

Mothers with daughters at the girls-only school chose the Social Type most frequently as their first letter, as well as their second letter together with the Enterprising Type, and the Enterprising Type most frequently as their third letter, in order to make up their three-letter code.

Table 26. Mothers with sons in the co-educational school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	2	0	4
Investigative Type	2	5	6
Artistic Type	9	1	5
Social Type	17	22	2
Enterprising Type	11	13	6
Conventional Type	4	2	22

Mothers with sons at the co-educational school chose the Social Type most frequently as their first letter, as well as their second letter, and the Conventional Type most frequently as their third letter, in order to make up their three-letter code.

Table 27. Mothers with sons in the Boys-only school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	2	3	1
Investigative Type	0	18	11
Artistic Type	8	11	10
Social Type	20	8	5
Enterprising Type	3	3	8
Conventional Type	14	8	6

Mothers with sons at the boys-only school chose the Social Type most frequently as their first letter, the Investigative Type most frequently as their second letter, as well as their third letter, in order to make up their three-letter code.

Table 28. Fathers with daughters in the co-educational school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	13	10	5
Investigative Type	4	8	9
Artistic Type	2	0	2
Social Type	3	14	9
Enterprising Type	23	11	8
Conventional Type	11	6	13

Table 27. Mothers with sons in the Boys-only school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	2	3	1
Investigative Type	0	18	11
Artistic Type	8	11	10
Social Type	20	8	5
Enterprising Type	3	3	8
Conventional Type	14	8	6

Mothers with sons at the boys-only school chose the Social Type most frequently as their first letter, the Investigative Type most frequently as their second letter, as well as their third letter, in order to make up their three-letter code.

Table 28. Fathers with daughters in the co-educational school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	13	10	5
Investigative Type	4	8	9
Artistic Type	2	0	2
Social Type	3	14	9
Enterprising Type	23	11	8
Conventional Type	11	6	13

Fathers with daughters at the co-educational school chose the Enterprising Type most frequently as their first letter, the Social Type most frequently as their second letter, and the Conventional Type most frequently as their third letter, in order to make up their three-letter code.

Table 29. Fathers with daughters in the girls-only school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	11	7	6
Investigative Type	5	6	6
Artistic Type	1	2	6
Social Type	3	2	8
Enterprising Type	15	16	6
Conventional Type	6	11	12

Fathers with daughters at the girls-only school chose the Enterprising Type most frequently as their first letter, as well as their second letter, and the Conventional Type most frequently as their third letter, in order to make up their three-letter code.

Table 30. Fathers with sons in the co-educational school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	7	13	1
Investigative Type	3	3	13
Artistic Type	5	4	0
Social Type	3	9	12
Enterprising Type	22	7	9
Conventional Type	1	7	8

Fathers with sons at the co-educational school chose the Enterprising Type most frequently as their first letter, the Realistic Type most frequently as their second letter, and the Investigative Type most frequently as their third letter, in order to make up their three-letter code.

Table 31. Fathers with sons in the Boys-only school's gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	10	19	1
Investigative Type	5	14	11
Artistic Type	1	0	2
Social Type	2	5	12
Enterprising Type	21	3	12
Conventional Type	4	4	6

Fathers with sons at the boys-only school chose the Enterprising Type most frequently as their first letter, the Realistic Type most frequently as their second letter, and the Social and Enterprising Types most frequently as their third letter, in order to make up their three-letter code.

Table 32. Mothers', for the entire sample's, gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	4	4	7
Investigative Type	9	30	30
Artistic Type	31	26	24
Social Type	68	60	27
Enterprising Type	30	44	42
Conventional Type	37	20	49

Overall, mothers for the entire sample chose the Social Type most frequently as their first letter, as well as their second letter, and the Conventional Type most frequently as their third letter, in their composition of three-letter code.

Fathers with sons at the boys-only school chose the Enterprising Type most frequently as their first letter, the Realistic Type most frequently as their second letter, and the Social and Enterprising Types most frequently as their third letter, in order to make up their three-letter code.

Table 32. Mothers', for the entire sample's, gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	4	4	7
Investigative Type	9	30	30
Artistic Type	31	26	24
Social Type	68	60	27
Enterprising Type	30	44	42
Conventional Type	37	20	49

Overall, mothers for the entire sample chose the Social Type most frequently as their first letter, as well as their second letter, and the Conventional Type most frequently as their third letter, in their composition of three-letter code.

Table 33. Fathers', for the entire sample's, gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	41	49	13
Investigative Type	17	31	39
Artistic Type	9	6	10
Social Type	11	30	41
Enterprising Type	81	37	35
Conventional Type	22	28	39

Overall, fathers for the entire sample chose the Enterprising Type most frequently as their first letter, the Realistic Type most frequently as their second letter, and the Social Type most frequently as their third letter, in their composition of three-letter code.

Table 34. Girls', for the entire sample's, gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	1	0	2
Investigative Type	13	18	20
Artistic Type	18	23	17
Social Type	40	31	6
Enterprising Type	12	19	32
Conventional Type	8	5	19

Overall, girls for the entire sample chose the Social Type most frequently as their first letter, as well as their second letter, and the Enterprising Type most frequently as their third letter, in their composition of three-letter code.

Table 35. Boys', for the entire sample's, gender cross tabulation showing frequencies of letters representing the RIASEC interest fields in their codes.

	First Letter Frequency	Second Letter Frequencies	Third Letter Frequencies
Realistic Type	13	15	19
Investigative Type	25	16	16
Artistic Type	10	9	12
Social Type	8	21	17
Enterprising Type	29	24	12
Conventional Type	4	8	13

Overall, boys for the entire sample chose the Enterprising Type most frequently as their first letter, as well as their second letter, and the Realistic Type most frequently as their third letter, in their composition of three-letter code.

The above tables representing the results as they pertain to Hypotheses 10 and 11, are not simple to interpret, and one cannot immediately say whether we must reject or fail to reject the Hypotheses on which the results are based. Briefly, Hypothesis 10 states that males would be more likely to show a preference for the Realistic and Enterprising Types within their three-letter

Holland codes. Although it was evident (the results showed) that males did show such a preference for the Enterprising Type, this was not so for the Realistic Type. Similarly, Hypothesis 11 stated that females would be partial to the Social and Artistic Types in their three-letter Holland codes. The Social Type was most definitely chosen most frequently by the female group, but this was not the case for the Artistic Type.

It seems that Hypothesis 10 and 11 can be partially rejected (going by the fact that the Realistic and Artistic Types did not feature largely for the male and female groups, respectively), but still, we should fail to reject them outright (since the Enterprising and Social Types were most frequent for the male and female groups, respectively).

Summary of Results

From the findings of the study and the results presented in this section, the following tentative conclusions can be drawn, acknowledging that the limitations inherent in the study may affect the findings of this piece of research.

1. The mean index of agreement score between the Holland codes of mothers and daughters did not point to a close match.
2. The mean index of agreement score between the Holland codes of fathers and sons did not point to a close match.

