution of mean likes and dislikes for the Psychology Influence Questionnaire.

It is important to note that the present study used a high number of t-tests to analyse the data. However, the more statistical comparisons that are made in a study the greater the chances of a type 1 error occurring. The more type 1 errors that occur, the more likely the results of the study are due to chance. Type 1 errors cumulate with each statistical analysis in a predictable and unavoidable way (Keppel, 1991). By completing a Bonferroni test the study could have reduced the number of type 1 errors. However, this test was not performed as all significant values found in the present study were between .001 and .01. Therefore, the hypotheses in the present study are unlikely to be

due to chance. If there had been a large number of significance values at the .05 level, it would have been advisable to complete a Bonferroni test to correct for type 1 errors as the results would have a higher probability of being due to chance.

Table 4. Table showing the ranked mean (scale 1-5) level of influence for each Psychology Marketing Factor for both secondary and non-secondary school students in the present study.

Psychology Factor	Mean	SD
Church	1.79	1.24
Siblings	2.05	1.30
Paper Fees	2.17	1.19
Sporting Ability	2.19	1.30
Work in Psychology	2.36	1.38
Friends Enrolled	2.36	1.35
Teacher	2.48	1.34
Sales/Marketing	2.49	1.34
Parents	2.52	1.45
School Counsellor	2.58	1.38
Low Stress	2.62	1.34
School Visit	2.64	1.36
School Activities	2.75	1.21
Cultural Issues	2.79	1.18
Make Friends	2.81	1.43
Department	2.84	1.23
Scientific Ability	2.84	1.36
Post-graduate	3.01	1.27
Professional Psych	3.04	1.50
Own Boss	3.06	1.30
Money	3.21	1.33
Scholarly Degree	3.23	1.33
Read Books	3.27	1.41
School Subject	3.31	1.62
Avoid Narrowmind	3.42	1.34
Prestige	3.59	1.24
Work Children	3.59	1.27
Social work	3.65	1.27
Papers Interesting	3.81	1.24
Personal Growth	3.85	1.19
Career Satisfaction	3.91	1.08
Work with People	4.03	1.13
Knowledge of Humans	4.50	0.87

CHAPTER SEVEN

DISCUSSION

This section of the present study aims to discuss how well each of the research objectives was supported and why they were. Part One will look at the research objectives in relation to the specific demographic population in the present study. Part Two will assess how well each of Holland's activities and competencies hypotheses were supported. Part Three aims to discuss the effectiveness of the Massey University's marketing approach in attracting students to Massey University. Part Four will address how affective the marketing of psychology is.

PART ONE: DEMOGRAPHICS DISCUSSION

First, it was predicted that there would be more females than males in the present study. This hypothesis was supported with 88.4% of the subjects in the present study being female and 11.6% being male. There could be several reasons why there were such a high number of females in the present study. First, the majority of subjects in the original sample were female. Second, females have a tendency to be more interested in filling out questionnaires than males. Third, as stated in Chapter One, there is already a trend for increasing numbers of females studying psychology due to psychology being an altruistic degree.

Second, the present study predicted that the majority of subjects would be/have been day students who attend/attended co-educational schools. The present study found that 52.1% of secondary school subjects and 41.2% of non-secondary school students were day students. However, the present study found that only 45% of secondary school subjects attended co-educational schools whereas 68.2% of non-secondary school subjects attended co-educational schools. One explanation for this difference could be the return to privatisation occurring in New Zealand. A simpler explanation could be that there were a

higher number of single-sex secondary school subjects in the original sample. Research carried out in North America mainly concentrated on co-educational students. This is due to the large number of co-educational secondary schools in North America. On the other hand, New Zealand has a large number of single-sex secondary schools, and this may have biased the subject pool in comparison to similar studies carried out in North America.

Third, the present study also predicted that the majority of subjects would be interested in studying at Massey University or already enrolled at Massey University. However, only 20.4% of secondary school students and 28.1% of non-secondary school students were interested in attending Massey University or were actually enrolled at Massey University. These low numbers could be due to several factors that will be discussed in Part Three of this discussion.

