CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

To gain a better understanding of the behaviour and processes involved in choosing a college, literature in the following areas was reviewed: (1) understanding of the college choice process, (2) factors influencing students' college choice, (3) parental role in the college choice process and factors influencing parents' college selection, (4) gender-based differences in college choice, (5) students' academic abilities affecting college choice, (6) socioeconomic differences affecting college choice, (7) parental education levels affecting college choice. With a better understanding of the factors influencing students' choice of a college, it is hoped that the Enrolment Management will cater for the market's needs and hence, enhance enrolment in private colleges, and that students' graduation rates will improve thus producing educated and trained personnel for our national manpower development.

The first large-scale study of college choice factors was carried out by Astin in 1965. In his study, Astin surveyed 127,000 students and 248 institutions in an attempt to understand why different students chose different colleges. This large scale study provided objective data on educational aspirations, career plans, socioeconomic background, and potential for achievement in academic, scientific, artistic and social fields.

Astin's unprecedented effort in the study of college choice inspired much interest in this field of study. The importance of this study is evident by the tremendous research that followed in this arena. Chapman's study in 1979 viewed college choice as consisting of
two aspects: the college choice process and college choice behaviour. The study of college choice processes provided a conceptual framework for understanding the students' educational aspiration, selection experience, college attendance and matriculation. The study of college choice behaviour focused on how students source for career guidance, course of study, institutional materials, as well as how the demographic and environmental factors together with other influences will affect a student's college decision making. Based on the college choice process framework, various researchers have examined specific student enrolment behaviour at different stages of the process.

In 1990, Paulsen in his study of student enrolment behaviour reiterated the importance of understanding why students choose to attend a particular college over another. In his study, Paulsen has shown that student enrolment behaviour has mostly been studied by researchers from the disciplines of psychology, sociology and economics. These disciplines offer different perspectives and conceptual foundations for the study of college choice behaviour. Psychologists have focused on the psychological environment of an institution, its impact on students, and student-institution fit. Sociologists have perceived college attendance as a status attainment process while economists have viewed college attendance as a form of investment.

2.2 The College Choice Process

A few models of the college choice process have been developed by researchers since 1980. The first college choice model proposed by Ihlanfeldt in 1980 has seen prospective students as passing through a funnel that narrows the college options at various phases of the process. The Ihlanfeldt Model proposed the following enrolment stages: (1) a prospective student (2) applicant (3) admittant (4) matriculant (5) alumni. The Ihlanfeldt Model has attempted to describe the sequence of roles which a graduate
of an institution had gone through with each stage involving decision making. This Model is limited in its application as it could only apply to the college choice process of successful completed graduates but does not describe the college selection behaviour such as the development of college aspiration, college search, application, elimination and selection, and attendance.

In 1981, Chapman developed a five-stage model consisting of the following processes (1) desire to attend college, (2) decision, (3) investigation of institution (4) application for admission, (5) admission. Compared with the Ihlanfeldt Model, the Chapman Model viewed the college selection as a series of behaviour through different stages. By incorporating an ‘investigation of institution’ phase into the Model, it enhanced the applicability of the process.

Kotler in 1976 developed a seven-stage model in which he proposed that a student (1) considers alternatives between college or employment and develops a desire to study, (2) seeks and receives information on colleges, (3) considers product alternatives, for example types of institutions such as private or public, large or small, and forms a total college set, (4) filters colleges, forms a consideration set and applies to potential colleges, (5) re-evaluates college choice after being accepted by colleges applied to earlier, (6) decides on a particular college, (7) enrols at the selected college.

Kotler’s inclusion of the “product consideration”, “formation of consideration set and application”, and “re-evaluation on accepted colleges for a final choice” has increased the understanding of college choice behaviour and processes. This Model offers insight to institutions not to neglect continuous effort to influence enrolment after the “information seeking” phase. Developmentally based, this model suggests that a student
is influenced by various factors, to varying degrees at each phase of the selection process.

Kotler's seven-stage model was regarded by Gilmour et al. (1978) to be essentially accurate as these researchers found evidence to support this model in their interviews with respondents on the college choice process.

In a review of college choice processes, Hanson and Litten (1982) compared both Kotler's and Chapman’s models. In the same study, in view of the importance of financial considerations, Hanson and Litten (1982) incorporated this component into Kotler's model which increased its comprehensiveness. In addition to financial considerations, Hanson and Litten (1982) further incorporated a series of interactive factors found in Lewis et al.'s study (1974) as he believed that these elements had impact on college selection. Lewis et al. (1974) identified a series of discrete elements which appeared to vary in sequence, timing and contents at various stages of college choice process which had an influence on the college selection. The interactive factors identified were (1) background referring to race, income, socioeconomic status (SES), parents' education, family culture, parents' personalities, religion, and gender, (2) personal attributes such as academic ability, self-image, personal values, benefits sought, personality and lifestyle, (3) high school attributes such as social composition, students' performance, class rank and curriculum, (4) influences and media used such as parents, counsellors, peers, college officials and publications, (5) environment that includes occupational structure, economic conditions, and cultural conditions, (6) public policy such as the amount of and eligibility for assistance, (7) college action that includes recruitment activities, and academic/admissions policies, (8) college characteristics such as price, size, programmes, ambience, and control, (9) college action
II referring to admittance or rejection, aid-granted, amount and package. This expanded model by Hanson and Litten (1982) is depicted in Figure 2.1 below:

Figure 2.1 An Expanded Model of the College Selection Process
by Hanson and Litten (1982)

From the four models presented above, it appears that the college choice process is a funnel-like process by which a prospective student narrows choices as he or she passes through these stages to arrive at a selected college.

Although the Hanson and Litten Model (1982) appears comprehensive, the many stages and interactive components have made the model complicated and difficult to understand.

In 1987, Hossler and Gallagher simplified the college choice process into a three-phase model: (1) predisposition, (2) college search and application, (3) college selection and attendance. This Model, which is comprehensive and easy to apply has since then been
frequently referred to by researchers (Paulsen, 1990; Braxton, 1990; Martin and Dixon, 1991). Figure 2.2 below presents the three-phase model by Hossler and Gallagher.

Figure 2.2 Three-Phase Model of Decision Making in Student College Choice Process by Hossler & Gallagher (1987)

| Phase 1 - Predisposition | Phase 2 - College Search & Application | Phase 3 - College Selection & Attendance |

In this three-phase model of college choice, students' attitudes and external influences are believed to lead them to a decision of attendance or non-attendance during the predisposition phase. In Phase 2 of the College Search and Application, students gather information about educational alternatives and develop a 'consideration' set. During the third phase of College Selection and Attendance, students filter information, identify colleges and make a final decision.

Whilst the Hossler and Gallagher (1987) College Choice Model is frequently referred to in recent studies (Braxton, 1990; Martin and Dixon, 1991), the interactive factors presented in the Hanson and Litten's expanded model have not been overlooked by researchers but have been further studied in different researches of the same field. (Paulsen, 1990). Different researchers have later examined the effect of various interactive factors on a student's institutional selection.

2.3 Factors Influencing College Choice of Students

Many studies of the college choice process offer insight into the various stages of this process. Based on the Hossler and Gallagher (1987) college choice model, at phase 3, students filter information from the 'consideration set' which is developed in phase 2 and identify a college of their choice. Whilst filtering information, students assess various factors important to them before arriving at the college of their choice. Such
influencing factors have been of interest to educational institutions and government policy makers and have since the mid 1970’s received increased research effort.

In studies of college choice factors, a few previous researchers had highlighted some notable opinions. Chapman and Jackson (1987), Chapman (1979), Manski & Wise (1983) concurred that it is impossible to assess the role of any single factor in a complex decision process as each interacts with other factors. On the same note, Litten (1982), and Quade (1994) pointed out that the college selection process differs for different types of students. Whilst college choice factors are important to identify, Weiler (1994) offered the view of students self-selecting themselves into relatively homogeneous groups (student-institutional fit) and ending up joining the same college. In Weiler’s study (1994), the fit measure was between institutional characteristics and factors desired by students in their college choice. Consistent with Weiler’s (1994) findings, Braxton (1990) in his study concurred that various characteristics (academic ability, socioeconomic background, students’ interests and others) of prospective students were found to be associated with the type of institutions they selected to attend.

In addition to the different views held by various past researchers on the college selection process and behaviour, many others have examined the influence of different choice factors on students and parents, and also the influence by significant others in the college selection process of students.

The following section presents such influential variables according to themes identified by previous researchers.
2.3.1 Study Option

Study Option mainly refers to the choice of studies, specialisation, programmes and colleges (Lewis et al. 1974; Gilmour et al. 1978; Wanat and Bowles, 1989; Coccari and Javalgi, 1995).