3. The mean index of agreement score between the three-letter Holland codes of mothers and daughters was not significantly different from that of mothers and sons, but was higher than that of mothers and sons.
4. The mean index of agreement score between the three-letter Holland codes of fathers and sons was significantly different, and higher, than that of fathers and daughters.
5. The mean index of agreement score between the three-letter Holland codes of mothers and daughters, when the daughters attend a single sex school, was not significantly different nor higher than the mean index of agreement score between the three-letter Holland codes of mothers and daughters, when the daughters attend a co-educational school.
6. The mean index of agreement score between the three-letter Holland codes of fathers and sons, when the sons attend a single sex school, was not significantly different nor higher than the mean index of agreement score between the three-letter Holland codes of fathers and sons, when the sons attend a co-educational school.
7. The mean congruence between the three-letter Holland codes of mothers' stated occupations, and the three-letter Holland codes derived from mothers' Self-Directed Questionnaire results, did not point to a close match.

8. The mean congruence between the three-letter Holland codes of fathers' stated occupations, and the three-letter Holland codes derived from fathers' Self-Directed Questionnaire results, did not point to a close match. Sach

9. There is no significant difference between the mean congruence scores of mothers and fathers, as they pertain to stated occupations and three-letter Holland codes, as stated in Hypotheses 7 and 8.

10. Males in the sample (whether fathers or sons) showed a preference in their three-letter Holland codes for the Enterprising Type above the other RIASEC personality types, but this is not exclusive to sons who attend the boys-only school. The Social Type also received much attention from males in their three-letter Holland codes, but the Realistic Type did not.

11. Females in the sample (whether mothers or daughters) showed a preference in their three-letter Holland codes for the Social Type above the other RIASEC personality types, and not the Artistic Type, and this was not more marked in daughters who attend the girls-only school over those who attend the co-educational school.

6. DISCUSSION AND IMPLICATIONS

The findings of the statistical results point to some interesting - although sometimes not expected - outcomes of this study. The discussion will focus around three sections. These are, a section about mean congruence scores between family members which answers the main research question, a section about the occupations of the parents in the sample which says something about Holland's theory, and a section giving us details about sex stereotyping as it pertains to occupational choice.

6.1 Mean Congruence Scores

A series of results can be seen in the statistical analysis pertaining to the mean congruence scores as they occur between different family members, as was required in order to test the hypotheses of the study. In general, the total mean index of agreement scores calculated, showed very poor matches between the codes of family members no matter the gender of the child, or the schooling background of any of the parties. Iachan (1984) proposed that only those scores above 20 could indicate a close match, and therefore a high agreement (or at least some form of agreement) between the interests of two people. In the current study, however, it was not common for mean agreement scores to reach 15 (which according to Iachan does not point to a close match) let alone 20.

Those mean index of agreement scores which did rise above 14 (the indicator of some kind of match between three-letter codes, but not a close match) were those between the codes of

mothers and daughters regardless of whether the daughters went to either the co-educational or the single sex school; between the codes of mothers and daughters regardless of whether the mother attended a co-educational or single sex school; and between the codes of mothers and daughters no matter the schooling background of the father in the family. The only results found in the male group which pointed to a match between codes, although this was still not a close match, was that the mean congruence score between the codes of boys and their fathers if the father had attended a boys-only school in his youth. The mean index of agreement score in this case was 14.16.

To further analyse the mean congruence scores, one needs to start by looking at Tables 15 and 16. These tables tell us that mothers and sons show less congruence in their interests, as represented by their three-letter Holland codes, than do fathers and sons, and that mothers and daughters show more congruence in their interests than do fathers and daughters. To discover the significant differences with regard to these findings several ANOVA's were done. These can be seen in Tables 10 and 17, and show the extent and importance of these findings. The independent variables in the tests were schooling background of the students, and the students' gender, respectively.

The only significant difference found when comparing the mean agreement scores between the codes of family members depending on where the child goes to school, was that between the codes of mothers and fathers whose children attend the co-educational school, and the codes of mothers and fathers whose children attend one of the single sex schools. This result is explained when one looks at the totals for co-educational school students and single sex school students outlined in Table 7. It is easy to see that for mothers and fathers whose children attend the co-

educational school, there is a stronger match (although not a close match) between mothers' and fathers' interests than for those parents whose children attend the single sex schools. This, it should be noted, is all regardless of the sex of the child. Unfortunately, a significant difference was not found between mean agreement scores of the codes of mothers and daughters for those daughters who attend the co-educational school, and for those daughters who attend the girls-only school, and no significant difference was found between mean agreement scores of the codes of fathers and sons, for sons who attend the co-educational school, and for those sons who attend the boys-only school.

When the sex of the child was taken into consideration, there appeared to be a significant difference between the mean agreement scores of the interest codes of fathers and their children.

This result reflects that there is a significant difference between the mean index of agreement scores of three-letter interest codes between fathers and sons, and fathers and daughters. As has already been mentioned, table 15 points out that it is fathers and sons whose congruence scores are higher than that of fathers and daughters. The result of the ANOVA in Table 17 shows that this congruence difference is statistically significant, and supports the hypothesis that the mean index of agreement score between the codes of fathers and sons should be significantly different, and higher than the mean index of agreement score between codes of fathers and daughters. Therefore we must fail to reject this hypothesis. However, disappointingly, a similar finding did not occur in the case of mean agreement scores between the codes of mothers and daughters versus mothers and sons, as the hypothesis states. Thus the hypothesis that the mean agreement score between the codes of mothers and daughters is significantly different and higher than the mean agreement score between the codes of mothers and sons, must be rejected:

But what does this all mean to us? We must now turn our attention to the implications of these statistical results and try to make sense of them according to the literature reviewed at the beginning of this study.

Firstly, one needs to suggest that the results of this study (as they pertain to the congruence scores), and the results of Sher's study of 1998 point to the same outcome, that is, there is no close match between the occupational interests of parents and their children. Perhaps this is one of the main issues of importance in this study since it reflects replicability and reliability between the two studies.

In addition, as in Sher's (1998) study, the results of the current study do not reflect those of Miller's (1994) study. It seems that Miller's results were a little higher (mean indices ranged from 16.8 for fathers' and sons' codes, to 17.7 for mothers' and daughters' codes. According to Iachan (1984), these mean congruence scores do not point to a close match, but Miller (1994) still concluded that his results showed a fair degree of match, and that one can conclude on the "strength" of his results that parents have an influencing factor over their children's career choices in terms of occupational interests. In the current author's opinion these conclusions made by Miller (1994) regarding his study are somewhat misguided, and she certainly does not wish to presume to establish such generalisations based on the results of the current study.

However, one cannot reject the fact that some parents do have an influence in terms of occupational interests over their children's career choices. This statement is qualified by turning to Histograms 2 and 3 for support. These graphic representations indicate to us the distribution of agreement scores between parents and their children. Iachan (1984) said that those relatively

close matches between codes are those with agreement scores above 20. If one looks at Histogram 2, it seems that almost sixty pairs of mothers and their children (either son or daughter) showed a close match in their occupational interests - nearly one third of the sample. Although Histogram 3 only shows approximately 40 pairs of fathers and their children with close matches between their interest codes, the evidence is still there that some parents and children exhibit similar occupational interests.

Thus, the research question is not clearly answered. The very low agreement scores, and the very high agreement scores between some parents' and children's codes as witnessed in the Histograms, may have contributed to the moderate means in agreement scores seen in this study. This was most certainly the case in Sher's (1998) study. However, it seems that in the present study the low agreement scores take over and bring the means even lower, because they are in the majority. It appears that no generalisation can be made about the notion that parents act as role models who may affect their children's interests and occupational preferences. Some parents and their children exhibit closer matches in personalities and occupational interests, while others are simply quite different.

