

OCCUPATIONAL INTEREST PROFILE

the
technical
manual

4

Measures of Personality Values & Interests

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1

OVERVIEW

The OIP is a test developed for use across a wide range of assessment and guidance situations. The test has been developed in this country on a large sample of individuals drawn from a wide range of occupational groups. Thus the OIP is particularly appropriate for use in assessment and Guidance in the UK. The OIP contains twelve scales, five measuring personal qualities and seven measuring occupation interests. Each of the twelve dimensions measured by the OIP is bi-polar. That is to say high or low scores on each dimension measure opposite characteristics (e.g. extraversion v introversion, tough-minded v tender-minded etc.). The characteristics which are measured by the OIP have been selected for two reasons. Firstly, for of their relevance to assessment and guidance decisions, and secondly, because of extensive research evidence demonstrating their validity. Thus the test user can be confident that the OIP is measuring meaningful aspects of the candidate's personality.

- 1** MEASURING PERSONAL QUALITIES
- 2** THE DEVELOPMENT OF THE OIP
- 3** THE OIP INTEREST SCALES
- 4** THE OIP WORK INTERESTS

MEASURING PERSONAL QUALITIES

Interest in the measurement of psychological characteristics (psychometrics) can be traced back to the late 19th Century (e.g. Galton, 1884). Pioneering work in the field of vocational interest measurement was carried out by E.K. Strong, Jr., on the Strong Vocational Interest Blank in the 1920's. But it was the impetus provided by the second world war which resulted in such interest developing into a serious scientific enterprise. During the war there was a great need to select military personnel for air crew training which led to the development of a number of psychometric tests both here and in the United States. The main interest at this time was in the development of IQ tests, or tests of mental ability as they used to be called, rather than in the development of personality tests. While the psychological theory, trait theory, which underlies much of personality testing had been developed by Allport in the 1930's it was some time before this was used in an attempt to construct personality measures. It was not until after the Second World War that such work came to fruition.

The reasons for psychological testing burgeoning after the war were basically twofold. Firstly, modern computers permitted the lengthy and complex statistical analysis of data which is required to

produce a test. Thus David Campbell (Campbell, 1974) was able to use the computing power newly available to carry out the research and analysis which led to the Strong-Campbell Interest Inventory in a relatively short period of time. The second reason for the dramatic increase in psychological testing probably lay in the growing realisation that only by being able to understand and measure human behaviour could we hope to predict that behaviour with any degree of reliability.

The principles which underlie personal qualities and interest measurement are not as complex as they might first appear. A questionnaire is simply a collection of questions, or "items", which assess an individual's interests or characteristic ways of thinking, feeling and acting in different situations. Items do not have to directly ask a person how they typically behave (e.g. I am a warm, friendly person). All that is needed for an item to work is for people to respond to it in a consistent way. Thus good questionnaires can be reliable, yet contain items which are not transparent or obvious in what they seek to ascertain. In the area of occupational guidance and assessment it is in fact best not to use transparent items, thus making it harder to fake test results. Of course there is less reason for individuals

who are completing questionnaires for career direction or development purposes to wish to portray a falsely positive image than there is for an applicant for a job.

Personal qualities and interest questionnaires take items which measure different aspects of the same personality characteristic or interest area and combine them to form subscales or dimensions. By asking questions which address many different facets of a person's life, questionnaires attempt to get a broad picture of an individual's interests and how they usually act in different settings and with different people (e.g. with friends, at work, at formal social engagements etc.). Thus when we say a person is extroverted we mean that he is sociable, lively, outgoing and friendly: that he usually seeks variety, change and excitement and has a great need for others' company. In addition to addressing those characteristics which are extreme or outstanding questionnaires also assess those ways in which a person is average.

In personal development situations we are often as interested to find that a person is average on a certain trait as we are to identify their most notable or extreme characteristics. For example having an

average score on a particular trait, say assertiveness, may better fit the demands of the job being considered than being either highly change oriented or very accommodating.

Average scores can describe a balanced and flexible position, where the person is capable of displaying the strengths which are found at both of the extreme ends of the personality dimension. In the case of a person who has average levels of assertion for example, they are likely to strive to achieve a balance between being task focused and achieving results yet being sensitive to others' needs and avoiding interpersonal conflicts.

THE DEVELOPMENT OF THE OIP

An initial theoretical structure for the interest test was developed from a review of existing vocational interest questionnaires (e.g. Kuder Preference Record, Rothwell-Miller Blank, Vocational Preference Inventory etc.). Also of importance in the development process was the pioneering research carried out by John Holland in the area of general career themes. Holland (1985) reporting on the culmination of many years research suggested that the main dimensions underlying most interest inventories could be accounted for by means of six general career themes –Realistic, Investigative, Artistic, Social, Enterprising and Conventional.

The Holland career themes are strongly reflected in the seven interest scales contained in the Occupational Interest Profile. The initial research on the OIP suggested that some changes to the basic Holland scheme was desirable. Two of the most important of these were dictated by changing circumstances since the themes were originally proposed. It was decided that the enormous growth in the areas of Information Technology and Computing required the splitting of the Investigative theme into two

components –Scientific and Logical. It was also decided that due to the growing importance of the financial services sector that the Conventional theme in Holland's scheme needed widening to include interests in both administrative and financial matters.

In addition to vocational interests an individual's personality clearly has a role in career choice. A review of the relevant literature indicated that five personality variables played a significant role in career choice. Measures of extraversion, emotional stability and conscientiousness were included in the OIP as research as demonstrated that these three personality factors account for much of the variance in the majority of personality questionnaires. In addition, measures of the need to take control of situations and the need for variety and change were included because of their clear relevance to career choice.

Thus, a total of twelve scales, seven interest & five personal qualities, are measured in a questionnaire consisting of 122 items. Personal qualities and career interest questions are presented as a single test. The response format is a 5 point Likert scale ranging from Strongly Disagree to Strongly Agree.

If the aptitude approach to career guidance is followed individuals are given a number of tests in which they have to perform at their maximum. Their scores on the tests, which typically include reasoning, mechanical aptitude, spatial reasoning and a range of other aptitudes, are then compared to scores obtained by specific occupational groups. Thus, if an individual performed well on a test of spatial reasoning then, depending upon other criteria being satisfactory, a number of careers that involved a large component of spatial reasoning would be suggested.

The other approach to career guidance is to offer career interest, personal qualities and, optionally, some brief form of reasoning assessment to provide the careers adviser with objective and reliable information concerning their client. The major difference between the two approaches is that in the interests/personal values approach the client is asked questions to elicit information concerning themselves, while in the aptitude approach they are 'tested' for their maximum level of performance on a range of work related aptitudes.

Of course, the two approaches are not mutually exclusive and it would often be beneficial to combine the OIP with either a general reasoning test such as the GRT2 or a test of technical aptitudes such as the Technical Test Battery.

