



MBTI® MANUAL GLOBAL SUPPLEMENT SERIES

# Norway (Norwegian)

## Supplement to the **MBTI® Manual** for the **Global Step I™** and **Step II™ Assessments**

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## INTRODUCTION

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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. 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 chapter 7 of 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, 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 Norway (Norwegian) sample—hereafter, *Norwegian* sample—to the Global Step I and Step II assessments translated into the Norwegian language. Included in this supplement are a description of the sample and data collection efforts, type distribution tables specific to the sample, analyses of Step I and Step II scales, and the results of reliability and validity studies conducted on the Norwegian sample.

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

Country/language sample	N
<b>Large samples</b>	
Australia (North American English)	776
Canada (North American English)	939
United Kingdom (European English)	2,831
United States (North American English)	3,578
<b>Moderate-size samples</b>	
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.

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

†Germany sample includes one individual residing in Switzerland.

## 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).<sup>1</sup> 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 the 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 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 Norwegian-language version used in this global project.

OPP’s original Norwegian 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 this global project, the Norwegian version was again evaluated by a professional linguist as well as in-country expert reviewers; modifications were made to item wordings 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-English-speaking 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 best-fit type, see chapter 7 in the 2018 MBTI manual.) As MBTI®Complete was not used in collecting the Norwegian sample, best-fit type data for the sample are unavailable.

For the MBTI research form, specific sampling targets were set for each sample. The targets for the Norwegian sample are provided in 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: Norwegian sample

Demographic	Target %	Actual %
<b>Age group</b>		
15–24 years	16	16
25–44 years	35	33
45–64 years	31	34
65+ years	18	17
Mean age: 45 years	—	—
<b>Gender</b>		
Female	50	52
Male	50	49
<b>Employment status</b>		
Working full-time	46	43
Working part-time	18	16
Student	8	9
Looking after family/home	11	2
Long-term sick	10	2
Retired / not working for income / none of the above	8	28
No response	—	<1
<b>Self-employed</b>		
Yes	4	3
No	96	19
No response	—	78
<b>Country of residence</b>		
Norway	—	100

Note: N = 493. 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 Norway who read Norwegian was obtained from a market research firm. Targets provided by OPP Ltd were set based on the population of Norway. Table 2 shows the demographic target and actual obtained percentages. The resulting Norwegian sample consists of 493 individuals, 51.5% women and 48.5% men. The age range is 15–81, with an average age of 45 years (standard deviation = 16.7). All individuals reported residing in Norway.

Table 3 | Reported MBTI® type distribution: Norwegian sample

Sensing		Intuition			
Thinking	Feeling	Thinking			
<b>ISTJ</b> n = 56 11.4%	<b>ISFJ</b> n = 45 9.1%	<b>INFJ</b> n = 10 2.0%	<b>INTJ</b> n = 3 0.6%	Judging	Introversion
<b>ISTP</b> n = 45 9.1%	<b>ISFP</b> n = 24 4.9%	<b>INFP</b> n = 16 3.2%	<b>INTP</b> n = 17 3.4%		
<b>ESTP</b> n = 27 5.5%	<b>ESFP</b> n = 40 8.1%	<b>ENFP</b> n = 46 9.3%	<b>ENTP</b> n = 29 5.9%	Judging	
<b>ESTJ</b> n = 72 14.6%	<b>ESFJ</b> n = 40 8.1%	<b>ENFJ</b> n = 10 2.0%	<b>ENTJ</b> n = 13 2.6%		

Note: N = 493. Percentages may not total 100% due to the rounding of decimals.

Table 4 | Reported MBTI® preference and preference combination distributions: Norwegian sample

Preferences		Orientation pairs		Process pairs		Orientation of energy and perceiving pairs		Judging and external orientation pairs						
n	%	n	%	n	%	n	%	n	%					
<b>E</b>	277	56.2	<b>EJ</b>	135	27.4	<b>ST</b>	200	40.6	<b>ES</b>	179	36.3	<b>TJ</b>	144	29.2
<b>I</b>	216	43.8	<b>EP</b>	142	28.8	<b>SF</b>	149	30.2	<b>EN</b>	98	19.9	<b>TP</b>	118	23.9
<b>S</b>	349	70.8	<b>IJ</b>	114	23.1	<b>NF</b>	82	16.6	<b>IS</b>	170	34.5	<b>FJ</b>	105	21.3
<b>N</b>	144	29.2	<b>IP</b>	102	20.7	<b>NT</b>	62	12.6	<b>IN</b>	46	9.3	<b>FP</b>	126	25.6
<b>T</b>	262	53.1												
<b>F</b>	231	46.9												
<b>J</b>	249	50.5												
<b>P</b>	244	49.5												

Note: N = 493. Percentages may not total 100% due to the rounding of decimals.

## MBTI® GLOBAL STEP I™ ASSESSMENT RESULTS FOR THE NORWEGIAN 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 Norwegian 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 ESTJ and ISTJ. The least common types are INTJ, INFJ, and ENFJ. As reported in the *MBTI® Step I™ Instrument European Data Supplement* (OPP Ltd, 2011), the most common types in a Norwegian sample of professionals and managers (N = 915) at that time were

Table 5 | Reported MBTI® type distribution for men: Norwegian sample

Sensing		Intuition			
Thinking	Feeling	Thinking			
<b>ISTJ</b> n = 34 14.2%	<b>ISFJ</b> n = 14 5.9%	<b>INFJ</b> n = 4 1.7%	<b>INTJ</b> n = 1 0.4%	Judging	Introversi
<b>ISTP</b> n = 30 12.6%	<b>ISFP</b> n = 12 5.0%	<b>INFP</b> n = 9 3.8%	<b>INTP</b> n = 6 2.5%		
<b>ESTP</b> n = 12 5.0%	<b>ESFP</b> n = 13 5.4%	<b>ENFP</b> n = 20 8.4%	<b>ENTP</b> n = 18 7.5%	Judging	
<b>ESTJ</b> n = 44 18.4%	<b>ESFJ</b> n = 12 5.0%	<b>ENFJ</b> n = 4 1.7%	<b>ENTJ</b> n = 6 2.5%		

Note: n = 239. Percentages may not total 100% due to the rounding of decimals.

