

# GERMAN MBTI® STEP I DATA SUPPLEMENT

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## INTRODUCTION

A broad variety of personality instruments are used in Germany. The Myers-Briggs Type Indicator® (MBTI®) has aroused particular interest, partly because of its special character as a type indicator. This theoretical base, and the research studies which result from it, are different from those of trait questionnaires; however the psychometric qualities of the MBTI instrument are well-established and have been continually reinforced by new research. The questionnaire is amongst the most widely known and used in German organisations, and the reliability and validity of the German version are very good. The results of the research described here demonstrate the commitment of the publishers, distributors and users of the MBTI instrument to continued research and development.

This update draws upon data collected from a number of samples between 2002 and 2006:

- 323 delegates on MBTI qualifying training programmes held in Germany between 2002 and 2006.
- 228 individuals who completed a trial version of the MBTI questionnaire as part of the development of the Step II instrument. This sample was designed to be representative of the German general population.
- 1,960 individuals who completed the MBTI Step I or Step II<sup>1</sup> instrument in German via the OPPassessment system<sup>2</sup>. Data from training programmes has been excluded from this group, and the sample is therefore likely to be a representative sample of the groups of people with whom the German MBTI instrument has and will be used for development, counselling, team-building, etc. As such, it is likely to represent a cross-section of the German-speaking European professional and managerial population.

A fuller description of each sample is given in Appendix 1.

This data supplement contains a number of research studies based on this data, including:

- Type distributions; type tables showing the proportion of each type within the three samples. The three German groups are similar to other comparable groups across the world.
- Internal consistency reliability. All four dimensions show good reliability, above or around 0.7, in all groups.
- Validity. There is a good match between the results of the questionnaire and best-fit (validated) type. Respondents are also confident about their results.
- Group differences in Type. Gender, age, job role, occupational level, education and employment status are examined.

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<sup>1</sup> Step II is a longer version of the MBTI instrument which splits each of the four MBTI dichotomies into 5 subscales or “facets”. The Step II instrument does however also yield the standard Step I scores and 4-letter type, and these have been used in the analyses described in this document.

<sup>2</sup> OPPassessment allows personality questionnaires such as the MBTI instrument to be administered via email.

## TYPE DISTRIBUTION

Type tables are a way of illustrating the proportion of each type within a particular group. For each of the 16 different types, the number of cases, the percentage of the total that this represents, and the Self Selection Ratio (SSR) is shown. The SSR (Myers et al, 1998) is a way of demonstrating whether a given type appears more or less often in a particular group than would be expected compared to a reference group. An SSR greater than 1 indicates that a type is over-represented, and an SSR of less than 1 that it is under-represented. Here, the SSR has been calculated in comparison to the UK general population (Kendall, 1998). The UK general population has been chosen as a useful general population reference group as a large representative German group does not currently exist. Other evidence (e.g. Hackston and Kendall, 2004; Quenk et al, 2004) does however suggest that although behaviour varies greatly from culture to culture, the frequencies of underlying psychological types do not. In this section of the update, type tables for the two samples are presented.

### TRAINING COURSE DELEGATES

Reported type results from the MBTI instrument and best-fit (validated) type were available for the whole group.

**Table 1: Type Tables for Training Course Delegates**

**Reported Type (N=323)**

ISTJ	ISFJ	INFJ	INTJ	Type	n	%
n = 25 7.7% SSR=.56	n = 15 4.6% SSR=.36	n = 5 1.5% SSR=.88	n = 29 8.9% SSR=6.36	E	220	68.1%
				I	103	31.9%
ISTP	ISFP	INFP	INTP	S	133	41.2%
n = 5 1.5% SSR=.23	n = 1 0.3% SSR=.05	n = 9 2.8% SSR=.88	n = 14 4.3% SSR=1.79	N	190	58.8%
ESTP	ESFP	ENFP	ENTP	T	202	62.5%
n = 16 4.9% SSR=.84	n = 8 2.5% SSR=.29	n = 31 9.5% SSR=1.51	n = 33 10.1% SSR=3.61	F	121	37.5%
ESTJ	ESFJ	ENFJ	ENTJ	J	206	63.8%
n = 40 12.3% SSR=1.18	n = 23 7.1% SSR=.56	n = 29 8.9% SSR=3.18	n = 40 12.3% SSR=4.24	P	117	36.2%