Finally, the present study also predicted that the majority of secondary school students and non-secondary school students would be interested in or already studying psychology at a tertiary level. The present study found that 75.2% of all secondary school students were interested in studying psychology. Of the 20.4% of secondary school subjects who wished to attend Massey University, 81.9% were interested in studying psychology. For all non-secondary school subjects in the present study, only 36% were actually studying psychology. However, of the 28.1% of non-secondary school subjects presently enrolled at Massey University, 73.9% were enrolled in psychology courses. The reasons for these differences will be discussed in the Part Four of this section.

PART TWO: DISCUSSION RELATED TO HOLLAND'S RIASEC CODES

The present study found that Social occupations were the most liked activity with 79.0% of subjects liking to perform these activities and 90.7% of subjects in the present study being competent at these tasks. Realistic activities were the least liked activities, with 26.9% of subjects liking to perform these and 39.8% being competent at these activities. There is a simple reason why Social activities were liked best and performed better. The subject pool mainly consisted of psychology students or students who had requested information about psychology courses available at Massey University, and as psychology is considered a social occupation, potential psychology students would like to perform and would be more competent at performing social activities (Holland, 1972). Realistic activities would be least liked by these subjects as these fall furthest away from the Social category on the hexagonal (Prediger, 1982).

The present study also found that those categories that fall close to the Social category on the hexagonal were liked better and performed better than those that fall further away from the Social category were. For instance, the present study found that subjects liked to perform Artistic activities (70.6%) and Enterprising activities (60.9%) which fall close to the Social category on the hexagonal. However, subjects in the present study did not like to perform Investigative activities (42.2%) or Conventional activities (42.6%) which fall close to the Realistic category on the hexagonal.

The present study predicted that females would enjoy Social activities and be more competent at these than males. On the other hand, males in the present study would be more competent at and enjoy Realistic tasks than females. The main reason for this hypothesis was to show that men enjoy tasks that offer tangible rewards whereas women prefer altruistic, empathetic tasks (Betz & Fitzgerald, 1987; Solas, 1996; Todisco, Hayes & Farnill, 1995). This hypothesis was not supported overall. However, there were certain Social activities that women were more competent at than men, such as writing letters,

belonging to social clubs, dancing, being a good host, and caring for children. Men proved to be competent at driving, making mechanical drawings, repairing electrical machines, and operating power tools much more than women. The present study did not find a significant difference between males and females in regards to the RIASEC categories due to the low number of male subjects. Equal numbers of men and women may perhaps show this difference better.

The present study predicted that the students interested in psychology or currently enrolled in psychology would have social personalities. That is, they would like social activities and be more competent at these activities because psychology is considered a social occupation (Holland, 1972). However, the present study found no significant difference between those subjects interested in psychology or currently enrolled in psychology and those that were not for the activities and competencies portion of the present study. The present study also predicted that the ethnicity of subjects would have no affect on a subject's ability to perform certain activities or whether they liked to perform certain tasks. This hypothesis was supported with ethnicity having no affect on subjects' scores on the activities and competencies portion of the present study. This finding agrees with research stating that ethnicity does not bias the RIASEC categories (Hansen, 1987; Walsh & Osipow, 1986).

Finally, the present study predicted that whether or not subjects were currently at secondary school would not have any affect on the Holland's scales. This hypothesis was only supported for the activities section of the present study. However, the competencies section of the present study found that there was a significant difference between those subjects enrolled at secondary school and those not on whether or not they could perform certain tasks well. This could be due to the fact that certain non-secondary school students have had the chance to learn to perform certain tasks over time with further education then secondary school students have.

PART THREE: MASSEY UNIVERSITY'S MARKETING STRATEGY

First, both secondary school students and non-secondary school students were influenced by media sources to enrol at Massey University. Secondary school students were influenced more than non-secondary school students with 58.6% of secondary school subjects gained information from this area. Of the non-secondary school subjects in the present study, 43.7% gained information about Massey University from these sources. These findings support the market-related theory that states that advertising of Massey University is a strong determinant of whether or not a student chooses to enrol at that University. Second, posters advertising Massey University influenced 51.8% of secondary school students and 46.6% of non-secondary school students to enrol at Massey University.

