CHAPTER 2

REVIEW OF LITERATURE

2.1 Studies Conducted Overseas

Vocational interest has been a cornerstone of vocational psychology and career counselling since the early 1900s. Besides Holland (1953), pioneers in the study of vocational interests include Fryer (1931), Kuder (1939), Strong (1943) and Darley and Hagenah (1955). Much research has been done on vocational interests such as research on the relationship between interests and personality, interests and satisfaction and interests and ability. Research has also been done regarding the use of vocational interest inventories especially as an aid in career counselling.

Kunce and Callis (1969) using the Strong Vocational Interest Blank (SVIB) as an indicator of personality functioning as well as interest patterns, examined the significant relationship between vocational interests and personality. Their study was based on a sample of 630 male college students who had taken the SVIB. They found that interest scores and personality profiles tend to cluster together in meaningful ways. Therefore, one can make tentative inferences about global personality characteristics from vocational interest scores although some individuals with grossly similar personality structures can have quite different vocational interests.

Southworth and Morningstar (1970) examined the predictive value of the Holland Vocational Preference Inventory (VPI) in determining
perseverance in engineering of 102 freshmen engineering students at the University of Massachusetts in Amherst. Two years after the VPI was administered, the students were divided into three subgroups - those remaining in engineering majors, those still in the University but in another major and those who left the University. A multivariate analysis employing the discriminant function was performed on the VPI data from the three subgroupings. The scores on the six scales of the VPI significantly differentiate among the three subgroupings. Members of the most stable group, that is, those remaining in their original chosen field, having the highest mean Investigative score. The high means on the Social and Artistic scales for students who changed major offer additional evidence for the usefulness of the VPI. The results are congruent with those of Holland (1962) and serve to establish more firmly the usefulness of the VPI and other interest inventories as an aid in counselling college students.

Another study by Christensen and Sedlacek (1974) explored the use of the Self-Directed Search as a diagnostic tool in identifying students who have encountered difficulties in college but persisted in their attendance when they may have been better suited to vocational training programmes. The SDS was administered to nearly all entering freshmen at the College Park Campus of the University of Maryland. One year later, 37 of these students (20 male, 17 female) were enrolled in the Office of Immediate Registration (OIR) which is required for students who wish to change colleges within the University but do not have “C” grade point average. Thus, these students were unsuccessful in their studies; many were vocationally undecided and wished to change colleges but were
persistent in wishing to remain at the University. A control group of 37 students who were not enrolled in OIR and who had completed the SDS at the same time was randomly selected for comparison. Differences between means on the SDS were analysed using a two-tailed t-test and the 0.05 significance level. The results for the OIR and control groups show one of the six scales that is, Realistic scale clearly reflects an interest in many occupations which does not require college training such as electrician, repairman, truck driver, optician, jeweller and mechanic. It would appear that the OIR students could have been encouraged to seek training other than college before they entered and that they likely should consider this alternative currently as they are enrolled in college. Therefore, the opportunity exists for self-counselling through the SDS.

Several predictors of occupational choice from the Self-Directed Search were examined and compared by Gottfredson and Holland (1975). The three issues examined in the prediction of vocational choice were:


(ii) Evidence is provided that asking people about their occupational choices in an organised and simple manner is a useful way to get efficient predictive information.

(iii) The practical usefulness of sex-specific norms in assessing the vocational aspirations of men and women is considered.

The above issues entail a comparative analysis of the validity of components of the SDS, the relative usefulness of a person’s current vocational choice for predicting subsequent choices and the belief that
the use of some interest measures may be unfair to women. Hypotheses that a person's competencies, activities, self-estimates, interests and vocational choices can be organised by a six-category typology to understand and predict subsequent choice were tested. Samples of 894 men and 989 women took the SDS at entry into two colleges and reported their occupational choices one or three years later. All hypotheses received support, although the predictive efficiency varied. The associations found between predictions made from the separate components of the SDS – the activities, competencies, occupations and self-estimates – and subsequent choice support the theoretical notion that each class of personal attributes contributes to a person's decision.