But why should this be? Crain (1992) in the literature review pointed out that as a child enters the environment outside the immediate family circle, that environment has the power to influence the child, mould the child, and add to the child's experience. Even though parents are said to be the primary role models of their children, the literature also suggests that the child's environment in today's world is so diverse that a child is influenced by many outsiders - the media (television) and other more popular media (the Internet), peers, teachers, religious leaders, and famous persons (Young, Friesen and Borycki, 1994). Parents are not always as exposed to these influences as

their children are (Goh and Leong, 1993), and may just as well be exposed to other influences. Therefore their interests may not come from the same arenas by virtue of mere exposure and experience.

This may account for the low agreement scores in some cases, but one might also consider that children do not necessarily only model off the one parent (and especially the same sex parent as Sdorow, 1993 indicated). Perhaps children in a two-parent household take something from each parent, and so the child's occupational interests are really a combination of the interests of his/her parents. In addition, high versus low agreement scores between parents and their children may be by virtue of parenting style and child-rearing practice. For example, a mother may be a career woman who does not have the opportunity to spend as much time with her children as she would like, and thus perhaps does not have as much influence over them as other people do. Children in this scenario may admire their mother and want to follow in similar footsteps, or they may choose an opposite direction for their lives. Another example would be of a mother who may be a housewife who is constantly in contact with her children, and so these children have the opportunity for maximum exposure to her interests, her values, and her personality. Once again this may influence the children to pick up on her interests unconsciously, or to consciously decide to be different from her. These examples show very different scenarios which provide children with two very different types of environment in which to learn.

With regards to the hypothesis regarding the children's gender and schooling background, some explanations also need to be offered. The literature on gender influences and sex typing pointed us in the direction as to suppose that a child is more likely to model interests, personality, values, and the like off the same sex parent rather than the opposite sex parent (eg. Sdorow, 1993).

Whereas our results support the fact that sons and fathers have more similar occupational interests than fathers and daughters, no such support is found for mothers and sons and daughters, although it was suggested, (but still not proved by any statistically relevant result) that mothers and sons are not as congruent in their interests as mothers and daughters.

The fact that no significant difference was found between the mean agreement score of mothers' and sons', and mothers' and daughters' three-letter interest codes, may be by virtue of the mothers themselves. The current researcher found that when examining data relevant to the mothers from the co-educational school and both single sex schools, mothers had classified themselves most frequently as either housewives, or home executives, or home makers. This may be an indication that mothers are involved in their children's lives to quite a large extent, no matter the sex of their children, or their children's schooling background, and therefore, they may influence sons and daughters to an almost equal degree. But, once again, this does not explain why the mean agreement scores between mothers' codes and children's codes do not point to close matches in occupational interests. Perhaps one must go back to the argument above, then, that children take a limited amount from their parents and turn to other influencing factors for the rest.

The father-son pairing is perhaps easier to explain. Prinsloo (1992) suggested in her review that the relationship between father and son is much stronger than that of father and daughter merely by view of biological sex. Roe (1956) also explains that boys are expected to identify with and model off their fathers because this is exactly what society dictates. Thus our results that fathers and sons show a closer match in interests than fathers and daughters, are in line with popular theory on sex typing and sex-role stereotypes as they pertain to males. (Curiously this could not

be shown as it pertains to females in this sample.) Perhaps this says something about the value that is placed on traditionally male endeavours versus those which are traditionally female?

Quakenbush's (1987) suggestion, however, that sex typing occurs more often in girls and boys who attend single sex schools, as opposed to those children who attend co-educational schools, could not be shown in this study, and so the hypotheses related to this issue had to be rejected by the researcher. It was found that mothers' and daughters' interest codes were not more or less congruent if the daughter attended the co-educational or the girls-only school. Similarly, this was also the case for the codes of fathers and sons.

One must consider that schools are not what they used to be, and that single sex education is not as inflexible today as it was in the past (Dimitrovsky, Singer and Yinon, 1989). Teachers are no longer solely of the same sex as their students, and exposure to the other sexes is not as prohibited in modern times, with boys-only schools having sister schools, and girls-only schools having brother schools. Also, not all schools are run in the same way, with the same philosophy on teaching. This may mean that some co-educational schools are in fact similar to single sex schools in their teaching practices, and likewise for single sex schools. Sex typing, may therefore be similar no matter which form of education one is looking at. In addition, one must once again point out that schools are not necessarily the main influencing agents (besides parents) on young people's lives, and that the issues of other socialisers are important when considering where children model behaviour, interests and values from. There have been many broader changes in our society which may contribute - those such as equity issues, non-sexist attitudes and legislation etc, are greatly emphasised in today's world.

6.2 The Occupations of Parents

Holland's (1985) theory explicitly states that it is a particular personality structure of several traits, and a set of interests that leads one into a particular occupation. In conjunction with this, his model comprising of six vocational personality types, has been proven as correct in saying that a person's occupation is characterised by a set of specific occupational interests of the people who work in the field. By virtue of the evidence on Holland (1985) seen in the literature review, Hypotheses 7 and 8 were suggested as true by the current researcher. That is, if Holland's theory holds any value, then the three-letter codes of mothers and fathers on their completion of the Self-Directed Search Questionnaire, should be congruent with three-letter codes representing their stated occupations, as taken from Holland's (1985) work on occupations and the interests they comprise of.

The results indicated (see Table 18) that there was a match in the codes for both mothers and fathers between their stated occupations and three-letter interest codes, but that this match was certainly not a close match. According to Holland and hypotheses 7 and 8, this should not be so. The current author believes, however, that this result cannot be taken at face value, and suggests that one looks rather at the distribution of agreement scores in Histograms 4 and 5. It is in these graphic representations of the data that one can get a better conception of what truly occurred. In both Histograms it is evident that almost half the candidates showed a very high agreement between their occupational interests (as represented by their three-letter Holland codes), and their occupations. The other half show low agreement scores which do not point to a close match between interests and occupations. It seems that the very high agreement scores, when combined with the low agreement scores give a moderate mean index of agreement. This makes the

results hard to interpret accurately.

This has implications for people in or entering the world of work, since several possibilities are evident. Either Holland's theory is flawed in some way so that interests and personality do not influence the occupations we are most suited to and therefore choose, or Holland's theory is correct (as testified to by numerous citations), and something else is occurring in order to reveal the results found. The current author advocates that the evidence in support of Holland's theory is too strong to be negated by this study, and that other issues are involved to cause some of the low agreement scores between mothers' and fathers' interests and occupations. For instance, it is possible that some people have chosen to go into different occupations and careers for other reasons than because their interests coincide with them - money, social desirability, peer pressure, limited physical, mental or intellectual abilities, or family tradition are amongst the reasons why people choose to do the work they do (Palmer and Cochran, 1988). These other factors may influence people to work in field not necessarily congruent with their personalities. Holland (1985), however, warns against this, saying that to maximise individual productivity, self-actualisation, satisfaction, and self-fulfilment, one must work in an environment that fits in with one's personality and interests (Wampold, Ankarlo, Mondin, Trinidad-Carrillo, Baumler and Prater, 1994).

