

# Australian Research

JIG-CAL software has been and continues to be driven by extensive research and development. The aim of this particular Australian research project was to update items and check the structural integrity of the modified instruments. The 2003 national project was led by Dr S J Closs (past Director of the Careers Research Centre, Edinburgh University) and Mr P Davenport (then research officer with the TAFE Admissions Centre in Western Australia) and supported by Mr R H Bredemeyer (Director, JIG-CAL Australia).

## ABSTRACT

The Occupational Interest Guide (OIG) is an integral part of Career Voyage and Career Compass software. In the past, extensive research has shown the OIG to be both reliable and robust in drawing out individual interest patterns which have clear implications for career decision-making. While the OIG is a measure of human factors (not of more rapidly changing labour market conditions) it is necessary from time to time to check the accuracy of both items and interest Types.

Historically rapid changes in the nature of work has required several revisions of the OIG. In the wake of these, renewed research was important.

Results of this research project are reassuring, and generally are in agreement with international research results.

## THE SAMPLE.

An accidental sample of clients across Australia, in the course of normal career development programmes with Accredited JIG-CAL practitioners, provided the data. No systematic method of sampling was used beyond the collection of all available data, provided in this case by JIG-CAL practitioners in all states of Australia over a two month period. This resulted in differing sub-sample sizes across the five Levels chosen, which is to be expected given that clients/students choose their Levels to suit their individual circumstances. The total sample size was 2,942 clients.

## DATA ANALYSIS

Appendices A to E below provide item-total correlation coefficients for each of the five sections. Each appendix is identified in the same way as its counterpart in the 1993 Manual.

Appendix F shows inter-correlation data for the six interest types, and Appendix G provides reliability estimates for the section pairings. It was encouraging to note that, with very few exceptions, the replication data are essentially the same as those in the 1993 Manual. One promising feature of the present study was the higher degree of item-scale correlations in the two Levels of AB and BC. This

is a measure of the internal consistency of items within scales, and indicates even stronger association than that reported in the 1993 Manual.

## RESULTS

Users of the OIG choose to work in one of five Levels of education and training (Features Arising Out of the Research). Items relevant for each Level are grouped into six sections, thus providing five overlapping Levels, as shown in the diagram below.

Level	Level Description	Sections
5	Completion of a university level qualification is required	E&F
4	Vocational Education and Training (TAFE) qualifications are essential	D&E
3	Vocational Education and Training (TAFE) qualifications are usually needed	C&E
2	Some school achievements necessary for most jobs	B&C
1	You may not need school qualifications	A&B

The following results are summarised below under the six section headings.

### Sections E&F

#### Item-Total Correlation Coefficients

Interest Type 1 Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Highest 0.82 0.69 0.47 0.39 0.13 0.13

Average 0.73 0.44 0.36 0.19 0.02 0.06

Lowest 0.62 0.28 0.23 0.06 -0.13 -0.02

Interest Type 2 Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Highest 0.64 0.83 0.28 0.36 0.54 0.27

Average 0.41 0.69 0.18 0.15 0.28 0.12

Lowest 0.15 0.45 -0.01 0.05 0.08 -0.01

Interest Type 3 Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Highest 0.46 0.40 0.83 0.34 0.33 0.38

Average 0.35 0.18 0.70 0.14 0.10 0.25

Lowest	0.19	0.04	0.50	0.06	-0.04	0.16
Interest Type 4	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6

Highest	0.41	0.28	0.31	0.76	0.33	0.56
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Average	0.18	0.15	0.14	0.67	0.16	0.43
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Lowest	-0.07	-0.02	-0.01	0.48	0.00	0.25
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Interest Type 5	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest	0.09	0.45	0.24	0.27	0.82	0.40
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Average	-0.02	0.30	0.10	0.18	0.73	0.33
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Lowest	-0.10	0.19	0.02	0.10	0.60	0.22
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Interest Type 6	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest	0.35	0.32	0.44	0.55	0.39	0.77
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Average	0.06	0.11	0.24	0.41	0.29	0.64
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Lowest	-0.07	0.04	0.03	0.25	0.09	0.39
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No. of cases = 1388