Table 6 | Reported MBTI® preference and preference combination distributions for men: Norwegian sample

Preferences		Orientation pairs		Process pairs		Orientation of energy and perceiving pairs		Judging and external orientation pairs						
n	%	n	%	n	%	n	%	n	%					
<b>E</b>	129	54.0	<b>EJ</b>	66	27.6	<b>ST</b>	120	50.2	<b>ES</b>	81	33.9	<b>TJ</b>	85	35.6
<b>I</b>	110	46.0	<b>EP</b>	63	26.4	<b>SF</b>	51	21.3	<b>EN</b>	48	20.1	<b>TP</b>	66	27.6
<b>S</b>	171	71.5	<b>IJ</b>	53	22.2	<b>NF</b>	37	15.5	<b>IS</b>	90	37.7	<b>FJ</b>	34	14.2
<b>N</b>	68	28.5	<b>IP</b>	57	23.8	<b>NT</b>	31	13.0	<b>IN</b>	20	8.4	<b>FP</b>	54	22.6
<b>T</b>	151	63.2												
<b>F</b>	88	36.8												
<b>J</b>	119	49.8												
<b>P</b>	120	50.2												

Note: n = 239. Percentages may not total 100% due to the rounding of decimals.

ESTJ and ENTJ. The least common types in that sample were INFJ and INFP.

Table 4 shows the distributions of preferences as well as 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 all four of the

orientation pairs 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. As seen in table 5 for men, ESTJ is the most common type. As seen in table 7 for women, ISFJ is the most common type.

Table 7 | Reported MBTI® type distribution for women: Norwegian sample

Sensing		Intuition			
Thinking	Feeling	Thinking			
<b>ISTJ</b> <i>n</i> = 22 8.7%	<b>ISFJ</b> <i>n</i> = 31 12.2%	<b>INFJ</b> <i>n</i> = 6 2.4%	<b>INTJ</b> <i>n</i> = 2 0.8%	Judging	Introversion
<b>ISTP</b> <i>n</i> = 15 5.9%	<b>ISFP</b> <i>n</i> = 12 4.7%	<b>INFP</b> <i>n</i> = 7 2.8%	<b>INTP</b> <i>n</i> = 11 4.3%		
<b>ESTP</b> <i>n</i> = 15 5.9%	<b>ESFP</b> <i>n</i> = 27 10.6%	<b>ENFP</b> <i>n</i> = 26 10.2%	<b>ENTP</b> <i>n</i> = 11 4.3%	Judging	
<b>ESTJ</b> <i>n</i> = 28 11.0%	<b>ESFJ</b> <i>n</i> = 28 11.0%	<b>ENFJ</b> <i>n</i> = 6 2.4%	<b>ENTJ</b> <i>n</i> = 7 2.8%		

Note: *n* = 254.

Table 8 | Reported MBTI® preference and preference combination distributions for women: Norwegian sample

Preferences		Orientation pairs		Process pairs		Orientation of energy and perceiving pairs		Judging and external orientation pairs						
<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%					
<b>E</b>	148	58.3	<b>EJ</b>	69	27.2	<b>ST</b>	80	31.5	<b>ES</b>	98	38.6	<b>TJ</b>	59	23.2
<b>I</b>	106	41.7	<b>EP</b>	79	31.1	<b>SF</b>	98	38.6	<b>EN</b>	50	19.7	<b>TP</b>	52	20.5
<b>S</b>	178	70.1	<b>IJ</b>	61	24.0	<b>NF</b>	45	17.7	<b>IS</b>	80	31.5	<b>FJ</b>	71	28.0
<b>N</b>	76	29.9	<b>IP</b>	45	17.7	<b>NT</b>	31	12.2	<b>IN</b>	26	10.2	<b>FP</b>	72	28.3
<b>T</b>	111	43.7												
<b>F</b>	143	56.3												
<b>J</b>	130	51.2												
<b>P</b>	124	48.8												

Note: *n* = 254.



Table 9 | Relationships between MBTI® Global Step I™, Form M, and European Step I™ preference pair results: Norwegian sample

Preference pair	Global Step I™ and Form M		Global Step I™ and European Step I™	
	Correlation between continuous scores	Agreement rate (%)	Correlation between continuous scores	Agreement rate (%)
E-I	.97	93	.92	88
S-N	.95	94	.90	89
T-F	.98	96	.85	85
J-P	.96	95	.88	84
Overall agreement rate for whole types		79	56	

Note: N = 493.

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

Preference pair	E-I	S-N	T-F	J-P
E-I	—	-.20	-.15	-.15
S-N	-.27	—	.27	.48
T-F	-.10	.23	—	.23
J-P	-.07	.49	.22	—

Note: Correlations for the Norwegian sample (N = 493) are below the diagonal; those for the global sample (N = 16,773) are above the diagonal.

## 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 Norwegian sample are shown in table 9.<sup>3</sup> The overall agreement rate for whole types between the Global Step I and Form M assessments was 79%, while between the Global Step I and European Step I assessments it was 56%. The agreement rate between the Global Step I and Form M assessments is higher than the 60% agreement 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 Norwegian 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 correlations are between S-N and T-F and T-F and J-P. These correlations are similar to those found for the global sample, shown in table 10 above the diagonal.

The Norwegian 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 Norwegian translation of the MBTI Global Step I assessment used in Norway, including reliability and validity. For full Step I reliability and validity information for the global sample, refer to chapters 8 and 9 of the *MBTI® Manual for the Global Step I™ and Step II™ Assessments* (Myers et al., 2018).

### 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 Norwegian sample and in the global sample for comparison purposes. The Norwegian sample alphas range from .86 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 Norwegian sample are also presented in table 11. The test-retest interval was  $\leq 15$  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 Norwegian sample. Eighty-six 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 Norwegian translation of the MBTI Global Step I assessment and the CPI 260<sup>®</sup> assessment (Gough & Bradley, 2005).

**CPI 260<sup>®</sup> assessment.** The CPI 260 assessment measures personality characteristics and is intended to provide a clear and accurate description of the respondent to increase self-awareness and understanding (Gough & Bradley, 2005). A portion of the Norwegian sample ( $n = 84$ ) also completed the CPI 260 assessment. CPI 260 scale means, standard deviations, and Cohen's  $d$  (Cohen, 1992; mean differences expressed in units of standard deviation<sup>3</sup>) for each of the four preference pairs are shown in tables 13–16.

