



# LGBTQ Population Sample Technical Brief for the **MBTI® Global Step I™** Assessment

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# LGBTQ Population Sample Technical Brief for the MBTI® Global Step I™ Assessment

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## INTRODUCTION

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Given that an estimated 4.5% of adults in the United States identify as lesbian, gay, bisexual, or transgender (Newport, 2018), it is important to demonstrate the psychometric soundness of any personality assessment for this population. The *Myers-Briggs Type Indicator*® (MBTI®) assessment is one of the most commonly used personality instruments in the world. This technical brief seeks to demonstrate the psychometric utility of the MBTI® Global Step I™ assessment for the LGBTQ population in the US. The MBTI Global Step I assessment was provided in North American English to this LGBTQ population.

Relationships between sexual orientation and personality type have been studied by several researchers, including Lijun Zheng, Richard A. Lippa, and Yong Zheng. Researchers have also studied masculinity/femininity and the Big Five personality dimensions (Lippa, 2005, 2008; Zheng, Lippa, & Zheng, 2011) and female personality trait differences (Dancey, 1990). However, research demonstrating assessment utility with LGBTQ individuals has been lacking.

## THE MBTI® MODEL

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The MBTI assessment measures a typology composed of four pairs of opposite preferences, or *preference pairs*:

- Extraversion (E) or Introversion (I)—how individuals direct and receive energy
- Sensing (S) or Intuition (N)—how individuals take in information
- Thinking (T) or Feeling (F)—how individuals decide and come to conclusions
- Judging (J) or Perceiving (P)—how individuals approach the outside world

The MBTI assessment combines an individual's four preferences—one preference from each preference pair, denoted by its letter—to yield one of the 16 possible personality types (e.g., ESTJ, INFP). Each type is equally valuable, and an individual inherently sorts into one of the 16 types. This model differentiates the MBTI assessment from most other personality instruments, which typically assess personality traits. Trait-based instruments measure how much of a certain trait a person possesses. Unlike the MBTI assessment, those instruments usually consider one end of a scale to signify positive characteristics and the other to signify negative characteristics.

## DESCRIPTION OF THE LGBTQ SAMPLE

OUT for Work, a nonprofit organization in Washington, DC, that helps LGBTQ students with career planning and employment opportunities, assisted in the collection of this sample (2014). OUT for Work invited self-identified LGBTQ individuals in the US to complete the global research version (GRV) of the MBTI assessment as part of a research project.

The sample of self-identified LGBTQ individuals completed the MBTI GRV as well as three additional demographic items from an OUT for Work gender survey, shown in figure 1. These items and response options were specifically chosen by OUT for Work to meet the needs of the targeted population.

The LGBTQ sample is composed of 256 individuals who completed the MBTI GRV in North American English. The MBTI GRV comprises 230 MBTI items, and the Global Step I assessment contains a subset of 92 of the 230 items used on the GRV form. The biological sex distribution of this sample is 51% female, 41% male, 5% FTM (individuals having undergone medical treatments to change biological sex from female to male), and 3% MTF (having undergone medical treatments to change biological sex from male to female; see figure 1 for additional definitions of terms). Respondents' ages range from 18 to 66 years (mean = 33.3, standard deviation = 13.6); 49% were employed full-time, 9% were employed part-time, 36% were students, 2% responded that they were not working for income, less than 1% were retired, 3% responded none of the above, and 1% did not provide their current employment status. A full demographic summary is shown in table 1.

It is important to note that this LGBTQ sample is not a representative sample; rather, it is a sample of convenience. Therefore, no inferences should be drawn about the preferences or type distribution of the LGBTQ population. The data reported in this technical brief should be used for psychometric information purposes only.

**OUT for Work gender survey**

1. Please select the sexual orientation that you believe best describes you. Sexual orientation here is defined as the term used to refer to your physical, emotional, or spiritual attraction toward others. Please choose only one term, even though many may apply. Ideally, you will choose the term that you think fits you the best or most of the time.

