

University of Washington Resilience Scale – User Guide

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UNIVERSITY OF WASHINGTON RESILIENCE SCALE (UWRS) © USER GUIDE

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Permission to use the UWRS instruments does not grant permission to modify the wording or layout of items, to distribute to others in any form, or to translate items into any other language. Permission to modify, distribute, or translate must be requested in writing from the study principal investigator, Dagmar Amtmann, PhD at dagmara@uw.edu, uwcorr@uw.edu, or agerrtc@uw.edu.

Questions about the UWRS Instruments

If you have questions about the UWRS instruments or their use in clinical care or research, please contact the University of Washington Healthy Aging Rehabilitation Research and Training Center (RRTC) or the University of Washington Center on Outcomes Research in Rehabilitation (UWCORR)

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Healthy Aging RRTC UW Department of Rehabilitation Medicine Box 356490 Seattle, WA 98195	Phone: (866) 928-2114 Fax: (206) 685-3244 Email: agerrtc@uw.edu
UWCORR UW Department of Rehabilitation Medicine Box 354237 Seattle, WA 98195	Phone: (800) 504-0564 Fax : (206) 685-9224 Email: uwcorr@uw.edu

Overview of the UWRS

Construct:

The UWRS is intended measure an individual's perceived resilience. The construct was defined through a series of meetings with researchers and clinical psychologists with expertise in positive psychology in rehabilitation populations. The following definition was developed by authors and guided the development of items with the specific focus on resilience in the context of chronic health problems or disability:

Resilience is the capacity to bounce back, to live fully, and to pursue one's values in the face of adversity or daily hassles.

Intended Application and Population:

The UWRS was developed in a sample of adults living with long-term physical disabilities and a community sample generalizable to the US population. The short forms require less than 5 minutes to administer. The UWRS was developed in English, and has not yet been translated into other languages. It was developed to be applicable to anybody, but particularly relevant to measuring resilience in people with chronic health problems or disability.

Instructions for using the UW Resilience Scale:

The UWRS is an Item Response Theory (IRT) based instrument intended for measuring resilience in adults. The UWRS is a publicly available, psychometrically sound item bank for

measuring resilience with a focus on resilience in people with chronic medical conditions or disability. It was developed with persons (N=1457) with multiple sclerosis (MS), spinal cord injury (SCI), post-polio syndrome (PPS), and muscular dystrophy (MD). The bank was also administered to a general population sample (N=300) matched to the US census on gender, age, race, and ethnicity. Scores were re-centered such that a mean of 50 with a standard deviation of 10 represents the mean in the general population sample. Focus groups and cognitive interviews were conducted in the process of development of the item bank to ensure that the instrument is both person-centered and clinically meaningful. The item bank was calibrated using IRT and item parameters for all items are available upon request.

Choosing a UWRS instrument:

Below you will find the full 28 item bank along with an 8-item and 4-item short form. For lowest respondent burden and most reliable score choose computerized adaptive testing (CAT). If CAT is not available choose the 8 item short form. If the 8 item short form is too long choose the 4 item short form, but understand the limitations of the score based on 4 items.

A participant or patient version is available below, as well as investigator versions with individual item scoring indicated. **It is best practice not to administer the version that shows scoring to the participants.** The full bank, that is all 28 items, is not intended to be administered for any purposes. The full item bank is intended for CAT which uses an algorithm to select items based on responses to previous items. However, we provide the scoring table for the full version as well in case it is of interest to researchers.

The 8-item short form can be administered by computer or on paper. It is recommended for use in situations where administration of CAT is not possible. The correlation between scores on the 8-item short form and on the full bank is 0.97. The reliability of the 8-item form is very high (>0.9) between scores of 22 and 64 and can be used with confidence for individual comparisons within this range.

The 4-item scale is intended for use in situations where the 8-item short form or CAT cannot be administered. The correlation between the 4-item form and the full bank and 8-item form is 0.94 and 0.97 respectively. Scores based on the 4-items have high reliability only between 26 and 46 and 55 and 59 and cannot be used for individual comparisons outside of these ranges. The reliability of the 4-item short form is greater than 0.8 for scores between 25 and 65 points.