Third, the present study predicted that secondary school subjects would be more affected by the advertising to enrol in Massey University than non-secondary school subjects. This hypothesis was supported overall. Secondary school students were more attracted by things such as flat finding, living in the Knowledge City, the ease of transport offered by the Palmerston North transport system, Massey University's excellent computer facilities, the Massey University library, the international and national reputation of Massey University, along with its reputation as Australasia's respected and renowned academic institutions and finally the paper fees set by Massey University.

Finally, the present study predicted that parental influence would have an affect on whether or not subjects chose to enrol at Massey University. This hypothesis was not supported, with only 35.1% of secondary school students and 35.2% of non-secondary school students choosing to enrol at Massey University due to parental influence. Friends also only had a small influence on whether or not students chose to attend Massey University with 35.5% of secondary school subjects and 47.7% of non-secondary school subjects being influenced by their friends.

PART FOUR: THE MARKTING OF PSYCHOLOGY

First, the present study predicted that parents would influence secondary school students' decisions to enrol in psychology, but would not affect non-secondary school subjects decisions to enrol in psychology. However, the present study found that parental influence had little or no affect on both secondary school subjects and non-secondary school subjects decisions to enrol in psychology. This differs from research done by Walsh & Osipow (1997) which found that 70% of students consulted with their parents about career choices.

Second, the present study predicted that friends would influence secondary school students to study psychology but would have no influence on non-secondary school students. However, friends only had a small influence on secondary school subjects' decisions to enrol in psychology with 19.1% of subjects being influenced by their friends. Again, these results differ with research done by Walsh & Osipow (1997) which found that 65% of subjects consulted with their friends about their career decisions. Only 11.6% of non-secondary school subjects were influenced by their friends to study psychology.

Third, the present study predicted that media factors would influence both secondary school students and non-secondary school students' decisions to enrol in psychology. This hypothesis was supported with 30.7% of secondary school subjects and 19.6% of non-secondary school subjects being influenced by media (including books, television, and the Internet). Research carried out by Over (1983) also found that 53% of subjects had read books in the area before deciding on psychology.

Fourth, the present study predicted that secondary school students would be influenced by posters advertising psychology more than non-secondary school subjects would. However, this hypothesis was not supported with only 10.1% of secondary school students and 12.1% of non-secondary subjects being influenced by this form of advertising.

Finally, the present study stated that specific information available on psychology would affect non-secondary school students' decisions to enrol in psychology but would have no affect on secondary school students. Of non-secondary school subjects in the present study 21.1% were influenced by specific information sent to them. Of the secondary school subjects in the present study 19.6% were also influenced by specific information.

The present study also looked at how well the Massey University Psychology Department's advertising goals attracted students to study psychology. This was done by looking at how well the 'breadth', 'expertise', 'opportunity', and 'environment' offered by the department worked at attracting students to this area. The present study found that the environment of the department had little affect in attracting students to the Massey University Psychology Department. That is, visiting the department only had a mean influence of 2.64, and the actual department structure only had a mean influence of 2.84. However, the opportunities that psychology offered potential psychology students had a strong influence on these students. That is, the opportunity to increase personal growth had a mean influence of 3.85 whereas the opportunity to work with people had a mean influence of 4.03. Both the expertise and the breadth that the psychology department offered the potential student also affected their interest in studying psychology at Massey University. For instance, the chance to work in an area of expertise like social work had a mean influence of 3.65 and the chance to gain a prestigious qualification had a mean influence on 3.59. Also, the fact that the papers looked interesting and offered breadth had a mean influence of 3.81.

The majority of the hypotheses in the present study were supported by the results found. It would seem that subjects in the present study were affected by the advertising of both Massey University and psychology. However, several recommendations can be made for further studies carried out in similar areas.

CHAPTER EIGHT

CONCLUSIONS AND RECOMMENDATIONS

PART ONE: CONCLUSIONS

The present study did find that the market-related theory was effective. That is, subjects in the present study were driven more to by the way Massey University and psychology advertised themselves than by any other factor. The present study also found that Holland's theory of career choice did not have an overall affect on the career decisions of subjects in the present study. In other words, subjects were not driven by certain personality factors when deciding to enrol at Massey University or enrol in psychology.