The extremely high frequency of mothers who described themselves as housewives may also contribute to the fact that there was a low mean agreement score for mothers between their real and ideal occupations. One might consider that housewives are supposedly "non-working" mothers and thus may have given up careers to stay at home. Also, since no three-letter code reflects the work a housewife does (according to Holland), these subjects had to be left out of the

analysis considering congruence between mothers' real and ideal occupations.

If we then turn our attention to the fact that Holland's theory has also been widely criticised for its generalisability only to the male population, we must consider its applicability to the current study where females make up half the subject sample. Studies have tried to prove (and some have been able to positively establish) that Holland's theory does indeed apply to the female population as well (see Wortley, 1995 for citations of such studies). Therefore Hypothesis 9 came about in an attempt to establish whether or not there would be any significant difference in occupation-interest congruence between males and females (ie. mothers and fathers in the sample), and thus establish whether this part of Holland's theory is also supported by the current study.

Findings indicated that there was no significant difference between males and females (that is, mothers and fathers) when it comes to the congruence between their occupational interests and stated occupations. Therefore we must fail to reject Hypothesis 9 which stated that this is exactly what should occur. This is an important finding, as it suggests that Holland's model is indeed applicable to the female population as well as to the male population (at least in this study's sample), and so does add to the literature on Holland and his theory of vocational interest.

6.3 Sex Stereotyping

Although we have already discussed gender influences to a certain extent, results indicating sex stereotyping need to be explained in more depth. The literature suggests that certain of Holland's personality, or RIASEC, types are more common to males than they are to females, and vice versa. Sher's (1998) study found that the Realistic and Enterprising types to be chosen by males more frequently than by females, and in fact these were chosen most frequently by males. Conversely, the Social and Artistic personality types were chosen more frequently by females than males, and were the most frequent choice for females. In addition, Holland (1966) proposed that this is exactly the configuration of choices we should find for males and females. The discussion of gender influences in the literature review suggested that despite moves to obliterate sex stereotyping in education and work practices, sex typing is a self-fulfilling prophecy and continues today - in the occupational interests of children, and their subsequent career choices.

In order to check whether our students, and their parents, subscribed to this format of sex stereotyping, cross tabulations on the codes of all members in the sample were done. An important finding was that for the most part girls for the entire sample chose the Social Type most frequently as their first and second letters (ie. their first and second choices, or interest preferences). This was mirrored by mothers who also showed this configuration in their three-letter codes, overall. The result was as to be expected by the literature, although the literature does say that the Artistic Type is also of the most frequent choices of females. Oddly enough the Artistic personality type was not a frequent choice for females in this sample, be they mothers or daughters.

In addition, the literature suggested that girls who attend single sex schools are thought to be supposedly more sex-typed, than girls who attend co-educational schools (Quakenbush, 1987). Thus the expectation would be that girls from the single sex school will have more frequently chosen the types most stereotypical of their sex (the Social and Artistic Types), and that the girls from the co-educational school will have been indifferent to choosing these stereotypical types above other RIASEC types. This was not the case, however, since girls from both schools chose the Social Type most frequently - perhaps then, both groups can be seen as sex-typed.

Similarly, one would expect (since the literature is the same for males and females) that boys at the single sex school would also be more sex-typed than boys who attend the co-educational school. Therefore, boys at the boys-only school were expected to choose the Enterprising and Realistic Types most frequently because these types are meant to be stereotypical to the male sex (Holland, 1966). Boys from the co-educational school, though, were not expected to subscribe to this. The finding pertaining to these hypotheses was very interesting. Yes, boys from the boys-only school most frequently chose the Enterprising Type as their most preferable and second most preferable occupational type, but they did not really show an interest for the Realistic Type in their codes to any noticeable extent. Instead the Social Type was quite frequently chosen, although not nearly to the same degree as in the female sample. Boys from the co-educational school also chose the Enterprising Type as their most preferred interest/ personality group, and the Social Type once again came up as also being a choice of many of the boys (it being their most frequent second choice). However, the co-educational boy students did show an interest in the Realistic Type to a noticeable extent in that overall it was the third most frequent choice in their three-letter codes. This or configuration was also the case for the fathers of the entire sample.

Do these results then imply that boys from co-educational schools and single sex schools are not differentially sex-typed, and that perhaps boys are not as sex-typed as girls? This question is difficult to answer given the limited data we have on subjects in this regard. Perhaps, too, it is beyond the scope of this study. It is, however, safe to say that a large proportion of students in the sample of this study show a preference for those RIASEC personality types that are stereotypic of their sex, according to Holland (1966).

7. LIMITATIONS OF THE STUDY

There were a number of potential problems with the present study that should be brought to the readers' attention. These involve the research design as it pertains to sample selection, testing procedure, and measuring instrument.

An area of concern for the study was that of the size of each group that made up the entire sample. Ideally, a larger sample would have given a more generalisable set of results. Further, the sample was not representative of the general South African population. The subjects were students and their parents from two private single sex Christian schools and one co-educational Christian school which cater for the upper socio-economic class, and may not even be representative of other schools who are also classified as such. Sample selection should preferably have included students from similar schooling backgrounds to establish reliability of findings, students from underprivileged backgrounds and varying socio-economic backgrounds, students from public, or so-called "government" schools, and students from an array of cultural and religious backgrounds. Can conclusions made about a sample of 50 odd male, white, Christian, upper class, co-educational students, for example, be generalised to an entire population of white, Christian, upper class, co-educational, South African students? - it seems unlikely. In addition, as has already been noted, most mothers characterised themselves as housewives. This facet of the mother group may be due to the elevated socio-economic status of the whole group of subjects and so once again points to the fact that the sample is not representative of the South African population and that results cannot, therefore, be generalised to the population at large. However, to include all dimensions of the South African population was beyond the scope of this

study. In addition, in the study's defence, perhaps what the reader should also consider is that "the more alike (homogenous) the members of the population (the sampling units), the fewer of them need to be sampled" (Rosenthal and Rosnow, 1991, p209).

Also, only those potential subjects who returned their questionnaires to the researcher in a complete and suitable manner were used as participants in this study. This means that sample selection was not as random within the chosen population as one would have liked, and rather indicated a volunteer sample, and so generalisations about conclusions of the study must be made very carefully.

The testing procedure posed a serious problem in the present study. The tester could not find an agreeable manner in which she would have control over the subjects while they completed the Self-Directed Search Questionnaire. Although strict instructions were given to subjects in the instruction booklet and accompanying letter (see Appendix A), the current researcher had no guarantee that these instructions were adhered to. Instead, the current researcher had to trust that the students filled in their questionnaires individually, and separately from both of their parents, and that no discussion occurred between parents and children about suitable answers. One also hopes that questionnaires were filled out in a truthful manner.

The investigator was also perhaps incorrect in assuming that an objective questionnaire could tap the individual dimension of occupational interests as they pertain to career choice, and that perhaps some kind of qualitative analysis should have been used in conjunction with it. The question that may be raised is whether one psychometric instrument related to a single theoretical framework of occupational choice is sufficient to explain the relationships proposed by this

study's hypotheses. However, in spite of the disadvantages that have been mentioned in using them, self-report inventories such as the Self-Directed Search Questionnaire have the advantage of being explicit, easy to administer to a large sample, easy to score in a straightforward and objective manner, and are suitable for quantitative analysis.

The limitations of the present research mentioned above make it difficult to comprehensively compare findings of this study with those of other investigations in the same field of vocational psychology.

