MBTI® MANUAL GLOBAL SUPPLEMENT SERIES



Germany (German) Supplement to the MBTI® Manual for the Global Step I™ and Step II™ Assessments

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INTRODUCTION

As steward of the Myers-Briggs Type Indicator (MBTI°) assessment, The Myers-Briggs Company had two overarching goals in undertaking its revision to create global Step I™ and Step II™ forms: (1) preserve the integrity of the Step I and Step II assessments and (2) improve the reliability and validity of the MBTI assessment overall. More specifically, the company sought to update existing representative samples and compile new representative samples in additional countries based on translations (or adaptations) of the assessment into additional languages, use a statistical model consistent with type theory, and, if supported by data analysis, use the same scoring method globally, so that scores could be compared across all those countries and languages.

Broadening existing and compiling new representative samples was a high priority. The prior revision of the MBTI assessment culminated in the 1998 publication of MBTI Form M (Step I), which replaced the earlier Form G. Form Q (Step II) was subsequently published in 2001 and replaced Form K. In the United Kingdom, the European Step I assessment was published in 1997. The European Step II assessment was published in 2003 based on pan-European samples compiled by OPP Ltd. Although all these forms of the MBTI assessment served their audiences well, no additional representative samples in the United States or the UK had been compiled subsequent to their publication. It was therefore important to update the US and UK representative samples as well as expand the number of representative samples to include additional countries and languages, reflecting the increasingly global reach of the MBTI assessment.

To address this need, data were collected in targeted countries (see table 1), with specific demographic targets set by experts for all samples except those from Brazil and South Africa.¹ A consistent data collection effort yielded samples that responded to a common 230-item

MBTI research form containing all items on then-current forms of the assessment (i.e., MBTI Form M and Form Q, and European Step I and Step II); common demographic items; and other validation assessments. Participants who completed North American English or European English versions of the assessment also completed an online interpretation session through The Myers-Briggs Company's MBTI®Complete website, making their verified, or "best-fit," type available for analysis.

In brief, the revision of the MBTI assessment provided the opportunity to collect a wealth of data, resulting in national representative samples that had not existed previously. These samples served the global research effort for the revised assessments themselves and also provided 4 new large and 19 new moderate-size samples. (Please note: In this manual supplement series, a particular sample may be referred to by either country or language for convenience in a particular context. Refer as needed to the sample names listed in table 1 when considering the results presented.)

Two different categories of samples were collected for this global project. Table 1 lists the 4 "large" samples— United States, Canada, and Australia (all North American English), and the United Kingdom (European English) and the 19 "moderate-size" samples from around the world, which were all combined to form the global sample. Large samples were targeted to have 1,000 or more participants, to exceed the sample size of an existing representative sample (specifically, in the US and the UK), and to reflect the size of the market for the MBTI assessment. The moderate-size samples for the most part included targets to ensure that they were nationally representative; only 3 of these samples—Brazil (Brazilian Portuguese), South Africa (Afrikaans), and South Africa (North American English)—due in part to their smaller markets for the MBTI assessment, were distributor led and nonrepresentative.

The MBTI global sample consists of 16,773 individuals, as detailed and summarized in the MBTI® Manual for the Global Step I[™] and Step II[™] Assessments (Myers, McCaulley, Quenk, & Hammer, 2018). The global sample was used to develop the Global Step I and Step II assessments. It is critical to keep in mind that while analyses were conducted for each country/ language sample used in this supplement series and are summarized here, the focus of the analyses was on the global sample reported in the 2018 MBTI manual.

This supplement to the 2018 manual summarizes results obtained from responses of the Germany (German) sample—hereafter, German sample—to the Global Step I and Step II assessments translated into the German language. Included in this supplement is a general description of the sample, along with statistical summaries, analyses, and type distributions based on those results.

Table 1 | List of large and moderate-size country/ language samples in the MBTI® global sample

Country/language sample	N
Large samples	
Australia (North American English)	776
Canada (North American English)	939
United Kingdom (European English)	2,831
United States (North American English)	3,578
Moderate-size samples	
Brazil (Brazilian Portuguese)*	839
Canada (Canadian French)	176
China (Simplified Chinese)	521
China (Traditional Chinese)	477
Denmark (Danish)	468
Finland (Finnish)	524
France (European French)	472
Germany (German)†	440
Greece (Greek)	277
Ireland (European English)	383
Italy (Italian)	458
Mexico (Latin American Spanish)	359
Netherlands (Dutch)	506
Norway (Norwegian)	493
Portugal (European Portuguese)	503
South Africa (Afrikaans)*	505
South Africa (North American English)*	189
Spain (European Spanish)	564
Sweden (Swedish)	495

Note: Global sample, N = 16,773.

TRANSLATION PROCESS

The Myers-Briggs Company's translation process for the MBTI Global Step I and Step II assessments was based on industry-standard methods for assessment translation (International Test Commission, 2005).2 Because each of the languages included in this project has a different history of translation and use, the process varied somewhat for different languages.

As part of the research process to develop the MBTI® European Step II[™] assessment, a research form containing 230 items from Myers' pool of existing items (and known as the Pan-European Step II[™]-Trial Form) was created (see Quenk, Hammer, & Majors, 2004, for details). This form was translated into nine European languages— Danish, Dutch, English, French, German, Italian, Norwegian, Spanish, and Swedish—and used to collect MBTI assessment data. It later was refined to become the 166-item European Step II assessment, with a version for each language; all versions have been used extensively since their release. Additional research on these different

^{*}Data collection for this sample was distributor led; it is not a representative sample.

[†]Germany sample includes one individual residing in Switzerland.

language versions of the assessment, and on others developed since that time, has been reported by OPP Ltd (2009). The 230-item research form became the starting point for the translation of the German-language version used in this global project.

OPP's original German translation was created by a professional linguist; it was evaluated by in-country expert reviewers and iterated until a satisfactory version of the translation was developed. For the global project, the German version was again evaluated by a professional linguist as well as in-country expert reviewers; modifications were made to item wordings to reflect improvements, changes in language usage since the original translation, or other corrections needed to further improve the quality and accuracy of the translation. All changes were reviewed by the linguist as well as in-country expert reviewers, iteratively, until an agreed-upon translation was developed.

DATA COLLECTION

Data for this revision of the assessment were collected almost exclusively online through two Myers-Briggs Company websites. The first site, built by the company's Research Division, accommodated the administration of the MBTI research form and other validity assessments, which were used for non-Englishspeaking research participants. The second site, for English-speaking participants, was a special modification of MBTI°Complete created for this research project using the 230-item MBTI research form, followed by MBTI°Complete's online interpretation session yielding respondents' best-fit type results. (For details on bestfit type, see chapter 7 in the 2018 MBTI manual.) As MBTI®Complete was not used in collecting the German sample, best-fit type data for the sample are unavailable.

For the MBTI research form, specific sampling targets were set for each sample (table 2). Local MBTI distributors helped determine the final targets for samples in their respective countries or regions by selecting appropriate official sources. In general, sampling targets were designed to mirror the working-age population.

Once the websites were prepared and the sampling targets were set, data collection began. For most samples, the majority of participants were provided with incentives by an external market research firm. Such firms maintain panels of participants who have expressed willingness to participate in research. These participants were compensated for completing some combination of demographic items, the MBTI research form, and/ or other validity assessments. For some samples—for example, Brazil (Brazilian Portuguese)—the locally based

Table 2 | Demographic summary: German sample

Demographic	Target %	Actual %
Age group		
16-24 years	13	15
25-44 years	32	36
45-64 years	31	37
65+ years	23	12
Mean age: 44 years	_	_
Gender		
Female	51	54
Male	49	46
Country of residence		
Germany	_	99
Switzerland	_	<1
No response	_	<1
Employment status		
Working full-time	40	46
Working part-time	14	20
Student	10	8
Looking after family/home	14	8
Long-term sick	12	4
Retired / not working for income / none of the above	10	15
No response	_	<1
Self-employed		
Yes	6	8
No	94	54
No response	_	38

Note: N = 440. Percentages in a given category may not total 100% due to rounding of decimals.

MBTI distributor led the data collection effort. Once data were collected, all cases were thoroughly examined, and invalid cases (e.g., those with too many response omissions or where a participant had selected only the "A" response option across 230 items) were removed. This cleanup step, while reducing final sample sizes, was required to ensure that only the highest-quality data remained for analysis.

A representative sample of individuals in Germany who read German was obtained from a market research firm. Targets were set based on the population of Germany and provided by OPP Ltd. Table 2 shows the demographic target and actual obtained percentages. The resulting German sample consists of 440 individuals, 53.6% women and 46.4% men. The age range is 16-81, with an average of 44 years (standard deviation = 15.7). All but one individual reported residing in Germany.