The present study also found that subjects were more motivated to enrol at Massey University based on the academic reputation of Massey University and what the University could offer them as a student. Subjects in the present study were not drawn to Massey University by the advertising of Palmerston North. In regards to studying psychology, subjects in the present study were motivated more by what a qualification in psychology could offer them than by the structure of the psychology department. Subjects were more interested in what they could obtain from a degree in psychology than by the surrounding environment they were in. Therefore it appears to be more important to attract the students to the University primarily, and to the school or department secondly.

PART TWO: RECOMMENDATIONS

Further studies in this area could look into several factors that were not specifically addressed by the present study.

First, there were a large number of females in the present study. This may have caused a bias in the results. Future studies could examine the same hypotheses using equal numbers of male and female subjects. This would also help to determine whether or not there is a differing

personality trait between males and females that may in turn determine whether or not they choose to study psychology.

Second, the present study consisted mainly of New Zealand European/pakehas. Again, equal numbers of the different ethnic groups may show whether or not different factors attract these groups to both Massey University and psychology.

Third, the present study consisted of a subject pool made up of subjects who had returned a tear-off portion of the posters advertising the Massey University School of Psychology and those subjects who had also completed a tear-off portion of the booklet "Study Psychology at Massey University"(1998). It may be that subjects who had requested a copy of the booklet were more motivated to study psychology than those who had only completed the tear-off portion of the poster. By separating these two groups out, research could examine whether specific information relating directly to psychology is more of a motivating factor than general posters advertising the subject broadly.

Fourth, further research could look at what attracts subjects to study internally and externally at Massey University. This would be especially interesting in terms of the high number of extramural courses offered by the Massey University School of Psychology. Could different factors be attracting differing types of students to each of these areas?

Fifth, future research into this area could examine what is motivating students to continue on to a postgraduate level in psychology. Are the same concepts of 'breadth', 'expertise', 'opportunity' and 'environment' still motivating students to study psychology or are there other factors that draw the student on into postgraduate study?

Sixth, the present study found that parental influence was not as strong an influence on career decisions as first thought. However, there may be some difference between subjects whose parents were part of the Massey University Graduate Alumni and those whom were not. It may be those subjects whose parents had attended Massey University and study psychology at Massey University may in fact influence their children to attend Massey University and study psychology.

Finally, the present study found that the majority of current secondary school students were attending single-sex schools. Further research into this area may be able to determine whether or not co-educational students are more driven to study psychology as they attend somewhat more liberal schools. On the other hand, it may be that single-sex school students are more determined to succeed and would therefore continue their education on to a tertiary level. It would be interesting to see if single-sex secondary school students are more science driven than co-educational secondary school students and therefore less likely to study psychology and more likely to study the pure sciences.

Perhaps if these recommendations are taken into consideration research may further delve into the question “Why do students choose to study psychology at Massey University?”

CHAPTER NINE

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APPENDIX ONE

M E Neilson
Department of Psychology
Massey University
Private Bag 11222
Palmerston North

July 1998

Dear Participant,

My name is Maeve Neilson. I am currently writing a thesis for my Masters Degree in Psychology. This thesis aims to discover what influences potential students to enrol at Massey University, and why they might choose to study psychology.

The best way to answer these questions is to gather information from people who have indicated an interest in both Massey University and psychology. The Massey University School of Psychology has a list of all secondary students who requested information about studying psychology at Massey University. From here your name has been randomly selected to create a subject pool for my research. It is hoped that your participation in this research will go some way to answering my questions.

I would extremely appreciate it if you could answer these simple questionnaires. They mainly require a tick-the-box approach, with some one-word answers.

Questionnaire one is a Demographic Questionnaire. This asks general questions to gain some personal information about you at present. Current secondary school students are asked to answer questions 1-15, all other participants are asked to answer questions 1-10 and questions 16-22.

Questionnaire two is the Competencies Questionnaire. This is designed to gather information about individual skills you possess. All participants are asked to complete this questionnaire.

Questionnaire three is the Activities Questionnaire. This is designed to gather information about individual activities that you enjoy doing. All participants are asked to complete this questionnaire.