THE OIP INTEREST SCALES

PERSUASIVE

Interest in persuasive roles, involving the communication of information and ideas in a convincing manner. An interest in this area indicates someone who would enjoy speaking in public, relishing the opportunity to convert a group of people to their way of thinking. Typical vocational roles for those with high persuasive interests would be sales representatives, public relations and politics.

SCIENTIFIC

This scale deals with an interest in scientific pursuits including Physics, Chemistry, Medicine and laboratory work. Such an interest indicates a preference for discovering new facts and problem-solving. Primarily concerned with analytical skill and scientific curiosity individuals with an high score on this scale prefer to work with ideas and scientific principles.

PRACTICAL

This scale deals with an interest in practical, mechanical activities. People scoring highly on this scale would typically be interested in working with their hands, finding great satisfaction in being able to construct something. Vocational roles involving such things as engineering, machine tools, crafts, mechanical and civil engineering would all be of interest to the high scorer on this scale.

ADMINISTRATIVE

This scale is concerned with preferences for organising and maintaining information. Both financial and clerical/administration areas are sampled by this scale. High scorers would typically be interested in such activities as bookkeeping, stock control etc. Other things being equal one would expect people who display this preference to be excellent at jobs which required attention to large amounts of paperwork and the keeping of detailed records.

NURTURING

High scorers on this scale are interested in helping and caring for others. Such individuals will find it easy to talk to others and empathise with them. Thus they will be good at helping people who have problems, and will probably be sought out by others wishing to tell them their problems. High carers would probably prefer working in helping professions such as teaching, social work, health care etc.

ARTISTIC

This scale deals with all areas concerned with the creation of artistic products or ideas. High scorers will be interested in a wide range of artistic endeavours such as painting, theatre, photograph, design of all types etc. Such individuals will tend to express themselves through their artistic activities. High scorers on artistic would enjoy working in most areas of the arts and entertainment industry.

LOGICAL

High scorers on this scale show an interest in logical, rational pursuits. Such individuals enjoy solving puzzles of all types and would be extremely interested in any activities dealing with logic, computation and mathematics. Of special interest to high scorers would be any areas which involved them using computers for a major part of their time.

THE OIP WORK INTERESTS

NEED FOR VARIETY

This scale provides a measure of the extent to which an individual requires variety and change in their life. High scorers will always be seeking new and exciting activities and will probably become extremely bored if asked to perform the same task for any length of time. Such individuals also enjoy taking risks and require some element of adventure or excitement in their life. Low scorers, on the other hand, will prefer set routines and the familiarity of doing things they have done before. These will be cautious, safety conscious individuals who have no need for excitement and thrills in their life.

NEED FOR STABILITY

High scorers on this dimension are emotionally stable, calm and composed individuals. Generally optimistic, they will rarely brood over past failures but will instead get on with the next task. Accepting criticism in a good natured way they will rarely be upset by the thoughtless comments others might make. Low scorers tend to be emotionally volatile prone to sudden swings in their mood. Easily upset by others they may react adversely to criticism even if this is justified. Such individuals will have a tendency to worry about past failures and feel depressed at their perceived inadequacies.

NEED FOR STRUCTURE

A high score on this scale suggests an individual who will pay attention to detail, displaying perseverance and self-control. Well organised, they will be careful to plan ahead, attempting to account for any possible contingencies. If they start a task they will feel compelled to see it through to completion. Low scorers will not be the most organised people in the world, tending to be careless and impractical. Spontaneous people, they will see little need for making plans, and will often start tasks but lose interest in them before they are finished.

NEED FOR PEOPLE

A measure of sociability, giving an indication of an individual's desire to work with people, be an active group participant and need group support and recognition. High scorers will dislike being on their own, preferring to be a member of a group. They will have a great liking for social occasions and will not shirk from being the centre of attention. Low scorers will much prefer to work alone, tending to prefer their own company to that of others. They will have little need for group support and social recognition feeling comfortable when making their own decisions.

NEED FOR CONTROL

This scale gives a measure of a person's preference for leading and directing people, taking charge and responsibility for others. High scorers will be assertive individuals who are in their element in positions of power and responsibility. Thriving in a position of leadership and authority they love to organise other people. Such individuals will tend to take the lead in group discussions pushing their own views and ideas forward, paying little attention to those of others. Low scorers will not particularly like being in positions of authority finding it difficult to give orders to people. They will much prefer to be left to get on with their own work rather than being responsible for organising the work of others.

2

THE PSYCHOMETRIC PROPERTIES OF THE OIP

This chapter will present details concerning the psychometric properties of the Occupational Interest Profile. The aim will be to show that the OIP fulfils various technical requirements, in the areas of standardisation, reliability and validity, which ensure the psychometric soundness of the test.

- 1** INTRODUCTION
- 2** STANDARDISATION PROCEDURES AND NORMATIVE DATA
- 3** RELIABILITY OF THE OIP
- 4** CONSTRUCT VALIDITY
- 5** FACTOR STRUCTURE OF THE OIP

INTRODUCTION

STANDARDISATION : NORMATIVE

Normative data allows us to compare an individual's score on a standardised scale against the typical score obtained from a clearly identifiable, homogeneous group of people

In order to provide meaningful interpretations, the OIP was standardised against a number of relevant groups. The constituent samples which make up the OIP norm base are fully described in section 4.2.

Standardisation ensures that the measurements obtained from a test can be meaningfully interpreted in the context of a relevant distribution of scores. Another important technical requirement for a psychometrically sound test is that the measurements obtained from that test should be reliable.

RELIABILITY

The property of a measurement which assesses the extent to which variation in measurement is due to true differences between people on the trait being measured or to measurement error.

Reliability is generally assessed using two specific measures, one related to the stability of scale scores over time, the other concerned with the internal consistency, or homogeneity of the constituent items that form a scale score.

RELIABILITY : STABILITY

Also known as test-retest reliability, an assessment is made of the similarity of scores on a particular scale over two or more test occasions. The occasions may be from a few hours, days, months or years apart.

Normally Pearson correlation coefficients are used to quantify the similarity between the scale scores over the two or more occasions.

Stability coefficients provide an important indicator of a test's likely usefulness of measurement. If these coefficients are low (< approx. 0.6) then it is suggestive that either the behaviours/attitudes being measured are volatile or situationally specific, or that over the duration of the retest interval, situational events have rendered the content of the scale irrelevant or obsolete. Of course, the duration of the retest interval provides some clue as to which effect may be causing the unreliability of measurement. However, the second measure of a scales reliability also provides valuable information as to why a scale may have a low stability coefficient.

RELIABILITY : INTERNAL CONSISTENCY

Also known as scale homogeneity, an assessment is made of the ability of the items in a scale to measure the same construct or trait. That is, a parameter can be computed that indexes how well the items in a scale contribute to the overall measurement denoted by the scale score. A scale is said to be internally consistent if all the constituent item responses are shown to be positively associated with their scale score.