8. SUGGESTIONS FOR FURTHER RESEARCH

To a certain degree, the present study answers the questions that were originally posed in the hypotheses. However, it is obvious that future research should make use of more refined methods for collecting the relevant data. A carefully selected sample which is representative of the general South African population is necessary if research of the nature of this study is to reveal truly meaningful results. Although this may seem to be a rather daunting task, it is suggested that to extend the findings of this study to include those who do not fall into the category of white, Christian, upper-class, privately educated students, researchers should include subjects from other races, cultures, socio-economic brackets, and the public schooling system. In addition every attempt should be made to include larger numbers of parents and their children in future studies.

Also, in today's world where divorce between parents, and remarriage of parents, are common events, the influence of step-parents that was not considered in the present research study, is perhaps a relevant issue to be examined as they too are possible socialising influencers of children.

Future research should also take into account the limitations inherent in the present study's testing procedure, as they were outlined in the previous section on limitations of the present study. If possible, researchers should try to find a way to administer the questionnaire to subjects in a group setting, under proper testing conditions, to ensure answers are given individually, truthfully, and the questions are taken seriously by subjects.

Perhaps also a combination of quantitative and qualitative data collection techniques would be

useful in order to explore in more depth some of the trends that emerged. For example, we saw that for some parent-child pairs the expected high congruence did emerge, but for others it was not in evidence. It would be interesting to qualitatively assess for each group what makes the difference - why do some parents and their children exhibit a closeness in their occupational interests, and others don't?

Furthermore, those issues that were beyond the scope of this study make for important research, and answers to them are important in vocational psychology. Concerns about the nature of the influence parents may have on their children's career choices, and the extent or degree of this influence should be investigated. Questions to do with other influencing agents besides parents are also important to know - the effects television, the Internet and other popular media are having over what children wish to do with their futures in terms of careers. In addition, the effects of sex-typing and gender on adolescents needs to be clarified to a larger extent to determine if these are responsible for some people's career choices. Perhaps future investigations could also include Bem's (1956) model of masculinity and femininity and androgyny to establish if it is gender orientation rather than biological sex that causes children to choose stereotypic careers.

All this proposed research and much more would certainly add to the vocational psychology literature, and provide vocational counselling professionals with more information to use in their important work.

9. CONCLUSION

After examining the extent to which the present study's data supported the study's hypotheses, several implications regarding vocational guidance and occupational psychology can be tentatively suggested.

Firstly, the vocational counsellor needs to be careful in his/ her work in guiding the adolescent into a future career. Since some students are influenced by their parents in terms of occupational interest and some are not, the counsellor must be aware of the various influencing agents a child may be exposed to when deciding on a career, and thus should guide them safely between influences which are satisfying and those which are not.

Secondly, the vocational counsellor must be aware of the socialising pressures acting on a child's life that tell children to be typically male or female as his/ her biological sex dictates. Perhaps it is the vocational counsellor's role or duty to advise parents and teachers that sometimes these pressures are of their making, and that stereotyping by virtue of biological sex is not always beneficial to children - especially in the guidance of choosing a future career.

Thirdly, the present research study suggests that Holland once again has been proved to be useful in the study of vocational choice for both males and females, and that his theory is a fitting guide as to how young people (or anyone for that matter) should choose their occupations so as to lead satisfying and productive lives.

Lastly, this study points to something much more important in the field of vocational counselling and occupational psychology that has since failed to be recognised as something that seriously needs to change. Vanessa Bluen (2000) in an article entitled "Gutsy is better than good" hints at this. Bluen (2000) points out that women in the workplace, and women entering the workplace for the first time, need to move away from the traditional female roles that have been expected of them. She believes that in the past women were socialised to follow the rules of choosing a career, and sticking to occupations that were suitable for them. "Not so anymore", Bluen (2000) exclaims, "The modern workplace needs gutsy girls, not good girls." and so the field of vocational psychology must take heed, females should not be socialised into the traditional sex roles of women anymore - and for that matter, neither should males!

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APPENDIX A

Package handed out to Students to take home, so as to complete the questionnaire, and ask their parents to complete the questionnaire.

Includes Covering Letter, Consent Form, Instruction Sheet, Self-Directed Search Questionnaire, and three Answer Sheets.



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Dear Parents and Pupils,

Every year, students from the Department of Psychology at the University of the Witwatersrand, who are studying Masters in Industrial Psychology, must conduct some form of research as a requirement for their degree. Research is conducted in various arenas under the careful supervision of the Department of Psychology.

In order for the research to be accurate and fair, students seek the voluntary participation of members of the population who will be most beneficial to their research proposal. My interest lies in the vocational guidance of adolescents, and thus the study I am conducting aims to investigate the interests of mothers and fathers, and their daughters or sons in terms of career choice. The sample that is needed is quite large in order to obtain significant results that may prove to be useful within the field of vocational psychology.

If students choose to participate, mothers, fathers and daughters or sons will be asked to fill in a questionnaire called the Self-Directed Search in their own time. All subjects are assured total confidentiality, with no names or other details revealed in the final report. All results will be displayed in terms of trends, and feedback on these trends will be made available to the school.

Your participation in this regard would be greatly appreciated. If any questions may arise, please do not hesitate to contact me.

Yours sincerely,

Dalene Sher (BSc. Hons. Wits.)

Supervisor: Dr Karen Ortlepp

444-5192

082-924-7157

I, _____ mother/ father of _____
consent to participating in the study outlined by Dalene Sher, and agree to the participation of
my daughter/ son. I have read the covering letter and understand the aim of the study and the
requirements asked of me.

Thank you.

Signed _____

Dated _____

INSTRUCTIONS

Enclosed please find a consent form, a Self-Directed Search Questionnaire test booklet and three (3) answer sheets.

First : Please would the mother, father and daughter or son fill in the Self-Directed Search questionnaire separately, each on a separate answer sheet. Fill in your details on the answer sheet.

- These should include your name and surname, the school at which the student attends, the date, the testee number (which is to be found on the cover of the questionnaire booklet), your own age, your sex, the student's standard at school, and whether you are the parent or the student.

These details will serve to verify that the correct matches are made, and will be kept confidential at all times.

Go through the questionnaire following all instructions in the booklet.

Second: Please would the parents fill in the additional Biographical data which can be found on a separate page marked "**Parents' Biographical data**".

- Once completed, please secure both the answer sheets **and** the test booklet in the envelope provided so that confidentiality is ensured. Return to the school as soon as possible.

Thank you for your cooperation!