The validity of all predictors supports their practical use in the self-assessment of individuals desiring career guidance. Also, current vocational choice is the best predictor of later choice and scores based on sex-specific norms are less efficient predictors than raw scores. The findings thus support both the theory and the validity of the SDS assessment for men and women.

Holland, Gottfredson and Nafziger (1975) examined the validity of some theoretically derived vocational diagnostic signs to learn if a person's self-knowledge, occupational knowledge and decision-making ability were predictable. Diverse samples of high school juniors (n = 1005), college juniors (n = 692) and employed adults (n = 140) were administered the SDS (the source of the diagnostic signs) and the criteria for validating the signs (the Career Maturity Inventory). The theoretical signs of good decision-making ability that is, consistency and differentiation of the SDS profiles, predicted scores on the decision-
making task more efficiently than any rival predictors. In contrast, the theoretical signs of self-knowledge and occupational knowledge did not show convergent or discriminant validity. The positive results imply some practical applications and the need for further theoretical investigation.

Zener and Schnuelle (1976) made an evaluation of the use of SDS with high school students. Their study focused on how the experience affects students' thoughts and activities concerning vocational choice or interest and also on students' own evaluations of their experience. The subjects were 959 students from three Baltimore high schools. The experiment was replicated across four blocks of subjects, two from different high schools and two from different grades within the same high school. They were divided into three groups where one group took the SDS, another group the VPI and the third group was a control group, which was not assigned to any treatment. The results showed the effectiveness of the SDS. Students who took the SDS performed better than the control group in matching Holland's vocational interests to occupations. In fact, the principle effects of the SDS namely consideration of more vocational alternatives, more satisfaction with current vocational choice and more knowledge of Holland's classification scheme were clearly replicated across four divergent groups of high school students.

A study on vocational interests and its relationship with gender was carried out by Siegfried et. Al. (1981). They found that the male subjects had high scores for interests such as Investigative, Conventional and Enterprising whereas the female subjects had high scores for the Social interest.
Aranya, Barak and Amernic (1981) measured the vocational interests of 1,952 certified public and chartered accountants in Canada using the SDS (Holland, 1973) and Social Desirability Index (Crowne and Marlows, 1964). The data was analysed using the Pearson correlation-coefficient. The results of this study showed that the subjects’ vocational interests were mainly Conventional, Enterprising and Social. The subjects also reported a high level of job satisfaction and commitment to their profession and organisation. This is due to the congruency between their vocational interests and their profession.

Lawrence K. Jones (1983) evaluated two self-directed career-planning tools available to counsellors: the Self-Directed Search (SDS) and Occu-sort (O-S) (Jones, 1977, 1981). One group of students took the SDS and another group took the O-S. The participants were 578 eighth and tenth-grade students from North Carolina. The findings illustrated the importance of evaluating our efforts. Students considered both instruments helpful and they could recall their occupational code equally well. Both tests were effective in encouraging students to consider non-traditional occupations and suggesting potential occupations to students. The tests were also helpful in communicating the meaning of the occupational code and Holland’s (1973) theory. The need for planning follow-up activities in conjunction with the tests is clear. As counsellors work to meet the career-planning needs of their students, there’s a need to examine the effects of their efforts. Vocational-interest inventories are an attractive means for assisting students in their career-planning needs.

Tamarol (1984) did a study on vocational interests and its relationship with the field of study and academic achievement of students
in the University of East Texas, United States of America. The subjects were 116 freshmen and sophomores who were majoring in the field of industry and technology. The SDS was used to measure the vocational interests whereas the Cumulative Grade Point Average (CGPA) was used to determine the academic achievement of the students. Using chi-square, t-test and Anova, Tamarol found the vocational interests did not have a significant relationship with the field of study and the academic achievement of the subjects. However, students whose interests were Conventional and Realistic obtained higher CGPA scores than students whose interest was social.