Table 3 | Reported MBTI° type distribution: German sample

Sen	ising	Intui	tion		
Thinking	Fee	ling	Thinking		
ISTJ <i>n</i> = 56 12.7%	ISFJ <i>n</i> = 46 10.5%	INFJ n = 10 2.3%	INTJ n = 10 2.3%	Judging	Introv
ISTP n = 37 8.4%	ISFP <i>n</i> = 49 11.1%	INFP n = 21 4.8%	INTP n = 12 2.7%	Perceiving	Introversion
ESTP <i>n</i> = 22 5.0%	ESFP <i>n</i> = 53 12.0%	ENFP n = 30 6.8%	ENTP <i>n</i> = 11 2.5%	iving	Extrav
ESTJ n = 34 7.7%	ESFJ n = 29 6.6%	ENFJ <i>n</i> = 13 3.0%	ENTJ <i>n</i> = 7 1.6%	Judging	Extraversion

Note: N = 440.

Table 4 | Reported MBTI° preference and preference combination distributions: German sample

F	Preferences		Preferences Orientation pairs		Pı	Process pairs			Orientation of energy and perceiving pairs			Judging and external orientation pairs			
	n	%		n	%		n	%		n	%		n	%	
Ε	199	45.2	EJ	83	18.9	ST	149	33.9	ES	138	31.4	ТJ	107	24.3	
ı	241	54.8	EP	116	26.4	SF	177	40.2	EN	61	13.9	TP	82	18.6	
S	326	74.1	IJ	122	27.7	NF	74	16.8	IS	188	42.7	FJ	98	22.3	
N	114	25.9	IP	119	27.0	NT	40	9.1	IN	53	12.0	FP	153	34.8	
Т	189	43.0													
F	251	57.0													
J	205	46.6													
Р	235	53.4													

Note: N = 440.

MBTI® GLOBAL STEP I" ASSESSMENT RESULTS FOR THE GERMAN SAMPLE

The Global Step I assessment contains 92 items used to help determine individuals' personality type by identifying their preferences on four pairs of opposites (Extraversion-Introversion, Sensing-Intuition, Thinking-Feeling, and Judging-Perceiving). Combining an individual's four preferences yields 1 of 16 possible MBTI types. The Global Step I assessment replaces the Form M assessment and the European Step I assessment.

MBTI° Type and Preference Distributions

MBTI type was computed for all participants in the German sample. Type, preference, and preference combination distributions for this sample are presented in tables 3 and 4.

Table 3 shows that the most common types for this group are ISTJ and ESFP. The least common types are ENTJ, INFJ, and INTJ. As reported in the German MBTI® Step I™ Data Supplement (Deakin, 2006), the most common types in a general German population sample (N = 228) at that time were ISTJ and ESTJ. The least common types in that sample were ESFP and INFJ. Table 4 shows the distributions of preferences as well as

Table 5 | Reported MBTI° type distribution for men: German sample

Sen	sing	Intui	tion		
Thinking	Fee	ling	Thinking		
ISTJ <i>n</i> = 33 16.2%	ISFJ n = 13 6.4%	INFJ n = 3 1.5%	INTJ n = 5 2.5%	Judging	Introv
ISTP <i>n</i> = 29 14.2%	ISFP n = 17 8.3%	INFP n = 7 3.4%	INTP n = 7 3.4%	Perceiving	Introversion
ESTP <i>n</i> = 11 5.4%	ESFP n = 17 8.3%	ENFP <i>n</i> = 14 6.9%	ENTP <i>n</i> = 4 2.0%	iving	Extraversion
ESTJ <i>n</i> = 23 11.3%	ESFJ n = 8 3.9%	ENFJ n = 7 3.4%	ENTJ <i>n</i> = 6 2.9%	Judging	ersion

Note: n = 204.

Table 6 | Reported MBTI° preference and preference combination distributions for men: German sample

Preferences		Preferences		Orie	ntation	pairs	Proce		Process pairs			f energy ng pairs	-	ng and e	external pairs
	n	%		n	%		n	%		n	%		n	%	
E	90	44.1	EJ	44	21.6	ST	96	47.1	ES	59	28.9	TJ	67	32.8	
1	114	55.9	EP	46	22.5	SF	55	27.0	EN	31	15.2	TP	51	25.0	
S	151	74.0	IJ	54	26.5	NF	31	15.2	IS	92	45.1	FJ	31	15.2	
N	53	26.0	IP	60	29.4	NT	22	10.8	IN	22	10.8	FP	55	27.0	
Т	118	57.8													
F	86	42.2													
J	98	48.0													
Р	106	52.0													

Note: n = 204.

four two-preference combinations: (1) orientation pairs, (2) process pairs, (3) orientation of energy and perceiving process pairs, and (4) judging process and external orientation pairs. The table shows that of the orientation pairs, IJs, IPs, and EPs occur about equally. In addition, Ss are more prevalent than Ns, while the other preferences are more evenly distributed.

Tables 5–8 show type and preference distributions by gender.

Relationships Between MBTI® Global Step I™, Form M, and European Step I[™] Preference Pair **Results**

Correlations between MBTI Global Step I, Form M, and European Step I preference pair results for the German sample are shown in table 9.3 The overall agreement rate for whole types between the Global Step I and Form M assessments was 77%, while between the Global Step I and European Step I assessments it was 45%. The agreement rate between the Global Step I and Form M assessments is higher than the 60% agreement

Table 7 | Reported MBTI° type distribution for women: German sample

Sen	sing	Intui	tion		
Thinking	Fee	ling	Thinking		
ISTJ n = 23 9.7%	ISFJ <i>n</i> = 33 14.0%	INFJ n = 7 3.0%	INTJ n = 5 2.1%	Judging	Introv
ISTP <i>n</i> = 8 3.4%	ISFP n = 32 13.6%	INFP n = 14 5.9%	INTP n = 5 2.1%	Perceiving	Introversion
ESTP <i>n</i> = 11 4.7%	ESFP <i>n</i> = 36 15.3%	ENFP <i>n</i> = 16 6.8%	ENTP <i>n</i> = 7 3.0%	iving	Extrav
ESTJ <i>n</i> = 11 4.7%	ESFJ <i>n</i> = 21 8.9%	ENFJ n = 6 2.5%	ENTJ <i>n</i> = 1 0.4%	Judging	Extraversion

Note: n = 236.

Table 8 | Reported MBTI° type preference and preference combination distributions for women: German sample

Preferences		Preferences		Preferences Orientation pairs Process		rocess p	Orientation of energy airs and perceiving pairs				Judging and external orientation pairs			
	n	%		n	%		n	%		n	%		n	%
E	109	46.2	EJ	39	16.5	ST	53	22.5	ES	79	33.5	TJ	40	16.9
I	127	53.8	EP	70	29.7	SF	122	51.7	EN	30	12.7	TP	31	13.1
S	175	74.2	IJ	68	28.8	NF	43	18.2	IS	96	40.7	FJ	67	28.4
N	61	25.8	IP	59	25.0	NT	18	7.6	IN	31	13.1	FP	98	41.5
Т	71	30.1												
F	165	69.9												
J	107	45.3												
Р	129	54.7												

Note: n = 236.

rate between Form G and Form M reported in the 1998 MBTI® Manual (Myers, McCaulley, Quenk, & Hammer).

Global Step I[™] **Preference Pair Intercorrelations**

Intercorrelations of Global Step I preference pair continuous scores in the German sample are shown in table 10 below the diagonal. The highest correlation is between the S-N and J-P preference pairs. The next highest is between T-F and J-P. These correlations are similar to those found for the global sample, shown in table 10 above the diagonal. The German sample findings are likewise consistent with those reported for Form M in the 1998 MBTI® Manual (Myers et al.).

Reliability and Validity of Global Step I™ Results

This section covers measurement properties for the German translation of the MBTI Global Step I assessment, including reliability and validity. For full reliability and validity information for the global sample, refer to the MBTI® Manual for the Global Step I™ and Step II™ Assessments (Myers et al., 2018).

Table 9 | Relationships between MBTI° Global Step I", Form M, and European Step I" preference pair results: German sample

	Global Step I [*] a preference pa		Global Step I" and European Step I" preference pair results			
Preference pair	Correlation between continuous scores	Agreement rate (%)	Correlation between continuous scores	Agreement rate (%)		
E-I	.95	93	.90	85		
S-N	.95	93	.86	83		
T-F	.98	95	.89	83		
J-P	.96	93	.85	74		
Overall agreement ra	ate for whole types	77		45		

Note: N = 440.

Table 10 | Intercorrelations of Global Step I[™] preference pair continuous scores: German and global samples

Preference pair	E-I	S-N	T-F	J-P
E–I S–N	_ 18	20 -	15 .27	15 .48
T-F	15	.19	_	.23
J-P	16	.42	.26	_

Note: Correlations for the German sample (N = 440) are below the diagonal; those for the global sample (N = 16,773) are above the diagonal.