The most common measure of internal consistency is Cronbach's Alpha. If the items on a scale have high inter-correlations with each other, and with the total scale score, then coefficient alpha will be high. Thus a high coefficient alpha indicates that the items on the scale are measuring very much the same thing, while a low alpha would be suggestive of either scale items measuring different attributes or the presence of error.

The fact that a test has high internal consistency and stability coefficients only guarantees that it is measuring something consistently. It provides no guarantee that the test is actually measuring what it purports to measure, nor that the test will prove useful in a particular situation. Questions concerning what a test actually measures and its relevance in a particular situation are dealt with by looking at the test's validity. Reliability is generally investigated before validity as the reliability of a test places an upper limit on the test's validity. It can be mathematically demonstrated that a validity coefficient for a particular test cannot exceed that test's reliability coefficient.

VALIDITY

The ability of a scale score to reflect what that scale is intended to measure. Kline's (1993) definition is "A test is said to be valid if it measures what it claims to measure".

Validation studies of a test investigate the soundness and relevance of a proposed interpretation of that test. Two key areas of validation are known as criterion validity and construct validity.

VALIDITY : CRITERION VALIDITY

Criterion validity involves translating a score on a particular test into a prediction concerning what could be expected if another variable was observed.

The criterion validity of a test is provided by demonstrating that scores on the test relate in some meaningful way with an external criterion. Criterion validity comes in two forms –predictive and concurrent. Predictive validity assesses whether a test is capable of predicting an agreed criterion which will be available at some future time –e.g. can a test predict the likelihood of someone successfully completing a training course. Concurrent validity assesses whether the scores on a test can be used to predict a criterion measure which is available at the time of the test –e.g. can a test predict current job performance.

VALIDITY : CONSTRUCT VALIDITY

Construct validity assesses whether the characteristic which a test is actually measuring is psychologically meaningful and consistent with the test's definition.

The construct validity of a test is assessed by demonstrating that the scores from the test are consistent with those from other major tests which measure similar constructs and are dissimilar to scores on tests which measure different constructs.

STANDARDISATION PROCEDURES AND NORMATIVE DATA

The OIP is an occupational interest instrument designed to be used across a wide spectrum of career assessment/guidance situations. The total standardisation sample is based on 2500+ UK adults made up from the following constituent samples:

MANAGEMENT APPLICANTS

A total of 1705 individuals applying for a wide variety of management posts, the data being collected from a number of companies during 1993-1994. The sample consisted of approximately 82% males and 18% females.

POSTAL SAMPLE

582 individuals responded to a large scale postal survey in which they were asked to complete the OIP. The questionnaires were completed during the early part of 1993. This sample consisted of representatives of a wide number of occupations ranging from manual labour through to professional occupations. The sample comprised approximately equal numbers of both sexes.

CHILD CARE APPLICANTS

163 applicants for places on a child care training program with a Northern training college completed the OIP during 1993-1994. Females made up 97% of the sample.

GENERAL APPLICANTS

106 applicants for a wide variety of general posts completed the OIP as part of their application procedure. These posts were with a number of companies throughout the UK. The sample was almost equally divided between the sexes.

5TH YEAR STUDENTS

76 5th Year students from an Hertfordshire Comprehensive school took part in the initial normative trialling of the OIP. The sample consisted of almost equal numbers of both sexes.

The table opposite provides summary information concerning the constituent samples of the total standardisation sample of 2556 individuals. The total sample consisted of 70% males & 30% females. The total age range covered by the standardisation sample was 16-66 years.

	Males			Females		
Sample ID	Number	Mean Age	Range	Number	Mean Age	Range
1	1411	31	23-55	293	33	28-49
2	336	41	18-66	245	35	21-52
3	158	22	18-34	5	20	18-22
4	51	29	20-45	55	27	21-42
5	36	16	16-17	40	16	16-17

Table 1: Standardisation Sample Composition

RELIABILITY OF THE OIP

INTERNAL CONSISTENCY

Internal consistency reliabilities (Cronbach's Alpha) were computed on samples 2 & 3 as well as for the entire sample. The coefficients are computed over both the combined males & females for each relevant sample. Table 2 below provides these coefficients separately for each sample and for the entire normative sample.

The mean 'corrected' item-total correlations for each scale are also reported for each sample. These parameters index the average association between the constituent items within a scale and the scale score itself. Each individual item-scale score coefficient is corrected for the

inflation of the coefficient due to the item's inclusion in the scale score. In addition, Table 2 provides the number of items which make up each scale.

Table 2 shows that, for the total sample, all the OIP dimensions have internal consistency reliability coefficients of 0.79 or above indicating that the test dimensions have an acceptable level of reliability. It can be seen that the reliabilities also hold up quite well across the two sub groups reported above. The reliability of these scales compares extremely favourably with the reliability coefficients reported in the user manuals for such tests as the OPQ and 16PF.

		Sample 3 (N=163)		Sample 2 (N=582)		Total Sample (N=2500)	
Scale	No. of Items	Alpha	ITC	Alpha	ITC	Alpha	ITC
Need for Variety	10	0.77	0.25	0.90	0.47	0.86	0.38
Need for Stability	10	0.83	0.34	0.83	0.35	0.83	0.34
Need for Structure	10	0.69	0.18	0.79	0.28	0.74	0.23
Need for People	12	0.75	0.21	0.86	0.35	0.85	0.34
Need for Control	10	0.80	0.30	0.90	0.49	0.88	0.44
Persuasive	10	0.78	0.27	0.85	0.36	0.83	0.33
Scientific	10	0.82	0.32	0.88	0.44	0.88	0.44
Practical	10	0.75	0.24	0.82	0.32	0.81	0.31
Administrative	10	0.73	0.22	0.86	0.39	0.84	0.34
Caring	10	0.70	0.21	0.84	0.34	0.90	0.47
Creative	10	0.87	0.40	0.87	0.41	0.87	0.40
Logical	10	0.73	0.23	0.83	0.34	0.87	0.41

Table 2: OIP Internal Consistencies & Item Total Correlations (ITC's)

CONSTRUCT VALIDITY

THE INTERNAL STRUCTURE OF THE OIP

The inter-correlations between the various dimensions of a test are of interest as it is important that a test's sub-scales are relatively independent of each other, thus demonstrating that they are measuring distinct constructs.

Table 3 demonstrates that the correlations between the OIP Personal Work Needs sub-scales are fairly modest in size indicating that these dimensions are assessing different personality characteristics. There are however some interesting patterns of correlations between these OIP scales. One is the moderately high correlation between Need for Variety and the Needs for People & Control. This suggests that risk-takers are fairly gregarious people who like to assert their personality over others.