In his study to investigate the processes which students go through to arrive at the selection of a study option, Braxton (1990) focused on the last 2 stages of Hossler and Gallagher (1987)’s model: search and choice. Tierney (1983), and Astin (1980) stated that students were thought to develop criteria such as geographical location and cost in the search stage and with these limits, students next sought out colleges that offered programmes they desired. Braxton (1990) further suggested that students in the search stage sought information on career prospects for the specialisation they were interested in.

Between 1997 and 1999, Kohn (2000) conducted a survey of 657 new undergraduates enrolled in the College of Agriculture at the University of Arizona. Kohn’s (2000) study examined the effect of field of study on college choice behaviour and found that this attribute had no significant influence on the selection of a college. Instead, career goals and vocational identity were related to the field of study. Consistent with Paulsen’s (1990) findings, it is the convergence of an individual’s characteristics, institutional attributes (that includes low tuition fee, availability of scholarship/financial aids, low room and board cost, shorter distance from home, higher admissions selectivity, greater course offerings), career identity, and programme availability that lead a student to decide on a college which offers the intended field of study.

In a study on the field of study by a local researcher, among form four students from public schools in Negeri Sembilan, Thong (1998) focused on (1) students’ aspirations
in relation to further education after Sijil Pelajaran Malaysia, and (2) the field of study namely Science versus Arts Streams. Results showed that gender, father’s educational level, family size, form four grades and stream, and students’ perceived career prospects, were found to have impact on the decision of further education. In addition to career prospects and vocational identity identified by Kohn (2000), findings on the field of study indicated that gender, father’s education and high school grades were significant variables which had an effect on the field of study.

In a comprehensive study conducted in 1995, Coccari and Javalgi interviewed over 1,600 business major students from a university in a Midwest city of the United States of America (USA) on the college/university selection criteria. Respondents were interviewed and asked to rate the importance of 20 selected college choice criteria. Under the category of study option, types of degree programmes emerged as significantly influencing college or university selection. Other criteria surfacing from the same study were factors from other categories such as logistics, financial considerations and institutional characteristics.

In 1987, Wanat and Bowles conducted a study on 91 high ability students taken from 1987 All State Academic Scholars in USA. These researchers examined factors considered by academically talented students in their college selection. Factors under study in Wanat & Bowles’ research included: (1) family role, (2) friends and counsellors, (3) colleges and universities’ contacts with students, (4) personal consideration—size, distance, community of college, (5) financial consideration, (6) high school preparation, (7) Byrad Scholarship, (8) recognition through the All State Scholars Programme, (9) family profiles, (10) reputation of colleges, (11) career goals, (12) relationship of cost and reputation, and (13) personal attention. Wanat and Bowles’ (1989) study showed that high ability students considered type of programmes with
preference for challenging programmes (high standard course work) as one of their key selection criteria. This is supported by Coccari and Javalgi's (1995) and Litten and Hall's (1989) studies. It appears that type of programme is one of the key factors students of different abilities will consider in their college selection. Being confident in their ability, it appears logical for students of high ability to seek challenging programmes while students with lower abilities tend to select programmes more suited to their abilities and interest. This is consistent with the enrolment behaviour findings of educational psychologists regarding student-institution fit (Weiler, 1994; Paulsen, 1990).

On the same subject of types of programmes, the Carnegie Foundation for the Advancement of Teaching (1986) showed that 30% of high school seniors disagreed that colleges with new and unusual programmes would offer a better education.


Each of the key studies is briefly introduced below before the findings are elaborated on in the discussion following.

Gilmour et al. (1978) conducted an unstructured, in-person interview of 100 students from six branches and the main campus of the Pennsylvania State University and some seniors at high schools near these campuses. This study focused on how students chose
colleges, applied to and eventually attended, and why various steps were taken by students to investigate, apply to or eliminate some colleges.

Lewis et al. (1974) conducted in-person interviews of 100 students from 6 Pittsburgh high schools between 1972 to 1973. Lewis et al.'s study focused on the same topics as Gilmour et al.'s (1978).

In 1979, Litten and Brodigan (1982) sent 3,000 questionnaires to high school seniors in six equally divided metropolitan markets to investigate the college choice process and how different types of students differ or concur in their college choice behaviour during the process.

Litten (1982) reviewed a paper prepared by Hanson and Litten (1982) at the Wellesley Research Conference on Educational Environments and the Undergraduate Woman. This paper provided a comprehensive review of gender differences in college attendance, selection and admissions process.

In a comparison of the above four studies, Litten (1982) studied the following six main aspects of students' characteristics: (1) timing of the process, (2) number of options in terms of colleges inquired and applications made, (3) types of information sought, (4) college attributes, (5) information media used or preferred, and (6) influential persons. These six categories were studied against five demographic factors: race, sex, ability level, parental educational level, and geographic location.

In terms of the number of study options considered by students and parents, Lewis et al. (1974) reported racial differences, with Black students recording more instances of
information seeking and more colleges for consideration as compared with the White students.

In terms of the number of study options, another study was conducted by Annis and Rice (1993) on Calvin College's (Michigan, USA) freshmen, inquirers, and no-shows to examine reasons for attending, not enrolling for those who applied, and not applying for those who inquired. Results showed that no-shows (3.7%) registered the highest number of colleges applied to, followed by inquirers (2.9%) and freshmen (2.2%). This study suggests that freshmen who are certain about their college choice tend to apply to fewer institutions. The responses of no-shows support the finding because no-shows who are uncertain about their choice tend to apply to more colleges, filter the choices at a later stage in the process and decide on a final choice subsequently.

In a short term longitudinal study by Galotti and Mark (1994) conducted on 322 high school students, respondents were asked to rate the importance of 23 college choice variables categorised into four criteria namely Academic Factors, Institutional Factors, Financial Factors and Personal/Social Factors. Respondents were interviewed every six months between April 1991 and April 1992. Responses were analysed as a function of time of survey, parental education level, academic ability, and gender. Results show that course offerings is one of the 23 college choice variables students reported using in making the college decision.

2.3.2 Prestige

Prestige mainly refers to the status associated with the programmes or colleges in terms of the career prospects of its graduates, admission rate into good postgraduate schools, research publication, its academic faculty and the age or length of establishment of an institution (Annis and Rice, 1993; Krukowski, 1985). Quade (1994) has added the
characteristic of "high level of respect in home areas and anywhere in the country" to Prestige.

In 1985, Krukowski interviewed 40,000 individuals consisting of high school students, parents, college counsellors, high school teachers, transfer students and incoming freshmen of colleges or universities to investigate (1) the high school students' and their parents expectations of post-secondary education, (2) field of choice, and (3) parental role in their children's college choice process. The findings showed that factors regarded as most important to students in their college selection were prestige followed by others factors categorised as institutional, logistical and individual.

Consistent with Krukowski's findings (1985) and Chapman's (1979) study on students of different abilities, Wanat and Bowles' study (1989) showed that academically talented students desired reputable colleges which were high in ranking for prestige, recognition of the school name, research opportunities, good record of desirable job placement and admission to postgraduate schools (Annis and Rice, 1993). Consistent with the Carnegie Foundation for the Advancement of Teaching's findings on high school seniors in 1986, scholars in the Wanat and Bowles' (1989) study stated that the perceived reputation of the college would have a positive impact on their career success. Also, with regard to college reputation, it has been found that some students evaluate the colleges' reputation by its religious affiliation. Annis and Rice's (1993) study on no-shows, inquirers and freshmen showed that freshmen had selected Calvin College for its reputation as a Christian College as the most important factor.

In terms of length of establishment of a college, the Carnegie Foundation for the Advancement of Teaching study (1986) showed that 37% of high school seniors do not perceive colleges with long tradition as offering a better education.
In terms of *types of institutions*, the Carnegie Foundation for the Advancement of Teaching study (1986) reported that 72% of high school graduates perceived public colleges as providing as good an education as private colleges. Braxton (1990) indicated that State Policies and *types of institutions* in any geographical location had an effect on students' college choice. Astin (1980) found that in a region where State scholarships were generously available, students were more likely to attend public colleges. Zemsky and Oedel (1983) reported that in regions where a large number of institutions were located, students were more likely to attend an in-state institution or a private institution where they resided due to the availability of abundant choices.

### 2.3.3 Location

Location refers to the location of the college in terms of distance between the college/university and home, and whether the institution is situated in a city or a town, and the accessibility of this institution by highways or public transport. In the USA, distance between the institution and home affects tuition fees in that students pay an in-state tuition fee if they pursue their college education in an institution located within the state of a student's residence. An in-state tuition fee is cheaper than an out-state tuition fee. (Krukowski, 1985; Wanat and Bowles, 1989; Annis and Rice, 1993; Quade, 1994; Weiler, 1994; Coccaro and Javalgi, 1995).