Payne and Sabaroche (1985) tested Holland’s theory on lower secondary school students aged between 14 and 16 years in Dominica, Caribbean. They conducted the SDS and VPI tests on 101 students and found that 52% of the students chose social as their vocational interest whereas the other vocational interests were not significant at all.

In Taiwan, a study was conducted by Jin Shuh-Ren (1986) among 880 high school students in Taipei using the SDS which was translated into the Mandarin language. The data was analysed by factor analysis. The results found that the female students had vocational interests in the following order; Artistic, Social and Enterprising. As for the male students, they were found to have Enterprising and Conventional interests. The study also found that the vocational interests of the pure science students were Realistic-Investigative whereas the social science students were Artistic-Social-Enterprising and Conventional. Therefore, the results of this study supported Holland’s theory with regards to vocational interests.
Using the SDS, Henry (1988) did a research on 60 students (29 black and 31 white students) in the Medical Education Preparatory Program of University of South Illinois. The students were medical undergraduates ranging from twenty to thirty years of age. Henry reported a significant relationship between personality and vocational choice as the Investigative and Social interest scores were the highest for all the medical undergraduates.

A study by Schuttenberg, O'Dell and Kaczala (1990) investigated the relationships of gender, length of service and types of vocational interests as measured by Holland's Self-Directed Search. A sample of 600 educators was asked to participate in this study. In addition to the SDS, respondents also completed a brief survey form asking three questions about their current professional position. Analysis of the data revealed as expected from Holland's prediction, that the Social vocational interest was the dominant one for the teachers, counsellors and administrators in the sample. In the total group, 57% had "S" as their dominant interest, 95% of the respondents reported that they derived great or moderate satisfaction from their current positions.

Based on evidence from earlier studies, adults with residual learning disability (LD) have a variety of employment problems (Crimantle, 1984). Career planning for this subpopulation as in other populations, is intertwined with the need for better assessment of two important variables impinging on career success: personality and interests. Humes (1992) investigated vocational interests as measured by the SDS. The participants consisted of 141 LD high school students enrolled in LD resource room programmes in two large high schools in northern Virginia.
It was found that LD students in this sample do have particular kinds of vocational interests as assessed by the SDS-E. It indicated that the vocational combinations chosen by at least 10% of the students were Realistic-Investigative (RI) and Social-Artistic (SA). Vocational combinations indicated by at least 10% of the male students included Realistic-Investigative (RI) and Realistic-Enterprising (RE) whereas at least 10% female students included Social-Artistic (SA), Conventional-Social (CS) and Social-Enterprising (SE). This means the first preference indicated most frequently for boys was Realistic (45.92%) and Social for girls (52.63%). Therefore, LD students do have particular kinds of personality configurations and do have particular vocational interests.

2.2 Studies Done Locally

The Malay version of the SDS which was translated and revised by Amla (1984) had been examined with the Malaysian population.

Hasnah Jiman (1988), Kua Bee Hoon (1988), Maimu@Norul Hiza Awang Kechik (1989) and Tan Hui Chong (1989) were among others who examined the relationship between vocational interests and personality types based on Holland’s theory. All their research was done among undergraduates of the National University of Malaysia (commonly known as UKM).

Hasnah Jiman (1988) carried out her study on 44 undergraduates from the Faculty of Education whose major was Mathematics. The SDS was administered on these students and analysis of data involved the use of t-test and calculation of mean. It was found that there was no significant Investigative vocational interest among these students. However, there was a difference in vocational interests for male and
female students namely for the Realistic, Investigative, Social and Enterprising scales. Generally, it can be concluded that differences in vocational interests exist for these students.

Another study on students from the National University of Malaysia was conducted by Kua Bee Hoon (1988). This study was similar to the one conducted by Hasnah Jiman but the subjects now comprise of 80 Physics undergraduates from the Faculty of Education. Using the SDS, it was found that the Physics undergraduates secured high scores in the Social and Investigative interest scales. Unlike Hasnah's results, this study also found no significant differences in vocational interests with respect to race, gender and faculty.