Parents' Biographical Data

Mother's occupation

Mother's level of Education:

[Matric] [Undergraduate degree] [Postgraduate degree] [Diploma]

[Other]

Mother's Schooling Experience:

[Co-educational] [Girls-only School]

Father's occupation

Father's level of Education:

[Matric] [Undergraduate degree] [Postgraduate degree] [Diploma]

[Other]

Father's Schooling Experience:

[Co-educational] [Boys-only School]



Group: Education		SELFONDERSOEK-VRAELYS (SOV)		Groep: Onderwys		SIDE KANT 1								
						Initials Voornletters								
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		UNITS ENE			0	1	2	3	4	5	6	7	8	9
		HUNDREDS HONDERDE			0	1	2	3	4	5	6	7	8	9
		TENS TIENE			0	1	2	3	4	5	6	7	8	9
		UNITS ENE			0	1	2	3	4	5	6	7	8	9
		HUNDREDS HONDERDE			0	1	2	3	4	5	6	7	8	9
		TENS TIENE			0	1	2	3	4	5	6	7	8	9
		UNITS ENE			0	1	2	3	4	5	6	7	8	9
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		TENS TIENE			0	1	2	3	4	5	6	7	8	9
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		UNITS ENE			0	1	2	3	4	5	6	7	8	9
		TENS TIENE			0	1	2	3	4	5	6	7	8	9
		UNITS ENE			0	1	2	3	4	5	6	7	8	9
		TENS TIENE			0	1	2	3	4	5	6	7	8	9
		UNITS ENE			0	1	2	3	4	5				

• korrekte manier om 'n antwoord te merk:
• correct way to mark an answer;

Sec. Afd I	Sec. Afd II	Sec. Afd III
1 YES (NO)	34 YES (NO)	67 YES (NO)
2 JA (NEE)	35 JA (NEE)	68 JA (NEE)
3 YES (NO)	36 YES (NO)	69 YES (NO)
4 JA (NEE)	37 JA (NEE)	70 JA (NEE)
5 YES (NO)	38 YES (NO)	71 YES (NO)
6 JA (NEE)	39 JA (NEE)	72 JA (NEE)
7 YES (NO)	40 YES (NO)	73 YES (NO)
8 JA (NEE)	41 JA (NEE)	74 JA (NEE)
9 YES (NO)	42 YES (NO)	75 YES (NO)
10 JA (NEE)	43 JA (NEE)	76 JA (NEE)
11 YES (NO)	44 YES (NO)	77 YES (NO)
12 JA (NEE)	45 JA (NEE)	78 JA (NEE)
13 YES (NO)	46 YES (NO)	79 YES (NO)
14 JA (NEE)	47 JA (NEE)	80 JA (NEE)
15 YES (NO)	48 YES (NO)	81 YES (NO)
16 JA (NEE)	49 JA (NEE)	82 JA (NEE)
17 YES (NO)	50 YES (NO)	83 YES (NO)
18 JA (NEE)	51 JA (NEE)	84 JA (NEE)
19 YES (NO)	52 YES (NO)	85 YES (NO)
20 JA (NEE)	53 JA (NEE)	86 JA (NEE)
21 YES (NO)	54 YES (NO)	87 YES (NO)
22 JA (NEE)	55 JA (NEE)	88 JA (NEE)
23 YES (NO)	56 YES (NO)	89 YES (NO)
24 JA (NEE)	57 JA (NEE)	90 JA (NEE)
25 YES (NO)	58 YES (NO)	91 YES (NO)
26 JA (NEE)	59 JA (NEE)	92 JA (NEE)
27 YES (NO)	60 YES (NO)	93 YES (NO)
28 JA (NEE)	61 JA (NEE)	94 JA (NEE)
29 YES (NO)	62 YES (NO)	95 YES (NO)
30 JA (NEE)	63 JA (NEE)	96 JA (NEE)
31 YES (NO)	64 YES (NO)	97 YES (NO)
32 JA (NEE)	65 JA (NEE)	98 JA (NEE)
33 YES (NO)	66 YES (NO)	99 YES (NO)
100 YES (NO)	101 JA (NEE)	102 YES (NO)
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112 YES (NO)	113 JA (NEE)	114 YES (NO)
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151 YES (NO)	152 JA (NEE)	153 YES (NO)
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193 YES (NO)	194 JA (NEE)	195 YES (NO)
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199 YES (NO)	200 JA (NEE)	201 YES (NO)
202 JA (NEE)	203 YES (NO)	204 JA (NEE)
205 YES (NO)	206 JA (NEE)	207 YES (NO)
208 JA (NEE)	209 YES (NO)	210 JA (NEE)
211 YES (NO)	212 JA (NEE)	213 YES (NO)
214 JA (NEE)	215 YES (NO)	216 JA (NEE)

R	1		①	②	③	④	⑤	⑥
I	2		①	②	③	④	⑤	⑥
A	3		①	②	③	④	⑤	⑥
S	4		①	②	③	④	⑤	⑥
E	5	"	①	②	③	④	⑤	⑥
C	6		①	②	③	④	⑤	⑥

R I A S E C

Realistic Realisties	Investigative Ondersoekend	Artistic Artisties	Social Sosiaal	Enterprising Ondernemend	Conventional Konvensioneel

Section I Activities
Afdeling Aktiviteite

Section II Competencies
Afdeling Bekwaamhede

Section III Occupations
Afdeling Beroepe

Section IV Rating of your abilities/skills
Afdeling Beoordeling van jou vermoëns/vaardighede

Total score
Totaaltelling

Letter of highest score Letter met hoogste telling	Letter of second highest score Letter met tweede hoogste telling	Letter of third highest score Letter met derde hoogste telling

SDS Code

SOV-kode

Planned occupations
Beoogde beroepe

- 1.
- 2.
- 3.

Confidential

2482

Self-Directed Search Questionnaire (SDS)

Occupational Interest

Human Sciences Research Council



QUESTIONNAIRE

SECTION 1: ACTIVITIES

Shade YES for the activities you LIKE TO DO or think you WOULD LIKE TO DO.

Example: ☐ ☒ No

Shade NO for the activities you are INDIFFERENT TO, HAVE NEVER DONE, or DO NOT LIKE TO DO. Example: ☒ ☐ Yes

R

1. Fix electrical apparatus.
2. Repair motor cars.
3. Fix mechanical apparatus.
4. Build objects with wood.
5. Drive a truck or tractor.
6. Use metalwork or machine tools.
7. Work on a bicycle or motorcycle.
8. Take a technical course.
9. Take a course in mechanical drawing.
10. Take a woodworking course.
11. Take a motor mechanics course.

I

12. Read scientific books or magazines.
13. Work in a laboratory.
14. Work on a research project.
15. Study a scientific theory.
16. Work with a chemistry set.
17. Read about a special subject on my own.
18. Apply mathematics to practical problems.
19. Take a physics course.
20. Take a chemistry course.
21. Take a mathematics course.
22. Take a biology course.

A

23. Sketch, draw, or paint.
24. Take part in a comedy or play.
25. Design furniture, clothing, posters, or buildings.
26. Play in a band, musical group or orchestra.
27. Practise to play a musical instrument.
28. Go to recitals, concerts or musicals.
29. Create portraits or take photographs.
30. Read plays.
31. Read or write poetry.
32. Take an art course.
33. Arrange or compose music of any kind.

S

34. Write letters to friends.
35. Read articles or books on sociology.
36. Belong to social clubs.
37. Help others with their personal problems.
38. Take care of children.
39. Go to parties/social meetings.
40. Dance.
41. Read books on psychology.
42. Help handicapped people.
43. Go to sports events.
44. Teach in a school.

E

45. Convince other people.
46. Sell something.
47. Discuss politics.
48. Manage your own service or business.
49. Go to meetings.
50. Give talks.
51. Act as a leader of a group.
52. Supervise the work of others.
53. Meet important people.
54. Lead a group in accomplishing some goal.
55. Participate in a political campaign.

C

56. Keep your own desk and room neat.
57. Type papers or letters.
58. Add, subtract, multiply, and divide numbers in a business, or bookkeeping.
59. Operate business machines of any kind.
60. Keep detailed records of expenses.
61. Take a typewriting course.
62. Take a business course.
63. Take a bookkeeping course.
64. Take a commercial maths course.
65. File letters, reports, records, etc.
66. Write business letters.