Table 11 | Internal consistency and test-retest reliabilities of Global Step I™ preference pair continuous scores: German and global samples

		Cronbach's alpha				
Sample	N	E-I	S-N	T-F	J-P	
German Global	440 16,773	.86 .89	.81 .87	.89 .89	.82 .88	
		Test-	retest	correl	ation	
Sample (interval)	n	E-I	S-N	T-F	J-P	
German (≤15 weeks) Global (≤15 weeks)	82 1,762	.87 .86	.73 .83	.88 .82	.80 .81	
		Test-retest agreement rate (%)				
Sample (interval)	n	E-I	S-N	T-F	J-P	
German (≤15 weeks) Global (≤15 weeks)	82 1,762	87 84	89 86	84 79	73 79	

RELIABILITY

Reliability refers to consistency of measurement. A measure is said to be reliable when it produces a consistent, though not necessarily identical, result. Scores, not assessments, are either reliable or unreliable for a particular population of respondents, as reliability is affected by both the sample and the items contained in the instrument (Capraro & Capraro, 2002). Because reliability hinges at least partially on total score variability, samples that are homogeneous on the characteristic being measured will likely yield a low total score variance, and the reliability of the scores regarding the characteristic may be poor. Conversely, participants in a sample that is heterogeneous with respect to the characteristic will likely score differently from each other, thereby increasing variability and providing stronger reliability (Dawis, 1987).

Internal consistency reliability measures the consistency of responses across items in a particular measure for a particular sample. The most commonly used estimator of internal consistency reliability is Cronbach's alpha (Cronbach, 1951). Table 11 shows the Cronbach's alphas for Global Step I preference pairs in the German sample and in the global sample for comparison purposes. The German sample alphas range from .81 to .89.

Another form of reliability is test-retest, which estimates how stable a measure is over time. Test-retest reliability correlations of Global Step I continuous scores in the German sample are also presented in table 11. The testretest interval was ≤15 weeks. This table also shows the rate of test-retest agreement for each preference pair. Test-retest correlations and test-retest agreement rates are also shown for the global sample in this table for comparison purposes.

Table 12 shows the percentage of individuals who reported zero, one, two, three, or four preferences the same upon retest in the German sample. Eighty-four

Table 12 | Percentage of individuals with preferences the same at retest: German sample

		Number of preferences the same at retest (%)						
Sample (interval)	n	4	3	2	1	0		
German (≤15 weeks)	82	50	34	15	1	0		

percent of individuals reported having either three or four preferences the same at time of retest.

VALIDITY

An instrument is said to be valid when it measures what it has been designed to measure (Ghiselli, Campbell, & Zedeck, 1981; Murphy & Davidshofer, 2005). Validity can be demonstrated using a number of different approaches. Convergent validity and discriminant validity are often examined by looking at the patterns of relationships on different instruments. An initial examination of convergent and discriminant validity was conducted by analyzing relationships found between the German translation of the MBTI Global Step I assessment and the Adjective Check List (ACL; Gough & Heilbrun, 1983) as well as the CPI 260 $^{\circ}$ assessment (Gough & Bradley, 2005).

ACL assessment. A portion of the German sample participants (n = 94) also completed a translated version of the ACL when completing the research version of the MBTI assessment. The ACL consists of 300 different adjectives—such as intelligent, alert, clear-thinking, and noisy—encompassing a wide variety of behaviors. Respondents were asked to select the adjectives they believed were self-descriptive (Gough & Heilbrun, 1983). According to Gough and Heilbrun, results for any respondent with fewer than 20 adjectives or more than 250 adjectives checked should be cautiously interpreted; those with fewer than 10 or more than 270 checked are almost always invalid. As a result, respondents with too many or too few adjectives were omitted prior to analysis. The more conservative approach was taken here, and respondents with fewer than 20 adjectives or more than 250 adjectives checked were removed from the analysis of the ACL. Scales on the ACL assessment result from combinations of adjectives. Selected ACL scale means, standard deviations, and Cohen's d (Cohen, 1992; mean differences expressed in units of standard deviation⁴) for MBTI preferences for the German sample are presented in tables 13-16.

CPI 260° assessment. The CPI 260 assessment measures personality characteristics intended to provide a clear and accurate description of the respondent to increase self-awareness and understanding (Gough & Bradley, 2005). A portion of the German sample (n = 97) also completed the CPI 260 assessment. CPI 260 scale means, standard deviations, and Cohen's d for each of the four preference pairs are shown in tables 17-20.

Table 13 | ACL scale means, standard deviations, and Cohen's *d* for Global Step I[™] E−I preferences: German sample

		Extrave	ersion	Introve	ersion		
ACL scale	ACL scale description	М	SD	М	SD	Cohen's a	
Sum of number checked	Total number of adjectives checked	66.80	34.37	66.24	35.19	-0.02	
Sum of favorable checked	Total number of favorable adjectives checked	32.16	15.43	27.69	15.97	-0.28	
Sum of unfavorable checked	Total number of unfavorable adjectives checked	4.96	4.80	6.84	6.17	0.34	
Communality	An indicator of providing common or similar responses compared to the responses of people in general	6.96	3.69	6.90	4.47	-0.01	
Achievement	To strive to be outstanding in pursuits of socially recognized significance	7.82	5.75	4.90	5.56	-0.52	
Dominance	To seek and maintain a role as leader in groups, or to be influential and controlling in individual relationships	4.27	4.91	-0.27	5.07	-0.91	
Endurance	To persist in any task undertaken	7.58	5.19	5.69	5.78	-0.34	
Order	To place special emphasis on neatness, organization, and planning in one's activities	6.53	4.77	5.51	4.53	-0.22	
Intraception	To engage in attempts to understand one's behavior or the behavior of others	8.16	4.67	8.22	4.98	0.01	
Nurturance	To engage in behaviors that provide material or emotional benefits to others	9.38	5.53	7.76	7.00	-0.26	
Affiliation	To seek and maintain numerous personal friendships	14.31	7.20	11.22	7.11	-0.43	
Exhibition	To behave in such a way as to elicit the immediate attention of others	1.93	3.56	-1.98	3.96	-1.04	
Autonomy	To act independently of others or of social values and expectations	2.58	3.26	0.78	2.82	-0.59	
Aggression	To engage in behaviors that attack or hurt others	-0.07	3.56	-2.69	4.01	-0.69	
Change	To seek novelty of experience and to avoid routine	2.44	1.97	1.57	2.80	-0.36	
Succorance	To solicit sympathy, affection, or emotional support from others	-0.13	3.03	0.92	2.96	0.35	
Deference	To seek and maintain subordinate roles in relationships with others	1.36	3.34	3.82	4.03	0.66	
Self-Control	To control one's behaviors and emotions	-0.51	2.32	1.33	3.01	0.68	
Self-Confidence	Poise, self-assurance, and belief in one's ability to achieve one's goals	6.20	4.62	2.69	4.38	-0.78	
Personal Adjustment	The ability to cope with situational and interpersonal demands, and a feeling of efficacy	6.44	3.86	4.41	4.03	-0.51	
Ideal Self	Strong sense of personal worth; or harmony between what one is and what one wants to be	3.49	4.73	1.18	5.50	-0.45	
Creative Personality	The desire to do and think differently from the norm, and a talent for originality	2.53	2.69	1.86	3.27	-0.22	
Military Leadership	Steadiness, self-discipline, and good judgment of the kind required in positions of military (or related) leadership	6.69	4.71	4.80	4.70	-0.40	
Adult	Attitudes of independence, objectivity, and industriousness associated with the concept of "mature adult"	7.07	4.78	5.04	4.99	-0.42	

Note: Extraversion, n = 45; Introversion, n = 49. For information on Cohen's d, see note 4 at the back of this supplement.

Table 14 | ACL scale means, standard deviations, and Cohen's *d* for Global Step I[™] S−N preferences: German sample

		Sens	ing	Intui		
ACL scale	ACL scale description	М	SD	М	SD	Cohen's
Sum of number checked	Total number of adjectives checked	63.11	34.58	79.10	32.54	0.47
Sum of favorable checked	Total number of favorable adjectives checked	27.64	15.32	37.95	15.18	0.67
Sum of unfavorable checked	Total number of unfavorable adjectives checked	5.91	6.08	6.05	3.41	0.02
Communality	An indicator of providing common or similar responses compared to the responses of people in general	6.50	4.14	8.50	3.56	0.50
Achievement	To strive to be outstanding in pursuits of socially recognized significance	5.49	5.15	9.30	7.19	0.68
Dominance	To seek and maintain a role as leader in groups, or to be influential and controlling in individual relationships	1.50	5.24	3.40	6.12	0.35
Endurance	To persist in any task undertaken	5.97	5.34	8.90	5.86	0.54
Order	To place special emphasis on neatness, organization, and planning in one's activities	5.62	4.52	7.40	4.99	0.39
Intraception	To engage in attempts to understand one's behavior or the behavior of others	7.64	4.81	10.25	4.30	0.55
Nurturance	To engage in behaviors that provide material or emotional benefits to others	8.05	6.58	10.30	5.20	0.36
Affiliation	To seek and maintain numerous personal friendships	11.96	7.35	15.45	6.49	0.49
Exhibition	To behave in such a way as to elicit the immediate attention of others	-0.51	4.08	1.40	4.55	0.46
Autonomy	To act independently of others or of social values and expectations	1.42	2.94	2.45	3.80	0.33
Aggression	To engage in behaviors that attack or hurt others	-1.73	3.84	-0.35	4.48	0.35
Change	To seek novelty of experience and to avoid routine	1.80	2.45	2.70	2.43	0.37
Succorance	To solicit sympathy, affection, or emotional support from others	0.66	2.75	-0.50	3.83	-0.39
Deference	To seek and maintain subordinate roles in relationships with others	2.88	3.66	1.75	4.70	-0.29
Self-Control	To control one's behaviors and emotions	0.69	2.85	-0.45	2.70	-0.40
Self-Confidence	Poise, self-assurance, and belief in one's ability to achieve one's goals	3.70	4.46	6.85	5.32	0.68
Personal Adjustment	The ability to cope with situational and interpersonal demands, and a feeling of efficacy	4.80	3.80	7.55	4.35	0.70
Ideal Self	Strong sense of personal worth; or harmony between what one is and what one wants to be	1.46	4.89	5.35	5.51	0.77
Creative Personality	The desire to do and think differently from the norm, and a talent for originality	1.72	2.76	3.90	3.34	0.75
Military Leadership	Steadiness, self-discipline, and good judgment of the kind required in positions of military (or related) leadership	5.07	4.40	8.05	5.46	0.64
Adult	Attitudes of independence, objectivity, and industriousness associated with the concept of "mature adult"	5.58	4.73	7.60	5.60	0.41

Note: Sensing, n = 74; Intuition, n = 20.