Questionnaire four is the Level of Influence Questionnaire (Psychology). This questionnaire is aimed at gathering information on what influenced you to enrol in a psychology course or not to. All participants are asked to complete this questionnaire.

Questionnaire five is the Massey University Marketing Questionnaire. This questionnaire is designed to gather information on what influenced you to attend or not attend Massey University in Palmerston North. All participants are asked to complete this questionnaire.

All completed questionnaires should be returned to Massey University in the pre-paid self-addressed envelope provided within two weeks if possible. Your information will remain confidential and will only be used in conjunction with this Masters research.

Your participation is much appreciated. The more of you that send back your completed questionnaire, the better able I will be to answer my formed hypotheses satisfactorily. Therefore, I am very thankful for your participation. If you have any inquiries please feel free to contact me at the above address or e-mail me at maeve.n.@clear.net.nz. You can also contact my supervisor Professor Nigel Long, School of Psychology, Massey University, Private Bag 11222, Palmerston North (phone 06 9505229).

Thank you for your co-operation.

Yours sincerely,

Maeve Neilson

DEMOGRAPHIC QUESTIONNAIRE

PLEASE WRITE ON LINES PROVIDED OR CIRCLE THE APPROPRIATE LETTER IN THE BOLD TYPE ON THE LEFT OF THE PAGE.

1. Sex? Male / Female
2. What ethnic group do you identify with?
 - A** New Zealander/Pakeha/European
 - B** Maori
 - C** Pacific Islander
 - D** Asian
 - E** Other (please state)

3. Are you currently at secondary school?
 - A** Yes
 - B** No
4. If yes, please state the year you left your last secondary school.

5. Are/were you?
 - A** A day student
 - B** A boarding student.
 - C** A correspondence student
6. Do/did you attend? (Circle all letters that apply)
 - A** A coeducational secondary school
 - B** A single-sex secondary school
 - C** A church affiliated secondary school
 - D** Other (please state)

7. What are your present living arrangements?
 - A** With parents/guardian
 - B** With partner
 - C** Flatting with others
 - D** Hostel or similar arrangement
 - E** Private boarding
 - F** With other relatives
 - G** Living alone
 - H** Living with church/cultural group
 - I** Other (please state)

8. Are you presently,
 - A** Enrolled at secondary school
 - B** Enrolled at Massey University
 - C** Enrolled at another university
 - D** Enrolled at another tertiary institution
 - E** In full-time/part-time employment
 - F** Unemployed
 - G** Other (please state)

9. What is your highest qualification?
- A Fifth form Certificate (3 or more passes in fifth form subjects)
 - B Sixth Form Certificate (3 or more passes in six form subjects)
 - C University Entrance
 - D Higher School Certificate
 - E Bursary (3 or more passes in Bursary/seventh form subjects)
 - F University Diploma
 - G University Degree
 - H Other (please state)
-

DEMOGRAPHIC QUESTIONNAIRE

10. What educational year level are you?
- A Sixth form secondary school student
 - B Seventh form secondary student
 - C First year tertiary student
 - D Second year tertiary student
 - E Other (please state)
-

IF YOU ARE A SECONDARY SCHOOL STUDENT AT PRESENT PLEASE ANSWER QUESTIONS 11,12,13,14 AND 15. ALL OTHERS PLEASE GO TO QUESTION 16 AND CONTINUE FROM THERE. THANK YOU.

11. Do you wish to attend Massey University?
- A Yes
 - B No
 - C Unsure
12. Where did you hear about Massey University? (Circle all letters that apply)
- A School counsellor
 - B Parent/guardian
 - C Other relative
 - D Visiting guest to your secondary school
 - E Friend
 - F Brothers and sisters
 - G Media (books, television, Internet etc)
 - H Posters about the university sent to your school
 - I Other (please state)
-

13. If you wish to attend Massey University, what subject do you think you will major in?
-

14. Have you considered a major in psychology? (Please circle this on a 1-5 scale, 1 being "not at all", 5 being "definitely").