SECTION II: COMPETENCIES

Shade YES for those activities that you HAVE KNOWLEDGE of or that you CAN DO WELL or COMPETENTLY.

Shade NO for those activities that you HAVE LITTLE or NO KNOWLEDGE of or that you HAVE NEVER PERFORMED or PERFORM POORLY.

R

- 67. I have used a woodworking tool such as a power saw, a lathe or a sander.
- 68. I know how to use a voltmeter.
- 69. I can change car oil or tyres.
- 70. I have operated tools such as a drill press or a grinder or a sewing machine.
- 71. I can refinish, varnish or stain furniture or woodwork.
- 72. I can read blueprints (building plans).
- 73. I can make simple electrical repairs.
- 74. I can repair furniture.
- 75. I can do mechanical drawings.
- 76. I can do simple repairs to a TV set (or radio).
- 77. I can do simple plumbing repairs.

I

- 78. I can use algebra to solve mathematical problems.
- 79. I have participated in a scientific contest.
- 80. I understand the "half-life" of a radioactive element.
- 81. I understand logarithmic tables.
- 82. I can use a slide rule/calculator to multiply or divide.
- 83. I can use a microscope.
- 84. I can program a computer to study a scientific problem.
- 85. I can describe the function of white blood cells.
- 86. I can interpret simple chemical formulas.
- 87. I understand why man-made satellites do not fall to the earth.
- 88. I can name three foods that are high in vitamins.

A

- 89. I can play a musical instrument.
- 90. I can participate in two or four-part choral singing.
- 91. I can perform as a musical soloist.
- 92. I can act in a play.
- 93. I can do interpretive reading.
- 94. I can do interpretive or ballet dancing.
- 95. I can sketch people in such a way that they are recognizable.
- 96. I can do a painting or do a piece of sculpture.
- 97. I can do pottery.
- 98. I can design clothing, posters or furniture.
- 99. I can write stories or poetry well.

S

- 100. I find it easy to talk to all kinds of people.
- 101. I am good at explaining things to others.
- 102. I am competent at entertaining people older than myself.
- 103. I can be a good host/hostess.
- 104. I can teach others easily.
- 105. I can plan entertainment for a party.
- 106. I have worked as a hospital helper or nurse.
- 107. I am good at helping people who are upset or troubled.
- 108. I can plan social events for the school or the church.
- 109. I am a good judge of personality.
- 110. People seek me out to tell me their troubles.

E

- 111. I have won an award for work as a salesperson or leader.
- 112. I know how to be a successful leader.
- 113. I am a good debater.
- 114. I could manage a small business or service.
- 115. I have organized a club or group.
- 116. I have been elected to an office while in high school or after leaving school.
- 117. I have acted as a spokesman for a group in presenting suggestions or complaints to a person in authority.
- 118. I can supervise the work of others.
- 119. I am ambitious.
- 120. I am good at getting people to do things my way.
- 121. I am a good salesperson.

C

- 122. I can type 40 words a minute.
- 123. I can operate a duplicating or adding machine.
- 124. I can take shorthand.
- 125. I can file correspondence and other papers.
- 126. I have held an office job.
- 127. I can use a bookkeeping/accounting machine.
- 128. I can do a lot of paper work in a short time.
- 129. I can use a pocket calculator.
- 130. I can use simple data processing equipment such as a keypunch.
- 131. I can post credits and debits.
- 132. I can keep accurate records of payments or sales.

SECTION III: OCCUPATIONS

This section concerns your feelings and attitudes regarding many kinds of work.

Show the occupations/jobs that INTEREST or APPEAL TO you by shading YES.

Show the occupations/jobs that you DISLIKE or FIND UNINTERESTING by shading NO.

R

- 133. Aeroplane mechanic - maintains aeroplanes.
- 134. Fish and wildlife specialist - studies natural animal resources.
- 135. Motor mechanic - maintains and repairs motor vehicles.
- 136. Carpenter/Joiner - does woodwork.
- 137. Power shovel operator - runs shovel and large building and road equipment.
- 138. Filling station worker - pumps fuel, changes/deposits oil in vehicles at filling stations.
- 139. Farmer - works on a farm where crops are grown or livestock is bred and raised.
- 140. Surveyor - measures distances for buildings and roads.
- 141. Construction inspector - inspects new buildings to see that they meet certain requirements.
- 142. Radio operator - sends and receives radio messages.
- 143. Long distance bus driver - transports people over long distances.
- 144. Engine driver - runs trains.
- 145. Tool designer - designs tools to do new jobs.
- 146. Electrician - maintains and repairs electric wires and machinery.

I

- 147. Meteorologist - studies the weather.
- 148. Biologist - studies plants and animals.
- 149. Astronomer - studies the stars.
- 150. Medical laboratory technician - works in a medical laboratory and provides information to the medical doctor.
- 151. Anthropologist - studies the beliefs, the past and present behaviour and the physical characteristics of people.
- 152. Zoologist - studies animals.
- 153. Chemist - studies composition and characteristics of materials and the processes they undergo.
- 154. Research scientist - conducts scientific experiments.
- 155. Writer of scientific articles - writes articles on science for magazines, books or encyclopedias
- 156. Editor of a scientific journal - heads a magazine that publishes articles on science.
- 157. Geologist - studies the earth, rocks, mountains, volcanoes.
- 158. Botanist - studies plants.
- 159. Microbiologist - studies the growth and characteristics of microscopic organisms
- 160. Physicist - studies the physical laws of nature (gravity, magnetism, motion).

A

- 161. Poet - writes poetry.
- 162. Symphony conductor - conducts musicians who play in an orchestra.
- 163. Musician - plays musical instruments or sings.
- 164. Writer - writes books, plays, poetry and newspaper articles.
- 165. Actor/actress - acts in a play.
- 166. Freelance writer - writes stories for magazines, newspapers on a part-time basis.
- 167. Musical arranger - writes music for words someone has written.
- 168. Journalist - writes for a newspaper/magazine.
- 169. Commercial artist - promotes the sale of products by means of pictures, paintings and pieces of sculpture.
- 170. Concert singer - sings on the stage.
- 171. Composer or lyricist - writes music or words to music.
- 172. Sculptor/sculptress - carves/moulds statues from marble, metal, clay or wood.
- 173. Playwright - writes plays.
- 174. Cartoonist - draws comic strips or humorous drawings on sports and news events.

S

- 175. Sociologist - examines the ways in which individuals in groups and groups themselves interact.
- 176. High school teacher - teaches one or two subjects to pupils in Standards 6 to 10.
- 177. Playground director - organizes games for young people at a playground.
- 178. Speech therapist - helps people correct and solve their speech problems.
- 179. Marriage counsellor - helps husbands and wives who are not happy together.
- 180. School principal - head of a school.
- 181. Psychiatric nurse - someone who cares for psychiatric patients in a hospital.
- 182. Clinical psychologist - helps people who are unhappy with their lives.
- 183. Social science teacher - teaches for example, history and geography.
- 184. Director of a welfare agency - head of an organization that gives social support to families or individuals in distress.
- 185. Youth organizer - organizes activities and takes responsibility for young people.
- 186. Counselling psychologist - helps individuals to deal with the problems that occur in everyday life.
- 187. Social worker - helps people to cope satisfactorily in their family and community life.
- 188. Vocational counsellor - someone who helps others decide what kind of work they would like to do.