Table 15 | ACL scale means, standard deviations, and Cohen's *d* for Global Step I[™] T−F preferences: German sample

		Thinl	king	Feel	ing	
ACL scale	ACL scale description	М	SD	М	SD	Cohen's d
Sum of number checked	Total number of adjectives checked	68.38	40.41	65.30	30.60	-0.09
Sum of favorable checked	Total number of favorable adjectives checked	29.57	29.57 17.91		14.41	0.03
Sum of unfavorable checked	Total number of unfavorable adjectives checked	6.11	5.73	5.82	5.57	-0.05
Communality	An indicator of providing common or similar responses compared to the responses of people in general	6.49	4.36	7.21	3.92	0.18
Achievement	To strive to be outstanding in pursuits of socially recognized significance	7.68	6.05	5.40	5.53	-0.40
Dominance	To seek and maintain a role as leader in groups, or to be influential and controlling in individual relationships	2.46	5.60	1.54	5.39	-0.17
Endurance	To persist in any task undertaken	7.49	5.12	6.02	5.79	-0.27
Order	To place special emphasis on neatness, organization, and planning in one's activities	7.54	4.85	5.00	4.27	-0.56
Intraception	To engage in attempts to understand one's behavior or the behavior of others	8.32	5.23	8.11	4.56	-0.04
Nurturance	To engage in behaviors that provide material or emotional benefits to others	6.08	6.16	10.12	6.02	0.67
Affiliation	To seek and maintain numerous personal friendships	11.95	8.14	13.19	6.70	0.17
Exhibition	To behave in such a way as to elicit the immediate attention of others	-0.22	4.27	-0.04	4.25	0.04
Autonomy	To act independently of others or of social values and expectations	2.08	2.80	1.35	3.35	-0.23
Aggression	To engage in behaviors that attack or hurt others	-1.59	4.17	-1.33	3.92	0.06
Change	To seek novelty of experience and to avoid routine	1.68	2.16	2.19	2.64	0.21
Succorance	To solicit sympathy, affection, or emotional support from others	-0.35	2.95	0.91	3.00	0.42
Deference	To seek and maintain subordinate roles in relationships with others	1.43	3.98	3.42	3.68	0.52
Self-Control	To control one's behaviors and emotions	0.32	2.77	0.53	2.91	0.07
Self-Confidence	Poise, self-assurance, and belief in one's ability to achieve one's goals	5.08	4.70	3.91	4.86	-0.24
Personal Adjustment	The ability to cope with situational and interpersonal demands, and a feeling of efficacy	5.22	4.49	5.49	3.79	0.07
Ideal Self	Strong sense of personal worth; or harmony between what one is and what one wants to be	3.76	6.08	1.33	4.43	-0.47
Creative Personality	The desire to do and think differently from the norm, and a talent for originality	2.68	3.21	1.86	2.86	-0.27
Military Leadership	Steadiness, self-discipline, and good judgment of the kind required in positions of military (or related) leadership	6.32	4.80	5.30	4.76	-0.21
Adult	Attitudes of independence, objectivity, and industriousness associated with the concept of "mature adult"	7.19	5.57	5.25	4.42	-0.40

Note: Thinking, n = 37; Feeling, n = 57.

Table 16 | ACL scale means, standard deviations, and Cohen's *d* for Global Step I[™] J−P preferences: German sample

		Judg	jing	Perce	iving	
ACL scale	ACL scale description	М	SD	М	SD	Cohen's d
Sum of number checked	Total number of adjectives checked	71.18	36.05	61.42	32.62	-0.28
Sum of favorable checked	Total number of favorable adjectives checked	31.08	16.24	28.47	15.35	-0.16
Sum of unfavorable checked	Total number of unfavorable adjectives checked	6.53	5.84	5.29	5.33	-0.22
Communality	An indicator of providing common or similar responses compared to the responses of people in general	7.49	4.14	6.31	3.99	-0.29
Achievement	To strive to be outstanding in pursuits of socially recognized significance	7.02	6.07	5.51	5.48	-0.26
Dominance	To seek and maintain a role as leader in groups, or to be influential and controlling in individual relationships	1.78	5.83	2.04	5.09	0.05
Endurance	To persist in any task undertaken	7.41	6.09	5.71	4.83	-0.31
Order	To place special emphasis on neatness, organization, and planning in one's activities	7.08	5.16	4.82	3.74	-0.50
Intraception	To engage in attempts to understand one's behavior or the behavior of others	8.53	4.61	7.82	5.04	-0.15
Nurturance	To engage in behaviors that provide material or emotional benefits to others	7.88	7.06	9.24	5.49	0.21
Affiliation	To seek and maintain numerous personal friendships	13.27	8.08	12.09	6.33	-0.16
Exhibition	To behave in such a way as to elicit the immediate attention of others	-0.39	4.40	0.20	4.07	0.14
Autonomy	To act independently of others or of social values and expectations	1.86	3.39	1.40	2.90	-0.15
Aggression	To engage in behaviors that attack or hurt others	-1.76	4.03	-1.09	3.98	0.17
Change	To seek novelty of experience and to avoid routine	2.20	2.68	1.76	2.21	-0.18
Succorance	To solicit sympathy, affection, or emotional support from others	0.59	3.21	0.22	2.83	-0.12
Deference	To seek and maintain subordinate roles in relationships with others	2.53	4.17	2.76	3.63	0.06
Self-Control	To control one's behaviors and emotions	0.88	2.72	-0.02	2.93	-0.32
Self-Confidence	Poise, self-assurance, and belief in one's ability to achieve one's goals	4.20	4.94	4.56	4.70	0.07
Personal Adjustment	The ability to cope with situational and interpersonal demands, and a feeling of efficacy	5.45	4.28	5.31	3.84	-0.03
Ideal Self	Strong sense of personal worth; or harmony between what one is and what one wants to be	2.63	5.41	1.91	5.09	-0.14
Creative Personality	The desire to do and think differently from the norm, and a talent for originality	2.20	3.25	2.16	2.77	-0.01
Military Leadership	Steadiness, self-discipline, and good judgment of the kind required in positions of military (or related) leadership	6.18	5.34	5.18	4.07	-0.21
Adult	Attitudes of independence, objectivity, and industriousness associated with the concept of "mature adult"	6.84	5.13	5.11	4.68	-0.35

Note: Judging, n = 49; Perceiving, n = 45.

Table 17 | CPI 260° scale means, standard deviations, and Cohen's d for Global Step I" E–I preferences: German sample