Table 11 | Internal consistency and test-retest reliabilities of Global Step I<sup>™</sup> preference pair continuous scores: Norwegian and global samples

Sample	N	Cronbach's alpha			
		E-I	S-N	T-F	J-P
Norwegian	493	.89	.87	.87	.86
Global	16,773	.89	.87	.89	.88

  

Sample (interval)	n	Test-retest correlation			
		E-I	S-N	T-F	J-P
Norwegian ( $\leq 15$ weeks)	82	.91	.87	.79	.86
Global ( $\leq 15$ weeks)	1,721	.86	.83	.82	.81

  

Sample (interval)	n	Test-retest agreement rate (%)			
		E-I	S-N	T-F	J-P
Norwegian ( $\leq 15$ weeks)	82	88	93	76	82
Global ( $\leq 15$ weeks)	1,721	84	86	79	79

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

Sample (interval)	n	Number of preferences the same at retest (%)				
		4	3	2	1	0
Norwegian ( $\leq 15$ weeks)	82	54	32	13	1	0

Table 13 | CPI 260® scale means, standard deviations, and Cohen's *d* for Global Step I™ E–I preferences: Norwegian sample

CPI 260® scale	CPI 260® scale description	Extraversion		Introversion		Cohen's <i>d</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Dominance (Do)</b>	Prosocial interpersonal power and influence	21.95	5.86	13.52	7.07	-1.29
<b>Capacity for Status (Cs)</b>	Ambition for challenge and social status	14.48	3.67	10.66	4.07	-0.98
<b>Sociability (Sy)</b>	Social participation	15.58	2.79	10.07	4.78	-1.39
<b>Social Presence (Sp)</b>	Poise and comfort with attention and recognition	19.38	3.39	13.73	4.81	-1.35
<b>Self-acceptance (Sa)</b>	Sense of personal worth and self-confidence	15.28	2.84	10.20	4.35	-1.37
<b>Independence (In)</b>	Self-sufficiency and self-directedness	14.40	3.59	10.84	4.81	-0.83
<b>Empathy (Em)</b>	Capacity to understand and respond to others' needs	15.15	3.20	11.68	2.97	-1.13
<b>Responsibility (Re)</b>	Conscientiousness and follow-through	15.48	3.18	13.93	3.65	-0.45
<b>Social Conformity (So)</b>	Conformance with social norms and customs	19.28	3.95	18.05	4.40	-0.29
<b>Self-control (Sc)</b>	Cautiousness and self-regulation	14.90	4.66	16.73	3.98	0.42
<b>Good Impression (Gi)</b>	Tact and positive self-presentation	13.73	4.06	14.66	3.38	0.25
<b>Communality (Cm)</b>	Conventional behavior and attitudes	18.48	1.74	17.77	2.61	-0.31
<b>Well-being (Wb)</b>	Overall sense of health and optimism	14.90	2.96	12.30	4.28	-0.70
<b>Tolerance (To)</b>	Open-mindedness and respect for others	12.70	3.18	10.77	4.86	-0.46
<b>Achievement via Conformance (Ac)</b>	Motivation within organized settings	19.85	3.89	18.39	4.14	-0.36
<b>Achievement via Independence (Ai)</b>	Motivation within unstructured settings	15.93	3.72	12.59	4.32	-0.82
<b>Conceptual Fluency (Cf)</b>	Comfort with intellectual and conceptual matters	20.63	4.07	16.25	5.24	-0.93
<b>Insightfulness (Is)</b>	Analytical insight into the motivations of others	13.08	2.92	11.45	3.49	-0.50
<b>Flexibility (Fx)</b>	Adaptability and comfort with change	10.88	4.30	8.75	3.19	-0.57
<b>Sensitivity (Sn)</b>	Tough- versus tender-mindedness	13.43	3.23	14.45	3.96	0.28
<b>Managerial Potential (Mp)</b>	Inclination for supervisory responsibilities	15.38	3.61	12.16	4.58	-0.78
<b>Work Orientation (Wo)</b>	Sense of dedication to work	16.93	3.11	14.75	4.12	-0.59
<b>Creative Temperament (Ct)</b>	Individualization and capacity for innovativeness	16.48	4.19	12.66	4.08	-0.92
<b>Leadership (Lp)</b>	Initiative and effectiveness in leading others	26.70	5.39	18.55	6.74	-1.33
<b>Amicability (Ami)</b>	Cooperation and friendliness	17.98	4.50	16.52	4.92	-0.31
<b>Law Enforcement Orientation (Leo)</b>	Conventional and practical values	17.43	2.65	15.93	2.81	-0.55
<b>Vector 1 (v.1)</b>	Extraversion versus introversion	9.18	4.13	13.52	3.94	1.08
<b>Vector 2 (v.2)</b>	Rule-following versus rule-questioning	12.28	2.86	12.09	2.99	-0.06
<b>Vector 3 (v.3)</b>	Fulfillment of personal potential	17.88	5.07	14.05	6.16	-0.68

Note: Extraversion, *n* = 40; Introversion, *n* = 44. See appendix C of the 2018 MBTI manual for more detailed descriptions of the CPI 260 scales. For information on Cohen's *d*, see note 3 at the back of this supplement.

Table 14 | CPI 260® scale means, standard deviations, and Cohen's *d* for Global Step I™ S–N preferences: Norwegian sample