### Sections D&E

#### Item-Total Correlation Coefficients

Interest Type 1	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest	0.77	0.56	0.48	0.26	0.09	0.17
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Average	0.69	0.35	0.32	0.16	-0.03	0.06
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Lowest	0.53	0.19	0.17	0.05	-0.14	-0.08
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Interest Type 2	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest	0.55	0.76	0.40	0.40	0.61	0.32
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Average	0.33	0.63	0.23	0.23	0.28	0.19
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Lowest	0.04	0.48	0.02	0.12	0.06	0.07
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Interest Type 3	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest	0.47	0.43	0.81	0.41	0.42	0.45
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Average	0.31	0.23	0.67	0.17	0.19	0.27
Lowest	0.19	0.11	0.52	0.05	0.05	0.10
Interest Type 4	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest	0.51	0.41	0.38	0.79	0.32	0.59
Average	0.16	0.24	0.17	0.65	0.14	0.42
Lowest	-0.19	-0.03	-0.00	0.53	-0.03	0.25
Interest Type 5	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest	0.22	0.47	0.37	0.27	0.79	0.46
Average	-0.03	0.30	0.19	0.15	0.70	0.29
Lowest	-0.19	0.21	0.10	0.07	0.57	0.18
Interest Type 6	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest	0.41	0.31	0.47	0.55	0.37	0.72
Average	0.05	0.18	0.25	0.39	0.25	0.59
Lowest	-0.08	0.04	0.00	0.22	0.12	0.31

No. of cases = 586

Appendix E: OIG Sections E&F.

### Sections C&D

Item-Total Correlation Coefficients

Interest Type 1	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest	0.83	0.45	0.40	0.32	0.18	0.21
Average	0.75	0.27	0.21	0.17	0.00	0.07
Lowest	0.60	0.16	0.03	0.01	-0.15	-0.12
Interest Type 2	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest	0.46	0.83	0.37	0.44	0.54	0.44
Average	0.24	0.72	0.18	0.32	0.34	0.30
Lowest	0.06	0.44	0.05	0.24	0.14	0.10

Interest Type 3	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest 0.38	0.31	0.74	0.39	0.44	0.68	
Average	0.20	0.18	0.60	0.29	0.28	0.46
Lowest -0.02	0.07	0.43	0.19	0.15	0.31	

Interest Type 4	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest 0.48	0.40	0.51	0.75	0.36	0.59	
Average	0.16	0.32	0.29	0.63	0.26	0.45
Lowest -0.09	0.21	0.14	0.36	0.11	0.30	

Interest Type 5	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest 0.19	0.53	0.44	0.41	0.83	0.62	
Average	0.00	0.36	0.29	0.27	0.71	0.44
Lowest -0.18	0.25	0.18	0.18	0.54	0.33	

Interest Type 6	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest 0.20	0.41	0.61	0.67	0.50	0.81	
Average	0.06	0.29	0.44	0.43	0.41	0.67
Lowest -0.06	0.19	0.17	0.27	0.32	0.44	

No. of cases = 513

### Sections B&C

#### Item-Total Correlation Coefficients

Interest Type 1	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest 0.83	0.52	0.22	0.41	0.12	0.10	
Average	0.75	0.39	0.05	0.15	-0.05	-0.05
Lowest 0.60	0.27	-0.10	-0.04	-0.18	-0.18	

Interest Type 2	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Highest 0.62	0.74	0.42	0.46	0.51	0.36	
Average	0.34	0.64	0.23	0.31	0.29	0.22

Lowest 0.05	0.37	0.04	0.12	0.10	0.02	
Interest Type 3	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6

Highest 0.32	0.50	0.74	0.42	0.50	0.69	
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Average	0.04	0.22	0.60	0.31	0.35	0.47
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Lowest -0.10	0.06	0.43	0.16	0.21	0.32	
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Interest Type 4	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest 0.45	0.52	0.49	0.75	0.37	0.47	
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Average	0.13	0.31	0.32	0.63	0.25	0.30
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Lowest -0.16	0.08	0.24	0.36	0.12	0.14	
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Interest Type 5	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest 0.16	0.43	0.56	0.33	0.83	0.61	
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Average	-0.05	0.32	0.40	0.27	0.71	0.49
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Lowest -0.17	0.22	0.26	0.17	0.54	0.33	
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Interest Type 6	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest 0.10	0.34	0.68	0.44	0.57	0.81	
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Average	-0.05	0.23	0.52	0.31	0.46	0.67
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Lowest -0.21	0.11	0.21	0.21	0.22	0.44	
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No. of cases = 292