Scoring

Individual items are summed and the total sum is then transformed to an IRT-based T-score score using the scoring tables provided. **The sum score based on adding corresponding codes for each item should not be used for any purposes.** All reliability and validation information relates to the IRT based T-scores. Raw scores/codes for each item range from 1 to 5 as indicated in the investigator/clinician versions below. Only complete responses with no missing data can be scored using the provided scoring tables. However, information on scoring with missing data is also provided under “Scoring with Missing Data” below. Instructions for scoring each individual instrument are outlined here:

Full Item Bank (28 items): In the unlikely cases where all 28 items are administered, 28 items are summed first using the values/codes provided for each response available in the clinician/researcher version of the form. Please note that three items are reverse scored compared to the others and are specifically marked as such in the researcher/clinician version. Summing the codes/raw scores across the 28 items will give a total raw score that ranges from 28-140. The raw sum score is **not** a valid score and should not be used for any purposes other than looking up the IRT-based T-score. Only UWRS T-scores should be reported and used in analyses. Raw total scores should then be transformed to the IRT-based total T-score using the appropriate concordance table provided at the end of this document. As an example, a participant with a summary score of 80 would have a T-score of 40.2.

8 Item Short Form: The 8 items are summed as a first step using the values provided for each response available in the clinician/researcher version of the form. This will give a total score that ranges from 8 to 40. This is **not** a valid score and should not be used for any other purpose than looking up the IRT-based T-score. After summing the 8 items, the scores have to be transformed to the IRT-based score on a T-scale metric using the appropriate concordance table provided at the end of this document. For example, a participant with a summary score of 18 would have a T-score of 36.1.

4 Item Short Form: The 4 items are summed as a first step using the values provided for each response available in the clinician/researcher version of the form. This will give a total score that ranges from 4-20. After summing the 4 items, raw total scores should be transformed to a t-scale metric using the concordance table provided at the end of this document. For example, a participant with a summary score of 6 would have a T-score of 29.5.

Scoring with Missing Data: The attached scoring table for the full item bank should only be used for complete data. For missing data use IRT software if possible. The 8-item short form scores can be approximated if a participant skips up to two questions. If more than 2 items are missing a score cannot be generated. On the 4-item short form, scores cannot be generated if any of the 4-items are missing. To score participants with missing data on the 8-item form, first check how many items were answered and confirm that 6 items were answered before proceeding. Next, sum the response scores from the items that were answered. Multiply this sum by 8 (the number of items in the short form). Finally, divide by the number of items that were answered. For example, if a respondent answered 6 of 8 questions and answered all items with the second lowest response option (2), you would sum all responses (12), multiply by the number of items in the short form (8) and divide by the number of items that were answered (6). Here $(12 \times 8) / 6 = 16$. If the result is a fraction, round up to the nearest whole number. This is a pro-rated raw score. Again, the formula is:

$$\text{(Raw sum x 8)/(Number of items that were actually answered) = pro-rated score}$$

Finally, locate the applicable 8 item score conversion table below and use this table to translate the pro-rated score into a T-score for the participant just as you would for any participant who did not have missing responses.

Interpreting UWRS Scores

The UWRS T-score is a standardized score with a mean of 50 and a standard deviation (SD) of 10. A higher T-score represents a higher level of resilience. T-scores are comparable across all UWRS instruments. This means that a score obtained by a respondent using the 6-item short form may be compared directly to a score obtained by a respondent using the full bank or a CAT administration of the scale with the understanding that the score based on CAT is more reliable (i.e., accurate) than the score based on the short form. T-scores of 50 represent the mean score of the general US population. Based on a normal distribution of UWRS T-scores, 50% of individuals in the general population are expected to have a T-score of 50 or higher. A respondent that receives a T-score of 60 has reported a level of resilience approximately 1 standard deviation above the mean of the general population, and that suggested resilience level higher than 84% of individuals in the general population sample.