- Asexual (do not experience sexual attraction toward other people)
- Bisexual (experience attraction toward both genders)
- Demisexual (do not experience sexual attraction without a strong emotional connection)
- Lesbian (woman who is attracted to women)
- Gay (man who is attracted to men)
- Heterosexual (experience attraction toward the opposite gender)
- Pansexual (experience attraction for members of all gender identities or expressions)
- Questioning (currently exploring sexual orientation)
- Skoliosexual (experience attraction to genderqueer and transsexual people and expressions)
- MSM (men who engage in same-sex behavior, but do not necessarily self-identify as gay/bisexual)
- FSF (women who engage in same-sex behavior, but do not necessarily self-identify as gay/bisexual)

Figure 1 | Gender Survey from OUT for Work

### OUT for Work gender survey (cont'd)

2. Please select the gender that resonates the most with you. Gender here is defined as your internal perception of gender, and how you label yourself. Please choose only one term, even though many may apply. Ideally, you will choose the term that you think fits you the best or most of the time.

- Genderless (you do not identify with any gender)
- Agender (you are internally ungendered or have not felt a sense of gender identity)
- Bigender (you fluctuate between traditionally "female" and "male" gender-based behavior and identities)
- Third Gender (you do not identify with traditional genders of "woman" and "man" but identify with another gender)
- Transsexual (your gender identity is the binary opposite of your biological sex, you may undergo medical treatments to change your biological sex or live as the opposite sex)
- Transgender (a blanket term used to describe all people who are not cisgender)
- Cisgender (your gender identity, expression, and biological sex all align, e.g., man, masculine, male)
- Cross-Dresser/Transvestite (you dress as the binary opposite gender expression for many reasons)
- Trans-man (you identify as a man, but were assigned a female sex at birth)
- Trans-woman (you identify as a woman, but were assigned a male sex at birth)
- Two-Spirit (a term traditionally used by Native Americans to recognize those who possess qualities or fill roles of both genders)
- Gender Fluid (your gender identification and presentation shifts, whether within or outside of societal gender-based expectations)
- Gender Non-Conforming (you don't conform to society's expectations of gender expression based on the gender binary expectations of masculinity and femininity)
- Genderqueer (your gender identity is neither man nor woman, is between or beyond both genders, or is some combination of genders)
- Pangender (your gender identity is comprised of all or many gender expressions)

3. Please select the sex that you identify with most. Sex here is defined as your physical anatomy and gendered hormones you were born with. Please choose only one term, even though many may apply. Ideally, you will choose the term that you think fits you the best or most of the time.

- Female (you were born with a specific set of sexual anatomy, e.g., 46, XX phenotype, ovaries, higher levels of estrogen, pursuant to this label)
- Male (you were born with a specific set of sexual anatomy, e.g. 46, XY phenotype, testes, higher levels of testosterone, pursuant to this label)
- FTM (you have undergone medical treatments to change your biological sex Female to Male)
- MTF (you have undergone medical treatments to change your biological sex Male to Female)
- Intersex (you have a set of sexual anatomy that doesn't fit within the labels of female or male, e.g., 47, XXY phenotype, uterus and penis)

Figure 1 | Gender Survey from OUT for Work

Table 1 | Demographic summary: LGBTQ sample

Demographic	n	%
<b>Age</b>		
Mean age: 33 years	—	—
<b>Ethnicity</b>		
Caucasian	189	73.8
Hispanic/Latino, Latina	12	4.7
Asian	10	3.9
African-American/Black	6	2.3
Multiple ethnicities	31	12.1
Other	4	1.6
No response	4	1.6
<b>Employment status</b>		
Employed full-time	126	49.2
Employed part-time	23	9.0
Not working for income	5	2.0
Retired	1	0.4
Full-time student	92	35.9
None of the above	7	2.7
No response	2	0.8
<b>Sexual orientation</b>		
Asexual	3	1.2
MSM	1	0.4
FSF	1	0.4
Bisexual	42	16.4
Demisexual	3	1.2
Lesbian	57	22.3
Gay	92	35.9
Heterosexual	10	3.9
Pansexual	39	15.2
Questioning	7	2.7
Skoliosexual	1	0.4

### MBTI® Type and Preference Distributions

As shown in table 2, the most frequently occurring type for this sample is ENFP (15.2%), followed by INFP (10.5%). The least common types are ESTP (1.2%), ISFP (2.0%), and ESFJ (2.0%). For comparison purposes, table 3 shows the type distribution in the global sample, where the most common types are ISTJ (15.9%) and ISTP (9.8%) and the least common types are ENTJ (1.8%) and ENFJ (2.2%).