1	2	3	4	5
NA				
not at all				definitely

15. Where did you hear about psychology? (Circle all letters that apply)

- A School counsellor
 - B Parent/guardian
 - C Other relative
 - D Brothers and sisters
 - E Friends
 - F School subject
 - G Media (books, television, Internet, etc)
 - H Visiting guest to your secondary school
 - I Posters around your secondary school
 - J Specific information from certain universities
 - K Other (please state)
-

**THIS IS THE END OF THE DEMOGRAPHIC QUESTIONNAIRE FOR ALL
SECONDARY SCHOOL STUDENTS. PLEASE GO TO THE ACTIVITIES
QUESTIONNAIRE AND CONTINUE ON FROM THERE. THANK YOU.**

DEMOGRAPHIC QUESTIONNAIRE

ALL NON SECONDARY SCHOOL STUDENTS ASKED TO COMPLETE THIS PART OF THE DEMOGRAPHIC QUESTIONNAIRE. THANK YOU.

16. At present are you?

Enrolled at Massey University **Yes / No**

Enrolled in psychology papers **Yes / No**

17. Did you know about or had you heard about Massey University?

A Yes

B No

18. Where did you hear about Massey University? (Circle all letters that apply)

A School counsellor

B Parent/guardian

C Other relative

D Visiting guest to your school

E Friend

F Brothers and sister

G Media (books, television, Internet etc)

H Posters around your secondary school

I Other (please state)

19. Did you know about or had you heard about psychology?

A Yes

B No

20. Where did you hear about psychology? (Circle all letters that apply)

A School Counsellor

B Parent/guardian

C Other relative

D Brother and sister

E Friends

F School subject

G Media (books, television, Internet etc)

H Visiting guest to your secondary school

I Posters around your secondary school

J Specific information from certain universities

K Other (please state)

21. Are you interested in psychology as a career?

A Yes

B No

C Unsure

22. What career do you plan to do?

ACTIVITIES QUESTIONNAIRE

PLEASE CIRCLE L FOR "LIKE" FOR THOSE ACTIVITIES YOU LIKE TO DO. PLEASE CIRCLE D FOR "DISLIKE" FOR THOSE ACTIVITIES YOU WOULD DISLIKE DOING OR WOULD BE INDIFFERENT TO.

- | | |
|--|-------|
| 1. Build things with wood or metal | L / D |
| 2. Drive a truck or tractor | L / D |
| 3. Take an Engineering course | L / D |
| 4. Take at Motor Mechanics course | L / D |
| 5. Take a Technical Drawing course | L / D |
| 6. Read scientific books or magazines | L / D |
| 7. Work on a scientific project | L / D |
| 8. Solve maths or chess puzzles | L / D |
| 9. Take a Physics course | L / D |
| 10. Take a Biology course | L / D |
| 11. Sketch, draw or paint | L / D |
| 12. Play in a band, group or orchestra | L / D |
| 13. Read popular fiction | L / D |
| 14. Create portraits or photographs | L / D |
| 15. Take an Art or Drawing and Design course | L / D |
| 16. Write letters to friends | L / D |
| 17. Belong to social clubs | L / D |
| 18. Take care of children | L / D |
| 19. Read psychology books | L / D |
| 20. Go to sports events | L / D |
| 21. Influence others | L / D |
| 22. Discuss politics | L / D |
| 23. Attend conferences | L / D |
| 24. Meet important people | L / D |
| 25. Operate my own service or business | L / D |
| 26. Write business letters | L / D |
| 27. Type papers for yourself or for others | L / D |
| 28. Take a Business course | L / D |
| 29. Take a Bookkeeping course | L / D |
| 30. Keep detailed records of expenses | L / D |

COMPETENCIES QUESTIONNAIRE

PLEASE CIRCLE Y FOR "YES" FOR THOSE ACTIVITIES YOU CAN DO WELL. CIRCLE N FOR "NO" FOR THOSE ACTIVITIES THAT YOU HAVE NEVER PERFORMED OR THAT YOU PERFORM POORLY.