CPI 260® scale	CPI 260® scale description	Sensing		Intuition		Cohen's <i>d</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Dominance (Do)</b>	Prosocial interpersonal power and influence	16.43	7.68	21.88	6.55	0.73
<b>Capacity for Status (Cs)</b>	Ambition for challenge and social status	11.87	4.01	14.88	4.72	0.73
<b>Sociability (Sy)</b>	Social participation	12.24	4.59	14.47	5.39	0.47
<b>Social Presence (Sp)</b>	Poise and comfort with attention and recognition	15.75	4.81	19.06	5.24	0.68
<b>Self-acceptance (Sa)</b>	Sense of personal worth and self-confidence	11.96	4.29	15.24	4.37	0.76
<b>Independence (In)</b>	Self-sufficiency and self-directedness	12.01	4.63	14.59	4.00	0.57
<b>Empathy (Em)</b>	Capacity to understand and respond to others' needs	12.69	3.30	15.88	3.28	0.97
<b>Responsibility (Re)</b>	Conscientiousness and follow-through	14.45	3.54	15.53	3.30	0.31
<b>Social Conformity (So)</b>	Conformance with social norms and customs	18.75	3.95	18.18	5.23	-0.13
<b>Self-control (Sc)</b>	Cautiousness and self-regulation	16.30	4.16	14.12	4.95	-0.50
<b>Good Impression (Gi)</b>	Tact and positive self-presentation	14.48	3.68	13.18	3.83	-0.35
<b>Communality (Cm)</b>	Conventional behavior and attitudes	18.09	2.25	18.18	2.35	0.04
<b>Well-being (Wb)</b>	Overall sense of health and optimism	13.40	3.96	14.06	3.80	0.17
<b>Tolerance (To)</b>	Open-mindedness and respect for others	11.46	4.16	12.59	4.53	0.27
<b>Achievement via Conformance (Ac)</b>	Motivation within organized settings	19.18	3.98	18.71	4.48	-0.12
<b>Achievement via Independence (Ai)</b>	Motivation within unstructured settings	13.66	4.16	16.24	4.62	0.61
<b>Conceptual Fluency (Cf)</b>	Comfort with intellectual and conceptual matters	17.66	5.06	21.00	4.91	0.66
<b>Insightfulness (Is)</b>	Analytical insight into the motivations of others	12.03	3.31	13.00	3.32	0.29
<b>Flexibility (Fx)</b>	Adaptability and comfort with change	9.01	3.61	12.71	3.60	1.02
<b>Sensitivity (Sn)</b>	Tough- versus tender-mindedness	13.93	3.81	14.12	3.02	0.05
<b>Managerial Potential (Mp)</b>	Inclination for supervisory responsibilities	13.27	4.39	15.35	4.30	0.48
<b>Work Orientation (Wo)</b>	Sense of dedication to work	15.76	3.74	15.88	4.20	0.03
<b>Creative Temperament (Ct)</b>	Individualization and capacity for innovativeness	13.27	3.95	19.24	3.46	1.55
<b>Leadership (Lp)</b>	Initiative and effectiveness in leading others	21.63	7.30	25.59	6.84	0.55
<b>Amicability (Ami)</b>	Cooperation and friendliness	17.27	4.71	17.00	5.07	-0.06
<b>Law Enforcement Orientation (Leo)</b>	Conventional and practical values	16.75	2.96	16.24	2.19	-0.18
<b>Vector 1 (v.1)</b>	Extraversion versus introversion	12.21	4.35	8.47	4.23	-0.86
<b>Vector 2 (v.2)</b>	Rule-following versus rule-questioning	12.52	2.93	10.82	2.48	-0.60
<b>Vector 3 (v.3)</b>	Fulfillment of personal potential	15.36	5.89	17.88	5.91	0.43

Note: Sensing, *n* = 64; Intuition, *n* = 20.

Table 15 | CPI 260® scale means, standard deviations, and Cohen's *d* for Global Step I™ T–F preferences: Norwegian sample

CPI 260® scale	CPI 260® scale description	Thinking		Feeling		Cohen's <i>d</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Dominance (Do)</b>	Prosocial interpersonal power and influence	20.23	7.02	15.20	7.65	–0.68
<b>Capacity for Status (Cs)</b>	Ambition for challenge and social status	13.59	3.95	11.51	4.42	–0.49
<b>Sociability (Sy)</b>	Social participation	14.00	4.35	11.56	4.95	–0.52
<b>Social Presence (Sp)</b>	Poise and comfort with attention and recognition	16.90	5.30	16.00	4.83	–0.18
<b>Self-acceptance (Sa)</b>	Sense of personal worth and self-confidence	13.72	4.19	11.67	4.55	–0.47
<b>Independence (In)</b>	Self-sufficiency and self-directedness	14.38	4.31	10.93	4.28	–0.80
<b>Empathy (Em)</b>	Capacity to understand and respond to others' needs	13.62	3.60	13.09	3.48	–0.15
<b>Responsibility (Re)</b>	Conscientiousness and follow-through	15.05	3.76	14.33	3.27	–0.20
<b>Social Conformity (So)</b>	Conformance with social norms and customs	19.38	4.25	17.98	4.11	–0.34
<b>Self-control (Sc)</b>	Cautiousness and self-regulation	15.56	4.38	16.11	4.43	0.12
<b>Good Impression (Gi)</b>	Tact and positive self-presentation	14.44	3.60	14.02	3.85	–0.11
<b>Communality (Cm)</b>	Conventional behavior and attitudes	17.79	2.37	18.22	2.17	0.11
<b>Well-being (Wb)</b>	Overall sense of health and optimism	14.49	4.17	12.71	3.52	–0.46
<b>Tolerance (To)</b>	Open-mindedness and respect for others	12.41	4.37	11.07	4.06	–0.32
<b>Achievement via Conformance (Ac)</b>	Motivation within organized settings	20.15	4.00	18.16	3.93	–0.50
<b>Achievement via Independence (Ai)</b>	Motivation within unstructured settings	14.64	4.47	13.78	4.26	–0.20
<b>Conceptual Fluency (Cf)</b>	Comfort with intellectual and conceptual matters	19.49	5.49	17.33	4.74	–0.42
<b>Insightfulness (Is)</b>	Analytical insight into the motivations of others	12.90	3.23	11.64	3.30	–0.38
<b>Flexibility (Fx)</b>	Adaptability and comfort with change	9.21	3.06	10.24	4.46	0.27
<b>Sensitivity (Sn)</b>	Tough- versus tender-mindedness	12.41	3.70	15.31	3.05	0.86
<b>Managerial Potential (Mp)</b>	Inclination for supervisory responsibilities	14.87	4.35	12.67	4.28	–0.51
<b>Work Orientation (Wo)</b>	Sense of dedication to work	15.92	3.89	15.67	3.78	–0.07
<b>Creative Temperament (Ct)</b>	Individualization and capacity for innovativeness	14.79	4.35	14.20	4.72	–0.13
<b>Leadership (Lp)</b>	Initiative and effectiveness in leading others	24.62	7.38	20.53	6.85	–0.58
<b>Amicability (Ami)</b>	Cooperation and friendliness	17.62	4.60	16.87	4.90	–0.16
<b>Law Enforcement Orientation (Leo)</b>	Conventional and practical values	17.03	2.80	16.31	2.83	–0.25
<b>Vector 1 (v.1)</b>	Extraversion versus introversion	10.51	4.32	12.27	4.65	0.39
<b>Vector 2 (v.2)</b>	Rule-following versus rule-questioning	12.95	2.45	11.51	3.14	–0.51
<b>Vector 3 (v.3)</b>	Fulfillment of personal potential	16.51	6.48	15.31	5.46	–0.20

Note: Thinking, *n* = 39; Feeling, *n* = 45.