**Best-Fit Type (N=323)**

ISTJ	ISFJ	INFJ	INTJ	Type	n	%
n = 31 9.5% SSR=.69	n = 8 2.5% SSR=.20	n = 7 2.1% SSR=1.24	n = 25 7.7% SSR=5.50	E	218	67.5%
ISTP	ISFP	INFP	INTP	I	105	32.5%
n = 9 2.8% SSR=.44	n = 4 1.2% SSR=.20	n = 12 3.7% SSR=1.16	n = 9 2.8% SSR=1.17	S	143	44.3%
ESTP	ESFP	ENFP	ENTP	N	180	55.7%
n = 11 3.4% SSR=.59	n = 11 3.4% SSR=.39	n = 38 11.7% SSR=1.86	n = 29 8.9% SSR=3.18	T	197	61.0%
ESTJ	ESFJ	ENFJ	ENTJ	F	126	39.0%
n = 47 14.4% SSR=1.38	n = 22 6.7% SSR=.53	n = 24 7.4% SSR=2.64	n = 36 11.0% SSR=3.79	J	200	61.9%
				P	123	38.1%

Looking at reported type, the most frequent type preferences are ENTJ and ESTJ (each 12% of the total). Overall, the group tends to have a preference for Extraversion, and to a lesser extent for Judging, Thinking and Intuition.

In terms of best-fit type, ESTJ (14%) is the most frequently occurring type preference, followed by ENFP (12%) and ENTJ (11%). The general pattern is very similar to that found with reported type, with the group tending to have a preference for Extraversion, and to a lesser extent for Judging, Thinking and Intuition.

It is known that people often feel pressure to exhibit more of a Thinking style of behaviour in business settings. If this were the case amongst this group we might expect a lower proportion of Thinking types when we look at best-fit type than when we look at reported type. However, such a pattern has not been observed for this group.

Looking at the SSR figures it can be seen that, compared to the UK general population, those with a preference for Intuition are particularly over-represented.

Although not typical of the general population, similar results (especially with regard to Extraversion and Intuition) have been found with other groups of MBTI users and training course delegates. Table 2 contrasts a number of these groups from around the world with the two large general population groups which currently exist for the MBTI. These data relate to reported type.

**Table 2: Comparison of German Workshop Participants with other Groups**

	Percentage of Each Type							
	E	I	S	N	T	F	J	P
<i>US nationally representative sample</i>	49	51	73	27	40	60	54	46
<i>UK nationally representative sample</i>	53	47	76	24	46	54	58	42
<b><i>German MBTI workshop participants</i></b>	<b>68</b>	<b>32</b>	<b>41</b>	<b>59</b>	<b>63</b>	<b>37</b>	<b>64</b>	<b>36</b>
Australian MBTI workshop participants <sup>3</sup>	63	37	23	77	37	63	51	49
British MBTI workshop participants	67	33	31	69	49	51	49	51
Canadian MBTI workshop participants	56	44	27	73	39	61	48	52
Dutch MBTI users	58	42	24	76	48	52	38	62
French MBTI workshop participants	59	42	31	69	38	62	47	63
Indian MBTI workshop participants	53	47	36	63	60	40	52	47
Japanese MBTI users	61	39	46	54	43	57	35	65
<i>Median of MBTI users</i>	<i>60</i>	<i>40.5</i>	<i>31</i>	<i>69</i>	<i>45.5</i>	<i>54.5</i>	<i>48.5</i>	<i>51.5</i>