As for the location factor, consistent with the findings of Coccaro and Javalgi (1995) and Wanat and Bowles (1989), Krukowski's study (1985) showed that students preferred the college/university to be located in the metropolitan, business and professional activity-centered areas for the assurance of good connections between the college/university and industries so as to provide their graduates with good job opportunities.
Annis and Rice’s study (1993) on freshmen, inquirers and no-shows indicated that these three groups of respondents had selected their college for being the best in location in terms of distance from home (Paulsen, 1990; Annis and Rice, 1993; Weiler, 1994), followed by other college attributes which were categorised under institutional characteristics.

2.3.4 Financial Consideration

Financial consideration refers to the total costs incurred in the course of study measured in terms of fees and net cost after deducting scholarships or financial aid received (Douglas, Powers, and Choroszy, 1983; Krukowski, 1985; Wanat and Bowles, 1989; Braxton, 1990; Annis and Rice, 1993; Quade, 1994; Weiler, 1994; Coccari and Javalgi, 1995; Braunstein, McGrath, and Pescatrice, 1999). Quade (1994) has added ‘academic facilities’ to Financial Consideration as she believes that tuition fee is also a function of the academic facilities of an institution.

In terms of financial consideration, consistent with Coccari and Javalgi’s findings (1995), Wanat and Bowles’ research (1989) found that the majority of students and families indicated finances to have a significant influence on college choice. For many, finance is the most important aspect (Annis and Rice, 1993; Braxton, 1990; Paulsen, 1990; Chapman, 1979). Financial assistance and scholarship are other important components related to financial aspects (Chapman, 1979; Braunstein et al., 1999). Braxton (1990) has shown that students sought information on the criteria for awarding financial aid in the ‘search stage’ of the college choice process. Scholars (Wanat and Bowles, 1989), freshmen and no-shows (Annis and Rice, 1993), as well as their families weighed the relative benefits of accepting financial packages, and their final decision was influenced by which college could provide the largest financial assistance. According to Krukowski (1985), parents of high-ability students rejected high-cost
institutions if financial aids or scholarships were unavailable. Paulsen's findings (1990) on low tuition fee and the availability of scholarships/financial aids being two important factors considered by students were supported by later findings of Annis and Rice, (1993), Galotti and Mark (1994), and Braunstein et al. (1999). Annis and Rice (1993) reported that 37.3% of inquirers and 43.9% of no-shows had not attended Calvin College as they felt the cost of study was too high whilst 35.2% of the inquirers and 36.5% of no-shows had joined the second choice college due to a better offer of financial aid. Consistent with the findings of Wanat and Bowles (1989), and Annis and Rice (1993), Jackson (1978) added that financial aid offers increased the chances of an accepted applicant enrolling by 8.5%. Jackson (1978) found that the award of financial aid was more important than lowering the amount of tuition fees. Concurring with the notion of financial aid having a positive impact on the enrolment of accepted applicants, Braunstein et al. (1999) showed that for every USD1,000 increase in the amount of financial aid offered, the probability of enrolment increased between 1.1% and 2.5%. This indicates that financial aid is a significant influence in certain situations for particular types of prospective students.

In the 6-Market Study by Litten and Brodigan (1982), ethnic differences were noted with the Black students being significantly more likely than the Asians and White students to be interested in financial aid.

Wanat and Bowles (1989) showed that institutions which do not offer financial assistance or scholarships were perceived as not sensitive to student's needs. This finding appears logical as eligible students from lower socioeconomic background will be deprived of college education opportunity if financial assistance or scholarships are not available. This is supported by Weiler's findings (1994) which indicated that
students from low or middle income groups were less likely to apply for college attendance.

In terms of tuition fee comparisons, consistent with Hearn’s findings (1984), the Carnegie Foundation for the Advancement of Teaching findings (1986) showed that 37% of high school seniors do not agree that higher tuition fee is correlated with a better education.

2.3.5 Institutional Characteristics

Institutional Characteristics refer to the characteristics of a college in terms of its facilities, college environment, extra-curricular activities organised by the college, college population, class size, quality of its teaching faculty and administrative staff, and the friendliness of its admissions counsellors (Litten, 1982; Chapman and Jackson, 1987; Wanat and Bowles, 1989; Braxton, 1990; Coccari and Javalgi, 1995). Galotti and Mark (1994) have included “physical settings such as urban/rural” to “Institutional Characteristics”. Others such as Maguire and Lay (1981), Litten and Brodigan (1982), Cook and Zallocco (1983), Douglas et al (1983), Chapman and Jackson (1987), Konnert and Giese (1987), Litten and Hall (1989), Annis and Rice (1993) have added general academic quality or reputation, special academic programme, tuition costs, availability of financial aid, location, and social atmosphere to “Institutional Characteristics”.

In terms of the availability of dormitory, Annis and Rice’s comparative study (1993) on Calvin College freshmen, inquirers and no-shows showed that freshmen had indicated the availability of dormitory as the second most important factor in selecting the College. The same study indicated that 48.0% of inquirers and 41.0% of no-shows had rejected the college as they lived about 300 miles or more from Calvin. In addition to
the availability of dormitories, Paulsen (1990) showed that the cost of the dormitory was crucial as students regarded low dormitory cost as an important factor in evaluating college choice.

In terms of college facilities, Annis and Rice’s study (1993) on Calvin College freshmen, inquirers and no-shows showed that these three groups of respondents had regarded teaching and recreational facilities as equally important in their college selection process.

In terms of college environment, Galotti and Mark (1994) showed that campus atmosphere was one of the criteria students reported using in their decision making with regards to college choice. Student composition being regarded as part of the college environment has been studied by a few researchers. Weiler’s study (1994) showed that higher ability students are more likely to apply to a college with a student composition at the same level of ability or better. The probability of application declines the further these students are below average score compared to that of applicants of that institution. On the same note of student composition, an earlier study conducted by Krukowski (1985) found that one of the two most important factors indicated by students in considering a college/university was quality students (Wanat and Bowles, 1989). Quality students were students with good academic ability according to Krukowski (1985), and Wanat and Bowles (1989). In terms of student composition as a function of ethnicity, the 6-Market Study by Litten and Brodigan (1982) showed that racial differences were found with more Black students showing concern about students’ social background than Asian and White students. On the same variable of student composition, the Carnegie Foundation for the Advancement of Teaching’s (1986) findings showed that 46% of high school seniors did not very much agree that colleges with more out-of-state and foreign students would produce a better education, 31% of
the sample did not perceive colleges with outstanding athletic teams as providing a better education.

In terms of extra-curricular activities, results from the 6-Market study (Litten and Brodigan, 1982) showed that Asian and White students were very interested in outdoor recreation.

In terms of college size, Annis and Rice's comparative study (1997) on freshmen, inquirers and no-shows showed that college size was the one of the two most important criteria for all three groups of respondents in selecting their school of choice. On the same note of college size, consistent with Wanat and Bowles' study (1989) on high achievers, Weiler's findings (1994) on students of different academic abilities showed that an equal number of respondents were interested in large institutions as in small colleges. For high achievers, small colleges were preferred because students perceived large institutions as providing less personal attention and creating a feeling of anonymity (Carnegie Foundation for the Advancement of Teaching, 1986). For scholars who prefer large institutions, their preference rested on anonymity (not easily identified by staff of a university), diversity (wider range of disciplines of study and student background) and opportunities unique to a large university such as better learning opportunities created as a result of academic exchange between universities, better internships and good job placement as large institutions generally have better connections. Comparing preference and reasons offered by students in Krukowski’s study (1985), students desired large-sized institutions as they perceived small institutions as less known and less important. On the same variable of college size, the Carnegie Foundation for the Advancement of Teaching findings (1986) showed that 46% of high school seniors did not perceive quality of instruction provided by colleges
of different sizes as being the same. 38% of high school seniors reported the best college size as between 1,000 to 3,000 students.

In terms of class size, Galotti and Mark (1994) showed that ‘class size’ was one of the criteria students reported using in deciding a college. Further analysis of this factor as a function of time of survey showed that importance ratings increased over time as these high school respondents approached college admissions time. On the same criteria, Krukowski’s study in 1977 (1985) showed that students preferred small classes as they believed small classes would provide individualised attention and favourable student teacher ratios (Carnegie Foundation for Advancement of Teaching, 1986; Coccari and Javalgi, 1995), which were positive factors in fostering high quality teaching and learning.

In terms of teaching faculty, Wanat and Bowles (1989) showed that high ability students preferred reputable faculty. On the same factor, Annis and Rice’s comparative study (1993) showed that freshmen, inquirers and no-shows had regarded quality of teaching faculty as one of the most important factors in their college selection process (Krukowski, 1985; Braxton, 1990; Coccari and Javalgi, 1995). By academic quality, respondents in Braxton’s research (1990) emphasised the importance of the approachability of lecturers while students in Coccari and Javalgi’s study (1995) indicated faculty-student interaction and classroom instruction as important academic factors to consider during the college selection process.

