

## **Body Perception Questionnaire (BPQ) Manual**

Stephen W. Porges © 1993, 2015

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This document includes an overview and scoring instructions for:

Body Perception Questionnaire (BPQ)

Body Perception Questionnaire – Short Form (BPQ-SF)

Body Perception Questionnaire – Very Short Form (BPQ-VSF)

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### Theoretical Background

The Body Perception Questionnaire (BPQ) is a self-report measure of body awareness and autonomic reactivity. Its items are based on the organization of the autonomic nervous system (ANS), a set of neural pathways connecting the brain and body. These pathways send information from the body about the status of organs and tissues (i.e., afferent projections). Some of these incoming signals form a basis for the subjective awareness of the body. The ANS also carries signals that control the functions of these organs and tissues (i.e., efferent projections). These signals can alter the functions of the body, depending on internal and external needs.

For further reading on the autonomic nervous system, see:

Porges S. W. (1995). Orienting in a defensive world: Mammalian modifications of our evolutionary heritage. A Polyvagal Theory. *Psychophysiology*, 32, 301-318.

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Porges, S. W. (2017). *The Pocket Guide to The Polyvagal Theory: The Transformative Power of Feeling Safe*. New York: WW Norton.

### Questionnaire Development

The original 122-item measure was developed by Dr. Stephen Porges at the University of Maryland. Its goals were to assess body awareness, stress response, autonomic nervous system (ANS) reactivity, stress style, and health history (Porges, 1993). Items were chosen based on their relation with the autonomic nervous system. As research using the BPQ proliferated, the questionnaire was applied to a range of international neural, behavioral, and clinical studies and translated into several languages.

After two decades of use, our research team set out to improve the BPQ's usability. The first step of the revision was length reduction. This was accomplished first by reducing the number of domains to those with the highest popularity – body awareness and ANS reactivity. We further reduced the item pool by selecting body awareness items which had precision in capturing aspects of direct functional control of autonomic pathways. Items which were related to autonomic circuits but were “noisy” due to their incorporation of extra-autonomic systems were removed (e.g., the item “clumsiness of bumping into people” also includes proprioception). Importantly, all changes to the revision were reductions. No new items were added, nor was item wording altered in any way. Thus, items from the original BPQ form are compatible with the new (short form) version. All new subscales may be scored with data collected from the original BPQ document.

Psychometric properties were assessed from data in three samples: an American online study, a Spanish online study, and an American undergraduate student study (total n = 1320). For a full description of the factor structure, reliability, and validity, see:

Cabrera, A., Kolacz, J., Pailhez, G., Bulbena-Cabre, A., Bulbena, A., & Porges, S. W. (2018). Assessing body awareness and autonomic reactivity: Factor structure and psychometric properties of the Body Perception Questionnaire-Short Form (BPQ-SF). *International Journal of Methods in Psychiatric Research*, 27(3), e1596. doi: 10.1002/mpr.1596

### Subscale Descriptions

Domain	Subscale	Form	Description	Item Count
Body Awareness	Body Awareness	BPQ; BPQ-SF	A measure of sensitivity for internal bodily functions. Values at the high end of the scale reflect hypersensitivity and values at the low scale reflect hyposensitivity.	26
	Body Awareness	BPQ-VSF	A shorter version of the body awareness subscale composed of selected items from full 26-form above; available for contexts in which questionnaire brevity is a priority	12
Autonomic Reactivity	Supradiaphragmatic Reactivity	BPQ; BPQ-SF	A measure of the responses of autonomically-innervated organs above the diaphragm. These are likely to reflect the withdrawal of neural circuits promoting social engagement and calm resting state as well as activation of sympathetic “fight or flight” responses	15
	Subdiaphragmatic Reactivity	BPQ; BPQ-SF	A measure of the responses of autonomically-innervated gastrointestinal organs below the diaphragm. These likely reflect reactivity of the unmyelinated vagus nerve, the sympathetic nervous system, and the enteric nervous system	6

### Formatting Scores

Once data are collected, two item response formats are available for the Body Perception Questionnaire, as outlined in the table below.