**GENERAL POPULATION SAMPLE**

**Table 3: Type Table for General Population Sample (N=228)**

ISTJ	ISFJ	INFJ	INTJ	Type	n	%
n = 36 15.8% SSR=1.15	n = 9 3.9% SSR=0.31	n = 5 2.2% SSR=1.29	n = 9 3.9% SSR=2.79	E	116	50.9%
				I	112	49.1%
ISTP	ISFP	INFP	INTP	S	123	53.9%
n = 17 7.5% SSR=1.17	n = 7 3.1% SSR=0.51	n = 15 6.6% SSR=2.06	n = 14 6.1% SSR=2.54	N	105	46.1%
ESTP	ESFP	ENFP	ENTP	T	154	67.5%
n = 12 5.3% SSR=0.91	n = 2 0.9% SSR=0.10	n = 18 7.9% SSR=1.25	n = 21 9.2% SSR=3.29	F	74	32.5%
ESTJ	ESFJ	ENFJ	ENTJ	J	122	53.5%
n = 32 14.0% SSR=1.35	n = 8 3.5% SSR=0.28	n = 10 4.4% SSR=1.57	n = 13 5.7% SSR=1.97	P	106	46.5%

The most common single type preference amongst this sample is ISTJ (16% of the total), closely followed by ESTJ (14%). ISTJ is also the most common single type

<sup>3</sup> Australian, Canadian, Indian and Japanese compiled for an International panel at the 2004 Association of Psychological Type International conference. Other groups from OPP data.

preference amongst the UK general population sample (14%), with ESTJ being the fourth most common (10%). Interestingly, ISFJ and ESFJ are considerably less common amongst this German sample (both 4%) than they are amongst the UK population sample (both 13%).

Overall, the SSR results suggest that, in comparison to the UK general population, those with preferences for NT are over-represented, and those with preferences for SF are under-represented. However, the reader should bear in mind that the German sample is considerably smaller than the UK sample, and therefore these findings should be treated with caution.

## OPPASSASSEMENT DATA

**Table 4: Type Table for OPPAssessment Data (Reported Type, N=1960)**

ISTJ	ISFJ	INFJ	INTJ	Type	n	%
n = 232 11.8% SSR=0.86	n = 34 1.7% SSR=0.13	n = 21 1.1% SSR=0.65	n = 118 6.0% SSR=4.29	E	1397	71.3%
ISTP	ISFP	INFP	INTP	I	563	28.7%
n = 49 2.5% SSR=0.39	n = 14 0.7% SSR=0.11	n = 27 1.4% SSR=0.44	n = 68 3.5% SSR=1.46	S	964	49.2%
ESTP	ESFP	ENFP	ENTP	N	996	50.8%
n = 93 4.7% SSR=0.81	n = 47 2.4% SSR=0.28	n = 102 5.2% SSR=0.83	n = 208 10.6% SSR=3.79	T	1537	78.4%
ESTJ	ESFJ	ENFJ	ENTJ	F	423	21.6%
n = 415 21.2% SSR=2.04	n = 80 4.1% SSR=0.33	n = 98 5.0% SSR=1.79	n = 354 18.1% SSR=6.24	J	1352	69.0%
				P	608	31.0%

The most common single type preference is ESTJ (21% of the total), closely followed by ENTJ (18% of the total). This is a common finding with managerial groups. The SSR results suggest that, in comparison to both the German and British general population groups, those with preferences for NT are over-represented, and those with preferences for SF are under-represented. Again, this is a common finding with managerial groups.

## TYPE TABLE COMPARISON

As a further comparison, the percentage of people of each type dichotomy (E compared with I, S with N etc.) for the three groups are compared with a number of other reference groups in the table below:

**Table 5: Comparison of the Two Groups with other Relevant Groups**

Group	Percentage of Each Type							
	E	I	S	N	T	F	J	P
<b>German MBTI workshop participants</b>	<b>68</b>	<b>32</b>	<b>41</b>	<b>59</b>	<b>63</b>	<b>37</b>	<b>64</b>	<b>36</b>
<b>German general population sample</b>	<b>51</b>	<b>49</b>	<b>54</b>	<b>46</b>	<b>68</b>	<b>32</b>	<b>54</b>	<b>46</b>
<b>German OPPassessment group</b>	<b>71</b>	<b>29</b>	<b>49</b>	<b>51</b>	<b>78</b>	<b>22</b>	<b>69</b>	<b>31</b>
Median of MBTI Users <sup>4</sup>	60	40	31	69	45	55	49	51
German Ashridge delegates <sup>5</sup>	73	27	50	50	87	13	70	30
Total Ashridge delegates <sup>6</sup>	63	37	50	50	85	15	65	35
French business studies students	54	46	38	62	48	52	48	52
French MBTI workshop participants	59	41	31	69	38	62	47	53
French OPPassessment group	61	39	54	46	66	34	63	37
US leadership development group <sup>7</sup>	53	47	50	50	80	20	69	31
US nationally representative sample <sup>8</sup>	49	51	73	27	40	60	54	46
UK nationally representative sample <sup>9</sup>	53	47	76	24	46	54	58	42