Wanat and Bowles’ (1989) study showed that the key determinant of college contact was the personal attention provided by a college admissions officer to a student’s area of academic and vocational interest. It was found that students tended to choose colleges which gave them the greatest personal attention.
Buffington, Hossler and Bean (1987) showed that the student's relationship with college administrator had exerted influence on the students' college choice at private, less-selective liberal arts colleges.

In terms of overall institutional attributes in Litten and Brodigan's 6-Market Study (1982) students of different geographic locations tended to be interested in the same college attributes except that Midwestern students regarded financial aid as important, while Chicago students exhibited a lower level of interest in extra-curricular activities compared with Washington students who considered campus activities such as sports and clubs as important. This shows that geographical segmentation is not a good predictor of the choice factor preference.

2.3.6 Individual Characteristics

Individual characteristics mainly refer to the individual's personality traits and the degree to which a student is influenced by significant others during the college choice process (Maguire and Lay, 1981; Krukowski, 1985; Chapman and Jackson, 1987; Quade, 1994; Weiler, 1994; Braxton, 1990).

As reported in the Carnegie Foundation for the Advancement of Teaching findings in 1986, 82% of high school seniors surveyed indicated parental influence was the key factor to college aspiration and their decision to attend college.

Consistent with findings on students of different academic abilities, results from Wanat and Bowles' study (1989) showed that family role had a significant influence on the high ability students' college choice, with scholars seeking advice from parents, siblings and extended family members, with parents having the strongest influence over (1) finance (Litten and Brodigan, 1982; Krukowski, 1985; Carnegie Foundation for the
Advancement of Teaching, 1986; Annis and Rice, 1993), followed by (2) types of colleges and (3) field of study. Annis and Rice's research (1993) reported that the parents' role was to offer general guidance but not to make the decisions. Consistent with Annis and Rice's findings (1993), Wanat and Bowles 1989 findings further revealed that the final decision on college choice rests with students, while friends (Annis and Rice, 1993; Weiler, 1994) and counsellors (Litten and Brodigan, 1982; Carnegie Foundation for the Advancement of Teaching, 1986) were found to be influential and also served as sources of information, especially alumni. According to Wanat and Bowles (1989), alumni were frequently sought by potential students for information on a particular college. As for peer influence, Jackson (1978) and Gilmour et al. (1978) found that it had little impact on the type of institution selected.

Slight variations in terms of third most influential person were noted. In Annis and Rice's findings (1993) the third most influential person was 'a relative other than a parent'. Contrary to the Litten and Brodigan (1982) and the Carnegie Foundation For the Advancement of Teaching findings (1986), about half of the respondents in Annis and Rice's study (1993) indicated they had not received any help from the high school counsellors.

Litten and Brodigan's 6-Market Study (1982) found some racial differences in terms of source of information and influence on the college choice process with Black students preferring to seek information from college visits, and college representatives during high school visits whilst White students tended to write for information, seek advice from guidance counselors at high schools and parents. Consistent with Litten and Brodigan's 6-Market findings, Lewis et al. (1974) found that Black students regarded their mothers, admissions officers and school visits as sources of information as compared to Whites and Asians.
In terms of media use patterns and influence by alumni, Litten and Brodigan's 6-Market Study (1982) found that there were some significant differences between students from different geographic locations. Washington-area students sought information directly from printed media such as commercial college guides and requested college publications and they were less likely to rely on information received from unrelated alumni as compared to students from the metropolitan area of Texas and California who showed an inclination towards information seeking from alumni.

In 1990, Braxton described the sources of information used by students and the influence of each of these sources on the student college choice process. Sources of information or types of influence emerging from his study were catalogues, campus visits, guidance counsellors, current college students, and admissions officers.

Wanat and Bowles (1989) further revealed that a student tended to select a college if members of the family had attended the same college before. In terms of college and university contacts, all forms of contacts with colleges were influential at different stages of the college choice process.

The ability to meet the minimum entrance requirements was associated with an individual's personal traits. In terms of minimum entrance requirements, Galotti and Mark (1994) showed that admissions requirements was one of the criteria students reported using in college selection. On the same measure of admissions requirements, Paulsen (1990) showed that high admissions selectivity was favoured by students during their college selection as selectivity of an institution in its admissions policy is a measure of quality for many students. Consistent with Paulsen's findings, the results of Weiler's findings (1994) showed that higher ability students were more likely to apply to a college with admissions criteria citing the same ability or better. The probability of
application declines the further these students were below the admissions score of that institution (Coccari and Javalgi, 1995; Weiler, 1994). This behaviour implies that a student’s perception of his probability of admission may reflect the sociological notion that student self-select themselves into relatively homogeneous groups (Student-institution fit) and they tended to avoid applying to institutions to which they perceived they were marginally or unlikely to gain admission.

Other personal traits which were found to have an impact on students’ college choice behaviour have been examined by a local researcher. In 2000, Thou surveyed 620 students aged between 16 and 21 years in a private college in the Klang Valley, Malaysia. The objectives of the study were (1) to examine the background of students enrolled in the college, (2) to determine factors influencing decision making in the choice of college and course of study, (3) to discuss the implications of the findings in relation to college enrolment and programme development. Findings indicated that age, parental educational level, parent’s profession, medium of instruction of previous high schools, relevance of current course content to future courses, mode of transport as measure of economic status and “how students came to know of the college” have an influence on the decision making of choice of courses. Older students tended to make decisions on the choice of college and course on their own when compared to the younger ones. Also, Thou (2000) showed that parents who were businessman or who were working in the commercial sector left the college and course of study decision making to their children. Compared to students from government-sponsored schools, students from the Chinese medium schools were more likely to make their own decision on college choice and course of study rather discuss it with their parents. On the same note of the impact of various personal traits on the choice factors in the college selection process, Quade’s (1994) study identified the cognitive and affective choice factors employed by students and parents in the college selection process and examined
whether differences existed between these two samples. According to Quade (1994), 'cognitive factors' referred to institutional attributes which were attainable through observation and were objective, quantitative and tangible in nature. To Quade, 'affective factors' were institutional attributes used to describe elements of student-institutional fit and seemed to appeal to emotionally-based methods of decision-making, which were subjective, qualitative, and intangible in nature (Quade, 1994). The study further investigated whether gender and personal trait differences existed in the ratings of cognitive and affective choice factors among students and their professed reasons for college attendance and field of studies. The questionnaire survey was conducted on 521 entering students and 261 parents attending the New Student Orientation at Marquette University in 1993. Quade's (1994) findings showed significant differences in the ratings of factors regarded as important in college selection by four types of students (i) Careerists rated cognitive factors such as Prestige and Finance the highest (ii) Intellectuals rated affective factors such as Personal Growth and Faculty the highest (iii) Strivers rated Faculty and Personal Growth which were affective factors and Prestige which was a cognitive factor highest, showing no clear direction in the ratings of affective factors as initially posited by Quade (iv) Unconnected rated Finance (Cognitive Factor), Faculty (Affective Factor), and Personal Growth (Affective Factor), the highest showing no clear direction in the ratings of affective factors as postulated by Quade originally. Quade (1994) concluded that some students relied on affective reasons whilst others on cognitive bases for college selection, and many on a combination of the two. It may be that the cognitive-affective continuum reflects basic differences between types of students. While essentially each student is attracted to a combination of the items, their ultimate preference may really reflect more personality-based differences between the students (Quade, 1994).
2.3.7 Personal/Social Consideration

Personal/Social Consideration refers to factors considered personal to a student during his college selection process (Wanat and Bowles, 1989; Galotti and Mark, 1994). In addition to "distance from home" being considered as Personal Consideration, Wanat and Bowles (1989) have included "community college" and "college size" whilst Galotti and Mark (1994) have added "Parents'/Friends' Advice" and "Peers/friends at school" to the category of Personal/Social Consideration.

As important as identifying the influential factors of college selection, reasons for not selecting a particular college are as important to the study of college choice. Annis and Rice (1993) further examined reasons why potential students chose not to apply to or to attend Calvin. The following were reasons offered by respondents: 48.0% of inquirers and 41.0% of no-shows indicated location being not suitable, 37.3% of inquirers and 43.9% of no-shows expressed 'cost too high', 35.2% of inquirers and 36.5% of no-shows mentioned that they received a better offer, while 19.3% of inquirers and 12.9% of no-shows indicated that the desired programme was not offered at Calvin. Annis and Rice further investigated the whereabouts of inquirers and no-shows and results revealed that 41.1% and 17.5% of inquirers had joined public college and community college respectively, while no-shows had selected another Christian or an out-of-state non-Christian private college. These researchers suggested that the latter could be due to receiving a better offer of financial package.

Not separating choice factors by categories, in general, Maguire and Lay (1981), Cook and Zallocco (1983), Douglas et al. (1983), Chapman and Jackson (1987), Konnert and Giese (1987), Wanat and Bowles (1989), Litten and Hall (1989), and Braxton (1990) concurred that institutional attributes considered by students in the college choice process and ranked in order of importance are: special academic programme, tuition
costs, availability of financial aids, academic quality or reputation, distance, size of college and campus environment or social atmosphere.