Table 16 | CPI 260® scale means, standard deviations, and Cohen's *d* for Global Step I™ J–P preferences: Norwegian sample

CPI 260® scale	CPI 260® scale description	Judging		Perceiving		Cohen's <i>d</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Dominance (Do)</b>	Prosocial interpersonal power and influence	15.07	8.45	20.53	5.55	0.75
<b>Capacity for Status (Cs)</b>	Ambition for challenge and social status	11.30	4.62	13.89	3.45	0.63
<b>Sociability (Sy)</b>	Social participation	11.46	5.03	14.18	4.12	0.59
<b>Social Presence (Sp)</b>	Poise and comfort with attention and recognition	15.04	5.20	18.08	4.36	0.63
<b>Self-acceptance (Sa)</b>	Sense of personal worth and self-confidence	11.17	4.84	14.37	3.28	0.76
<b>Independence (In)</b>	Self-sufficiency and self-directedness	11.28	4.92	14.05	3.71	0.63
<b>Empathy (Em)</b>	Capacity to understand and respond to others' needs	12.37	3.65	14.50	3.02	0.63
<b>Responsibility (Re)</b>	Conscientiousness and follow-through	14.26	3.34	15.16	3.67	0.26
<b>Social Conformity (So)</b>	Conformance with social norms and customs	18.59	4.00	18.68	4.51	0.02
<b>Self-control (Sc)</b>	Cautiousness and self-regulation	16.74	3.96	14.79	4.69	– 0.45
<b>Good Impression (Gi)</b>	Tact and positive self-presentation	14.74	3.34	13.58	4.10	– 0.31
<b>Communality (Cm)</b>	Conventional behavior and attitudes	18.11	2.39	18.11	2.12	0.00
<b>Well-being (Wb)</b>	Overall sense of health and optimism	12.78	4.03	14.45	3.62	0.43
<b>Tolerance (To)</b>	Open-mindedness and respect for others	11.07	4.33	12.45	4.04	0.33
<b>Achievement via Conformance (Ac)</b>	Motivation within organized settings	19.59	4.09	18.47	4.00	–0.27
<b>Achievement via Independence (Ai)</b>	Motivation within unstructured settings	13.11	4.61	15.47	3.68	0.56
<b>Conceptual Fluency (Cf)</b>	Comfort with intellectual and conceptual matters	17.04	5.64	19.89	4.12	0.57
<b>Insightfulness (Is)</b>	Analytical insight into the motivations of others	11.76	3.54	12.79	2.97	0.31
<b>Flexibility (Fx)</b>	Adaptability and comfort with change	8.43	3.26	11.37	4.01	0.81
<b>Sensitivity (Sn)</b>	Tough- versus tender-mindedness	15.13	3.72	12.55	3.06	– 0.75
<b>Managerial Potential (Mp)</b>	Inclination for supervisory responsibilities	13.00	4.83	14.53	3.79	0.35
<b>Work Orientation (Wo)</b>	Sense of dedication to work	15.41	4.14	16.24	3.36	0.22
<b>Creative Temperament (Ct)</b>	Individualization and capacity for innovativeness	12.67	4.10	16.66	4.08	0.97
<b>Leadership (Lp)</b>	Initiative and effectiveness in leading others	20.52	7.94	24.74	5.87	0.60
<b>Amicability (Ami)</b>	Cooperation and friendliness	17.15	4.79	17.29	4.76	0.03
<b>Law Enforcement Orientation (Leo)</b>	Conventional and practical values	16.22	2.95	17.16	2.59	0.34
<b>Vector 1 (v.1)</b>	Extraversion versus introversion	12.74	4.56	9.89	4.11	–0.65
<b>Vector 2 (v.2)</b>	Rule-following versus rule-questioning	12.80	2.63	11.42	3.09	–0.49
<b>Vector 3 (v.3)</b>	Fulfillment of personal potential	14.67	5.90	17.32	5.77	0.45

Note: Judging, *n* = 46; Perceiving, *n* = 38.

## MBTI® GLOBAL STEP II™ ASSESSMENT RESULTS FOR THE NORWEGIAN 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 17). The Global Step II assessment replaces the Form Q assessment and the European Step II assessment.

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

Table 17 presents the relationships between MBTI Global Step II, Form Q, and European Step II facet results for the Norwegian sample. Most facet scales are highly correlated, as the table shows. The lower correlation on the Questioning–Accommodating scale reflects changes made to that scale when creating the Global Step II assessment

### Global Step II™ Facet Intercorrelations

Intercorrelations of Global Step II facets are presented in table 18. 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 Norwegian translation of the MBTI Global Step II assessment, including reliability and validity. For full Step II reliability and validity information for the global sample, refer to chapters 8 and 10 of 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 Norwegian sample are presented in table 19.

#### VALIDITY

Reported here as evidence of the validity of the Norwegian 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 the CPI 260 assessment.

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

Table 17 | Correlations between Global Step II™, Form Q, and European Step II™ continuous scores: Norwegian sample

Global Step II™ facet	Form Q correlation	European Step II™ correlation
<b>E–I facets</b>		
Initiating–Receiving	.97	.96
Expressive–Contained	.99	.94
Gregarious–Intimate	.98	.99
Active–Reflective	.86	.88
Enthusiastic–Quiet	.99	.97
<b>S–N facets</b>		
Concrete–Abstract	.96	.96
Realistic–Imaginative	.99	.99
Practical–Conceptual	.85	.87
Experiential–Theoretical	.93	.97
Traditional–Original	.96	.96
<b>T–F facets</b>		
Logical–Empathetic	.92	.94
Reasonable–Compassionate	.92	.97
Questioning–Accommodating	.40	.66
Critical–Accepting	.76	.80
Tough–Tender	.98	.95
<b>J–P facets</b>		
Systematic–Casual	.93	.97
Playful–Open-Ended	.97	.98
Early Starting–Pressure-Prompted	.94	.94
Scheduled–Spontaneous	.94	.90
Methodical–Emergent	.96	.91

Note: N = 493.