### Sections A&B

#### Item-Total Correlation Coefficients

Interest Type 1	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest 0.87	0.65	0.39	0.57	0.32	0.37	
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Average	0.77	0.49	0.23	0.31	0.06	0.17
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Lowest 0.61	0.29	0.03	0.09	0.00	0.01	
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Interest Type 2	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
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Highest 0.72	0.80	0.42	0.53	0.45	0.38	
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Average 0.46 0.72 0.29 0.44 0.29 0.25

Lowest 0.22 0.49 0.16 0.35 0.16 0.14

Interest Type 3 Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Highest 0.44 0.41 0.77 0.65 0.57 0.76

Average 0.21 0.28 0.69 0.57 0.45 0.61

Lowest 0.03 0.16 0.59 0.48 0.34 0.48

Interest Type 4 Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Highest 0.53 0.60 0.69 0.71 0.65 0.70

Average 0.26 0.40 0.53 0.62 0.44 0.49

Lowest -0.05 0.15 0.28 0.40 0.31 0.34

Interest Type 5 Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Highest 0.23 0.39 0.65 0.60 0.85 0.75

Average 0.06 0.31 0.49 0.52 0.76 0.58

Lowest -0.01 0.18 0.36 0.45 0.65 0.49

Interest Type 6 Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Highest 0.27 0.44 0.71 0.63 0.67 0.80

Average 0.15 0.25 0.62 0.53 0.54 0.70

Lowest 0.02 0.04 0.44 0.44 0.30 0.50

No. of cases = 163

### Inter-correlation of the Interest Types

Sections E&F Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Type 1 1.00

Type 2 0.57 1.00

Type 3 0.47 0.24 1.00

Type 4 0.25 0.21 0.19 1.00

Type 5 -0.02 0.39 0.13 0.23 1.00

Type 6 0.08 0.16 0.34 0.61 0.43 1.00

No. of cases = 1388.

Sections D&E Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Type 1 1.00

Type 2 0.48 1.00

Type 3 0.44 0.33 1.00

Type 4 0.22 0.35 0.24 1.00

Type 5 -0.04 0.41 0.26 0.20 1.00

Type 6 0.08 0.28 0.38 0.62 0.40 1.00

No. of cases = 586.

Sections C&D Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Type 1 1.00

Type 2 0.35 1.00

Type 3 0.28 0.26 1.00

Type 4 0.22 0.46 0.41 1.00

Type 5 0.00 0.49 0.40 0.37 1.00

Type 6 0.08 0.43 0.66 0.64 0.61 1.00

No. of cases = 513.

Sections B&C Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Type 1 1.00

Type 2 0.50 1.00

Type 3 0.06 0.34 1.00

Type 4 0.19 0.46 0.48 1.00

Type 5 -0.07 0.43 0.53 0.37 1.00

Type 6 -0.07 0.33 0.73 0.44 0.65 1.00

No. of cases = 292.

Sections A&B Type 1 Type 2 Type 3 Type 4 Type 5 Type 6

Type 1 1.00

Type 2 0.61 1.00

Type 3 0.28 0.39 1.00

Type 4 0.39 0.59 0.78 1.00

Type 5 0.08 0.39 0.62 0.66 1.00

Type 6 0.21 0.34 0.85 0.73 0.73 1.00

No. of cases = 163.

**Internal consistency reliability – Coefficient Alpha.**

Sections	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	No of cases
E&F	0.961	0.952	0.954	0.946	0.962	0.938	1388
D&E	0.953	0.937	0.946	0.941	0.956	0.923	586
C&D	0.959	0.943	0.948	0.946	0.952	0.936	513
B&C	0.965	0.938	0.928	0.935	0.958	0.946	292
A&B	0.969	0.959	0.952	0.933	0.968	0.955	163

**CONCLUSIONS.**

Analysis showing consistently high reliability in this Australian study is in accord with international research on the OIG. This follows several Australian revisions of the instrument. Continuing high reliability outcomes for users across Australia testifies to the robust nature of the instrument and gives cause for confidence in career outcomes.