An overview of the college choice factors of students shows that an array of factors was considered important by students in their college selection. Such factors were found to have an influence on their college choice process. Factors surveyed by previous researchers were found to be either institutional or individual in nature. Attributes which are objective in nature (e.g. field of study, quality of programme, prestige, cost) were referred to by previous researchers as institutional whilst individual variables referred to personal traits (e.g. degree of influence by significant others, SES, academic ability, age, gender). In general, the review suggests that institutional factors important in aggregate are academic and economic in nature, including course variety, field of study, quality of faculty and programme, facilities, prestige measured in terms of perceived benefits received after college education, and costs. The concept of student-institution fit was highlighted in a few previous studies and it was found to have some bearing on the college decision making of students.

2.4 Parental Role in the College Choice Process and Factors Influencing the College Choice of Parents

There has not been much research conducted to examine factors that influence the parents' decision or the parents' advice to students in the college choice process. However, the impact of parental influence over students' college aspiration and selection cannot be denied.

According to Krukowski (1985), parental role in the college choice selection must not be underestimated. Being the key financiers of students' education in most cases,
parents are the most influential figure throughout the whole college choice process.

Consistent with Krukowski’s (1985) findings, Murphy (1981) stated that parental perceptions of institutional cost and their eligibility for financial aid were essential factors in determining student enrolment, as families ruled out institutions which could provide good learning environments if they believed they could not afford them. Murphy (1981) further reported that parents played a pivotal role in the formulation of the decision set: “Early in the decision process, parents may force the students to reject all schools that parents don’t like. Therefore, the students are confined to selecting from schools the parents accept” (Murphy, 1981:148). Krukowski’s study (1985) further reported that differences of 5% to 10% in the total cost of attending a college/university had little impact on decisions of a college choice by parents.

In terms of parental readiness to educate their children, Krukowski (1985) suggested that there were significant differences in parent’s willingness to sacrifice for their children’s education based on ethnicity and religion. It was found that Jewish and White Protestants were most willing to invest in their children’s college education. However, slight variations in this finding were noted in a study of high school counsellors’ perceptions (Krukowski, 1985) where Jewish, Black and Non-black minority parents were found to be most willing to sacrifice for their children’s college level education.

Apart from affordability and willingness of parents in supporting their children’s college education, it is important to understand parents’ emphasis on college choice. Parental perception of college education and types of institutions was examined and reported in the Carnegie Foundation for the Advancement of Teaching study (1986). It was recorded that 83% of parents perceived that a college with a good academic reputation would produce graduates who would obtain better jobs. 74% of parents
perceived public colleges as providing as good an education as private colleges. 47% of parents considered the best college size as between 1,000 to 3,000 students. 53% of parents moderately agreed that small classes were required for quality teaching. 35% of parents did not perceive that colleges with long tradition would warrant a better education. 8% of parents did not agree that higher tuition fee would promise a better education. 48% of parents did not very much agree that the quality of instruction at small colleges would be the same as at large colleges. 44% of parents did not very much agree that colleges with out-of-state and foreign students tended to provide better education. 15% of parents disagreed that colleges with new and unusual programmes would offer a better education. 17% of parents did not perceive colleges with outstanding athletic teams as having above average academic programmes.

As noted in an earlier section, the final decision of a college choice rested on students despite parents playing a pivotal role in influencing students in the college choice process (Wanat and Bowles, 1989; Annis and Rice, 1993; Weiler, 1994). Hence, comparison studies on college preference between parents and students have been conducted by a few researchers. In terms of concurring views perceived by parents and students, the Report by the Carnegie Foundation for the Advancement of Teaching (1986) showed that not much difference was found between parents and high school seniors in college education and choice in terms of academic, personal and economic expectations. Both parents and students regarded the following to be important reasons for college attendance: (1) 89% of parents and 80% of students expected to gain a well-rounded education through college education (2) 88% of parents and 90% of students expected to have a good career after the college education (3) 87% of parents and 83% of students expected to develop students’ talents to the fullest through college attendance (4) 84% of parents and 89% of students perceived college attendance as preparing students for a specific occupation (5) 82% of parents and 85% of students
expected to obtain better jobs after college training (6) 28% of parents and 27% of students did not expect college attendance to make a student more thoughtful and responsible. The same study also revealed some divergence in reasons regarded as important provided by parents and students in college attendance: (1) 57% of parents and 39% of students did not believe college attendance would provide an opportunity to clarify one's values and beliefs (2) 42% of parents and 62% of students did not expect to become an authority in a specialized field after college attendance (3) 18% of parents and 27% of students did not expect college attendance to result in a student becoming well-known and respected.

In addition to findings by Carnegie Foundation for the Advancement of Teaching (1986), additional differences between parents and students were noted in the choice factors of the college selection process. Bowers and Pugh (1973) suggested that parents were most concerned about the value of education with focus on teaching, academic standards, and general quality (Litten and Brodigan, 1982; Quade, 1994; Litten and Hall, 1989) whereas students were concerned about the quality of life (Bowers and Pugh, 1973) and the immediate benefits associated with college attendance (Litten and Brodigan, 1982). Litten and Hall (1989) found evidence in support of the parents' emphasis but students regarded "course variety" as the most important college selection factor. Bowers and Pugh (1973) further reported that parents were more likely to cite financial, academic and geographical factors as important variables in the college selection process (Quade, 1994).

In addition to differing views on college education and college preference, Litten and Hall (1989) noted differences in the definition of academic quality between parents and students. Comparing the two definitions, Litten and Hall (1989) reported that parents were more likely to associate it with faculty accomplishment and capability in teaching
as opposed to research, whereas students tended to relate academic quality to the enrolled students’ academic ability.

In terms of changes in the college choice behaviour over time, comparing her studies in 1997 and 1985, Krukowski (1985) found that due to attitudinal changes in parents and students, the two most important factors selected in 1997 were: “Quality Faculty” and “Quality Students” whereas “Prestige” and “Size of College” were selected in 1985. The attitudinal changes in students and parents had switched from the essence needed to produce good graduates to what graduates could achieve after their studies. Most parents are prepared to invest for ‘prestige’ which is believed to translate into career opportunities for their children.

Parental perceptions of colleges could affect the type of institutions students considered and selected. In 1990, Braxton found that parental encouragement was associated with the type of institution students chose to attend. Conklin and Dailey (1981) showed that students with a great deal of parental encouragement on college attendance were more likely to attend selective private institutions.

Parental influence over students’ college selection process is also evident in Malaysia. In 2000, Thou’s study showed that students with tertiary educated parents reported having their parents’ involvement in the decision making of choice of college and course of study compared to students with lower educational level parents who were more likely to let the students make their own decision.

Overall this section has shown that parental influence has an impact on their children’s college aspiration, course of study and college decision making. Intrinsically, parental involvement could mould and constrain the manner in which their children consider
colleges and decide on a particular institution. Some common choice factors between parents and students are noted whilst differing views between these two populations are also evident. As not much research has been done on the determinants of parents' college choice, the impact of parents' choice factors on students' college selection process remains inconclusive.

2.5 The Impact of Gender Differences on College Choice

The impact of gender-based differences on college choice remains inconclusive. Research offers some insight into the college aspiration, parental encouragement and choice factor differences which lead to some understanding of gender differences on the college choice process.

Gender differences were noted in terms of females' access to higher education and college aspiration compared to that of males (Quade, 1994). This could be the result of gender differences in parental encouragement or investment in male and female students. Hossler and Schmit (1992) indicated that parents of female students were less likely to save money for their college education. Contrary to Hossler and Schmit's findings (1992), Rumberger (1982), Hanson and Litten (1982) reported female students have greater financial dependence on their parents. On the same note of parental encouragement, consistent with Conklin and Dailey's findings (1981), Persell, Catsambis and Cookson (1992) reported that a high level of parental aspiration enhanced the probability of female students attending a highly selective institution by more than 100%. However, gender had no effect on the probability of male students' attendance in highly selective institutions.

In terms of influential persons, Hanson and Litten (1982) found that students consult more with parents of the same sex, and that female students were more likely to consult
with peers or friends and tend to be more influenced by 'significant others'. Contrary to Hanson and Litten's (1982), Lewis et al.'s (1974) findings suggested male students were more likely to consult with high school counsellors.

In the 6-Market Study conducted by Litten and Brodigan (1982), it was noted that fathers were less interested in the career outcomes of daughters than sons, whereas mothers were equally interested in the career outcomes of both sons and daughters. Gender differences between fathers and mothers were also noted by Litten and Hall (1989). Litten and Hall found significant differences in terms of importance ranked by fathers and mothers as follows: (1) 64% mothers and 47% fathers ranked "advanced laboratory/library resources" as important (2) 57% mothers and 35% fathers ranked "course variety" as important (3) 22% mothers and 10% fathers ranked "off-campus programmes" as important (4) 50% fathers and 35% mothers ranked "out of class contacts with teaching faculty" as important. In general, Litten and Brodigan (1982) concluded that there were interactive effects between the gender of parents and the gender of the child observed.