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 out-of-preference facet scores for each preference pair in the Norwegian sample is shown in table 20.

Correlations between facets and preference pairs are presented in table 21. 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

Table 18 | Intercorrelations of Global Step II™ facets: Norwegian 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.
<b><i>E–I facets</i></b>																				
1. Initiating–Receiving	—																			
2. Expressive–Contained	.57	—																		
3. Gregarious–Intimate	.54	.48	—																	
4. Active–Reflective	.73	.62	.57	—																
5. Enthusiastic–Quiet	.64	.60	.60	.69	—															
<b><i>S–N facets</i></b>																				
6. Concrete–Abstract	-.15	-.14	-.10	-.17	-.27	—														
7. Realistic–Imaginative	-.15	-.22	-.19	-.23	-.31	.67	—													
8. Practical–Conceptual	-.17	-.18	-.07	-.18	-.26	.58	.64	—												
9. Experiential–Theoretical	-.02	-.06	-.03	-.08	-.01	.45	.35	.34	—											
10. Traditional–Original	-.22	-.17	-.14	-.22	-.29	.62	.58	.62	.38	—										
<b><i>T–F facets</i></b>																				
11. Logical–Empathetic	-.06	-.23	-.08	-.14	-.23	.32	.33	.15	.13	.08	—									
12. Reasonable–Compassionate	-.04	-.18	-.07	-.08	-.16	.28	.29	.10	.09	.04	.75	—								
13. Questioning–Accommodating	.21	.05	.06	.19	.04	.08	.14	-.05	-.03	-.20	.42	.54	—							
14. Critical–Accepting	-.09	-.17	-.14	-.11	-.26	.23	.25	.14	.03	.02	.52	.59	.64	—						
15. Tough–Tender	.06	-.09	.00	.03	-.09	.22	.21	.09	.07	-.03	.55	.67	.66	.65	—					
<b><i>J–P facets</i></b>																				
16. Systematic–Casual	-.24	-.24	-.19	-.27	-.34	.53	.52	.42	.26	.54	.39	.33	.07	.21	.23	—				
17. Planful–Open-Ended	-.15	-.02	-.09	-.16	-.20	.35	.27	.28	.17	.38	.16	.10	-.04	.04	.05	.64	—			
18. Early Starting–Pressure-Prompted	-.15	-.03	-.14	-.18	-.15	.20	.15	.17	.20	.23	-.05	-.06	-.15	-.08	-.06	.37	.51	—		
19. Scheduled–Spontaneous	-.09	-.07	-.05	-.15	-.16	.39	.38	.33	.26	.42	.28	.18	.01	.06	.10	.73	.68	.49	—	
20. Methodical–Emergent	-.05	.03	-.05	-.05	-.11	.19	.18	.15	.10	.22	.10	.08	-.03	.03	.04	.52	.54	.53	.59	—

Note: N = 493.



Table 19 | Internal consistency and test-retest reliabilities of Global Step II™ facet continuous scores: Norwegian sample

Global Step II™ facet	Cronbach's alpha	Test-retest correlation
<b>E–I facets</b>		
Initiating–Receiving	.81	.81
Expressive–Contained	.75	.87
Gregarious–Intimate	.63	.74
Active–Reflective	.66	.86
Enthusiastic–Quiet	.70	.78
<b>S–N facets</b>		
Concrete–Abstract	.73	.75
Realistic–Imaginative	.76	.81
Practical–Conceptual	.73	.79
Experiential–Theoretical	.55	.56
Traditional–Original	.76	.79
<b>T–F facets</b>		
Logical–Empathetic	.77	.76
Reasonable–Compassionate	.71	.70
Questioning–Accommodating	.55	.73
Critical–Accepting	.47	.65
Tough–Tender	.68	.61
<b>J–P facets</b>		
Systematic–Casual	.75	.76
Planful–Open-Ended	.78	.80
Early Starting–Pressure-Prompted	.70	.81
Scheduled–Spontaneous	.76	.81
Methodical–Emergent	.64	.70

Note: N = 493; test-retest, n = 82.

Table 20 | Percentage of reported out-of-preference Global Step II™ facet scores: Norwegian sample

Preference pair	Number of out-of-preference facet scores (%)					
	0	1	2	3	4	5
<b>E–I</b>	69	23	6	1	0	0
<b>S–N</b>	70	26	4	<1	0	0
<b>T–F</b>	72	19	8	1	0	0
<b>J–P</b>	60	30	9	1	0	0

Note: N = 493. Percentages in a given category may not total 100% due to the rounding of decimals.

theoretical hierarchical structure of the Step II facets in relation to the Step I scales” (Quenk, Hammer, & Majors, 2001, p. 104). The Norwegian sample correlations are comparable to those reported in the *MBTI® Step II™ Manual* (Quenk et al., 2001) and the *MBTI® Step II™*

Table 21 | Correlations between Global Step II™ facets and preference pairs: Norwegian sample

Global Step II™ facet	Preference pair			
	E–I	S–N	T–F	J–P
<b>E–I facets</b>				
Initiating–Receiving	.85	–.21	–.02	–.14
Expressive–Contained	.77	–.21	–.19	–.07
Gregarious–Intimate	.71	–.17	–.06	–.09
Active–Reflective	.85	–.24	–.07	–.18
Enthusiastic–Quiet	.84	–.33	–.18	–.22
<b>S–N facets</b>				
Concrete–Abstract	–.19	.85	.30	.43
Realistic–Imaginative	–.26	.85	.30	.40
Practical–Conceptual	–.22	.77	.11	.36
Experiential–Theoretical	–.03	.54	.12	.26
Traditional–Original	–.25	.81	.04	.45
<b>T–F facets</b>				
Logical–Empathetic	–.16	.26	.87	.28
Reasonable–Compassionate	–.10	.21	.91	.19
Questioning–Accommodating	.16	.01	.63	.01
Critical–Accepting	–.17	.19	.68	.08
Tough–Tender	.00	.14	.79	.12
<b>J–P facets</b>				
Systematic–Casual	–.31	.60	.35	.82
Planful–Open-Ended	–.16	.37	.11	.84
Early Starting–Pressure-Prompted	–.16	.24	–.08	.59
Scheduled–Spontaneous	–.13	.46	–.21	.92
Methodical–Emergent	–.06	.22	.08	.67

Note: N = 493.