Method	Item Response Values	Properties	Available Scores
Sum of full item responses  [Recommended]	1 = Never  2 = Occasionally  3 = Sometimes  4 = Usually  5 = Always	More sensitivity for individual differences at high end of the subscales	Raw  Percentile Ranks  T Scores
Sum of binary responses	0 = Never  1 = Occasionally, Sometimes, Usually, or Always	Reduced sensitivity for individual differences at highest level of the subscales; raw values tend to correspond better to a normal distribution than raw values using the sum of full item responses	Raw

### Calculating Raw Scores

Once the item responses have been formatted, use the following table to calculate raw scores. Scoring code for R is available upon request (see cover page for contact information).

When missing data are present, imputation may be used at the researcher's discretion. Scores for participants with a high amount of missing item-level data should be interpreted with extreme caution or not at all.

Subscale	Items for Scoring		
	BPQ (122 items)	BPQ Short Form (46 items)	BPQ Body Awareness Very Short Form (12 items)
Body Awareness	1, 3, 5, 6, 7, 9, 12, 15, 16, 17, 18, 19, 22, 24, 25, 26, 28, 29, 31, 32, 33, 40, 42, 43, 44, 45	1 – 26	All items (1 – 12)
Supradiaphragmatic Reactivity	57, 59, 60, 61, 63, 64, 65, 66, 67, 69, 72, 73, 74, 79, 80	27 - 41	
Subdiaphragmatic Reactivity*	62, 63, 75, 76, 77, 78	41 - 46	

\*one item (#63 in full BPQ, #41 in BPQ short form) is included in both Supra- and Sub-diaphragmatic Reactivity subscales

*A note on translated versions:* Available translations of the BPQ may be based on any of the versions outlined in the table above. Please check the version and item numbering before scoring a BPQ translation.

### Calculating Percentile Rank and T Scores

Percentile rank and T scores are available for raw scores computed by the sum of full item responses. These transformed scores are based on a combined sample of American and Spanish participants recruited online (n = 1005). Participant age ranged from 18 to 77 years (Mean = 34.4, SD = 11.2) and 63% were female. Age- and sex-specific norms are not yet available. To transform raw values to percentile ranks and T-scores, use the tables on the next pages. R code for transformations is available by request (see cover page for contact information).

**Percentile rank scores** reflect the percentage of values that are equal or lower to the individual's score. For example, a score in the 5<sup>th</sup> percentile rank means that the individual's score is greater or equal to 5% of the scores in a normative sample. A 95<sup>th</sup> percentile rank means that the individual's score is greater or equal to 95% of the scores in a normative sample.

**T scores** reflect a standardized value according to a normal distribution based on a mean of 50 and a standard deviation of 10. This transformation is recommended for parametric statistical models.



Body Awareness					
<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>	<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>
26	1.4%	28.0	66	62.2%	53.1
27	3.1%	31.3	67	63.4%	53.4
28	3.6%	32.0	68	64.8%	53.8
29	4.5%	33.0	69	66.4%	54.2
30	5.7%	34.2	70	68.0%	54.7
31	7.0%	35.3	71	69.5%	55.1
32	8.3%	36.1	72	70.5%	55.4
33	9.4%	36.8	73	71.7%	55.8
34	10.3%	37.4	74	72.8%	56.1
35	10.9%	37.7	75	73.7%	56.4
36	11.7%	38.1	76	74.9%	56.7
37	12.7%	38.6	77	76.3%	57.2
38	14.3%	39.3	78	77.5%	57.5
39	16.2%	40.1	79	78.3%	57.8
40	18.0%	40.9	80	79.5%	58.2
41	19.8%	41.5	81	80.8%	58.7
42	21.3%	42.0	82	81.6%	59.0
43	22.5%	42.4	83	82.3%	59.3
44	23.8%	42.9	84	83.0%	59.5
45	25.8%	43.5	85	83.7%	59.8
46	28.0%	44.2	86	84.6%	60.2
47	30.0%	44.8	87	85.5%	60.6
48	32.0%	45.3	88	86.2%	60.9
49	33.8%	45.8	89	86.6%	61.1
50	35.5%	46.3	90	87.3%	61.4
51	37.7%	46.9	91	88.0%	61.7
52	39.7%	47.4	92	88.5%	62.0
53	41.6%	47.9	93	89.0%	62.3
54	43.4%	48.3	94	89.7%	62.6
55	45.0%	48.7	95	90.4%	63.0
56	46.6%	49.2	96	91.0%	63.4
57	48.2%	49.6	97	91.5%	63.7
58	50.0%	50.0	98	92.1%	64.1
59	51.5%	50.4	99	92.8%	64.6
60	53.0%	50.8	100	93.6%	65.2
61	54.8%	51.2	101	94.2%	65.7
62	56.5%	51.6	102	94.6%	66.1
63	57.9%	52.0	103	95.0%	66.5
64	59.2%	52.3	104	95.3%	66.8
65	60.7%	52.7	105	95.6%	67.0