In examining gender differences on perceived academic ability by male and female students, Hanson and Litten (1982) indicated a lower likelihood for female students to rate themselves as above average academically, especially in Mathematical and Science ability. On the similar measure of self-confidence, Hearn (1984) reported that female students were less likely than male students to attend more selective institutions but were more likely to attend higher-cost institutions. This could be due to more selective institutions being generally perceived to consist of good academic ability students. In terms of college attendance, the results of Weiler's study (1994) differed from those of previous Western researchers but were consistent with local findings. Weiler's findings (1994) showed that female students were more likely than male students to apply for
college attendance, a conclusion which other Western researchers had not reached. Concurring with Weiler’s findings (1994), according to the statistics published by Jabatan Pendidikan Swasta 1995 –2001 (2002), there were more females (32,138) than males (27,827) registered for higher education attendance in 2001 at universities and private colleges in Malaysia.

In terms of timing of application, Lewis et al. (1974) reported some gender differences with females and males in starting the information-gathering process about the same time, but females complete it earlier than males. Whenever females appear to start the application process earlier than males, they complete it at almost the same time. Similar to Lewis et al.’s (1974) findings, Hanson and Litten (1982) in a study at a selective college found that females, more often than males, applied for early decisions. Hanson and Litten (1982) posited that females may possess more certainty of purpose and self-awareness. Conversely, it may be that females may lack self-confidence (Quade, 1994).

In terms of information used or preferred, Litten and Brodigan’s 6-Market (1982) study reported no significant differences in the media use patterns of male and female students.

In a comparison of attributes considered important in the college choice process, Holland (1958) noted differences in ratings of institutional attributes by male and female students. Male students were more likely to give higher ratings to “close to home with good physical facilities” as opposed to female students who regarded “academic standing, small size, religious affiliation and coeducational status” as important attributes (Holland, 1958). Litten and Hall (1989) found significant differences in terms of importance ranked by males and females as follows: (1) 22% of males and 9% of females ranked “well-established faculty” as very important; (2) 48%
of females and 25% of males ranked “off-campus programmes” as very important; (3) 24% of males and 12% of females ranked computer facilities as very important (4) 42% of females and 25% of males ranked “course variety” as important (5) 37% of males and 24% of females ranked “graduates from the university who are famous or leaders in their fields” as very important. (Litten and Hall, 1989)

In 1994, Quade’s study found that there were no significant gender differences in terms of cognitive and affective factors considered by males and females. Some students remained primarily concerned with cognitive factors while others were concerned with affective parameters throughout the entire college choice process. However, significant differences were found in the ratings of two affective factors namely Faculty and Personal Growth and one cognitive factor namely Finance, which were rated by females as more important.

In terms of gender-related differences between students and parents, there were significant differences found between the affective and cognitive factors considered important by male students and parents. Parents rated Faculty (affective), Finance (cognitive) and Jesuit (cognitive) higher than male students whilst male students rated Social (affective) higher than parents did. Comparing female students with parents, parents rated Jesuit (cognitive) higher than did female students whilst female students rated Social (affective) higher than parents did. It appeared that male students differed more from parents than female students in the ratings of choice factors considered important in college selection.

In the study on College Attributes by Litten (1982), it was found that there was no significant gender difference among the 25 attributes investigated except that women tended to rate residential life as very important (Galotti and Mark, 1994).
Galotti and Mark (1994) found several gender differences in terms of the degree of importance on the choice factors. Female students rated the following choice factors as more important than male students: Admissions process, off-campus study programmes, academic calendar, racial diversity, character and size of the student body, quality of residence halls, diversity of residential options, social atmosphere, location (including geographic location, urban/rural setting, distance from a major city), on-campus cultural events, distance from family home and parents’ and friends’ advice. As opposed to the importance of ‘quality of residence halls’ rated by females, male students had regarded the ‘success of graduates’ as being more important (Litten and Hall, 1989). In the early college choice process, Galotti and Mark (1993) noted that female students relied more heavily on parents, friends and classmates than did male students who consulted with coaches pertaining to higher education.

On the measure of field of study, Thong’s findings in 1998 indicated that father’s education, school grades and expected earnings were significant factors among the male students whilst only the school grades seemed to influence the field of study among female students.

Several studies in this section have assessed and suggested differences in gender attitude towards college aspiration and college selection process. However, the exact nature of these differences is unclear. Gender-based differences were also shown in parental encouragement and support towards college education and choice factors considered in the college selection process. Generally, the impact of gender differences on college choice remains inconclusive.
2.6 The Impact of Academic Ability Differences on College Choice

The impact of academic ability differences on college choice process seems somewhat unclear as the majority of studies have focused on high achievers rather than low ability students. However, some previous findings on attributes considered important by the high ability students pave the way to an understanding of the impact of different academic ability on college choice.

In terms of application, Gilmour et al.'s (1978) findings in the Pennsylvania-State Study showed that higher ability students tended to start college application earlier, and to consider and to apply to more colleges than lower ability students (Litten, 1982).

Litten (1982) further suggested that the college choice process and the weighting of choice factors varied for different ability students (Hossler et al., 1989). His study showed that high ability students were more concerned with academic programmes but were less interested in campus appearance and career outcome (Krukowski, 1985). In terms of high ability students' attitude towards career outcome, Krukowski's study (1985) reported that 26% of SAT takers surveyed with verbal scores above 700 indicated interest in Social Science and Humanities courses, disciplines of study which may not promise career prospects. Krukowski (1985) explained that it was probably due to the very bright students being confident about their life chances based on where they had enrolled rather than what they would study.

In terms of source of influence, high ability students do not differ from other students in seeking advice from parents, siblings and extended family members with parents having the strongest influence (Litten and Brodigan, 1982; Krukowski, 1985; Carnegie Foundation for the Advancement of Teaching, 1986; Wanat and Bowles, 1989; Annis and Rice, 1993). In terms of degree of influence, Carnegie Foundation For the
Advancement of Teaching (1986), and Maguire and Lay (1981) reported that parents were more influential on lower ability students. Wanat and Bowles (1989) further revealed that scholars perceived friends as a source of information on specific colleges, campuses and programmes and were particularly interested to seek college-related information from alumni. In the same study, Wanat and Bowles (1989) indicated that high school counsellors and teachers were perceived by scholars as a source of information about colleges, scholarships, vocational choice and field of study (Lewis et al., 1974). Contrary to Litten and Brodigan's findings (1982), Wanat and Bowles (1989) showed that there was no difference found in the source of information sought by students of different abilities. It must be noted that the Wanat and Bowles' study (1989) was based only on a sample of high ability students, and therefore, it is not representative of all students.

In terms of college size, Annis and Rice (1993), Weiler (1994) and Wanat and Bowles (1989) showed that students of different abilities were as interested in large institutions as in small colleges. Small colleges were preferred because scholars perceived large institutions as providing less personal attention. For scholars who preferred large institutions, their preference rested on a wide variety of courses offered, heterogeneous student composition, and better learning opportunities.

In terms of distance between institution and home, contrary to the findings of Annis and Rice (1993), Weiler (1994), and Paulsen (1990) on students of different abilities, Wanat and Bowles' study (1989) on high ability students did not show differences in preference over nearness to home.
In terms of location, Wanat and Bowles (1989) reported that the majority of the scholars preferred the college to be located in a large city as the cosmopolitan environment was believed to be able to provide better internships or job opportunities.

In terms of type of colleges, Hearn (1984), and Jackson (1978) suggested that high ability students were more likely to attend selective institutions. In another study, Zemsky and Oedel (1983) reported that high ability students were more likely to attend out-of-state institutions while low ability students were more likely to attend less selective in-state-institutions. The former could be due to the high ability students receiving scholarships from out-of-state institutions. In the USA, residents of the same state pay a lower (local) tuition fee to the in-state-institutions. Wanat and Bowles (1989) further showed that family profiles had an impact on type of institutions. The sample in Wanat and Bowles (1989) consisted of middle class, socially conservative traditional nuclear families. It showed that students from such families would choose a college close to home to allow them to return home during weekends or a college which members of the family had attended before.

Consistent with Fink’s (1997) findings on the National Merit or National Achievement Semifinalists and the Maryland Distinguished Scholar recipients, Wanat and Bowles (1989) study on high ability scholars, Krukowski’s (1985), and Annis and Rice’s (1993) studies showed that students of different academic ability desired reputable colleges. Comparing students of different ability, Wanat and Bowles (1989), and Fink (1997) indicated that scholars preferred institutions which were high in ranking, with high ability student composition, reputable faculty, high standard programmes, and with research opportunities (Lewis et al, 1974; Galotti and Mark, 1994) whilst students of all types of abilities including the high ability students focused on institutions with good records of job placement and admissions to postgraduate schools.
(Annis and Rice, 1993; Fink, 1997; Wanat and Bowles, 1989). According to Galotti and Mark (1994), higher ability students placed less emphasis on admissions process and graduation requirements.