*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 Norwegian version, the facets were correlated with scales of a translated version of the CPI 260 assessment. Descriptions of the relationships between the MBTI assessment and the CPI 260 assessment follow.

**CPI 260® assessment.** Correlations between the Global Step II facets and CPI 260 scales for the Norwegian sample are shown in table 22. The correlations reported here are similar to those found in the *MBTI® Step II™ Manual* (Quenk et al., 2001) for the CPI™ 434 assessment, providing additional evidence of the validity of the MBTI Global Step II assessment.

Table 22 | Correlations between Global Step II™ facets and CPI 260® scales: Norwegian sample

Global Step II™ facet	CPI 260® scale																												
	Do	Cs	Sy	Sp	Sa	In	Em	Re	So	Sc	Gi	Cm	Wb	To	Ac	Ai	Cf	Is	Fx	Sn	Mp	Wo	Ct	Lp	Ami	Leo	v.1	v.2	v.3
<b>E–I facets</b>																													
Initiating–Receiving	-.63	-.55	-.66	-.51	-.68	-.51	-.52	-.20	-.08	.21	.09	.04	-.32	-.17	-.14	-.32	-.39	-.23	-.30	.37	-.36	-.21	-.47	-.63	-.15	-.31	.55	-.02	-.26
Expressive–Contained	-.40	-.38	-.48	-.47	-.52	-.31	-.37	-.12	.03	.25	.16	.03	-.18	-.07	-.13	-.16	-.23	-.16	-.30	.14	-.22	-.17	-.31	-.37	-.02	-.06	.40	.12	-.18
Gregarious–Intimate	-.37	-.34	-.43	-.34	-.39	-.27	-.28	-.14	-.19	.15	.07	-.03	-.20	-.14	-.10	-.19	-.23	-.11	-.19	.25	-.20	-.16	-.26	-.37	-.11	-.29	.33	.05	-.11
Active–Reflective	-.68	-.51	-.70	-.60	-.70	-.55	-.46	-.23	-.13	.25	.14	-.04	-.37	-.21	-.14	-.36	-.44	-.28	-.26	.39	-.38	-.27	-.43	-.66	-.08	-.31	.55	-.05	-.25
Enthusiastic–Quiet	-.50	-.44	-.59	-.56	-.55	-.39	-.45	-.18	-.16	.26	.11	-.11	-.34	-.15	-.15	-.35	-.36	-.26	-.26	.20	-.23	-.23	-.40	-.49	-.07	-.20	.47	-.02	-.21
<b>S–N facets</b>																													
Concrete–Abstract	.19	.33	.16	.22	.21	.14	.40	.14	-.12	-.11	-.06	-.01	.03	.16	-.06	.29	.26	.10	.37	.02	.21	.01	.45	.21	.03	.00	-.25	-.26	.28
Realistic–Imaginative	.18	.25	.18	.27	.26	.13	.31	-.02	-.17	-.32	-.17	.04	-.01	.05	-.15	.26	.23	.01	.37	.01	.06	-.05	.44	.16	-.11	.03	-.30	-.24	.16
Practical–Conceptual	.26	.31	.20	.22	.34	.22	.33	-.13	-.06	-.24	-.17	-.14	.06	.02	-.06	.25	.26	.16	.29	-.02	.10	-.11	.43	.20	-.12	-.01	-.36	-.22	.12
Experiential–Theoretical	.20	.28	.22	.29	.24	.20	.38	.22	.08	-.03	.06	-.04	.13	.19	.06	.28	.26	.23	.31	.02	.24	.19	.33	.21	.17	.16	-.22	-.11	.21
Traditional–Original	.42	.38	.34	.39	.43	.38	.40	.03	-.06	-.32	-.22	-.16	.15	.13	-.14	.27	.27	.16	.42	-.28	.21	-.05	.58	.37	-.05	.00	-.45	-.22	.22
<b>T–F facets</b>																													
Logical–Empathetic	-.14	-.09	-.09	.00	-.07	-.25	.05	-.09	-.24	-.13	-.16	.01	-.23	-.19	-.26	-.07	-.10	-.22	.17	.33	-.19	-.11	-.01	-.13	-.15	-.05	-.01	-.32	-.09
Reasonable–Compassionate	-.29	-.16	-.20	-.10	-.18	-.34	-.12	-.04	-.12	.18	.08	.00	-.17	-.10	-.21	-.11	-.14	-.24	.14	.40	-.18	-.01	-.05	-.23	.00	-.15	.27	-.32	-.06
Questioning–Accommodating	-.52	-.36	-.33	-.31	-.44	-.50	-.35	-.09	-.02	.16	.11	.18	-.28	-.23	-.10	-.21	-.27	-.25	-.11	.47	-.33	-.05	-.36	-.44	-.05	-.16	.42	.02	-.19
Critical–Accepting	-.16	-.05	.00	-.03	-.09	-.23	.04	.06	.07	-.01	-.01	.22	-.02	.00	.07	.08	.01	-.02	.16	.28	-.11	.06	.00	-.07	.08	-.08	.09	-.08	.08
Tough–Tender	-.24	-.11	-.16	-.16	-.17	-.29	-.04	.10	.00	.09	.09	.13	-.17	-.13	-.06	.03	-.09	-.09	.20	.35	-.21	-.05	-.02	-.20	-.03	-.20	.16	-.12	-.01
<b>J–P facets</b>																													
Systematic–Casual	.34	.32	.30	.28	.41	.19	.30	.03	-.18	-.28	-.20	-.14	.00	.03	-.29	.16	.13	.04	.43	-.28	.05	-.08	.45	.27	-.14	.12	-.37	-.28	.13
Planful–Open-Ended	.40	.36	.33	.31	.42	.39	.31	.08	.03	-.23	-.19	-.02	.21	.10	-.13	.25	.25	.16	.37	-.49	.18	.08	.47	.33	-.03	.18	-.35	-.24	.17
Early Starting–Pressure-Prompted	.40	.41	.42	.38	.47	.26	.35	.27	-.03	-.24	-.13	.02	.17	.25	-.01	.32	.32	.21	.49	-.37	.22	.17	.53	.36	.07	.19	-.37	-.20	.31
Scheduled–Spontaneous	.31	.31	.26	.24	.32	.19	.25	.11	-.13	-.24	-.21	-.10	.03	.07	-.24	.20	.18	.06	.40	-.31	.08	-.04	.41	.24	-.08	.07	-.33	-.24	.13
Methodical–Emergent	.16	.10	.12	.12	.16	.05	.18	.09	.00	-.20	-.25	.02	.03	.08	-.17	.14	.07	.09	.38	-.23	.00	-.02	.29	.09	-.06	-.13	-.19	-.23	.13

Note: n = 84.