Maimu@Norul Hiza Awang Kechik (1989) administered the SDS on Biology students from the same university to examine the differences in vocational interests in relation to faculty (Faculty of Education and Faculty of Science), race (bumiputera and non-bumiputera students) and gender. It was found that the Biology undergraduates were not of the Investigative personality type and there was significant difference in vocational interest in relation to gender especially for Realistic and Enterprising scales. However, there was no significant difference in vocational interest for Biology students in the Faculty of Education and Faculty of Science.

Tan Hui Chong (1989) chose 70 Chemistry undergraduates from the Faculties of Education, Science and Applied Physics in the National University of Malaysia as her subjects. Using the SDS and t-test for data analysis, she found the vocational interest of Chemistry students to be Investigative. When the data was analysed based on separate subscales,
there were significant differences between male and female students and bumiputera and non-bumiputera students on the Realistic and Social interest scores respectively. On the whole, the results concluded that Holland's theory can be used for the Malaysian population.

Amla's (1988) study was to obtain evidence about the construct validity of SDS in meeting the need for interest inventories in Malaysian school guidance programme. The test was administered on all new students (2,231 students) of the National University of Malaysia (1987/88) during the orientation week. The students were aged between 18-19 years and were considered representative of the above average population. For data analysis, two sets of scores were computed for each of six types on each of the three sections and the second set produced raw scores on each of the 18 variables that were transformed into standard scores using male and female independent norm groups. Thus, a total score on each personality type was obtained summing the standard scores on each of the six types. They were then factor analysed and compared to Holland's model. Varimax rotation was applied to produce a factor structure which is the appropriate model against which to test the coherence of the subsection within the SDS.

Four factors were identified from the analysis of the entire sample: Factor 1, Social-Enterprising-Conventional; Factor 2, Artistic and Factor 3, Realistic whereas Factor 4 was Investigative. When separate analysis was performed according to gender, men and women produce different factors. Responses from men produced five factors; Enterprising, Conventional, Investigative, Realistic, Social and Artistic whereas women's responses produced lesser number of factors namely Realistic-
Conventional, Investigative and Artistic. The findings confirmed the existence of SDS factors analogous to the types. The analysis of female’s responses consistently exhibited different pattern. The factorial structure has proven to be remarkably consistent across different samples and countries, which imply the viability of the instrument for career counselling in Malaysia.

Jaleha Mujir (1992) made a study on the vocational interests of form 5 and form 6 students and the interests of these students as perceived by their parents. The subjects consisted of 50 students (25 form 5 science students and another 25 form 6 students). Using the SDS, the descriptive analysis showed that the students’ choice of vocational interests were mainly in the social field whereas the parents’ perception of their children’s vocational interests were Conventional. However, the t-test analysis showed only significant difference between the students’ interests and their parents’ expectations for interests such as Realistic and Investigative whereas there was no difference for students whose vocational interests were Social, Enterprising and Conventional. Generally, the study showed there was a difference between the students’ vocational interests and those interests that were perceived by their parents because the students know their own feelings, abilities and interests better than their parents.

Paraminder Kaur (1992) conducted a study on 180 Form Four students (90 boys and 90 girls) to examine the influence of gender on career choice. Using the SDS and Sex Role Inventory (BSRI) she found significant differences in career choice among the boys and girls. The
boys chose careers on the Realistic, Artistic and Social scales (R-A-S) whereas the girls chose Social and Investigative careers.

Siew Woon Khong (1992) examined the validity of Holland’s theory using the SDS. The study involved the congruency of personality and career with the environment besides the influence of variables such as ethnic, socio-economic status and gender. The subjects of this study were 140 workers from three manufacturing factories. Using the chi-square test for analysis, it was found that there were no significant relationship between vocational choice and personality type. The gender factor also did not influence vocational choice of the workers. The incongruency of the results could be due to psychological and non-psychological factors such as economic, social or cultural factors.