- | | |
|---|-------|
| 1. I know how to use a voltmeter | Y / N |
| 2. I can make simple repairs to electrical goods | Y / N |
| 3. I can operate power tools | Y / N |
| 4. I can read blueprints | Y / N |
| 5. I can make mechanical drawings | Y / N |
| 6. I understand how a vacuum cleaner works | Y / N |
| 7. I can name three foods high in protein content | Y / N |
| 8. I can use a microscope | Y / N |
| 9. I can interpret simple chemical formulae | Y / N |
| 10. I have participated in scientific fair or contest | Y / N |
| 11. I can play a musical instrument | Y / N |
| 12. I can act in a play | Y / N |
| 13. I can do modern dance or ballet | Y / N |
| 14. I can do painting or sculpture | Y / N |
| 15. I can write stories or poetry well | Y / N |
| 16. I am good at explaining things to others | Y / N |
| 17. I cooperate and work well with others | Y / N |
| 18. I can be a good host | Y / N |
| 19. I am a good judge of personality | Y / N |
| 20. I am good at helping others who are upset or hurt | Y / N |
| 21. I can supervise the work of others | Y / N |
| 22. I am a good debater | Y / N |
| 23. I have organised at club or group | Y / N |
| 24. I am a good salesperson | Y / N |
| 25. I have unusual energy and enthusiasm | Y / N |
| 26. I can type 40 words a minute | Y / N |
| 27. I can take shorthand | Y / N |
| 28. I am good at bookkeeping | Y / N |
| 29. I can keep accurate records of payments or sales | Y / N |
| 30. I can file correspondence and other papers | Y / N |

LEVEL OF INFLUENCE QUESTIONNAIRE - PSYCHOLOGY

PLEASE CIRCLE HOW MUCH THESE STATEMENTS INFLUENCED YOUR DECISION TO ENROL OR NOT ENROL IN PSYCHOLOGY BY CHOOSING THE NUMBER THAT BEST INDICATES THIS. (1 = LOW LEVEL OF INFLUENCE, 3 = NO INFLUENCE EITHER FOR OR AGAINST, 5 = HIGH LEVEL OF INFLUENCE, NA = NOT APPLICABLE TO YOUR DECISION.)

- | | |
|--|--------------|
| 1. Psychology will give you the opportunity to work with people | NA 1 2 3 4 5 |
| 2. Psychology gives you the opportunity to work with children | NA 1 2 3 4 5 |
| 3. Psychology helps you to increase your knowledge and understanding of human behaviour | NA 1 2 3 4 5 |
| 4. Psychology gives you the opportunity to work in sales or Marketing | NA 1 2 3 4 5 |
| 5. Psychology gives you the opportunity to work in social work or education | NA 1 2 3 4 5 |
| 6. Psychology offers you a qualification with prestige | NA 1 2 3 4 5 |
| 7. Psychology offers you increased career satisfaction | NA 1 2 3 4 5 |
| 8. Studying psychology increases your personal growth and self awareness | NA 1 2 3 4 5 |
| 9. Psychology was recommended to you by your older brothers and sisters | NA 1 2 3 4 5 |
| 10. Psychology was recommended to you by your parents/guardians | NA 1 2 3 4 5 |
| 11. Psychology was recommended to you by your church or cultural group | NA 1 2 3 4 5 |
| 12. Psychology was recommended to you by a school counsellor | NA 1 2 3 4 5 |
| 13. A school visit to a psychology department influenced your decision | NA 1 2 3 4 5 |
| 14. Psychology was recommended to you by a teacher | NA 1 2 3 4 5 |
| 15. You enjoyed studying psychology at school | NA 1 2 3 4 5 |
| 16. You work in the area of psychology | NA 1 2 3 4 5 |
| 17. You had contact with a professional psychologist | NA 1 2 3 4 5 |
| 18. You read books and magazines about psychology | NA 1 2 3 4 5 |
| 19. Psychology offers you the opportunity to be your own boss | NA 1 2 3 4 5 |
| 20. Psychology offers you the opportunity to work in a low stress, low Burnout environment | NA 1 2 3 4 5 |
| 21. Psychology helps you avoid narrow-mindedness | NA 1 2 3 4 5 |
| 22. Psychology would allow you to make plenty of money | NA 1 2 3 4 5 |
| 23. The psychology papers offered look interesting | NA 1 2 3 4 5 |
| 24. The qualification will help you get into post-graduate courses | NA 1 2 3 4 5 |
| 25. Psychology is a scholarly, intellectual degree | NA 1 2 3 4 5 |
| 26. The paper fees set for psychology | NA 1 2 3 4 5 |
| 27. The psychology department offers plenty of social activities | NA 1 2 3 4 5 |
| 28. The psychology department is sensitive to cultural issues | NA 1 2 3 4 5 |
| 29. The structure of the psychology department is inviting | NA 1 2 3 4 5 |
| 30. You have friends enrolled in psychology | NA 1 2 3 4 5 |
| 31. Psychology will increase your sporting ability | NA 1 2 3 4 5 |
| 32. Psychology will increase your ability to make friends | NA 1 2 3 4 5 |
| 33. Psychology will increase your scientific ability | NA 1 2 3 4 5 |