		Extrave	ersion	Introve	ersion	Cohen's d	
CPI 260° scale	CPI 260° scale description	М	SD	М	SD		
Dominance (Do)	Prosocial interpersonal power and influence	54.76	8.43	44.32	8.71	-1.21	
Capacity for Status (Cs)	Ambition for challenge and social status	48.03	7.83	41.25	8.95	-0.79	
Sociability (Sy)	Social participation	52.82	7.56	40.32	9.49	-1.42	
Social Presence (Sp)	Poise and comfort with attention and recognition	49.00	10.73	39.25	7.98	-1.07	
Self-acceptance (Sa)	Sense of personal worth and self-confidence	52.08	9.16	43.20	10.46	-0.89	
Independence (In)	Self-sufficiency and self-directedness	52.66	10.41	47.10	10.91	-0.52	
Empathy (Em)	Capacity to understand and respond to others' needs	51.61	8.53	44.98	7.80	-0.82	
Responsibility (Re)	Conscientiousness and follow-through	46.71	9.11	45.58	8.33	-0.13	
Social Conformity (So)	Conformance with social norms and customs	46.53	9.39	44.83	8.99	-0.19	
Self-control (Sc)	Cautiousness and self-regulation	51.58	9.42	57.66	9.02	0.66	
Good Impression (Gi)	Tact and positive self-presentation	53.24	9.96	54.68	8.12	0.16	
Communality (Cm)	Conventional behavior and attitudes	46.89	11.03	39.71	17.20	-0.48	
Well-being (Wb)	Overall sense of health and optimism	46.21	10.54	41.00	12.67	-0.44	
Tolerance (To)	Open-mindedness and respect for others	46.68	8.37	45.29	8.65	-0.16	
Achievement via Conformance (Ac)	Motivation within organized settings	49.34	8.52	45.97	9.49	-0.37	
Achievement via Independence (Ai)	Motivation within unstructured settings	48.45	7.63	47.46	8.72	-0.12	
Conceptual Fluency (Cf)	Comfort with intellectual and conceptual matters	48.37	8.95	43.86	9.54	-0.48	
Insightfulness (Is)	Analytical insight into the motivations of others	50.68	8.85	45.81	8.65	-0.56	
Flexibility (Fx)	Adaptability and comfort with change	45.45	8.89	46.78	9.67	0.14	
Sensitivity (Sn)	Tough- versus tender-mindedness	47.34	8.49	54.12	7.89	0.83	
Managerial Potential (Mp)	Inclination for supervisory responsibilities	50.21	8.23	45.54	8.47	-0.56	
Work Orientation (Wo)	Sense of dedication to work	45.63	8.72	43.29	11.10	-0.23	
Creative Temperament (Ct)	Individualization and capacity for innovativeness	48.47	10.10	43.98	10.30	-0.44	
Leadership (Lp)	Initiative and effectiveness in leading others	52.74	8.99	42.75	9.78	-1.05	
Amicability (Ami)	Cooperation and friendliness	45.58	10.40	45.32	9.51	-0.03	
Law Enforcement Orientation (Leo)	Conventional and practical values	54.34	9.63	50.27	9.41	-0.43	
Vector 1 (v.1)	Extraversion versus introversion	46.55	9.82	56.97	7.83	1.20	
Vector 2 (v.2)	Rule-following versus rule-questioning	51.45	9.09	48.24	10.32	-0.33	
Vector 3 (v.3)	Fulfillment of personal potential	48.47	9.42	47.86	8.84	-0.07	

Note: Extraversion, n = 38; Introversion, n = 59. For information on Cohen's d, see note 4 at the back of this supplement.

Table 18 | CPI 260° scale means, standard deviations, and Cohen's *d* for Global Step I[™] S−N preferences: German sample

		Sens	ing	Intui	tion	
CPI 260° scale	CPI 260° scale description	М	SD	М	SD	Cohen's d
Dominance (Do)	Prosocial interpersonal power and influence	47.77	8.94	50.38	12.63	0.26
Capacity for Status (Cs)	Ambition for challenge and social status	43.01	8.68	46.63	10.03	0.40
Sociability (Sy)	Social participation	44.82	10.40	46.42	11.62	0.15
Social Presence (Sp)	Poise and comfort with attention and recognition	42.73	9.60	44.13	12.29	0.14
Self-acceptance (Sa)	Sense of personal worth and self-confidence	45.75	10.21	49.50	12.36	0.35
Independence (In)	Self-sufficiency and self-directedness	48.78	10.77	50.79	11.80	0.18
Empathy (Em)	Capacity to understand and respond to others' needs	46.53	8.50	50.75	8.64	0.49
Responsibility (Re)	Conscientiousness and follow-through	46.00	9.01	46.08	7.45	0.01
Social Conformity (So)	Conformance with social norms and customs	45.90	9.42	44.25	8.31	-0.18
Self-control (Sc)	Cautiousness and self-regulation	56.25	9.63	52.33	9.09	-0.41
Good Impression (Gi)	Tact and positive self-presentation	55.22	8.66	50.75	8.80	-0.51
Communality (Cm)	Conventional behavior and attitudes	42.56	16.16	42.42	13.27	-0.01
Well-being (Wb)	Overall sense of health and optimism	43.68	12.23	41.08	11.72	-0.21
Tolerance (To)	Open-mindedness and respect for others	45.96	9.22	45.46	6.09	-0.06
Achievement via Conformance (Ac)	Motivation within organized settings	47.32	9.52	47.21	8.45	-0.01
Achievement via Independence (Ai)	Motivation within unstructured settings	47.81	8.29	47.96	8.44	0.02
Conceptual Fluency (Cf)	Comfort with intellectual and conceptual matters	45.59	9.06	45.75	11.04	0.02
Insightfulness (Is)	Analytical insight into the motivations of others	47.26	8.93	49.13	9.26	0.21
Flexibility (Fx)	Adaptability and comfort with change	45.84	9.00	47.54	10.45	0.18
Sensitivity (Sn)	Tough- versus tender-mindedness	51.22	8.96	52.21	8.17	0.11
Managerial Potential (Mp)	Inclination for supervisory responsibilities	47.33	8.61	47.50	8.92	0.02
Work Orientation (Wo)	Sense of dedication to work	44.64	10.50	42.88	9.50	-0.17
Creative Temperament (Ct)	Individualization and capacity for innovativeness	44.56	10.25	49.33	10.26	0.47
Leadership (Lp)	Initiative and effectiveness in leading others	46.60	10.03	46.83	12.52	0.02
Amicability (Ami)	Cooperation and friendliness	46.15	10.28	43.21	8.04	-0.30
Law Enforcement Orientation (Leo)	Conventional and practical values	52.11	9.43	51.13	10.50	-0.10
Vector 1 (v.1)	Extraversion versus introversion	54.07	9.41	49.29	11.12	-0.49
Vector 2 (v.2)	Rule-following versus rule-questioning	50.00	9.98	47.96	9.82	-0.21
Vector 3 (v.3)	Fulfillment of personal potential	48.36	9.54	47.33	7.40	-0.11

Note: Sensing, n = 73; Intuition, n = 24.

Table 19 | CPI 260° scale means, standard deviations, and Cohen's *d* for Global Step I[™] T−F preferences: German sample

		Thin	king	Feel	ing	
CPI 260° scale	CPI 260° scale description	М	SD	М	SD	Cohen's d
Dominance (Do)	Prosocial interpersonal power and influence	51.11	8.66	46.75	10.43	-0.45
Capacity for Status (Cs)	Ambition for challenge and social status	47.68	8.44	41.58	8.80	-0.70
Sociability (Sy)	Social participation	46.19	9.34	44.62	11.46	-0.15
Social Presence (Sp)	Poise and comfort with attention and recognition	44.24	9.11	42.35	10.96	-0.18
Self-acceptance (Sa)	Sense of personal worth and self-confidence	49.41	9.30	45.00	11.44	-0.41
Independence (In)	Self-sufficiency and self-directedness	53.89	7.19	46.43	11.99	-0.71
Empathy (Em)	Capacity to understand and respond to others' needs	47.86	8.91	47.40	8.61	0.05
Responsibility (Re)	Conscientiousness and follow-through	48.78	9.03	44.32	7.95	-0.53
Social Conformity (So)	Conformance with social norms and customs	47.11	8.99	44.50	9.17	-0.29
Self-control (Sc)	Cautiousness and self-regulation	55.08	8.71	55.40	10.19	0.03
Good Impression (Gi)	Tact and positive self-presentation	54.86	8.08	53.65	9.34	-0.14
Communality (Cm)	Conventional behavior and attitudes	39.43	19.55	44.43	12.02	0.33
Well-being (Wb)	Overall sense of health and optimism	46.46	9.64	40.93	13.02	-0.47
Tolerance (To)	Open-mindedness and respect for others	49.08	7.64	43.83	8.48	-0.64
Achievement via Conformance (Ac)	Motivation within organized settings	48.95	7.89	46.27	9.89	-0.29
Achievement via Independence (Ai)	Motivation within unstructured settings	50.89	7.82	45.97	8.05	-0.62
Conceptual Fluency (Cf)	Comfort with intellectual and conceptual matters	49.57	7.86	43.20	9.71	-0.70
Insightfulness (Is)	Analytical insight into the motivations of others	50.73	9.25	45.87	8.40	-0.56
Flexibility (Fx)	Adaptability and comfort with change	47.30	9.89	45.62	9.03	-0.18
Sensitivity (Sn)	Tough- versus tender-mindedness	48.30	7.88	53.42	8.74	0.61
Managerial Potential (Mp)	Inclination for supervisory responsibilities	51.11	7.22	45.07	8.70	-0.74
Work Orientation (Wo)	Sense of dedication to work	47.62	9.08	42.10	10.42	-0.56
Creative Temperament (Ct)	Individualization and capacity for innovativeness	48.22	10.04	44.22	10.41	-0.39
Leadership (Lp)	Initiative and effectiveness in leading others	48.84	9.11	45.32	11.33	-0.33
Amicability (Ami)	Cooperation and friendliness	47.30	8.99	44.27	10.19	-0.31
Law Enforcement Orientation (Leo)	Conventional and practical values	54.95	10.05	49.97	8.98	-0.53
Vector 1 (v.1)	Extraversion versus introversion	51.05	10.00	54.02	9.94	0.30
Vector 2 (v.2)	Rule-following versus rule-questioning	51.41	10.45	48.32	9.50	-0.31
Vector 3 (v.3)	Fulfillment of personal potential	50.08	8.16	46.88	9.38	-0.36

Note: Thinking, n = 37; Feeling, n = 60.