In addition, the OIP dimension Need for Control is positively correlated with the needs for Variety, Stability and People. Thus, assertive individuals tend to be emotionally stable, extraverted types who are not frightened to take risks in their personal life. This cluster would be expected given the nature of the Need for Control dimension.

Table 4 shows modest correlations between most of the vocational interest scales which implies that the scales are indeed measuring fairly independent interest areas.

As with the personal work needs there are a number of interesting, and expected, patterns to be found in the table. For example there is a moderately strong correlation between the Logical and Scientific interest scales. This is only to be expected given the emphasis many scientific disciplines place on logical analysis and computational models. Caring correlates fairly well with the Artistic dimension and hardly at all with Scientific, Practical and Logical interests demonstrating the people/objects split one would expect from these interests.

Table 5 shows that for the most part very small correlations exist between the OIP vocational interests and personal work needs. This suggests that these two parts of the OIP are indeed measuring different aspects of the personality. Of all the interest dimensions the Persuasive scale appears to be the most closely related to the personal work needs. Thus an interest in persuasive roles involving convincing communication is correlated fairly strongly with assertive, extraverted, risk-taking personality traits. This is not unsurprising, as success in a persuasive role probably to a great extent depends very much on an individual's personality. The extraverted qualities indicated by the Need for People are also moderately associated with an interest in caring and helping, once again a not particularly surprising finding. There is also a tendency for people who express an interest in logical/computational areas to be fairly phlegmatic types able to be assertive, and take charge of other people.

OIP Work Needs	1	2	3	4	5
1 Need for Variety	1.00	.25	.15	.41	.43
2 Need for Stability	.25	1.00	-.26	.35	.44
3 Need for Structure	.15	-.26	1.00	-.02	-.23
4 Need for People	.41	.35	-.02	1.00	.52
5 Need for Control	.43	.44	-.23	.52	1.00

Table 3: Correlations between OIP Personal Work Needs ($n = 2556$)

OIP Interests	1	2	3	4	5	6	7
1 Persuasive	1.00	.18	.17	.23	.23	.44	.30
2 Scientific	.18	1.00	.54	.29	.09	.13	.52
3 Practical	.17	.54	1.00	.20	.08	.12	.46
4 Administrative	.23	.29	.20	1.00	.13	.08	.53
5 Caring	.23	.09	.09	.13	1.00	.38	-.02
6 Creative	.44	.13	.12	.08	.38	1.00	.06
7 Logical	.30	.52	.46	.53	-.02	.06	1.00

Table 4: Correlations between OIP Vocational Interests ($n = 2556$)

OIP Work Needs	Pers.	Sci.	Prac.	Admin	Caring	Art.	Log.
Need for Variety	.44	.18	.32	-.01	.13	.26	.25
Need for Stability	.38	.25	.37	.26	.16	.05	.39
Need for Change	-.09	-.02	-.14	-.14	.02	.14	-.18
Need for People	.56	.04	.12	.11	.39	.28	.17
Need for Control	.71	.23	.29	.30	.10	.20	.45

Table 5: Correlations between OIP Interests & Work Needs ($n = 2556$)

OIP-Pers	Persuasive Interests	OIP-Nur	Caring Interests
OIP-Sci	Scientific Interests	OIP-Art	Creative Interests
OIP-Prac	Practical Interests	OIP-Log	Logical Interests
OIP-Admin	Administrative Interests		

THE RELATIONSHIP BETWEEN OIP & 15FQ

A total sample of 1971 completed both the 15FQ and the OIP as part of selection and assessment procedures with a diverse number of organisations. The OIP comprises two sections, personal work needs and vocational interests. These are reported separately.

Table 6 presents the correlations with 15FQ and OIP Personal Works Needs. For each of the five OIP dimensions, one or more corresponding 15FQ correlates is found. OIP Variety is strongly related to 15FQ Enthusiastic. OIP Stability is highly correlated with all 15FQ anxiety scales. OIP Structure is related to 15FQ Detail Conscious and OIP People to each of the 15FQ Extraversion dimensions. Finally OIP Control is most closely related to 15FQ Assertive.

As might be expected, as 15FQ does not measure interests, the correlations between 15FQ and OIP Vocational Interests, reported in Table 7, are only very modest in magnitude. Only three of the interest areas appear to relate to personality traits. People who are interested in Persuasive roles tend to be more outgoing, Assertive, Socially Bold and Enthusiastic. There is a small tendency for those who are interested in administrative work to be Detail-conscious. Finally interest in artistic and creative activities is positively related to 15FQ Intuitive and Conceptual, both measures of creative tendencies.

RELATIONSHIP BETWEEN OIP & THE JUNG TYPE INDICATOR

A total sample of 1971 completed both JTI and OIP as part of selection and assessment procedures with a diverse number of organisations. As can be seen from Table 8 (next page), extraversion on the JTI correlated quite strongly with the OIP needs for variety, change and people, exactly those needs which one would predict for Extraverts. Extraverts showed an interest in Persuasive roles involving the communication of information as well as in those activities centred on other people.

Intuitives, as indicated on the SN scale, showed the need for Variety and Change which would be expected given the questioning, exploring nature of those people placed at the N end of this dimension. Intuitives were also highly interested in Artistic pursuits, again this is in line with the definition of Intuitives. Feeling types tended to be low scorers on Stability, a measure of emotional resilience & self-confidence, while scoring highly on need for Change, which would indicate some lack of emotional self-control. There was also a fairly high correlation between Feeling types and Artistic interests, an expression of the sensitive emotionality of Feeling types. Finally Perceptive types with their emphasis on spontaneity and flexibility tend to score highly on the OIP needs for Variety and Change. As would be expected of the spontaneous Perceptives they showed a dislike of Administrative tasks such as clerical and financial work.

15FQ Scale	need for Variety	need for Stability	need for Structure	need for People	need for Control
Outgoing	.23	.39	.23	.49	.45
Calm-stable		.54	.27	.24	.39
Assertive	.28	.23		.25	.50
Enthusiastic	.45	.22		.45	.44
Detailed		.29	.42		
Socially Bold	.23			.51	.46
Intuitive		-.27			
Suspicious					
Conceptual					
Restrained	-.21				
Self-doubting		-.41			
Radical					
Self-sufficient		-.26	.21	-.51	-.22
Disciplined			.29	-.33	.23
Tense-driven		-.39			
Distortion		.41	.29		.24

Table 6: Correlations between 15FQ and OIP Work Needs (N=1971)

15FQ Scale	Pers	Sient	Pact	Admin	Nur	Art	Log
Outgoing	.44		.15	.15	.23	.16	.18
Calm-stable	.30			.22			.26
Assertive	.42	.13					.25
Enthusiastic	.47					.22	.15
Detailed			.15	.29			.22
Socially Bold	.57				.21	.28	.14
Intuitive	.16		-.21		.15	.44	
Suspicious					-.16		
Conceptual	.26	.14			.16	.48	
Restrained				.15			.13
Self-doubting	-.14						
Radical		.13				.24	
Self-sufficient	-.30				-.26		
Disciplined	.16			.23			.17
Tense-driven	.22						
Distortion	.18	.14	.14	.17			.22

Table 7: Correlations between 15FQ and OIP Vocational Interests

THE RELATIONSHIP BETWEEN OIP VOCATIONAL INTERESTS AND HOLLAND'S VPI

A sample of 108 undergraduate students completed both OIP and Holland's VPI as part of a validation exercise.