Table 23 | In-preference, midzone, and out-of-preference percentages and rankings for the Global Step II<sup>™</sup> facets: Norwegian sample

Global Step II <sup>™</sup> facet	In-preference		Midzone		Out-of-preference	
	%	Rank	%	Rank	%	Rank
<b>E–I facets</b>						
Initiating–Receiving	65.72	3	29.01	13	5.27	13
Expressive–Contained	56.19	17	35.29	7	8.52	9
Gregarious–Intimate	59.63	11	27.99	15	12.37	4
Active–Reflective	68.56	1	26.17	17	5.27	13
Enthusiastic–Quiet	63.69	6	29.01	13	7.30	10
<b>S–N facets</b>						
Concrete–Abstract	59.03	12	37.93	3	3.04	18
Realistic–Imaginative	65.92	2	27.79	16	6.29	11
Practical–Conceptual	65.11	4	25.96	18	8.92	6
Experiential–Theoretical	53.75	18	33.87	8	12.37	4
Traditional–Original	64.50	5	31.03	12	4.46	15
<b>T–F facets</b>						
Logical–Empathetic	58.82	13	36.92	5	4.26	16
Reasonable–Compassionate	60.65	10	37.73	4	1.62	20
Questioning–Accommodating	44.02	20	47.26	1	8.72	7
Critical–Accepting	50.91	19	32.86	10	16.23	2
Tough–Tender	57.20	16	36.92	5	5.88	12
<b>J–P facets</b>						
Systematic–Casual	58.82	13	32.45	11	8.72	7
Planful–Open-Ended	62.07	9	33.67	9	4.26	16
Early Starting–Pressure-Prompted	63.08	8	18.26	20	18.66	1
Scheduled–Spontaneous	58.42	15	39.35	2	2.23	19
Methodical–Emergent	63.49	7	20.49	19	16.02	3

Note: N = 493.

## Global Step II<sup>™</sup> 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. Practitioners may refer to *Understanding Your MBTI<sup>®</sup> Step II<sup>™</sup> Results* (Kummerow & Quenk, 2018) and *MBTI<sup>®</sup> Step II<sup>™</sup> User's Guide* (Quenk & Kummerow, 2019) for interpretations of all possible Step II facet results.

Table 23 shows the percentages and rank order of in-preference, midzone, and out-of-preference scores for the 20 Global Step II facets for the Norwegian 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 frequency with which facet scores are likely to be out-of-preference. Here, the facet with the highest percentage of out-of-preference scores is Early Starting–Pressure-Prompted at 18.66%, followed by Critical–Accepting at 16.23%. The Reasonable–Compassionate facet (1.62%) and the Scheduled–Spontaneous facet (2.23%) appear least likely to elicit out-of-preference responses.

Gender differences on the Step II facets in the Norwegian sample are presented in table 24.

Table 24 | Means, standard deviations, and Cohen's *d* of the Global Step II™ facets by total sample and gender: Norwegian sample

Global Step II™ facet	Total sample ( <i>N</i> = 493)		Men ( <i>n</i> = 239)		Women ( <i>n</i> = 254)		Gender difference
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Cohen's <i>d</i>
<b><i>E–I facets</i></b>							
Initiating–Receiving	–0.13	0.84	–0.10	0.79	–0.16	0.88	0.07
Expressive–Contained	–0.10	0.86	–0.05	0.82	–0.15	0.90	0.11
Gregarious–Intimate	–0.06	0.80	–0.09	0.79	–0.04	0.80	–0.06
Active–Reflective	–0.07	0.85	–0.03	0.81	–0.11	0.88	0.10
Enthusiastic–Quiet	–0.26	0.78	–0.19	0.79	–0.32	0.77	0.17
<b><i>S–N facets</i></b>							
Concrete–Abstract	–0.32	0.79	–0.44	0.76	–0.21	0.79	–0.29
Realistic–Imaginative	–0.34	0.89	–0.46	0.88	–0.24	0.88	–0.25
Practical–Conceptual	–0.26	0.87	–0.28	0.90	–0.25	0.83	–0.04
Experiential–Theoretical	–0.32	0.69	–0.36	0.73	–0.29	0.64	–0.11
Traditional–Original	–0.50	0.89	–0.49	0.88	–0.51	0.89	0.03
<b><i>T–F facets</i></b>							
Logical–Empathetic	–0.18	0.80	–0.43	0.77	0.06	0.74	–0.65
Reasonable–Compassionate	–0.05	0.82	–0.25	0.81	0.14	0.78	–0.49
Questioning–Accommodating	–0.07	0.73	–0.22	0.69	0.08	0.73	–0.43
Critical–Accepting	–0.06	0.67	–0.24	0.66	0.10	0.63	–0.54
Tough–Tender	–0.15	0.78	–0.29	0.79	–0.02	0.75	–0.34
<b><i>J–P facets</i></b>							
Systematic–Casual	–0.27	0.84	–0.33	0.85	–0.21	0.83	–0.14
Planful–Open-Ended	0.08	0.84	0.17	0.80	0.00	0.87	0.21
Early Starting–Pressure-Prompted	0.27	0.85	0.33	0.81	0.21	0.89	0.14
Scheduled–Spontaneous	–0.12	0.79	–0.15	0.77	–0.10	0.81	–0.07
Methodical–Emergent	0.34	0.81	0.40	0.76	0.29	0.84	0.14

Note: For information on Cohen's *d*, see note 3, below.

## CONCLUSION

Initial analyses of the Norwegian 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 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 the CPI 260 assessment show anticipated relationships. The percentage of out-of-preference facet scores is also presented. While more research should be conducted, all these analyses show that the Norwegian translations of the MBTI Global Step I and Step II assessments have adequate reliability and validity and are appropriate for use with individuals in Norway who read and understand Norwegian.

## NOTES

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1. 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-for-word 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.
2. Correlation coefficients (typically identified by *r*) 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  $r = .10$  is a small effect size,  $r = .30$  is medium, and  $r = .50$  is large (Cohen, 1988, 1992).
3. 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  $d = .20$  be 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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