Table 20 | CPI 260° scale means, standard deviations, and Cohen's *d* for Global Step I[™] J−P preferences: German sample

		Judg	jing	Perce	iving		
CPI 260° scale	CPI 260° scale description	М	SD	М	SD	Cohen's d	
Dominance (Do)	Prosocial interpersonal power and influence	49.18	10.29	47.60	9.67	-0.16	
Capacity for Status (Cs)	Ambition for challenge and social status	43.78	9.37	44.04	8.93	0.03	
Sociability (Sy)	Social participation	45.20	10.97	45.23	10.47	0.00	
Social Presence (Sp)	Poise and comfort with attention and recognition	42.60	10.12	43.57	10.54	0.09	
Self-acceptance (Sa)	Sense of personal worth and self-confidence	46.82	10.34	46.53	11.45	-0.03	
Independence (In)	Self-sufficiency and self-directedness	49.42	11.54	49.13	10.53	-0.03	
Empathy (Em)	Capacity to understand and respond to others' needs	46.62	8.82	48.60	8.50	0.23	
Responsibility (Re)	Conscientiousness and follow-through	47.30	8.18	44.66	8.94	-0.31	
Social Conformity (So)	Conformance with social norms and customs	47.04	8.86	43.85	9.24	-0.35	
Self-control (Sc)	Cautiousness and self-regulation	55.32	10.13	55.23	9.12	-0.01	
Good Impression (Gi)	Tact and positive self-presentation	54.46	9.95	53.74	7.63	-0.08	
Communality (Cm)	Conventional behavior and attitudes	44.62	13.25	40.30	17.32	-0.28	
Well-being (Wb)	Overall sense of health and optimism	43.50	12.33	42.55	11.95	-0.08	
Tolerance (To)	Open-mindedness and respect for others	46.40	8.76	45.23	8.31	-0.14	
Achievement via Conformance (Ac)	Motivation within organized settings	50.02	9.18	44.38	8.44	-0.64	
Achievement via Independence (Ai)	Motivation within unstructured settings	47.88	8.35	47.81	8.30	-0.01	
Conceptual Fluency (Cf)	Comfort with intellectual and conceptual matters	46.24	10.13	44.98	8.90	-0.13	
Insightfulness (Is)	Analytical insight into the motivations of others	48.12	9.98	47.30	7.92	-0.09	
Flexibility (Fx)	Adaptability and comfort with change	43.56	8.74	49.13	9.20	0.62	
Sensitivity (Sn)	Tough- versus tender-mindedness	51.20	8.45	51.74	9.13	0.06	
Managerial Potential (Mp)	Inclination for supervisory responsibilities	47.96	9.28	46.74	7.96	-0.14	
Work Orientation (Wo)	Sense of dedication to work	45.06	10.62	43.30	9.86	-0.17	
Creative Temperament (Ct)	Individualization and capacity for innovativeness	43.94	9.75	47.66	10.83	0.36	
Leadership (Lp)	Initiative and effectiveness in leading others	47.54	11.09	45.72	10.16	-0.17	
Amicability (Ami)	Cooperation and friendliness	45.52	10.68	45.32	8.92	-0.02	
Law Enforcement Orientation (Leo)	Conventional and practical values	54.14	9.12	49.45	9.72	-0.50	
Vector 1 (v.1)	Extraversion versus introversion	52.40	10.35	53.40	9.73	0.10	
Vector 2 (v.2)	Rule-following versus rule-questioning	53.10	10.48	45.66	7.73	-0.80	
Vector 3 (v.3)	Fulfillment of personal potential	47.86	9.68	48.36	8.38	0.06	

Note: Judging, n = 50; Perceiving, n = 47.

MBTI® GLOBAL STEP II™ ASSESSMENT RESULTS FOR THE GERMAN SAMPLE

The Global Step II assessment contains all 92 Global Step I items plus an additional 51 items needed to score the Step II facets, for a total of 143. Step II results expand on descriptions of the four preference pairs by providing information about five facets of each pair (see table 21). The Global Step II assessment replaces the Form Q assessment and the European Step II assessment.

Table 21 | Relationships between Global Step II*, Form Q, and European Step II[™] facet results: German sample

	Correlation betw	een continuous scores
Global Step II* facet	Global Step II* and Form Q facet results	Global Step II" and European Step II" facet results
E-I facets		
Initiating-Receiving	.97	.95
Expressive-Contained	.98	.91
Gregarious-Intimate	.97	.98
Active-Reflective	.85	.88
Enthusiastic-Quiet	.99	.96
S-N facets		
Concrete-Abstract	.95	.92
Realistic-Imaginative	.99	.99
Practical-Conceptual	.82	.85
Experiential-Theoretica	l .92	.96
Traditional-Original	.96	.95
T–F facets		
Logical-Empathetic	.93	.94
Reasonable – Compassionate	.92	.96
Questioning – Accommodating	.60	.73
Critical-Accepting	.77	.80
Tough-Tender	.97	.95
J-P facets		
Systematic-Casual	.91	.97
Planful-Open-Ended	.97	.98
Early Starting – Pressure-Prompted	.93	.92
Scheduled – Spontaneous	.91	.89
Methodical-Emergent	.96	.89

Note: N = 440.

Relationships Between MBTI® Global Step II®, Form Q, and European Step II™ Facet Results

Table 21 presents the relationships between MBTI Global Step II, Form Q, and European Step II facet results for the German sample.

Global Step II[™] Facet Intercorrelations

Intercorrelations of Global Step II facets are presented in table 22. Facets within each preference pair correlate higher with other facets of the same preference pair than with facets of different preference pairs.

Reliability and Validity of Global Step II Results

This section covers measurement properties for the German translation of the MBTI Global Step II assessment, including reliability and validity. For full reliability and validity information for the global sample, refer to the MBTI® Manual for the Global Step I™ and Step II[™] Assessments (Myers et al., 2018).

RELIABILITY

Internal consistency and test-retest reliabilities for Global Step II facets in the German sample are presented in table 23.

VALIDITY

Reported here as evidence of the validity of the German translation of the MBTI Global Step II assessment are the percentage of out-of-preference facet scores for each preference pair, correlations between preference pairs and facets, and correlations between the MBTI assessment and two other assessments.

The five facets within each preference pair do not represent the entire conceptual domain of the preference pair. Further, it is not uncommon for individuals to have a facet score on the side opposite that of their preference in a given preference pair. For example, an Extravert may score toward the Intimate pole on the Gregarious-Intimate facet. This apparent inconsistency is referred to as an out-of-preference score and defined as a facet score from -2 to -5 when a respondent has a preference for I, N, F, or P; or from 2 to 5 when a respondent has a preference for E, S, T, or J. While it is not unusual to have a number of out-of-preference scores, it is relatively rare to have out-of-preference scores on three or more facets within any one preference pair. The percentage of outof-preference facet scores for each preference pair in the German sample is shown in table 24.

Table 22 | Intercorrelations of Global Step II[™] facets: German sample

Global Step II [™] facet	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20
E-I facets																				
1. Initiating-Receiving	_																			
2. Expressive-Contained	.57	_																		
3. Gregarious-Intimate	.48	.44	_																	
4. Active-Reflective	.70	.57	.46	_																
5. Enthusiastic-Quiet	.55	.57	.52	.62	_															
S-N facets																				
6. Concrete-Abstract	07	14	03	14	21	_														
7. Realistic-Imaginative	07	12	02	15	21	.64	_													
8. Practical-Conceptual	07	.00	02	11	15	.54	.54	_												
9. Experiential—Theoretical	.03	01	01	03	02	.37	.29	.27	_											
10. Traditional-Original	18	09	02	19	23	.57	.50	.55	.23	_										
T–F facets																				
11. Logical–Empathetic	12	29	17	15	29	.27	.37	.06	.01	.03	_									
12. Reasonable – Compassionate	.01	12	04	03	14	.18	.28	03	.02	04	.80	_								
13. Questioning–Accommodating	.10	10	08	.00	01	04	.05	21	.02	34	.49	.53	_							
14. Critical–Accepting	03	18	09	13	14	.14	.20	05	.01	03	.59	.61	.65	_						
15. Tough–Tender	.03	14	06	03	13	.11	.22	04	.00	07	.63	.67	.65	.72	_					
J-P facets																				
16. Systematic–Casual	23	24	15	24	31	.47	.47	.29	.05	.43	.42	.31	.03	.18	.19	_				
17. Planful-Open-Ended	16	20	07	17	14	.29	.26	.15	03	.33	.22	.19	07	.12	.07	.63	_			
18. Early Starting-Pressure-Prompted	.03	02	.03	.00	03	.28	.22	.20	.12	.19	.05	02	05	04	04	.40	.40	_		
19. Scheduled-Spontaneous	14	21	12	19	17	.34	.34	.21	.06	.31	.27	.23	.08	.17	.14	.68	.71	.46	_	
20. Methodical–Emergent	.01	09	04	01	10	.15	.17	.14	.04	.10	.15	.10	.02	.02	.01	.41	.44	.49	.54	-

Note: N = 440.