Wan Hamzah (1992) identified the types, degree of congruency in personality pattern and the relationships between the congruent personality-environment patterns with job satisfaction among 277 primary school teachers in Kelantan by using the Malay version of the SDS-E (Amla, 1984), Job Descriptive Index (Ariffin, 1981) and The Occupation Finder (Holland, 1989). Using the Kwak and Pulvine (1982) Index model, the degree of congruency in personality pattern and its relationship with personality environment was measured based on the three-letter code for teachers which is Social-Enterprising-Conventional (SEC). All the congruency index measurements were computerised for correlation with sex and job satisfaction using the Job Descriptive Index. The data was analysed using the t-test and Pearson Product Correlation Coefficient – Moment. The level of significance was 0.05 and the mean was used to study the pattern and profile of personality.
It was found that the three-letter code pattern of the sample was Social-Conventional-Enterprising (SCE) with a high degree of congruency (0.86). There were significant differences on types of personality among sample (SEC for men and SAC for women teachers) with strong domination of Social characteristic. There was also a relatively high level of person-environment congruency and a positive correlation between person-environment congruent pattern with job satisfaction. According to Holland (1984), the three-letter code pattern for primary school teachers is SEC but in this study, the code was found to be SCE. Therefore, in terms of personality characteristics, they show similarity except for the order of the second and third characteristic. This shows the personality characteristics are congruent with their working environment.

Yeow Gaik Choo and Abdul Halim Othman (1991) used Holland’s Vocational Preference Inventory (VPI) to identify vocational interests for high self-monitors and low self-monitors. They also examined the differences between gender, years of study and race. The subjects comprise of 120 students from the first and fourth years of the National University of Malaysia. Individuals with high self-monitors are motivated and skillful in social and interpersonal matters. They are more suitable in leadership positions (Garland and Beard, 1979) compared to individuals with low self-monitors. Due to the differences in motivation levels between individuals with high self-monitors and low self-monitors, this research was done to determine whether self-monitoring process influences vocational interests as prescribed by Holland. In this research, inferential statistics was used to analyse data obtained from Self-Monitoring Scale (SMS) and Vocational Preference Inventory (VPI). The t-
test based on the programme SPSS-X was used for comparisons at a significance level of 0.05.

Results showed that there were significant differences in Holland vocational interests between high self-monitors and low in self-monitors in Social and Enterprising occupations. Overall results showed that high self-monitors preferred Enterprising occupations and low self-monitors preferred Social occupations. This supports previous research which found that individuals prefer vocations that are suitable with their social skills (Brown, White and Gerstein, 1989). Thus, it also supports Holland's theory that an individual's choice or interest in a vocation is explicitly linked with the individual's personality.

Siti Taniza bt Toha (1994) used the SDS to measure the vocational interests of 403 students from 11 vocational secondary schools in Selangor, Federal Territory, Perak and Negeri Sembilan. The students were 16 to 18 years of age and represented all the vocational streams offered by vocational schools that is, Commerce, Engineering, Home Economics and Agriculture. It was found that generally, students' vocational interests were congruent with their field of study but their three-letter codes were not in the same order as suggested by Holland Occupational Finder. The Commerce students' interests in ranking order were found to be Social-Conventional-Enterprising instead of Conventional-Enterprising-Social according to Holland. Thus, with respect to vocational interests, they show similarity except for their order. As for the Engineering students, they were found to have vocational interests in the order of Social-Realistic-Investigative instead of Realistic-Investigative-Enterprising as suggested by Holland. However, the
Agriculture and Home Science students were found to have vocational interests that were not quite congruent with their field of study. Agriculture students' interests were Social-Conventional-Enterprising and not Realistic-Social-Investigative whereas the Home Science students' interests were Social-Conventional-Artistic instead of Realistic-Investigative-Social.