The German OPPassessment group is most similar to the German Ashridge delegates and the US leadership development sample.

<sup>4</sup> See Table 3 above

<sup>5</sup> German delegates to management development programmes at Ashridge Management School, UK. N=687. See Carr et al, 2004.

<sup>6</sup> Total Ashridge group (n=8,039), of which the German delegates are a subset; contains data from managers from 86 different countries, 96% of them European.

<sup>7</sup> N=26,477. See Fleenor, 1997.

<sup>8</sup> N=3,009. See Myers et al, 1998.

<sup>9</sup> N=1,634. See Kendall, 1998.



## INTERNAL CONSISTENCY RELIABILITY

The reliability of a test or questionnaire relates to how consistent and precise it is. The internal consistency reliability addresses the question of whether all the questions in a scale measure the same construct. A common measure of internal consistency reliability is coefficient alpha (an average of all question to question correlations). The alpha coefficients for the German samples are shown in Table 6 below:

**Table 6: Internal Consistency Reliability**

Dimension	Coefficient Alpha		
	General Population	OPPassess (Step I)	OPPassess (Step II) <sup>10</sup>
E-I	0.87	0.84	0.83
S-N	0.75	0.71	0.68
T-F	0.80	0.79	0.82
J-P	0.80	0.81	0.84

It is generally agreed that internal consistency reliability should achieve a value of at least 0.7. On this basis, three of the dimensions of the questionnaire show good reliability in all groups, whilst the S-N dimension shows good reliability in one group and is acceptable in the other two.

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<sup>10</sup> Estimated by scoring the Step II data using the Step I scoring key

## VALIDITY; THE ACCURACY OF THE GERMAN MBTI STEP I INSTRUMENT IN PREDICTING BEST-FIT TYPE

The purpose of the MBTI instrument is to help individuals to establish their true, validated or “best fit” psychological type. A key measure of the validity of the instrument is, therefore, how well the results relate to best-fit (validated) type.

Best-fit data was available for one of the samples. The training delegates established their best fit type as part of their training programme, and this was collected for the whole sample (323 people).

Table 7 below presents these results alongside equivalent data from another (UK-based) best-fit study using the Step I questionnaire (Kendall, 1998), and an equivalent study to this one that used the French version of the questionnaire and a sample of French training delegates (Hackston, 2005). The German questionnaire performs in a similar way to the English and French versions, and there is very good evidence for the accuracy of the instrument.

**Table 7: Match of Reported and Best-Fit Type**

	German Training Delegates (N=323)		French Training Delegates (N=578)		UK Study (N=386)	
Agrees with all 4 letters	59.8%	88.6%	67.8%	93.1%	71.5%	93.0%
Agrees with 3 letters	28.8%		25.3%		21.5%	
Agrees with 2 letters	9.9%	11.4%	6.1%	6.9%	6.1%	7.0%
Agrees with 1 letter	1.2%		0.7%		0.3%	
Agrees with no letters	0.3%		0.2%		0.3%	

Type Dichotomy	Percentage Agreement		
	German Training Delegates	French Training Delegates	UK Study
E-I	90.1%	90.1%	92.1%
S-N	84.5%	91.0%	93.8%
T-F	84.8%	88.3%	88.4%
J-P	87.0%	90.6%	89.0%

A further set of analysis was carried out to investigate the validity and accuracy of the questionnaire. Training course delegates were asked how confident they felt about their results on each type dichotomy (on a scale from 1 to 5, where 5 indicated the highest degree of confidence). For every dimension, over two-thirds of the group were confident about their type, with a considerably higher proportion expressing confidence with their E-I preference (82%). This corresponds with the findings of the best-fit research, where a higher level of agreement was found between reported and best-fit preferences for the E-I dimension than for the other three dimensions. All these figures provide further support for the validity of the MBTI approach.