Table 23 | Internal consistency and test-retest reliabilities of Global Step II[™] facet continuous scores: German sample

Global Step II" facet	Cronbach's alpha	Test-retest correlation
E-I facets		
Initiating-Receiving	.82	.81
Expressive-Contained	.73	.77
Gregarious-Intimate	.62	.73
Active-Reflective	.64	.74
Enthusiastic-Quiet	.70	.75
S-N facets		
Concrete-Abstract	.74	.75
Realistic-Imaginative	.72	.75
Practical-Conceptual	.66	.71
Experiential-Theoretical	.69	.62
Traditional-Original	.72	.75
T–F facets		
Logical-Empathetic	.80	.78
Reasonable-Compassionate	.76	.74
Questioning-Accommodating	.62	.72
Critical-Accepting	.59	.70
Tough-Tender	.74	.72
J-P facets		
Systematic-Casual	.76	.77
Planful-Open-Ended	.79	.73
Early Starting-Pressure-Prompted	.65	.70
Scheduled-Spontaneous	.80	.76
Methodical-Emergent	.64	.61

Note: N = 440; test-retest, n = 82.

Table 24 | Percentage of reported out-ofpreference Global Step II[™] facet scores: German sample

Preference	Nun	ber of o	ut-of-pre	ference f	acet score	es (%)
pair	0	1	2	3	4	5
E-I	69.5	24.1	5.7	0.7	0.0	0
S-N	66.1	28.4	5.5	0.0	0.0	0
T-F	80.5	14.5	3.4	1.4	0.2	0
J-P	58.6	29.5	10.0	1.4	0.5	0

Note: N = 440.

Correlations between facets and preference pairs are presented in table 25. The correlation between each facet and its corresponding preference pair is significantly higher than those between the facet and the other three preference pairs. This is "compelling evidence for the theoretical hierarchical structure of the Step II facets in relation to the Step I scales" (Quenk, Hammer, & Majors,

Table 25 | Correlations between Global Step II[™] facets and preference pairs: German sample

	Preference pair									
Global Step II [™] facet	E-I	S-N	T-F	J-P						
E-I facets										
Initiating-Receiving	.82	12	06	14						
Expressive-Contained	.75	15	22	19						
Gregarious-Intimate	.64	04	13	08						
Active-Reflective	.84	19	11	16						
Enthusiastic-Quiet	.79	25	22	17						
S-N facets										
Concrete-Abstract	15	.85	.20	.39						
Realistic-Imaginative	13	.81	.32	.38						
Practical-Conceptual	09	.70	01	.25						
Experiential-Theoretical	02	.45	.00	.04						
Traditional-Original	19	.76	02	.36						
T-F facets										
Logical-Empathetic	23	.25	.90	.30						
Reasonable –	05	.15	.90	.25						
Compassionate Questioning-	.01	10	.63	.03						
Accommodating	.01	10	.03	.03						
Critical-Accepting	12	.12	.74	.15						
Tough-Tender	05	.10	.81	.14						
J-P facets										
Systematic-Casual	27	.52	.35	.81						
Planful-Open-Ended	15	.31	.18	.84						
Early Starting-	01	.26	.00	.54						
Pressure-Prompted										
Scheduled-Spontaneous	18	.37	.25	.92						
Methodical-Emergent	05	.15	.10	.59						

Note: N = 440.

2001, p. 104). The German sample correlations are comparable to those reported in the MBTI® Step II* Manual (Quenk et al., 2001) and the MBTI® Step II™ Manual, European Edition (Quenk, Hammer, & Majors, 2004). The lowest correlation between a facet and its corresponding preference pair is between Experiential-Theoretical and S-N.

To further demonstrate convergent and divergent validity of the MBTI Global Step II facets in the German version, the facets were correlated with scales of two other assessments, the Adjective Check List (ACL) and the CPI 260° assessment. Descriptions of the relationships between the MBTI assessment and the other assessments follow.

ACL assessment. ACL scales correlated with the Global Step II facets; a selection of these correlations is presented in table 26. The relationships between the MBTI Global Step II assessment and the ACL are

Table 26 | Selected correlations between Global Step II™ facets and ACL scales: German sample

							ACL sca	ıle					
Global Step II" facet scale	Communality	Dominance	Endurance	Order	Nurturance	Affiliation	Exhibition	Change	Deference	Self-Control	Self-Confidence	Personal Adjustment	Creative Personality
E-I facet scales													
Initiating-Receiving	14	52	29	21	22	26	49	19	.25	.29	42	32	14
Expressive – Contained	08	25	11	.03	31	20	41	16	.05	.23	21	25	.05
Gregarious-Intimate	.02	37	11	03	13	09	40	17	.30	.35	27	19	05
Active-Reflective	.06	35	.00	.08	11	09	50	20	.28	.42	26	12	.01
Enthusiastic-Quiet	11	40	08	.04	27	20	53	20	.15	.40	37	24	10
S-N facet scales													
Concrete-Abstract	.01	.14	.06	02	.07	.04	.29	.26	16	19	.18	.11	.19
Realistic-Imaginative	03	.00	15	16	.07	.03	.18	.23	05	21	.05	.04	.14
Practical-Conceptual	02	.06	.07	.07	09	04	.12	.02	20	22	.20	.03	.32
Experiential-Theoretical	09	.09	03	07	.05	.04	.13	.16	07	18	.12	.06	.11
Traditional-Original	.02	.25	.11	.13	.00	.10	.24	.28	24	29	.32	.15	.31
T–F facet scales													
Logical–Empathetic	.15	03	08	24	.35	.14	.14	.17	.23	01	04	.09	18
Reasonable-Compassionate	.13	09	08	21	.43	.18	.00	.05	.36	.09	08	.13	20
Questioning-Accommodating	.06	12	09	23	.30	.02	02	.00	.28	.12	13	.02	16
Critical-Accepting	.17	.03	.00	13	.37	.14	.11	.11	.19	04	.07	.17	03
Tough-Tender	.21	13	06	18	.51	.19	.01	.06	.41	.13	10	.16	11
J–P facet scales													
Systematic–Casual	07	.04	17	23	.11	01	.23	.15	10	37	.07	03	.03
Planful-Open-Ended	14	.02	15	21	.09	04	.06	.05	06	19	.06	.04	.03
Early Starting-Pressure-Prompted	12	05	18	14	16	09	.07	01	17	20	01	12	.08
Scheduled-Spontaneous	20	10	25	33	.03	15	.00	09	.06	18	08	07	14
Methodical-Emergent	14	05	24	22	23	16	.02	.00	19	22	02	17	.15

Note: n = 94.

consistent with those reported in the MBTI® Step II* Manual (Quenk et al., 2001) and the MBTI® Step II* Manual, European Edition (Quenk et al., 2004).

CPI 260° assessment. Correlations between the Global Step II facets and CPI 260 assessment scales for the German sample are shown in table 27. The correlations reported here are similar to those found in the MBTI® Step II Manual for the CPI 434 assessment (Quenk et al., 2001), providing additional evidence of the validity of the MBTI Global Step II assessment.

Global Step II[™] Facet Distributions

Determining whether a particular score is in-preference, midzone, or out-of-preference provides the basis for recognizing and understanding individual differences among people of the same type. When practitioners give feedback to respondents, the most important verification issue is the accuracy with which the scores reflect respondents' placement at either pole or in the midzone. If a respondent disagrees with results on a facet, interpretation will be affected. For example, a respondent may judge a facet score that was reported as midzone to be actually out-of-preference or in-preference. In such an instance, statements in the report will be incorrect for that facet, so the practitioner must provide appropriate interpretive information that corresponds to the respondent's verified placement.

Table 28 shows the percentages and rank order of in-preference, midzone, and out-of-preference scores for the 20 Global Step II facets for the German sample. Interpreters may find this table useful because it shows which facets are more or less likely to yield scores in these three categories. There are wide variations in the

Table 27 | Correlations between Global Step II[™] facets and CPI 260[®] scales: German sample