MASSEY UNIVERSITY MARKETING QUESTIONNAIRE

PLEASE CIRCLE HOW MUCH THESE STATEMENTS INFLUENCED YOUR DECISION TO ATTEND OR NOT TO ATTEND MASSEY UNIVERSITY BY CHOOSING THE NUMBER THAT BEST INDICATES THIS. (1 = LOW LEVEL OF INFLUENCE, 3 = NO INFLUENCE EITHER FOR OR AGAINST, 5 = HIGH LEVEL OF INFLUENCE, NA = NOT APPLICABLE TO YOUR DECISION).

- | | |
|--|--------------|
| 1. The opportunity to travel to a different part of the country to study. | NA 1 2 3 4 5 |
| 2. The chance to study in New Zealand's second largest inland city. | NA 1 2 3 4 5 |
| 3. The chance to study in a town with excellent shopping and restaurant facilities. | NA 1 2 3 4 5 |
| 4. The ease of application for and acceptance into the Massey University Halls of Residence. | NA 1 2 3 4 5 |
| 5. The ease of finding a flat or other accommodation outside Massey University. | NA 1 2 3 4 5 |
| 5. The opportunity to study in New Zealand's 'Knowledge City'. | NA 1 2 3 4 5 |
| 7. The excellent computer facilities offered by Massey University. | NA 1 2 3 4 5 |
| 8. The pleasant climate of Palmerston North. | NA 1 2 3 4 5 |
| 9. The ease of transport to and from Massey University. | NA 1 2 3 4 5 |
| 10. The opportunity to study at one of New Zealand's largest and most technologically advanced Universities. | NA 1 2 3 4 5 |
| 11. The opportunity to study your chosen course extramurally. | NA 1 2 3 4 5 |
| 12. The reputation that Massey University has of 70 years of academic excellence. | NA 1 2 3 4 5 |
| 13. The health and counselling facilities offered by Massey University. | NA 1 2 3 4 5 |
| 14. The strong national and international reputation and recognition Massey University has. | NA 1 2 3 4 5 |
| 15. The ease and opportunity to gain a wide range of information offered by the Massey University Library. | NA 1 2 3 4 5 |
| 16. The reputation that Massey University is one of Australasia's most respected and renowned academic institutions. | NA 1 2 3 4 5 |
| 17. The fact that the Palmerston North City Council gives priority to student concerns. | NA 1 2 3 4 5 |
| 18. The paper fees and course related costs were less expensive at Massey University than elsewhere. | NA 1 2 3 4 5 |
| 19. Massey University is situated amongst a beautiful and spacious environment. | NA 1 2 3 4 5 |
| 20. Massey University was your second choice as you were unable to attend your preferred university. | NA 1 2 3 4 5 |
| 21. The social activities offered by Palmerston North influenced you (for example, the pubs and dance clubs). | NA 1 2 3 4 5 |
| 22. The social activities of Massey University influenced you (for example, the large number of clubs and sports offered). | NA 1 2 3 4 5 |
| 23. Your parent, friend, relative had attended Massey University and enjoyed their time there. | NA 1 2 3 4 5 |

THANK YOU VERY MUCH FOR YOUR PARTICIPATION. DON'T FORGET TO RETURN ALL QUESTIONNAIRES TO MASSEY UNIVERSITY IN THE PRE-PAID SELF-ADDRESSED ENVELOPE PROVIDED. THANKS!