E

- 189. Speculator - someone who takes risks with buying and selling to make money.
- 190. Buyer - purchases merchandise from manufacturers and wholesalers.
- 191. Advertising executive - does advertising for a business.
- 192. Manufacturer's representative - a salesperson who sells a company's products.
- 193. Television producer - produces TV shows.
- 194. Hotel manager - manages a hotel.
- 195. Business executive - owner or manager of a business.
- 196. Restaurant manager - runs a restaurant, hires the waiters and waitresses, cashiers and cooks.
- 197. Advocate - conducts civil and criminal cases in various courts of law.
- 198. Salesperson - person who sells goods and services.
- 199. Real estate salesperson - sells houses and property.
- 200. Personnel manager - gives advice and sees to it that personnel policies are carried out.
- 201. Sports promoter - arranges and publicizes sports events.
- 202. Sales manager - ensures that goods and services are sold.

C

- 203. Bookkeeper - keeps track of how money is earned and spent in a business.
- 204. Business teacher - teaches business subjects at school, e.g. bookkeeping, commerce.
- 205. Data typist - uses a special typewriter to process information for immediate or future use.
- 206. Chartered accountant - inspects the correctness and completeness of the financial states and books of organizations.
- 207. Credit controller - checks if clients have credit value.
- 208. Court stenographer - records everything on tape said during courtroom trials.
- 209. Bank teller - receives and pays out money at a bank.
- 210. Tax expert - advises people on tax matters.
- 211. Inventory controller - takes stock of goods in a store or business at a certain time.
- 212. Typist - types letters, reports, etc. on a typewriter.
- 213. Financial analyst - works out if a person or business is spending money wisely.
- 214. Cost estimator - determines how much it will cost to do certain jobs.
- 215. Payroll clerk - calculates how much money people should be paid for their jobs.
- 216. Bank inspector - checks on bank personnel to see if they carry out their work.

SECTION IV: RATING OF YOUR ABILITIES AND SKILLS

This section consists of two groups (GROUP I and GROUP II) of six abilities/skills each on which you must rate yourself.

Rate yourself on a scale of 1 to 6 on each of these abilities or skills. Rate yourself as you really think you are when compared with other persons of your own age.

Give the most accurate estimate of how you see yourself.

Avoid giving yourself the same rating for each ability/skill.

Your ratings of your abilities/skills should be entered in Section IV which appears at the bottom of the answer sheet (Side 1). Write the ratings you give yourself for each of the abilities/skills, in the blank squares next to numbers 1 to 12. Then shade the appropriate oval spaces corresponding to the ratings you have given yourself.

Examples:

1. Mechanical ability (fixing things, using tools and machines)

Suppose that Peter rates his mechanical ability as being low in comparison with the mechanical ability of other persons of his own age. He will then write a 2 in the blank square next to Number 1 and shade the oval space marked 2 on the answer sheet.

Note: Section IV of the answer sheet is reproduced below as an example and Peter's rating shows how one should indicate one's rating on the answer sheet.

2. Scientific ability (biology, chemistry and problem solving)

Suppose that Peter's scientific ability is high, but not quite as high as that of some of the other persons of his own age. He will then rate himself as a 5 and write a 5 in the blank square next to Number 2 and shade the oval space marked 5 on the answer sheet. See example below.

Section IV

	Group I							
R	1	2	①	②	③	④	⑤	⑥
I	2	5	①	②	③	④	⑤	⑥
A	3		①	②	③	④	⑤	⑥
S	4		①	②	③	④	⑤	⑥
E	5		①	②	③	④	⑤	⑥
C	6		①	②	③	④	⑤	⑥

	Group II							
R	7		①	②	③	④	⑤	⑥
I	8		①	②	③	④	⑤	⑥
A	9		①	②	③	④	⑤	⑥
S	10		①	②	③	④	⑤	⑥
E	11		①	②	③	④	⑤	⑥
C	12		①	②	③	④	⑤	⑥

NOW GO TO YOUR ANSWER SHEET AND RATE YOURSELF ON THESE TWELVE ABILITIES/SKILLS.

If you are still uncertain as to how to answer this part of the questionnaire, put up your hand and ask the tester to explain how it should be answered.

GROUP I

	Very Low	Low	Average	High	High	Very High	
1. I rate my mechanical ability (fixing things, using tools and machines) as:	1	2	3	4	5	6	(R)
2. I rate my scientific ability (biology, chemistry and problem solving) as:	1	2	3	4	5	6	(I)
3. I rate my artistic ability (music, art and drama) as:	1	2	3	4	5	6	(A)
4. I rate my teaching ability (helping others learn) as:	1	2	3	4	5	6	(S)
5. I rate my sales ability (selling or managing) as:	1	2	3	4	5	6	(E)
6. I rate my clerical ability (numbers, spelling and filing papers) as:	1	2	3	4	5	6	(C)

GROUP II

7. I rate my manual skills as:	1	2	3	4	5	6	(R)
8. I rate my mathematical ability as:	1	2	3	4	5	6	(I)
9. I rate my musical ability as:	1	2	3	4	5	6	(A)
10. I rate my friendliness as:	1	2	3	4	5	6	(S)
11. I rate my managerial skills as:	1	2	3	4	5	6	(E)
12. I rate my office skills as	1	2	3	4	5	6	(C)

APPENDIX B

Letter sent to each student who completed the questionnaire, as a form of feedback for subjects who participated in the study.

Dear Parents and Pupils,

Thank you for participating in the study by Dalene Sher during the year. Although results of the dissertation are still forthcoming, here are the results of your personal profile, as promised.

The purpose of the questionnaire completed is to measure occupational interests. The Self-Directed Search Questionnaire is unique because it links questionnaire information directly to the world-of-work by means of a three-letter code obtained from test responses. This code is a summary of activities preferred, occupational interests and self-assessed abilities. Thus the questionnaire can be regarded as suitable for use in career guidance and occupational choices. Although it is not allowed for me to give full vocational guidance to pupils, some indication can be given as to your occupational personality types.

The Realistic type (R) prefers to work with objects, tools, machinery, in mechanics, agriculture, technology. Occupations include electrician, mechanic, plumber, toolmaker, farmer.

The investigative type (I) prefers systematic investigation of physical, biological, cultural phenomena. Careers preferred include physicist, biologist, anthropologist, chemist.

The Artistic type (A) prefers achieving creativity, mastering artistic skills related to language, art, music, drama. Occupations may include actress, interior decorator, journalist.

The Social type (S) prefers to work with people, forming and training them or caring for them. Occupations may be nursing, education, social work.

The Enterprising type (E) prefers to take the lead and act in an enterprising manner in the business world or public life. Occupations chosen include law, politics, sales, business.

The Conventional type (C) prefers to manipulate data or work with ordered activities. They like clerics, computation, routine. Occupations may be accountant, administrator, data puncher.

Your results are given in three-letter codes, the first letter representing your most preferred type. Every individual belongs primarily to the first type even if they also have traits belonging to other types. The second and third letters reflect this

Pupil's code: _____

Mother's code: _____

Father's code: _____

Thank you,
Dalene Sher

Author Sher D P

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