Table 4 shows the number and percentage of respondents in the LGBTQ sample who had each of the preferences. Also included for reference are the number and percentage of respondents in the global sample

Demographic	n	%
<b>Gender identity</b>		
Genderless	5	2.0
Trans-woman	3	1.2
Two-spirit	7	2.7
Gender fluid	6	2.3
Gender nonconforming	24	9.4
Genderqueer	15	5.9
Pangender	3	1.2
Agender	6	2.3
Bigender	8	3.1
Transsexual	9	3.5
Transgender	1	0.4
Cisgender	148	57.8
Cross-dresser/transvestite	1	0.4
Trans-man	8	3.1
No response	12	4.7
<b>Biological sex</b>		
Female	131	51.2
Male	106	41.4
FTM	12	4.7
MTF	7	2.7

Note: N = 256.

Source: OUT for Work (Washington, DC, 2014).

who had each of the preferences (Myers, McCaulley, Quenk, & Hammer, 2018).

### RELIABILITY OF GLOBAL STEP I™ RESULTS

*Reliability* refers to consistency of measurement. A measure is said to be reliable when it produces a consistent, though not necessarily identical, result. 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 2 | Reported MBTI® type distribution: LGBTQ sample

Sensing		Intuition		Judging	Introversion
Thinking	Feeling		Thinking		
<b>ISTJ</b> n = 25 9.8%	<b>ISFJ</b> n = 17 6.6%	<b>INFJ</b> n = 19 7.4%	<b>INTJ</b> n = 18 7.0%		
<b>ISTP</b> n = 6 2.3%	<b>ISFP</b> n = 5 2.0%	<b>INFP</b> n = 27 10.5%	<b>INTP</b> n = 23 9.0%		
<b>ESTP</b> n = 3 1.2%	<b>ESFP</b> n = 7 2.7%	<b>ENFP</b> n = 39 15.2%	<b>ENTP</b> n = 17 6.6%	Judging	Extraversion
<b>ESTJ</b> n = 11 4.3%	<b>ESFJ</b> n = 5 2.0%	<b>ENFJ</b> n = 21 8.2%	<b>ENTJ</b> n = 13 5.1%		

Note: N = 256.

Table 3 | Reported MBTI® type distribution: Global sample

Sensing		Intuition		Judging	Introversion
Thinking	Feeling		Thinking		
<b>ISTJ</b> n = 2,671 15.9%	<b>ISFJ</b> n = 1,404 8.4%	<b>INFJ</b> n = 387 2.3%	<b>INTJ</b> n = 429 2.6%		
<b>ISTP</b> n = 1,651 9.8%	<b>ISFP</b> n = 1,106 6.6%	<b>INFP</b> n = 1,065 6.3%	<b>INTP</b> n = 809 4.8%		
<b>ESTP</b> n = 1,028 6.1%	<b>ESFP</b> n = 1,001 6.0%	<b>ENFP</b> n = 1,370 8.2%	<b>ENTP</b> n = 722 4.3%	Judging	Extraversion
<b>ESTJ</b> n = 1,509 9.0%	<b>ESFJ</b> n = 951 5.7%	<b>ENFJ</b> n = 361 2.2%	<b>ENTJ</b> n = 309 1.8%		

Note: N = 16,773. Source for global sample is *MBTI® Manual for the Global Step I® and Step II® Assessments* (Myers et al., 2018).

The internal consistency reliabilities (Cronbach's alphas) for the LGBTQ sample and the MBTI global sample are reported in table 5. The reliabilities of the four preference pairs are excellent for the LGBTQ sample and similar to those of the global sample.

## VALIDITY OF GLOBAL STEP I™ RESULTS

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 of the Global Step I assessment with this LGBTQ sample can be shown by examining intercorrelations of the preference pair continuous scores. Additionally, exploratory factor analysis can be used to assess the validity of the measurement of the factors of the MBTI assessment.