As can be observed from Table 9, some very strong, meaningful correlations emerge. The VPI Realistic scale correlates strongly with OIP Practical which is as expected. It also registers marginal correlations with OIP Scientific and Logical which supports the notion of the Realistic interest reflecting a technological bias. Holland's Investigative scale correlates above 0.7 with OIP Scientific, pointing to near equivalence in measurement focus. Equally, both the Artistic interest scales in OIP and VPI are correlated at 0.76 which would suggest that these two scales are virtually interchangeable. The VPI scale Enterprising fails to find a direct equivalent in the OIP, although it correlates positively with OIP Administrative and Persuasive and inversely with Scientific, which appears to reflect what might be expected as qualities of the entrepreneur. Finally, VPI Conventional correlates with OIP Administrative at a level which reflects that the content of OIP Administrative encompasses aspects of financial administrative work which is not part of the VPI scale.

The correlations with VPI personality scales (Table 10 above) are not as clear as the previous. Some interesting associations are observed. VPI Self-Control correlates negatively with OIP Variety and Practical. While the former appears to make sense on the basis of OIP Variety reflecting a need for excitement and even risk-taking, the explanation for the latter is not immediately obvious. VPI Masculinity-Femininity correlates negatively with Nurturing and Artistic suggesting that those with high scores on the Masculinity are less inclined to express preferences for these types of activities. VPI Status registers a moderately high correlation with OIP Persuasive, suggesting that people who perhaps see themselves as being able to communicate well and convince others tend to endorse higher status professions. Finally, there exists within the VPI an Infrequency scale, the primary purpose of which is to examine whether the respondent may have randomly or inattentively completed the questionnaire. This is based on scoring rarely endorsed item responses. This scale registers a moderate negative correlation with OIP Artistic, the explanation for which is not immediately apparent.

OIP Scale	EI	SN	TF	JP
Variety	-.21	.16		.22
Stability	-.23		-.30	
Structure	-.15	-.22	-.24	-.35
People	-.57			
Control	-.24			
Persuasive	-.38	.17		
Scientific	.13			
Practical			-.13	
Administrative				-.15
Nurturing	-.25		.15	
Artistic	-.18	.40	.24	.13
Logical	.10		-.10	

Table 8: Correlations between JTI and OIP (n=1971)

OIP Scale	R	I	A	S	E	C
Variety						
Change			-.27			
Structure					.24	
People				.38		
Control					.26	
Persuasive			.27		.36	
Scientific	.24	.73			-.35	
Practical	.53	.37				
Administrative					.42	.57
Nurturing				.66		
Artistic			.76			
Logical	.32	.32	-.20	-.25		

Multiple R	.57	.75	.80	.70	.65	.62
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Table 9: Correlations between OIP scales and Holland's VPI Interest Scales

EI Extraversion-Introversion
 SN Sensing-Intuition
 TF Thinking-Feeling
 JP Judgement-Perception

R Realistic S Social
 I Investigative E Enterprising
 A Artistic C Conventional

OIP Scale	SELFCONT	MASCLEM	STATUS	INFREQ
Variety	-.38			
Change				
Structure	.22			
People			.21	
Control			.21	
Persuasive			.41	-.25
Scientific		.28		
Practical	-.39			
Administrative				
Nurturing		-.43		
Artistic		-.45	.31	-.32
Logical		.32		

Table 10: Correlations between OIP and VPI additional scales.

THE RELATIONSHIP BETWEEN OIP INTERESTS AND THE ROTHWELL-MILLER INTEREST BLANK

The Rothwell Miller Interest Blank asks respondents to rank order careers in the order in which they interest them. Careers are presented in groups of twelve jobs, with eight lists in all. It is usually suggested that the top two and bottom two jobs selected reflect the high and low areas of vocational interest.

Table 11 shows strong relationships for similar interests on the two tests. Just as importantly there are negative relationships between incompatible interests. Thus it can be seen that there is a strong relationship between the OIP Artistic scale and the R-M Aesthetic, as well as sizeable correlations with Literary and Musical interests. The OIP Artistic is also negatively associated with the R-M Computational and Scientific scales, which would be expected given the nature of these two interest areas. Two R-M interests fail to correlate well with similarly named OIP interests. In the case of the OIP Practical scale this shows a

fairly large relationship with the R-M Mechanical but not with the R-M Practical. The reasons for this lie in the definitions of these two scales, the OIP Practical is much more mechanically oriented than craft oriented, while the reverse is true of the R-M practical.

There is also a fairly small relationship between the OIP and R-M persuasive scales. The reason for this probably lies in the way the scales are constructed on the two tests. The OIP Persuasive interest scale asks questions about a person's liking for various persuasive behaviours while the Rothwell-Miller simply presents a list of jobs which are assessed to require persuasive skills.

	Pers.	Sci.	Prac.	Admin	Nurt.	Art.	Logical
Outdoor				-.32			
Mechanical			.54		-.41		
Computational				.48	-.59	-.45	.51
Scientific		.55			-.31	-.47	
Persuasive	.21				-.37		
Aesthetic						.71	
Literary						.41	
Musical						.43	
Soc. Serv.		-.32	-.49	-.31	.55		-.44
Clerical				.41			.30
Practical							
Medical							

Table 11: Correlations Between OIP Interests & Rothwell-Miller

RELATIONSHIP BETWEEN OIP AND OPP

A sample of 108 undergraduate students completed both OIP and the Occupational Personality Profile as part of a validation exercise.

A number of notable correlations are evident from Table 12 above, providing particular support for those OIP scales measuring personal needs, with less congruence observed with OIP interest scales. Firstly, both need to Control and Persuade (OIP Control and Persuasive) correlate with OPP Assertive. The 0.65 correlation with OIP Control is clearly demonstrating that this scale is measuring a disposition towards forceful task-orientation. OIP Structure, which assesses need for order and discipline correlates negatively with OPP Detailed-Flexible, which is as it should be. Both OIP Stability and People register 0.74 correlations with OPP Phlegmatic and Gregarious, demonstrating that these scales are measuring aspects of emotional stability and Extraversion respectively. The only OIP personal work need that fails to converge with the OPP is Variety. The small tendencies that are observed (Assertive, Flexible and Optimistic sic. Internal Locus of Control) are in the expected direction, reflecting a belief in overcoming obstacles, people and disregard for order and correctness, but no more.