														CPI	260° s	cale													
Global Step II" facet scale	Do	Cs	Sy	Sp	Sa	In	Em	Re	So	Sc	Gi	Cm	Wb	То	Ac	Ai	Cf	ls	Fx	Sn	Мр	Wo	Ct	Lp	Ami	Leo	v.1	v.2	٧.
E-I facet scales																													
Initiating-Receiving	62	42	68	47	53	37	33	06	07	.20	.02	20	28	05	16	11	32	31	.10	.39	30	19	25	58	04	24	.42	09	0
Expressive-Contained	36	23	52	33	28	19	32	03	10	.04	15	13	19	10	15	10	17	16	04	.21	19	12	26	30	11	03	.19	01	1
Gregarious-Intimate	41	28	50	34	32	20	26	08	22	.11	.00	09	23	18	17	27	29	34	18	.20	23	17	35	35	11	09	.29	.07	2
Active-Reflective	54	35	60	39	45	22	25	01	13	.25	.05	11	15	.02	13	02	23	18	.14	.31	22	14	20	43	.03	14	.48	21	0
Enthusiastic-Quiet	46	32	56	35	35	22	35	08	19	.12	01	11	18	10	15	19	25	34	11	.24	20	13	34	39	09	18	.33	.00	1
S-N facet scales																													
Concrete-Abstract	.18	.25	.16	.18	.21	.18	.34	07	16	22	32	08	02	.02	13	.07	.06	.02	.32	.02	.04	10	.35	.08	13	15	32	24	0
Realistic-Imaginative	08	.09	06	.01	.03	14	.04	25	23	23	34	10	23	25	21	16	14	17	.10	.22	24	26	.08	17	30	27	15	19	2
Practical-Conceptual	.28	.42	.27	.26	.39	.24	.35	.05	08	17	16	15	.08	.19	.00	.21	.14	.18	.28	10	.14	.04	.47	.19	04	.01	37	10	
Experiential-Theoretical	04	.06	03	05	09	04	.05	17	13	20	19	31	27	12	16	10	14	06	05	.05	07	19	02	12	21	23	20	.12	:
Traditional-Original	.45	.48	.36	.40	.47	.43	.39	.05	08	29	22	.07	.10	.05	.06	.23	.27	.26	.15	27	.21	.06	.46	.34	09	.09	46	05	.0
T–F facet scales																													
Logical-Empathetic	10	14	.05	01	09	19	.05	18	04	.03	06	.05	16	17	08	20	21	18	.03	.27	24	24	06	09	12	24	.10	21	0
Reasonable – Compassionate	33	37	28	30	35	39	14	27	26	.13	02	07	34	26	21	29	45	33	02	.40	40	36	27	33	21	30	.27	22	1
Questioning – Accommodating	41	44	33	27	39	50	25	20	13	.03	07	01	21	30	19	35	35	39	19	.43	36	25	44	36	14	27	.26	.00	2
Critical-Accepting	11	20	01	08	17	24	.00	14	06	.10	.01	.14	10	15	01	21	25	21	17	.27	18	11	23	06	04	20	.07	04	- .:
Tough-Tender	26	37	17	23	29	35	05	10	12	.18	.05	.17	18	15	04	17	28	23	02	.41	26	14	22	21	05	26	.24	13	1
J-P facet scales																													
Systematic-Casual	.05	.14	.15	.14	.15	.05	.28	10	16	09	18	16	07	.00	23	.09	.00	.06	.43	.06	01	11	.40	01	04	25	05	41	
Planful–Open-Ended	.02	.11	.13	.22	.14	.10	.18	18	17	08	17	04	.02	09	28	.02	.01	01	.36	04	08	08	.35	.01	01	22	03	50	.(
Early Starting— Pressure-Prompted	.03	.13	.10	.22	.16	.01	.12	15	04	26	30	04	05	11	12	04	03	13	.13	.01	08	16	.22	04	14	06	23	21	:
Scheduled-Spontaneous	.02	03	.10	.07	.06	03	.13	17	19	09	12	08	06	22	28	10	05	06	.20	.01	12	14	.15	06	10	20	05	32	
Methodical-Emergent	02	02	.05	.12	.05	.02																					01		

Note: n = 97.

Table 28 | In-preference, midzone, and out-of-preference percentages and rankings for the Global Step II™ facets: German sample

	In-pre	ference	Mid	zone	Out-of-preference		
Global Step II" facet	%	Rank	%	Rank	%	Rank	
E-I facets							
Initiating-Receiving	55	9	42	5	3	17	
Expressive-Contained	49	18	45	2	6	12	
Gregarious-Intimate	54	11	30	17	15	4	
Active-Reflective	55	10	40	6	4	15	
Enthusiastic-Quiet	53	16	39	9	9	6	
S-N facets							
Concrete-Abstract	53	15	45	4	3	18	
Realistic-Imaginative	59	7	34	13	7	11	
Practical-Conceptual	65	1	28	18	8	9	
Experiential-Theoretical	45	19	39	7	15	3	
Traditional – Original	54	13	39	8	7	10	
T–F facets							
Logical-Empathetic	63	3	36	12	1	20	
Reasonable-Compassionate	60	6	36	11	3	16	
Questioning-Accommodating	42	20	50	1	8	8	
Critical-Accepting	60	5	31	16	8	7	
Tough-Tender	61	4	33	14	6	13	
J–P facets							
Systematic-Casual	53	14	38	10	9	5	
Planful-Open-Ended	63	2	32	15	5	14	
Early Starting-Pressure-Prompted	52	17	25	19	23	1	
Scheduled-Spontaneous	54	12	45	3	2	19	
Methodical-Emergent	58	8	24	20	18	2	

Note: N = 440.

frequency with which facet scores are likely to be out-ofpreference. Here, the facet with the highest percentage of out-of-preference scores is Early Starting-Pressure-Prompted at 23%, followed by Methodical-Emergent at 18%. The Logical-Empathetic facet (1%) and the Scheduled-Spontaneous facet (2%) appear least likely to elicit out-of-preference responses.

Gender differences on the Step II facets in the German sample are presented in table 29.

CONCLUSION

Initial analyses of the German translations of the MBTI Global Step I and Step II assessments demonstrate that they each have good internal consistency and test-retest reliabilities that are consistent with those of prior forms of the MBTI assessment (i.e., Form M and Form Q, European Step I and Step II). Validity was established in several ways. First, included in this supplement are mean ACL and CPI 260 scale differences between Global Step I preferences. The differences show meaningful and expected relationships between the assessments. Next, correlations of the Global Step II assessment with two other assessments (the ACL and CPI 260) show anticipated relationships. The percentage of out-ofpreference facet scores is also presented. While more research should be conducted, all these analyses show that the German translations of the MBTI Global Step I and Step II assessments have adequate reliability and validity and are appropriate for use with individuals in Germany who read and understand German.

Table 29 | Means, standard deviations, and Cohen's d of the Global Step II[™] facets by total sample and gender: German sample

	Total s (N =	sample 440)	(n =		Wor (n =	Gender difference	
Global Step II [™] facet	М	SD	М	SD	М	SD	Cohen's d
E-I facets							
Initiating-Receiving	0.15	0.79	0.18	0.78	0.13	0.81	0.06
Expressive-Contained	0.01	0.73	0.05	0.70	-0.03	0.75	0.11
Gregarious-Intimate	-0.04	0.71	-0.10	0.72	0.01	0.70	-0.16
Active-Reflective	0.09	0.79	0.11	0.75	0.07	0.82	0.05
Enthusiastic-Quiet	-0.10	0.75	-0.04	0.73	-0.16	0.77	0.16
S-N facets							
Concrete-Abstract	-0.29	0.73	-0.32	0.70	-0.26	0.75	-0.08
Realistic-Imaginative	-0.33	0.79	-0.41	0.81	-0.25	0.77	-0.20
Practical-Conceptual	-0.55	0.74	-0.43	0.78	-0.65	0.70	0.30
Experiential-Theoretical	-0.19	0.65	-0.15	0.65	-0.21	0.65	0.09
Traditional-Original	-0.26	0.82	-0.20	0.82	-0.31	0.81	0.14
T–F facets							
Logical-Empathetic	0.20	0.85	-0.10	0.82	0.47	0.78	-0.72
Reasonable-Compassionate	0.00	0.82	-0.30	0.76	0.26	0.78	-0.73
Questioning-Accommodating	0.08	0.70	-0.09	0.75	0.21	0.62	-0.44
Critical-Accepting	-0.11	0.69	-0.33	0.73	0.07	0.59	-0.61
Tough-Tender	0.13	0.84	-0.12	0.85	0.34	0.77	-0.57
J-P facets							
Systematic-Casual	-0.17	0.81	-0.24	0.80	-0.11	0.83	-0.16
Planful-Open-Ended	0.02	0.78	0.04	0.75	0.01	0.80	0.04
Early Starting-Pressure-Prompted	0.07	0.76	0.12	0.75	0.03	0.77	0.12
Scheduled-Spontaneous	0.00	0.74	-0.01	0.74	0.01	0.75	-0.03
Methodical-Emergent	0.09	0.76	0.06	0.74	0.11	0.77	-0.07

Note: For information on Cohen's d, see note 4, below.

NOTES

- 1. Originally, samples from India (North American English) and Saudi Arabia (Arabic) were collected, but these were later dropped from the global sample due to sample composition and psychometric concerns.
- 2. The terms translation and adaptation are often used interchangeably in the testing and measurement literature. Historically, translation has been used to describe the process by which an assessment is converted to a language other than the one in which it was originally constructed. However, the term adaptation is increasingly being used to reflect the fact that an effective conversion of assessment items from one language to another often requires not a word-forword translation but rather a modification intended to maintain the general sense or purpose of those items in a particular language. Nevertheless, as the more readily understood term, translation is used here.
- 3. Correlation coefficients range from -1 to 1 and can be squared and used as effect sizes (measures of the practical significance of the relationship between the two variables in question). Cohen's guidelines regarding effect sizes indicate that $r^2 = .10$ is a small effect size, \vec{r} = .30 is medium, and \vec{r} = .50 is large (Cohen, 1988, 1992).
- 4. Cohen's d is an estimate of an effect size computed by taking the difference between the means of two groups and dividing by their pooled standard deviations. Because the metric is in standard deviation units, effect sizes can easily be compared to evaluate the magnitude of a difference. Cohen (1992) provides an overview of the computation of a variety of effect sizes, along with guidance on interpretation. Cohen proposed that d = .20be considered small, d = .50 be considered medium, and d = .80 be considered large. In psychological research, small to medium effect sizes are typical.

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