**Body Awareness (Cont.)**

<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>	<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>
106	95.7%	67.2	119	98.9%	73.0
107	95.9%	67.4	120	99.0%	73.2
108	96.1%	67.6	121	99.1%	73.5
109	96.4%	68.0	122	99.2%	74.1
110	96.7%	68.3	123	99.4%	74.9
111	96.9%	68.7	124	99.4%	75.3
112	97.2%	69.1	125	99.5%	75.8
113	97.5%	69.6	126	99.6%	76.5
114	98.0%	70.5	127	99.7%	77.2
115	98.4%	71.5	128	99.7%	77.9
116	98.6%	72.0	129	99.8%	78.7
117	98.7%	72.3	130	99.9%	79.7
118	98.9%	72.8			

**Body Awareness Very Short Form (VSF)**

<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>	<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>
12	2.5%	30.5	37	79.3%	58.2
13	6.2%	34.6	38	81.5%	59.0
14	8.6%	36.3	39	83.4%	59.7
15	11.4%	38.0	40	84.7%	60.2
16	14.2%	39.3	41	85.7%	60.7
17	17.0%	40.5	42	87.1%	61.3
18	20.8%	41.9	43	88.8%	62.1
19	24.3%	43.0	44	90.2%	62.9
20	27.1%	43.9	45	91.7%	63.9
21	31.4%	45.2	46	93.0%	64.7
22	36.4%	46.5	47	93.8%	65.4
23	40.3%	47.6	48	94.7%	66.1
24	43.5%	48.4	49	95.5%	67.0
25	46.4%	49.1	50	96.2%	67.7
26	49.7%	49.9	51	96.6%	68.2
27	52.7%	50.7	52	97.1%	68.9
28	55.8%	51.5	53	97.6%	69.8
29	59.1%	52.3	54	98.1%	70.8
30	62.3%	53.1	55	98.6%	72.0
31	65.4%	54.0	56	99.0%	73.1
32	68.2%	54.7	57	99.1%	73.7
33	70.6%	55.4	58	99.3%	74.3
34	72.9%	56.1	59	99.5%	75.8
35	75.0%	56.7	60	99.8%	78.8
36	77.1%	57.4			

**Supradiaphragmatic Reactivity**

<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>	<i>Raw Score</i>	<i>Percentile Rank</i>	<i>T-Score</i>
15	7.4%	35.5	43	93.3%	65.0
16	19.1%	41.3	44	94.0%	65.5
17	26.5%	43.7	45	94.5%	66.0
18	33.1%	45.6	46	95.2%	66.6
19	39.3%	47.3	47	95.8%	67.2
20	44.1%	48.5	48	96.4%	68.0
21	49.4%	49.8	49	96.9%	68.7
22	54.3%	51.1	50	97.2%	69.1
23	58.9%	52.2	51	97.6%	69.8
24	62.8%	53.3	52	97.9%	70.4
25	65.7%	54.0	53	98.0%	70.6
26	68.8%	54.9	54	98.2%	70.9
27	71.4%	55.7	55	98.6%	71.9
28	73.9%	56.4	56	98.8%	72.4
29	76.4%	57.2	57	98.9%	72.9
30	78.8%	58.0	58	99.2%	73.9
31	81.0%	58.8	59	99.4%	75.1
32	82.7%	59.4	60	99.5%	75.8
33	84.2%	60.0	61	99.5%	76.0
34	85.6%	60.6	62	99.6%	76.5
35	86.8%	61.2	63	99.8%	78.1
36	87.9%	61.7	64	99.9%	80.9
37	88.8%	62.1	65	99.9%	82.4
38	89.6%	62.6	66	> 99.9%	83.9
39	90.4%	63.0	67	> 99.9%	85.3
40	91.0%	63.4	68	> 99.9%	86.6
41	91.6%	63.8	69	> 99.9%	88.0
42	92.3%	64.3			