As far as the OIP vocational interest scales are concerned, a number do find strong congruence with OPP

counter-parts. The most striking is the -.82 correlation between OIP Artistic and OPP Abstract-Pragmatic. This exceptionally high correlation, would be good support if achieved as an estimate of reliability for a single scale i.e. the same items administered on two occasions. This does comment perhaps more on the OPP than the OIP. Although OIP items are most clearly vocationally orientated, the OPP Abstract-Pragmatic items appear to be covering the same ground, with items that on the face of it, appear to be more focused on personal disposition. The question that remains is whether this scale would be better classified as an interest than a personality trait.

OIP Practical finds no clear OPP equivalent, although the OIP Administrative interest scale does correlate marginally with OPP Detailed and Pragmatic. OIP Nurturing registers an elevated correlation with OPP Gregarious and OIP Logical correlates marginally with OPP Pragmatic and Phlegmatic.

OIP Scale	ASRT	FLEX	TRUS	PHLE	GREG	PERS	CONT	EXTE	PRAG
Variety	.24	.22						-.28	
Change			.41	.74			-.30	-.42	.29
Structure		-.51		.35					
People	.32				.74	.44		-.23	
Control	.65			.30	.31	.47			
Persuasive	.50			.21	.26	.72			
Scientific				.26				-.29	
Practical									
Administrative		-.30							.30
Nurturing			.21		.44		-.32		
Artistic				-.29		.25			-.82
Logical				.28					.32

Table 12: Correlations between OIP and OPP scales.

ASRT	Empathic-Assertive
PERS	Genuine-Persuasive
FLEX	Detailed-Flexible
CONT	Composed-Contesting
TRUS	Cynical-Trusting
EXTE	Optimistic-Pessimistic
PHLE	Emotional-Phlegmatic
PRAG	Abstract-Pragmatic
GREG	Reserved-Gregarious

RELATIONSHIP BETWEEN OIP WORK NEEDS & 16PF

A sample of 47 people, all trainee career officers, completed both the OIP and the 16 Personality Factor questionnaire. The table below presents the significant correlations between the OIP Work Needs and the 16PF.

Table 13 provides support for the definitions of the OIP Personal Work Needs. It can be seen that the Need for Change scale correlates positively with both F (Enthusiastic) and H (Bold), and negatively with G (Expedient). These factors would seem to fit well the description of the OIP Need for Change. The OIP sta-

bility scale correlates with a number of 16PF scales which lend corroborative evidence as to the nature of this scale. Thus C (Emotionally Stable), O (Self-assured) and Q4 (Relaxed) all suggest a scale which is measuring stability. Need for Structure correlates highly with G (Conscientious) and Q3 (Following Self-Image) both of which deal with rule-following behaviour. Need for People correlates highly with F (Enthusiastic), H (Bold) and Q2 (Group Oriented) all of which suggest this OIP scale is concerned with the Extravert traits.

	Change	Stability	Struct	People	Control
A					
B					
C		.42			
E		.38			
F	.49			.46	
G	-.34		-.63		
H	.32	.45		.48	.49
I					
L					
M				-.35	
N		-.31			
O		-.59			
Q1					
Q2				-.48	-.41
Q3			-.54		
Q4		-.59	-.57		
FG			.36		

Table 13: Correlations between OIP Work Needs & 16PF

FACTOR STRUCTURE OF THE OIP

FACTOR ANALYSIS OF THE OIP SCALES

A factor analysis of the total normative database for the OIP was carried out to investigate the underlying structure of the OIP. An Orthogonal analysis with Principal Components extraction and Normalised Varimax rotation of the resulting factors was carried out.

As can be seen from the table below there would seem to be a fairly logical separation of the various OIP scales across the four factors. The loadings on Factor 1 suggest that this factor is primarily concerned with control and manipulation of relationships. Thus individuals scoring high on factor 1 would be highly persuasive, extraverted, assertive types. Factor 2 is concerned with tasks rather than with people. Individuals scoring highly on this factor would have little interest in relationships being much more concerned with practical or theoretical issues. An inspection of the loadings of Factor 3 would seem to indicate that this factor is concerned with fairly bureaucratic matters. Thus, people scoring highly on this factor would be resistant to change, enjoy administrative duties, dislike taking risks and be of a fairly phlegmatic disposition. The final factor is primarily concerned with the caring, creative themes. Unlike Factor 1 which was basically a manipulative, Machiavellian interest in others, Factor 4 deals with an interest in helping other people. People high on this factor would not be as extraverted as the Factor 1 type but their interest in others would perhaps be more genuine.

OCCUPATIONAL GROUPS AND THE OIP FACTOR STRUCTURE

The above factor structure should, if it is more than a mathematical artefact, discriminate between groups of jobs described by the various factors. To investigate whether this was the case the OIP normative database was searched for jobs which could easily be described by one of these four categories. Once four job groups had been identified the average stanine profile for each job compared to the general population was calculated.

OIP Scale	I	II	III	IV
Need for Variety	.67		-.47	
Need for Stability	.52	.32	.36	
Need for Change			-.77	
Need for People	.74			.35
Need for Control	.81			
Persuasive	.80			
Scientific		.84		
Practical		.76		
Administrative		.49	.51	
Caring				.83
Creative				.69
Logical		.76		
% Variance Explained	23.2	19.6	11.7	12.6

Table 14: OIP (n=2556) factor pattern loadings

OIP Profile for Persuasive Occupations

The graph below gives the average profile for jobs classified within the Factor 1 category, which was described as being concerned with those occupations dealing with controlling and manipulating others. The profile shows larger than average needs for change, while indicating that emotional stability is lower than that found in the general population. As would be expected vocational interest in persuasive roles is higher than generally found, while an interest in nurturing roles is correspondingly low.