### Global Step I™ Preference Pair Intercorrelations

Intercorrelations of Global Step I continuous scores in the LGBTQ sample are shown in table 6 below the diagonal. The largest correlation is between the S–N and J–P preference pairs. The next largest correlations are between the T–F and S–N preference pairs and the T–F and J–P preference pairs. The pattern of these correlations is similar to those found for the global sample, shown in table 6 above the diagonal, but correlations for T–F and S–N and T–F and J–P are higher in the global sample than they are in the LGBTQ sample. The LGBTQ sample findings are likewise consistent with those reported for Form M in the 1998 *MBTI® Manual* (Myers, McCaulley, Quenk, & Hammer).

### Factor Analysis

In several studies confirmatory factor analyses of the MBTI assessment have been conducted to assess the validity of the factors of the MBTI assessment. They have indicated that a four-factor model, such as the one theorized and developed by Myers, is the most appropriate and offers the best fit (Harvey, Murry, & Stamoulis, 1995; Johnson & Saunders, 1990). A principal components exploratory factor analysis with varimax rotation was conducted using the item responses from the LGBTQ sample. The results are presented in table 7. The shaded cells indicate that factor 1 is E–I, factor 2 is T–F, factor 3 is J–P, and factor 4 is S–N. The first factor is the one that accounts for the most variance in this sample. The four-factor structure produced by this analysis shows that the MBTI Global Step I items are measuring their intended constructs, the four preference pairs, in this LGBTQ sample.

Table 4 | Reported MBTI® preference distributions: LGBTQ and global samples

Preference	LGBTQ sample		Global sample	
	<i>n</i>	%	<i>n</i>	%
<b>Extraversion (E)</b>	116	45.3	7,251	43.2
<b>Introversion (I)</b>	140	54.7	9,522	56.8
<b>Sensing (S)</b>	79	30.9	11,321	67.5
<b>Intuition (N)</b>	177	69.1	5,452	32.5
<b>Thinking (T)</b>	116	45.3	9,128	54.4
<b>Feeling (F)</b>	140	54.7	7,645	45.6
<b>Judging (J)</b>	129	50.4	8,021	47.8
<b>Perceiving (P)</b>	127	49.6	8,752	52.2

Note: LGBTQ sample, *N* = 256; global sample, *N* = 16,773.

Table 5 | Internal consistency reliabilities of Global Step I™ preference pair continuous scores: LGBTQ and global samples

Sample	<i>N</i>	Cronbach's alpha			
		E–I	S–N	T–F	J–P
<b>LGBTQ</b>	256	.91	.88	.90	.90
<b>Global</b>	16,773	.89	.87	.89	.88

Table 6 | Intercorrelations of Global Step I™ preference pair continuous scores: LGBTQ and global samples

Preference pair	E–I	S–N	T–F	J–P
<b>E–I</b>	–	–.20	–.15	–.15
<b>S–N</b>	–.16	–	.27	.48
<b>T–F</b>	–.21	.15	–	.23
<b>J–P</b>	–.07	.47	.15	–

Note: Correlations for the LGBTQ sample (*N* = 256) are below the diagonal; those for the global sample (*N* = 16,773) are above the diagonal.