Detailed results are shown in Table 8 below:

**Table 8: Degree of Confidence in Results**

Degree of Confidence	Percent of Group			
	E-I	S-N	T-F	J-P
5	57%	45%	44%	50%
4	25%	28%	26%	22%
3	6%	16%	15%	13%
2	7%	7%	9%	9%
1	6%	4%	7%	6%
<i>% at 4 or above</i>	<i>82%</i>	<i>73%</i>	<i>70%</i>	<i>72%</i>

In summary, then, there is good evidence for the validity of the German MBTI Step I instrument. Specifically:

- There is a high level of agreement between best-fit and reported type, almost as high as for the English and French language versions.
- Respondents are confident about their results.

## GROUP DIFFERENCES IN TYPE

Across the three samples, a variety of different demographic information was collected, as shown in table 9 below:

**Table 9: Available Demographic Information**

	Training Delegates	General Population	OPPAssessment
Gender	✓	✓	✓
Age	✓	✓	✓
Job Role	✓	x	x
Occupational Level	x	✓	✓
Education	✓	x	✓
Work Area	✓	x	✓
Nationality	x	✓	✓
Employment Status	x	x	✓

The relationship of Type to each of these factors is described below.

### GENDER

Most groups who take the MBTI instrument show a significant gender difference on the Thinking-Feeling dimension, and this is the case for the three groups in this study, as shown in Table 10 below:

**Table 10: Gender Differences on the T-F Dimension**

Group	Gender		T	F
Training Delegates  ( $\chi^2 = 8.84$ , $df=1$ , sig at 1% level)	Male	N	119	40
		% within gender <sup>11</sup>	74.8%	25.2%
		% within Type <sup>12</sup>	59.2%	33.1%
	Female	N	82	81
		% within gender	50.3%	49.7%
		% within Type	40.8%	66.9%
General Population  ( $\chi^2 = 25.238$ , $df=1$ , sig at 0.1% level)	Male	N	112	29
		% within gender	79.4%	20.6%
		% within Type	73.7%	39.2%
	Female	N	40	45
		% within gender	47.1%	52.9%
		% within Type	26.3%	60.8%
OPPAssessment  ( $\chi^2 = 137.13$ , $df=1$ , sig at the 0.1% level)	Male	N	1167	196
		% within gender	85.6%	14.4%
		% within Type	75.9%	46.3%
	Female	N	370	227
		% within gender	62.0%	38.0%
		% within Type	24.1%	53.7%

<sup>11</sup> For example, 74.8% of male training delegates have a T preference and 25.2% have an F preference.

<sup>12</sup> For example, 59.2% of training delegates with a T preference are male, and 40.8% are female.

Thinking preferences are over-represented amongst men and Feeling preferences are over-represented amongst women. This effect has been found many times with many different versions of the instrument in a number of different cultures.

## AGE

The OPPassessment sample showed a statistically significant relationship between age and only one of the dimensions<sup>13</sup>. The mean age of people with a preference for Sensing was approximately one year higher than of those with a preference for Intuition.

## JOB ROLE AND OCCUPATIONAL LEVEL

Previous European research has demonstrated that those in higher level jobs are more likely to have preferences for Intuition and for Thinking than those in lower level jobs (Quenk, Hammer & Majors, 2004) This is not fully reflected in the relationship of the Sensing-Intuition and Thinking-Feeling dimensions with occupational level in the OPPassessment sample.

The data suggests that middle managers are more likely to have preferences for Sensing than are other groups, both above and below them in the workplace hierarchy, as shown in table 11 below. It was also found that those with preferences for Thinking are slightly under-represented at employee level, as shown in table 12.