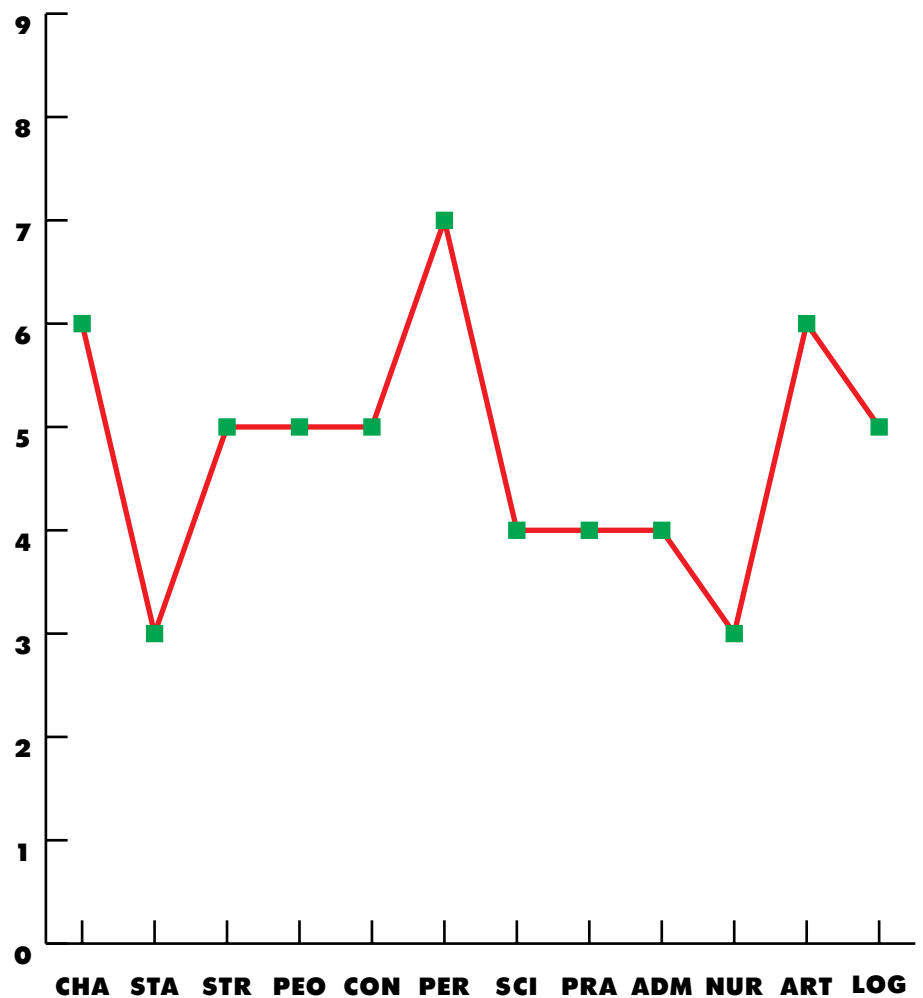


Figure 1: OIP Profile for Persuasive Occupations

OIP Profile for Practical Roles

Figure 2 shows the average profile for individuals classified as belonging to Factor 2 occupations –those concerned with tasks rather than with people. As can be seen this profile shows a larger than average need for structure, with lower than average needs for people and control. This reflects the nature of many practical occupations with their emphasis on structures and details having less to do with other people or the need to control them. This profile shows high levels of scientific, practical and logical interests, all areas in which tasks are likely to be considered more important than people. This is corroborated by the low level of interest displayed in nurturing roles

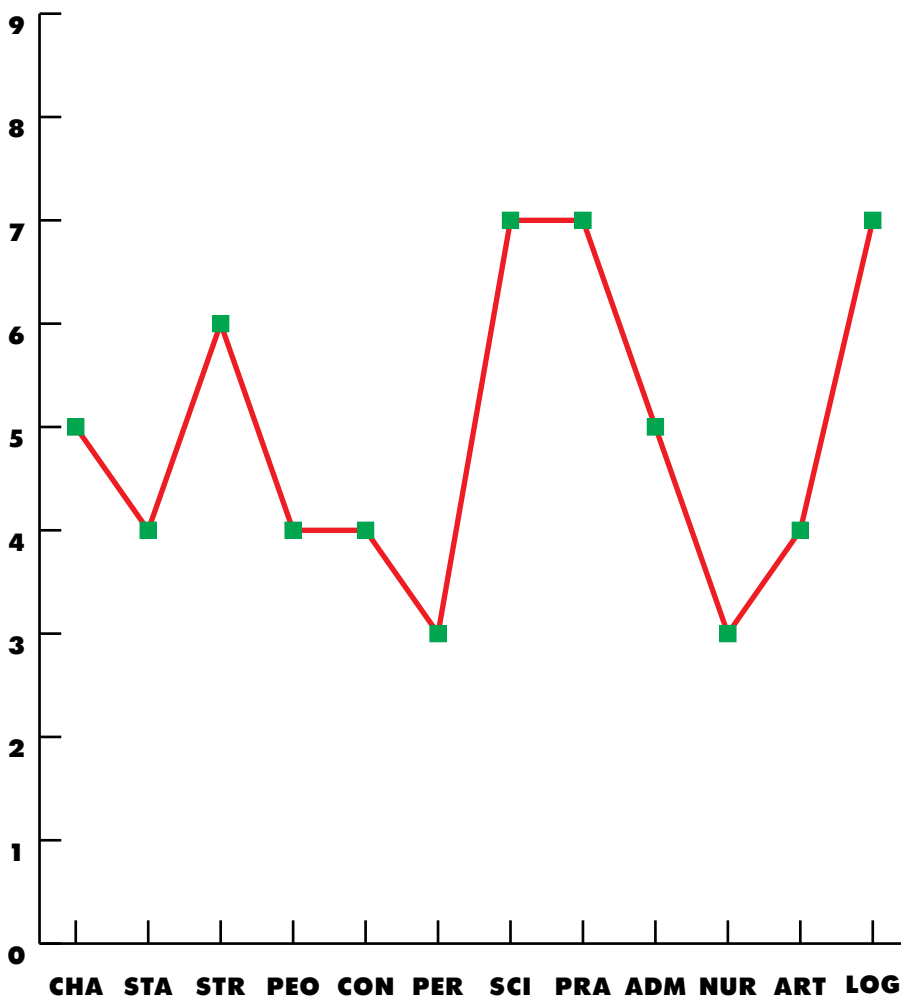


Figure 2: OIP Profile for Practical Roles

OIP Profile of Bureaucratic Roles

The above figure displays the average profile of those interested in administrative roles. As can be seen there is a low level of need for change in this profile, coupled with a high level of need for structure. Such a combination indicates an individual who would dislike taking risks, requiring a fairly structured, rule-governed environment. There is also a fairly low level of need for control, indicating that such individual might feel more comfortable receiving orders than giving them. There is a below average interest in practical, scientific pursuits and in nurturing roles. A high level of interest in administrative matters is shown, as expected, with an above average interest in logical matters.