<b>Subdiaphragmatic Reactivity</b>		
<b><i>Raw Score</i></b>	<b><i>Percentile Rank</i></b>	<b><i>T-Score</i></b>
6	9.0%	36.6
7	22.2%	42.3
8	30.4%	44.9
9	37.9%	46.9
10	45.3%	48.8
11	52.9%	50.7
12	61.1%	52.8
13	68.3%	54.8
14	73.6%	56.3
15	78.4%	57.9
16	82.4%	59.3
17	85.5%	60.6
18	88.8%	62.2
19	91.9%	64.0
20	94.0%	65.5
21	95.6%	67.1
22	96.8%	68.5
23	97.5%	69.5
24	98.2%	71.0
25	98.9%	72.8
26	99.4%	75.1
27	99.8%	78.8
28	99.9%	80.9

Version Comparison of BPQ Forms

BPQ

BPQ-Short Form (BPQ-SF)

BPQ Body Awareness Very Short Form (BPQ-VSF)

BPQ #	BPQ-SF #	BPQ-VSF #	Item
1	1		Swallowing frequently
2			A ringing in my ears
3	2		An urge to cough or clear my throat
4			My body swaying when I am standing
5	3	1	My mouth being dry
6	4	2	How fast I am breathing
7	5		Watering or tearing of my eyes
8			My skin itching
9	6		Noises associated with my digestion
10			Eye fatigue or pain
11			Muscle tension in my back and neck
12	7	3	A swelling of my body or parts of my body
13			An urge to urinate
14			Tremor in my hands
15	8		An urge to defecate
16	9	4	Muscle tension in my arms and legs
17	10	5	A bloated feeling because of water retention
18	11		Muscle tension in my face
19	12	6	Goose bumps
20			Facial twitches
21			Being exhausted
22	13	7	Stomach and gut pains
23			Rolling or fluttering my eyes
24	14	8	Stomach distension or bloatedness
25	15		Palms sweating
26	16		Sweat on my forehead
27			Clumsiness or bumping into people
28	17	9	Tremor in my lips
29	18		Sweat in my armpits
30			Sensations of prickling, tingling, or numbness in my body
31	19		The temperature of my face (especially my ears)
32	20		Grinding my teeth
33	21		General jitteriness
34			Muscle pain

35			Joint pain
36			Fullness of my bladder
37			My eye movements
38			Back pain
39			My nose itching
40	22	10	The hair on the back of my neck "standing up"
41			Needing to rest
42	23		Difficulty in focusing
43	24	11	An urge to swallow
44	25	12	How hard my heart is beating
45	26		Feeling constipated
56			I feel nauseous.
57	27		I have difficulty coordinating breathing and eating.
58			My nose is runny, even when I am not sick.
59	28		When I am eating, I have difficulty talking.
60	29		My heart often beats irregularly.
61	30		When I eat, food feels dry and sticks to my mouth and throat.
62	42		I have "sour" stomach.
63	41		I feel like vomiting.
64	31		I feel shortness of breath.
65	32		I have difficulty coordinating breathing with talking.
66	33		When I eat, I have difficulty coordinating swallowing, chewing, and/or sucking with breathing.
67	34		I have a persistent cough that interferes with my talking and eating.
68			I drool, especially when I am excited.
69	35		I gag from the saliva in my mouth.
70			I produce a lot of saliva even when I am not eating.
71			I have difficulty adjusting my eyes to changes in illumination.
72	36		I have chest pains.
73	37		I gag when I eat.
74	38		When I talk, I often feel I should cough or swallow the saliva in my mouth.
75	43		I am constipated.
76	44		I have indigestion.
77	45		After eating I have digestive problems.
78	46		I have diarrhea.
79	39		When I breathe, I feel like I cannot get enough oxygen.
80	40		I have difficulty controlling my eyes.

81			I get dizzy when urinating or having a bowel movement.
82			I have trouble focusing when I go into dimly or brightly illuminated places.



### References

- Cabrera, A., Kolacz, J., Pailhez, G., Bulbena-Cabre, A., Bulbena, A., & Porges, S. W. (2018). Assessing body awareness and autonomic reactivity: Factor structure and psychometric properties of the Body Perception Questionnaire-Short Form (BPQ-SF). *International Journal of Methods in Psychiatric Research*, 27(3), e1596. doi: 10.1002/mpr.1596
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