In terms of relationship to cost and reputation, Wanat and Bowles (1989) showed that the institution’s academic reputation was more highly regarded than financial consideration. With financial packages, the scholars would choose more expensive colleges over the less expensive ones if the academic programmes of the expensive college were superior to or of better quality than those of the less expensive ones. In another study by Chapman and Jackson (1987), it was indicated that the amount of financial aid awarded played a significant role in the decision-making by academically talented students. Contrary to Wanat and Bowles' (1989) findings, Chapman and Jackson (1987) reported that academically talented students who normally perceived academic quality as the most important factor tended to choose the second or third choice institution when a significant amount of financial aid was offered by such institutions. It takes USD4,000 or more in financial aid for students to select their second choice college and USD6,000 or more to select their third choice institution. If a high ability student was undecided between two institutions, USD1,000 or more in financial aid from one of the institutions could influence a student’s decision to favour that institution.

Hence, Wanat and Bowles (1989), and Annis and Rice (1993) suggested that the timing of the announcement of scholarships granted was crucial as many students’ decisions of a college rested on the net tuition fees.
Comparing students of different ability, Galotti and Mark's study (1994) showed that higher ability students were more concerned about the availability of financial aid than lower-ability students.

In terms of financial consideration, students of different ability and their families indicated finance to have a significant influence on college choice (Wanat and Bowles, 1989; Paulsen, 1990; Annis and Rice, 1993; Galotti and Mark, 1994). Wanat and Bowles (1989), Chapman and Jackson (1987) showed that scholars and students of different academic ability, and their families weighed the relative benefits of accepting financial packages from more expensive colleges against tuition fee at less expensive schools. On the same measure, Litten and Brodigan (1982) further showed that higher ability students considered 'net cost' more important than 'price' compared to low or medium ability students who rated 'net cost' and 'price' as equally important. It could be that low or medium ability students could not differentiate between 'net cost' and 'price'. Consistent with Litten and Brodigan's findings (1982), Manski and Wise (1983) found that financial consideration varied among students of different ability.

Wanat and Bowles (1989) further examined high school preparation programmes and found that the majority of high ability students showed great satisfaction with their high school academic programme as preparation for college with Mathematics and Science preparation receiving the most favourable comments.

This section has shown that while several differences were noted in some choice factors and attitudes of different ability students, convergent preference over certain attributes were also noticed. As the majority of previous studies have focused on high achievers rather than medium and low ability students, the impact of academic ability differences on college choice process seems somewhat unclear and inconclusive.
2.7 The Impact of Socioeconomic Differences on College Choice

Socioeconomic-based differences have a great deal of impact throughout the students' college choice process. Students' opportunities to attend college and the type of college a student selects depends heavily on his or her family's financial ability. Among the demographic factors, socioeconomic status has been found to have the greatest impact on a student's (and his parents') college selection (Kotler, 1982).

In 1998, Delaney analysed responses to the Admitted Student Questionnaire administered to 1065 accepted students at a selective private college in the northeast of USA. Delaney's study examined the relationship between parental income and students' college choice process, and it identified the influential choice factors considered by students from different socioeconomic backgrounds. The findings showed that there was a significant relationship between students' SES and college choice process. Significance was also noted in choice factors considered by students from different socioeconomic groups. In terms of institutional factors, higher income students attributed more importance to college surroundings while students from the lower income groups placed more emphasis on the academic programmes, cost and opportunities for internship. In terms of satisfaction ratings on the attending college, Delaney's findings (1998) further revealed that higher income students rated their college more satisfactorily on academic reputation, quality of faculty, and field of study whilst the lower income students rated surroundings, social life, extracurricular activities and cost as more satisfactory. Higher income students appeared to perceive college as challenging while the lower income students perceived the college as fun, comfortable and friendly.

Contrary to Delaney's findings on higher income students, Baird's comparative socioeconomic analysis (1967) showed that students from higher income groups tended
to place more emphasis on developing intellect and social opportunities, compared to lower income groups who were more concerned about vocational and professional training.

In terms of source of information, Tierney (1983) suggested that low socioeconomic level students tended to use fewer sources of information compared to students from high socioeconomic background. In terms of the types of institutions selected, Tierney (1983), Hearn (1984), Maguire and Lay (1981), Zemsky and Oedel (1983) concurred that family socioeconomic status was related to the quality of the colleges students applied to and attended. Students from high socioeconomic backgrounds were more likely to apply to and attend selective institutions. Contrary to the findings above, Hossler et al. (1989) reported that the cost of institutions students selected did not appear to be related to family socioeconomic status. This was probably due to the availability of scholarships and financial aids offered by some selective institutions. “The receipt of financial aid tends to mitigate the effect of low or medium income on the applicant’s financial ability to meet educational expenses such as tuition, room and board, and other fees” (Braunstein et al., 1999. 256).

In terms of finance, Manski and Wise (1983), Chapman and Jackson (1987), and Braunstein et al. (1999) found that financial considerations varied among students of different income levels. Their studies showed that low income group responded more favourably to financial aid and lower tuition fees compared to higher income groups. Braunstein et al. (1999) pointed out that the low income group was more responsive to grant money, middle income students were more responsive to loan assistance, whilst high income group tended to be least responsive to any form of financial aid. Weiler (1994) reported that students from low or middle income groups were less likely to apply for college studies. This could be because students of lower income were
expected to seek employment earlier to support their family or they lacked financial support from families.

As for parents, Flint (1992) documented that higher parental income was associated with higher level of college selectivity, types of degree offered and greater distance from homes in their college choice. Distance was not a factor to higher-income parents as they were able to afford to send their children to attend out-of-state institutions which demanded higher tuition fees.

This section has shown that socioeconomic differences have an impact on (i) college choice process and (ii) the choice factors considered by students and parents. Also, it was noted that students of different income groups regarded the satisfaction level of college attributes differently. In terms of preferences for institutions as a function of SES, previous findings were inconclusive as differing opinions exist among past researchers.

2.8 The Impact of Parental Educational Level Differences on College Choice

The impact of parental educational level differences has some significance on their children's college choice process. Parents of different educational levels possess different perspectives and knowledge in advising their children in the college choice process. Research findings showed that parental education has a stronger effect on the conduct of the college selection process than other attributes such as race or gender (Litten and Brodigan, 1982; Hossler et al., 1989).

Litten's (1982) comprehensive literature review on college choice process showed that differences were found in factors considered by parents of different educational levels. Parents of higher educational background regarded the social background of students
and extra-curricular activities as important compared to parents of lower educational level who focused more on finance, rules and regulations affecting students, and career the college might lead the students to. Contrary to Litten’s findings (1982), Gilmour et al.’s Pennsylvania-State Study (1978) showed that academic consideration was of primary importance to college educated parents whilst cost was of primary importance to non-college educated parents during the college list development and decision making stages. Concurring with Gilmour et al.’s findings (1978), Galotti and Mark (1994) indicated that level of parental education affected perceptions of cost in making the college decision. (Galotti and Mark, 1994). Students of less educated parents placed higher emphasis on cost and cost related factors such as financial aid availability and net cost.

In terms of application, Gilmour et al. (1978) reported that parents with college education started the college selection process earlier than those without. However, no difference was found in terms of duration from application to decision among parents of different educational levels. Gilmour et al. (1978) also found that a greater number of applications were made by students of educated parents.

In terms of common opinions held among parents of different educational levels, Litten and Brodigan’s 6-Market Study (1982) showed no association between parental educational level and the following: (1) field of study, (2) academic aspects such as library resources, reputation of faculty, and admission rate to postgraduate studies. It was evident that parents of all educational levels perceived such institutional attributes as important in a college or a university.

In terms of source of information, consistent with Lewis et al.'s (1974) findings, Litten and Brodigan (1982), and Galotti and Mark (1994) showed that students with educated
parents were more likely to regard parents as their source of information. They found that parents with higher level of education tended to use more commercial guidebooks and visits to campuses, admissions officers and unrelated alumni as sources of information than relying on high school counsellors. Parents of lower level of education reported relying on information from unsolicited publication and high school counsellors. Ethnic differences between Black and White students in taking parents as source of information was highly associated with differences in parental educational level, according to Lewis et al's findings (1974). While White students with educated parents relied more on their parents for information and advice, Black students with less educated parents depended more on college representatives and printed materials as a source of information, although some discussions were held between Black students and their parents when it got closer to the decision making stage of the college selection process.