**Table 11: Sensing-Intuition<sup>14</sup> and Occupational Level**

Occupational Level		S	N
Top level	N	16	21
	% within level	43.2%	56.8%
Senior executive	N	107	112
	% within level	48.9%	51.1%
Upper middle management	N	99	105
	% within level	48.5%	51.5%
Middle management	N	210	142
	% within level	59.7%	40.3%
First level management/supervisor	N	84	108
	% within level	43.8%	56.3%
Employee	N	309	336
	% within level	47.9%	52.1%
Other	N	36	63
	% within level	36.4%	63.6%
(Total)	N	964	996
	%	49.2%	50.8%

<sup>13</sup> Independent-samples t-test;  $t=2.342$ , sig at the 5% level

<sup>14</sup>  $\chi^2 = 25.25$ , sig at the 0.1% level.

**Table 12: Thinking-Feeling<sup>15</sup> and Occupational Level**

Occupational Level		T	F
Top level	N	32	5
	% within level	86.5%	13.5%
Senior executive	N	193	26
	% within level	88.1%	11.9%
Upper middle management	N	170	34
	% within level	83.3%	16.7%
Middle management	N	285	67
	% within level	81.0%	19.0%
First level management/supervisor	N	162	30
	% within level	84.4%	15.6%
Employee	N	468	177
	% within level	72.6%	27.4%
Other	N	66	33
	% within level	66.7%	33.3%
<i>(Total)</i>	<i>N</i>	<i>1537</i>	<i>423</i>
	<i>%</i>	<i>78.4%</i>	<i>21.6%</i>

Note also that in this data set as a whole, preferences for Intuition and Thinking are over-represented in comparison to the general population.

## EDUCATION

The training delegate data showed a small but statistically significant tendency<sup>16</sup> for those educated to Degree level (or above) to be more likely to have a preference for Intuition than those who did not have a degree. However, this finding is taken from a sample containing relatively few people who did not have a degree (31 people), so should be treated with some caution.

Specific educational qualifications were not available for the OPPassessment sample; however the age at which individuals left full-time education was. Those who left full-time education at a greater age were significantly more likely to have preferences for Intuition<sup>17</sup> and for Perceiving<sup>18</sup>.

## WORK AREA

Previous type research would suggest that an individual's type would influence their choice of career, and indeed there is a statistically significant relationship between S-N, T-F, J-P and job type. In the tables below, categories have been re-ordered according to the percentage of E, S, T or J, and job types with less than 20 respondents have been omitted.

<sup>15</sup>  $\chi^2 = 43.844$ , sig at the 0.1% level.

<sup>16</sup>  $\chi^2 = 9.35$ , df=5, sig at 1% level.

<sup>17</sup> Independent-samples t-test;  $t = -5.208$ , sig at the 0.1% level

<sup>18</sup> Independent-samples t-test;  $t = -2.755$ , sig at the 1% level

**Table 13: Sensing-Intuition<sup>19</sup> and Work Area**

Job Type		S	N
Finance	N	211	178
	% within job type	54.2%	45.8%
Science, engineering	N	83	71
	% within job type	53.9%	46.1%
Other	N	112	106
	% within job type	51.4%	48.6%
Administrative or secretarial	N	25	24
	% within job type	51.0%	49.0%
Sales, customer service	N	91	88
	% within job type	50.8%	49.2%
IT	N	87	85
	% within job type	50.6%	49.4%
Other business services	N	96	94
	% within job type	50.5%	49.5%
Health, social services	N	17	23
	% within job type	42.5%	57.5%
HR, training, guidance	N	92	126
	% within job type	42.2%	57.8%
Research and development	N	37	54
	% within job type	40.7%	59.3%
Education	N	4	27
	% within job type	12.9%	87.1%
<i>(Total)</i>	<i>N</i>	<i>855</i>	<i>876</i>
	<i>%</i>	<i>49.4%</i>	<i>50.6%</i>

**Table 14: Thinking-Feeling and Work Area<sup>20</sup>**

Job Type		T	F
Science, engineering	N	144	10
	% within job type	93.5%	6.5%
Research and development	N	78	13
	% within job type	85.7%	14.3%
IT	N	143	29
	% within job type	83.1%	16.9%
Other	N	179	39
	% within job type	82.1%	17.9%
Sales, customer service	N	145	34
	% within job type	81.0%	19.0%
Finance	N	314	75
	% within job type	80.7%	19.3%
Other business services	N	149	41
	% within job type	78.4%	21.6%
Health, social services	N	28	12

<sup>19</sup>  $\chi^2 = 34.947$ , sig at the 1% level.