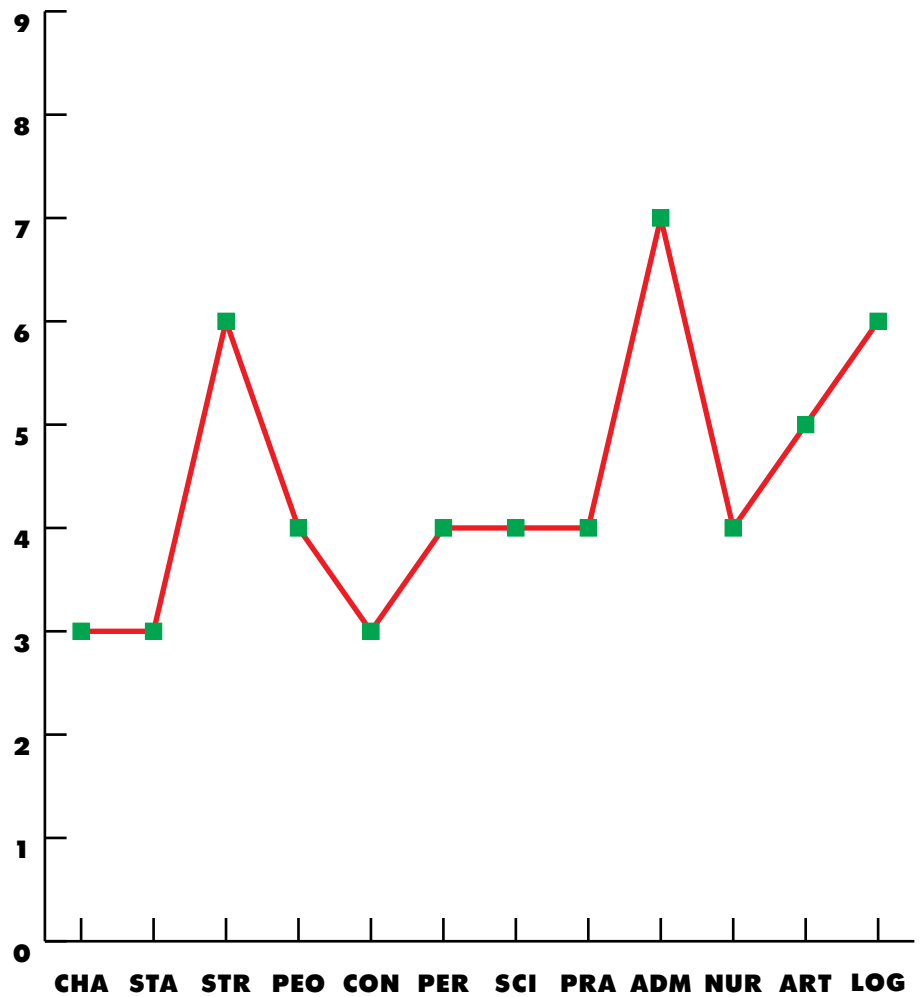


Figure 3: OIP Profile of Bureaucratic Roles

OIP Profile of Caring Roles

Figure 4 displays the average profile for occupational roles classified as belonging to the Factor 4 category. As can be seen there is a below average need for control and change, combined with an above average need for structure and people. Thus, the work needs suggest an individual who has a genuine liking for people and little desire to control them, who requires a fairly structured, safe environment. The profile shows below average levels of interest in persuasive, scientific, practical, administrative and logical roles with a high level of interest in nurturing roles. Thus, for these individuals, their primary concern is with the nurturing, caring issues and little interest will be displayed in anything which does not relate to these issues.

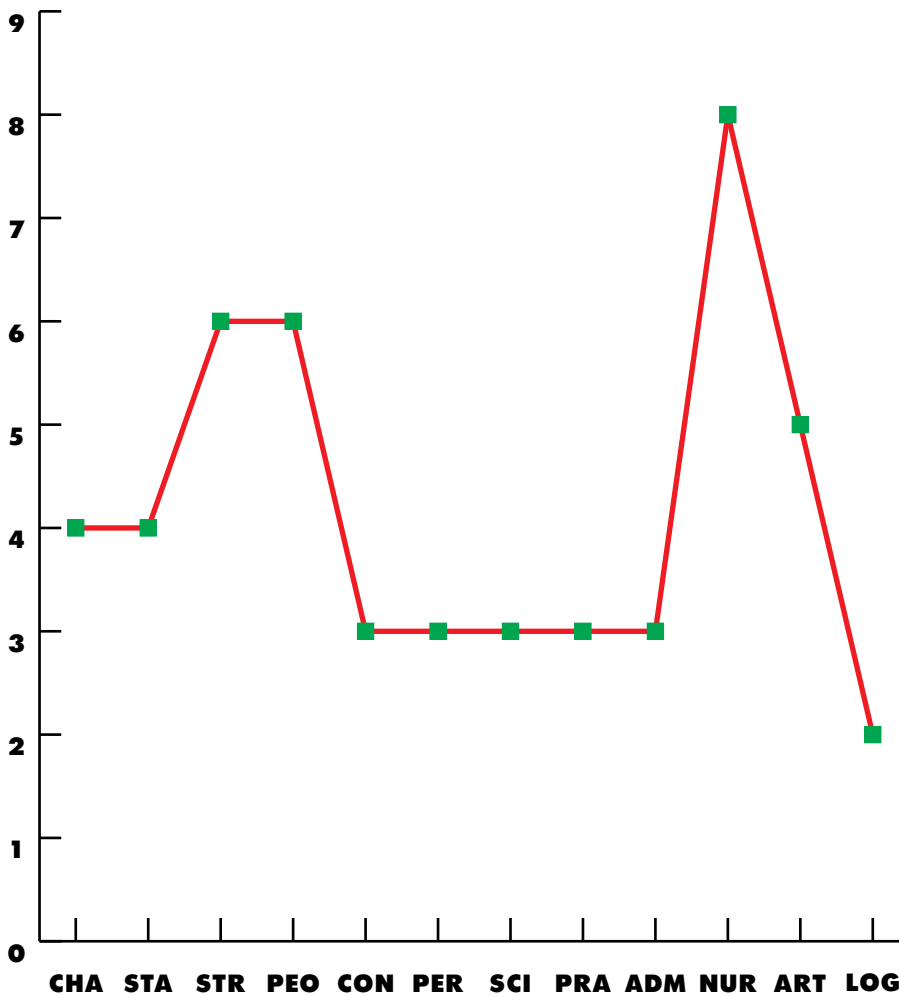
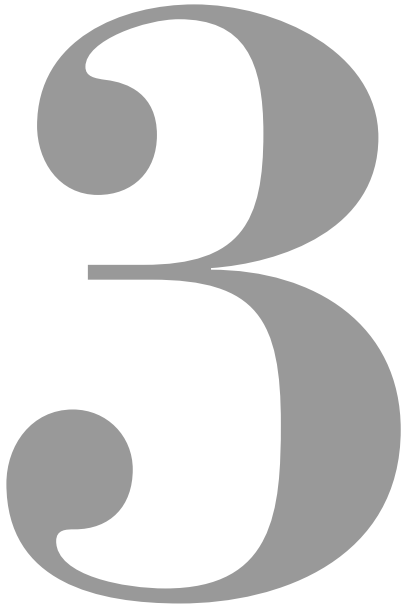


Figure 4: OIP Profile of Caring Roles



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