Parental education level has an impact on the degree of encouragement of college aspiration provided to their children. The survey conducted by Carnegie Foundation for the Advancement of Teaching in 1986 indicated that significant differences were noted in parents' encouragement of college attendance depending on the level of parents' education. The study presented the following findings: 54% of students with both non-college graduate parents reported parents’ strong persuasion to attend college. 26% of students with one college graduate parents reported parents’ strong persuasion to attend college (Weiler, 1994). 20% of students with both college graduate parents reported parental encouragement to attend college. It could be that college educated parents were role models for their children and that it was a natural expectation that these students would develop the desire for college attendance even with less parental encouragement.
Hearn (1984) found a significant association between parental educational level and the type of institutions selected. Hearn (1984) indicated that as the level of parental education increased, students were more likely to apply to and attend more selective institutions. Litten and Brodigan (1982) suggested that students with higher parental educational level tended to select private institutions.

Persell et al. (1992) reported that highly educated mothers were likely to play a greater role in the decision-making process of their daughters. Persell et al. (1992) further indicated that a stronger relationship existed between the educational level of mothers and the educational attainment of daughters than between mothers and sons. This could be attributed to self-identification with the parent of the same sex as role model.

Among demographic factors, Litten and Brodigan (1982) concluded that parental education was second after SES in terms of its effect on the conduct of the college selection process, compared to other attributes such as race or gender.

This section has shown that parental education level has impact on their children's college choice process. Whilst some institutional factors which were academic in nature were commonly regarded as important to parents of all educational levels, differences were noted in parents of different educational levels in terms of financial consideration, types of institution applied to, source of information, and the degree of parental support and involvement in the selection process.

2.9 Research Framework

The review of literature shows that studies have focused on sets of attributes regarded as important in the college choice process. The majority of the studies have employed a quantitative approach while a few have relied on qualitative methods such as
interviews, to yield a better understanding of reasons beyond the measure of the quantitative approach. From both the quantitative and qualitative research, common factors have surfaced as influencing student and parent college selection process. Such factors consist of both objective and subjective variables. Objective Determinants are referred to by some researchers as Institutional Attributes which include curricular issues, financial considerations, benefit expectation after graduation (Rickman and Green, 1993; Litten and Hall, 1989; Quade, 1994) whilst Subjective Variables entail student personality traits and the degree of influence on students by significant others (Rickman and Green, 1993; Litten, 1991; Quade, 1994). Research on college choice has shown substantial differences in the institutional and individual factors considered important by students and parents with different demographic and socioeconomic background and personal traits (Quade, 1994; Litten and Hall, 1989; Rickman and Green, 1993; Weiler, 1994; Thou, 2000). Generally, students of higher age groups (Thou, 2000), high academic ability (Chapman and Jackson, 1987; Wanat and Bowles, 1989; Galotti and Mark, 1994), and parents (Quade, 1994) appeared to consider institutional variables as more important than individual factors. However, in general, there were no conclusive findings on the institutional and individual variables as a function of gender (Quade, 1994).

As little has been studied about college selection and the determinants of college decision in Malaysia, to gain insight on the impact of institutional factors and individual variables on the college choice process, this study will take into consideration the comparison of institutional and individual variables considered important by students and parents in Malaysia.

While substantial studies have examined gender differences in terms of college aspiration and college choice process, several studies have different conclusions on the
impact of gender in the college selection process. It is clear that gender has some effect on a student’s aspiration of college education and accessibility to higher education. However, the exact impact of gender on institutional and individual factors remains inconclusive. Hence, gender differences on the college selection process will be studied to gain more information on this aspect in Malaysia.

A few studies have shown that age has some impact on the college selection process in terms of younger students being more greatly influenced by others. However, as little is known about how different institutional and individual factors appeal to students of different age groups, hence, this aspect has been included in this research to shed light on the effect of age group.

Different types of samples have been employed by previous researchers to investigate the college choice process. Some have examined college choice factors from the perspective of pre-entering students (high school students) whilst a few studies have examined this aspect from the view of entering-students (year one college students). Researchers who have used entering-student samples believe that these students who have just completed their college selection process, will be most clear about the process and the determinants which have influenced them to decide on a particular institution. Hence, this study will focus on existing students of colleges. Assuming that year one students are most clear about college choice process which they have just gone through, there may be significant differences between these students and the higher level students (years two, three and four) in terms of the importance of choice factors and the degree of satisfaction towards their chosen college. As little is known about how different year-of-study students will differ in their college choice determinants, this study will segregate existing students by year-of-study (Year One versus Year Two,
Three and Four) to gain more information on the college choice process and its determinants.

Several studies have shown the impact of differences in academic ability on the college choice process. However, how these academic ability differences affect the college choice process and the choice factors seems somewhat unclear as the majority of studies have focused on high achievers rather than low ability students. It is the intention of this study to examine this area by using a comprehensive sample in colleges which comprises the entire range of students' academic ability to gain more insight to this important aspect of study.

Substantial studies have shown the importance of parents in the development of student aspiration in college attendance and the influence of parents on students' college selection process. Recognising the essence of parental involvement in the college choice process, and the absence of such information in Malaysia, more information needs to be gathered on attributes appealing to this population. This research has included the parental component to examine which institutional and individual factors are important to parents and whether parents and students respond differently to such factors.

As little is known about the comfort level of students and parents towards their chosen college, the effect of choice factors on the comfort level, and the impact of comfort levels in relation to student graduation rates, this study has included the measure of the degree of satisfaction on the various choice factors to gain a better understanding on these aspects of study.
2.10 Proposed Model of the Study

This study focuses on Phases 2 and 3 of the Three-Phase-Model of the Decision Making of Student College Choice presented by Hossler and Gallagher (1987). As students search, apply to and select an institution, the effect of various choice factors and the demographic background of students affect their final decisions. Such influential choice factors and demographic information are examined in this study to assess their significance in the college choice process. Investigation is also performed on the measure of student and parent satisfaction with the various choice factors of their chosen college. The proposed model includes all these elements in this research. This model is adapted from the Expanded Model of the College Selection Process by Hanson and Litten (1982) and the Three-Phase-Model by Hossler and Gallagher (1987). Items in the “Background”, “Institutional Factors” and “Individual Factors” of the proposed model are adapted from both literature review and Hanson and Litten’s Model (1982) - ‘Background’, ‘Personal Attributes’ and ‘Influence/Media Used’. Also, adapted from Hanson and Litten’s Model are ‘College Action I’ and ‘College Action II’. The College Search, College Application and College Selection Phases in the proposed model have been adapted from Phases 2 (College Search and Application) and 3 (College Selection and Attendance) of Hossler and Gallagher’s Model (1987). The adapted items that make up “Institutional Factors”, “Individual Factors”, and “Background” are placed at the entire process of Search, Application and Selection where they are perceived to have significant influence. Similarly, where they exert greatest influence, the “College Action I” adapted is placed between College Search and Application phases whilst the “College Action II” adapted is placed between the College Application and Selection Phases of the proposed model. Extending from the College Selection Phase, where the contemporary college choice process ends, the present study has incorporated College Attendance and Graduation Phases into the proposed model to examine the comfort
level of students with their chosen college. Figure 2.3 presents the model proposed for this study.
Figure 2.3 A Proposed Model of Institutional and Individual Factors in the College Choice Process

(Adapted from (a) Expanded Model of the College Selection Process by Hanson and Litten, 1982; (b) Three-Phase Model of Decision Making of Student College Choice by Hossler & Gallagher, 1987)
2.11 Research Hypotheses

The research hypotheses used to guide this study are as follows:

1. It is expected that in the college choice process, the influence of institutional and individual factors will differ for male and for female students. Male students will indicate institutional variables are more important criteria than individual factors in their selection process. The null hypothesis posited based on the above assumption was: "Male and female students do not differ in their emphasis on Institutional and Individual Factors during college choice process".

2. It is also expected that institutional and individual factors will differ for students of different age groups. Older students will rate institutional factors more important than individual variables. The null hypothesis postulated was: "Students of different age groups do not differ in their emphasis on the Institutional and Individual Factors during college choice process".

3. As year-of-study is correlated to age group, the same is expected that higher year-of-study students will consider institutional factors as more important criteria in their choice of a college. The null hypothesis posited based on this assumption was: "Students of Year 1 do not differ from students of higher levels (Year 2, 3 and 4) in their emphasis on the Institutional and Individual Factors during college choice process".

4. Higher ability students will rate institutional factors higher than individual determinants in the college selection process. The null hypothesis posited was: "Significant differences do not exist in the ratings by students of different academic abilities on Institutional and Individual Factors".
5. Differences will exist between student and parent ratings of institutional and individual factors, with parents rating institutional factors higher than students. The null hypothesis postulated was: "Significant differences do not exist between student and parent ratings of Institutional and Individual Factors".

6. Important choice factors will contribute to the overall satisfaction levels of students and parents with their chosen college. The null hypothesis posited was: "Institutional and Individual Choice Factors do not contribute significantly to Student and Parent Total Satisfaction with their chosen college".