Table 7 | Factor analysis rotated component matrix for the LGBTQ sample

Item code	Factor 1	Factor 2	Factor 3	Factor 4	Item code	Factor 1	Factor 2	Factor 3	Factor 4
	E-I	T-F	J-P	S-N		E-I	T-F	J-P	S-N
EI1	.71	-.02	-.04	-.05	TF1	-.14	.59	.01	.02
EI2	.49	.08	-.12	-.01	TF2	-.07	.48	-.01	.26
EI3	.61	.12	.04	-.01	TF3	-.09	.69	-.04	-.04
EI4	.53	-.18	.01	.04	TF4	.01	.48	.07	.01
EI5	.64	.02	-.12	-.09	TF5	-.08	.69	-.10	-.04
EI6	.41	-.08	.02	-.11	TF6	.06	.55	.15	-.04
EI7	.65	-.09	-.10	.01	TF7	-.04	.62	-.02	.05
EI8	.63	-.09	-.01	-.01	TF8	-.07	.50	.07	.02
EI9	.53	-.12	.07	-.07	TF9	-.10	.52	.07	-.13
EI10	.62	-.07	-.01	-.15	TF10	.10	.55	.08	-.04
EI11	.38	-.09	-.17	-.17	TF11	-.13	.49	.10	.15
EI12	.43	-.14	.07	-.01	TF12	-.12	.51	.05	.08
EI13	.64	-.01	.00	.12	TF13	-.08	.66	-.09	.18
EI14	.43	.06	-.05	.14	TF14	.14	.53	-.01	-.02
EI15	.75	.02	-.03	-.13	TF15	-.05	.64	.12	-.09
EI16	.63	-.07	-.06	-.01	TF16	-.02	.62	-.05	-.06
EI17	.68	.01	.04	-.05	TF17	.04	.56	-.04	.03
EI18	.53	-.18	.19	-.08	TF18	-.22	.37	.08	.09
EI19	.67	.01	-.05	-.06	TF19	.05	.46	.06	.07
EI20	.28	-.13	-.09	-.23	TF20	-.04	.44	.00	.11
EI21	.50	-.09	.09	.17	TF21	-.05	.67	.03	-.01
EI22	.49	-.19	.09	-.05	TF22	-.11	.48	.07	.21
EI23	.47	.19	.03	-.12	TF23	-.07	.48	-.01	-.11
EI24	.71	-.07	-.05	-.01					
					JP1	-.08	.00	.58	.05
SN1	-.03	-.06	-.07	.58	JP2	-.09	.07	.73	.08
SN2	.02	.22	.12	.56	JP3	.02	-.06	.66	.19
SN3	-.11	.08	.28	.50	JP4	.22	-.09	.45	-.03
SN4	-.04	-.04	.24	.41	JP5	-.07	-.02	.30	.07
SN5	-.14	.08	.24	.41	JP6	.05	.07	.42	.17
SN6	.03	-.02	.17	.45	JP7	-.01	.05	.68	.22
SN7	-.34	-.17	.13	.35	JP8	-.01	.21	.61	.25
SN8	-.10	.14	.08	.58	JP9	-.08	.11	.46	.25
SN9	-.02	.08	.08	.55	JP10	.00	.03	.60	.25
SN10	.03	.15	.12	.50	JP11	-.03	.17	.37	.32
SN11	-.02	-.04	.06	.51	JP12	-.04	-.01	.68	.06
SN12	.03	-.02	.17	.29	JP13	-.06	.13	.66	-.01
SN13	-.01	.06	.18	.56	JP14	.08	.15	.64	.01
SN14	-.14	-.08	.06	.37	JP15	-.08	.07	.66	.22
SN15	.00	.05	.25	.59	JP16	.04	-.03	.67	.18
SN16	.02	.02	.10	.57	JP17	-.04	.00	.58	.06
SN17	-.12	.13	.23	.31	JP18	.03	.04	.46	.04
SN18	.02	-.05	.08	.55	JP19	.03	-.11	.51	.11
SN19	-.19	-.09	.06	.54	JP20	.10	.11	.46	.19
SN20	-.10	-.06	.46	.28	JP21	-.13	.05	.27	.45
SN21	.13	-.04	.10	.53					
SN22	-.17	-.07	.21	.28					
SN23	-.02	.13	.09	.59					
SN24	.01	.02	-.07	.66					

Note: N = 256.



## CONCLUSION

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A sample of English-speaking persons in the United States who self-identify as lesbian, gay, bisexual, transgender, or queer participated in MBTI research and completed the global research version of the MBTI assessment. The sample was described and its demographic characteristics summarized. Initial analyses of the LGBTQ sample's results demonstrate excellent internal consistency reliabilities on the MBTI preference pairs that are consistent with the reliabilities of the global sample and those of the previous version of the MBTI assessment (i.e., Form M). Validity was established by showing correlations between the preference pairs. A factor analysis was conducted to show the validity of the measurement of the four constructs of the MBTI model. While more research is needed, all of these analyses show that the Global Step I assessment has adequate reliability and validity and is appropriate for use with the LGBTQ population in the US.

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