<sup>20</sup>  $\chi^2 = 83.12$ , sig at the 0.1% level.

	% within job type	70.0%	30.0%
Education	N	20	11
	% within job type	64.5%	35.5%
HR, training, guidance	N	138	80
	% within job type	63.3%	36.7%
Administrative or secretarial	N	27	22
	% within job type	55.1%	44.9%
(Total)	N	1365	366
	%	78.9%	21.1%

**Table 15: Judging-Perceiving<sup>21</sup> and Work Area**

Job Type		J	P
Science, engineering	N	121	33
	% within job type	78.6%	21.4%
Sales, customer service	N	131	48
	% within job type	73.2%	26.8%
IT	N	123	49
	% within job type	71.5%	28.5%
Administrative or secretarial	N	35	14
	% within job type	71.4%	28.6%
Other	N	154	64
	% within job type	70.6%	29.4%
Finance	N	271	118
	% within job type	69.7%	30.3%
Health, social services	N	27	13
	% within job type	67.5%	32.5%
Research and development	N	59	32
	% within job type	64.8%	35.2%
Other business services	N	123	67
	% within job type	64.7%	35.3%
HR, training, guidance	N	132	86
	% within job type	60.6%	39.4%
Education	N	16	15
	% within job type	51.6%	48.4%
(Total)	N	1192	539
	%	68.9%	31.1%

## NATIONALITY

For the OPPassessment group, information on nationality was available. Although over half of the group were German, other nationalities (e.g. Swiss, Austrian) were also represented (see Appendix 1 for details). Analysis suggested that the German sub-group was significantly more likely<sup>22</sup> to have a Thinking preference than the

<sup>21</sup>  $\chi^2 = 28.43$ , sig at the 5% level.

<sup>22</sup>  $\chi^2 = 11.12$ , sig at the 5% level.



Swiss and Austrians, and that the Swiss sub-group was significantly more likely<sup>23</sup> to have a Perceiving preference than the Germans and Austrians. However, these results should not be interpreted as true indicators of national differences, as they are likely to be influenced by factors such as occupational level, work area, and employer (for example, 42.5% of the questionnaires administered to Swiss people were administered by the same organisation).

## **EMPLOYMENT STATUS**

Employment status (available for the OPPassessment sample) showed a relationship with the Sensing-Intuition, Thinking-Feeling, and Judging-Perceiving dimensions. Those who were self-employed were more likely than other groups to have preferences for Intuition<sup>24</sup> and Perceiving<sup>25</sup>, whereas those who worked full-time were more likely than other groups to have a preference for Thinking<sup>26</sup>.

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<sup>23</sup>  $\chi^2 = 17.29$ , sig at the 0.1% level.

<sup>24</sup>  $\chi^2 = 19.74$ , sig at the 0.1% level.

<sup>25</sup>  $\chi^2 = 17.15$ , sig at the 0.5% level.

<sup>26</sup>  $\chi^2 = 38.04$ , sig at the 0.1% level.

## REFERENCES

- Carr, M., Curd, J. and Dent, F. (2004). *Ashridge Management School MBTI Research into Distribution of Type*. Ashridge Management School.
- Fleenor, J. W. (1997). The Relationship Between the MBTI and Measures of Personality and Performance in Management Groups. In *Developing Leaders*. Davies-Black. Palo Alto, CA.
- Hackston, J. (2005). *French MBTI Data Supplement*. OPP Ltd
- Hackston, J. and Kendall, E. (2004). Step II and Culture. Paper presented at the APT international conference, Toronto, July 2004.
- Kendall, E. (1998). *Myers-Briggs Type Indicator European English Edition Step I Manual Supplement*. CPP, Inc. Palo Alto, CA.
- Lorenz, T. and Oppitz, S. (2004). *30 Minuten für Profil-ierung durch Persönlichkeit*, Gabal Verlag, Offenbach.
- MacDaid, G. P., McCaulley, M. H. and Kainz, R.L. (1991). *Atlas of Type Tables*. Center for Applications of Psychological Type, Gainesville, FL.
- Myers, I. B. and McCaulley, M. H. (1985). *Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator*. CPP Inc.; Palo Alto, CA.
- Myers, I. B., McCaulley, M.H., Quenk, N.L. and Hammer, A. L. (1998). *MBTI Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator*. CPP, Inc. Palo Alto, CA.
- Quenk, N. L., Hammer, A. L. and Majors, M. (2004). *MBTI Step II Manual European Edition*. CPP Inc. Palo Alto, CA.

## **APPENDIX 1: SAMPLE DESCRIPTIONS**

### **SAMPLE 1: DELEGATES ON MBTI QUALIFYING TRAINING**

The sample consisted of 323 delegates on German MBTI training programmes from early 2002 to February 2006. 163 (50.6%) were female and 159 (49.4%) male; ages ranged from 19 to 74 (with an average age of 38 years).

242 people (75%) were educated to degree level or above. Of these, 37 (11%) held a Doctorate, and 187 (58%) held a Masters degree. The remaining 18 (6%) held a first degree.

209 people (66%) described their employment status as full-time, whilst a further 72 people (23%) described themselves as self-employed. 21 people (7%) worked part-time, and a further 12 (4%) were not in employment.

In terms of job level, 117 people (36%) were at employee level, with 50 (16%) at first level management or supervisory level, 48 (15%) at middle management level, and 55 (17%) at top or senior executive level. 37 people (12%) described their job level as 'other'. Job type data was not recorded for all people, but the most common job types amongst those for whom data was available was "HR, training, guidance" (95 people, or 29%).

### **SAMPLE 2: GENERAL POPULATION**

The sample consisted of 228 individuals who completed a trial version of the MBTI questionnaire as part of the development of the Step II instrument in 2003. This sample was designed to be representative of the German general population, and every individual was of German nationality.

141 (62%) were male and 85 (38%) female; age ranged from 17 to 53 (with an average age of 31 years).

In terms of job level, 88 people (39%) described themselves as being at employee level, with 30 (13%) at first level management or supervisory level, 29 (13%) at middle management level, and 18 (8%) at top or senior executive level.

### **SAMPLE 3: DATA FROM OPPASSESSMENT**

This sample consists of 1960 individuals who completed the MBTI instrument in German via the OPPassessment system. Results from over 150 different organisations are included. 1363 (70%) of the respondents were male, and 597 (30%) were female. Age ranged from 18 to 69 years, with a mean and median of 37.

99% of respondents stated their nationality; while over half were German, other nationalities were also represented:

<b>Nationality</b>	<b>Percentage</b>
German	58.7%
Swiss	29.6%
Austrian	5.8%
Other European	5.0%
Other	0.9%

The majority of the group were in full-time employment:

<b>Employment Status</b>	<b>Percentage</b>
Full-time	91.0%
Part-time	5.8%
Self-employed	2.5%
Unemployed	0.4%
Homemaker	0.2%
Retired	0.0%

The majority of the group were of managerial level or above, although the largest single group was Employee level (36.9%):

<b>Occupational Level</b>	<b>Percentage</b>
Top level	2.1%
Senior executive	12.5%
Upper middle management	11.7%
Middle management	20.1%
First level management/supervisor	11.0%
Employee	36.9%
Other	5.7%

A range of work areas were represented:

<b>Work Area (Job Type)</b>	<b>Percentage</b>
Finance	22.0%
HR, training, guidance	12.3%
Business services	10.7%
Sales, customer service	10.1%
IT	9.7%
Science, engineering	8.7%
Research and development	5.1%
Admin or secretarial	2.8%
Health, social services etc.	2.3%
Education	1.8%
Skilled operative	0.3%
Land, sea or air transport	0.3%
Leisure, personal service	0.2%
Other private sector	1.1%
Other public sector	0.2%
Other	12.3%