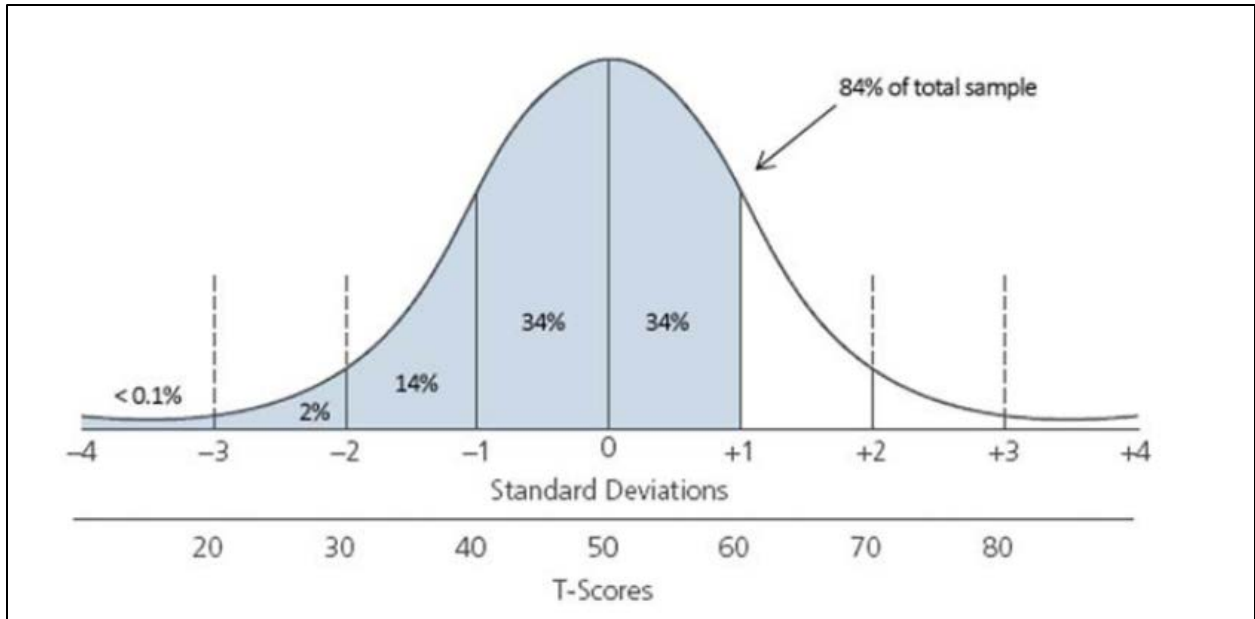


Figure 1 – A UWRS T-score of 60 indicates that approximately 84 percent of persons in the general population sample reported lower resilience, as reflected by the shaded area.

University of Washington Resilience Scale Short Form – 8 Item ©
(Participant/Patient Version)

Instructions: Please respond to all questions. Please mark one box per row.

Please rate how well each statement describes you right now.

	Not at all	A little bit	Some what	Quite a bit	Very much
I maintain a positive outlook even in bad circumstances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When something happens that makes me feel stressed, I usually calm down quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I experience a set-back, I keep moving forward.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Although I feel bad sometimes, I usually bounce right back.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During stressful times, I am usually calm and relaxed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do what is important to me, even when stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When something stressful happens, I keep going.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When things go wrong in my life, I can pick myself up and start again.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

University of Washington Resilience Scale Short Form – 4 Item ©
(Participant/Patient Version)

Instructions: Please respond to all questions. Please mark one box per row.

Please rate how well each statement describes you right now.

	Not at all	A little bit	Some what	Quite a bit	Very much
I maintain a positive outlook even in bad circumstances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When something happens that makes me feel stressed, I usually calm down quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When something stressful happens, I keep going.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When things go wrong in my life, I can pick myself up and start again.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

University of Washington Resilience Scale Item Bank ©
(Investigator/Clinician Version)

Please rate how well each statement describes you right now.

Item #		Not at all	A little bit	Some what	Quite a bit	Very much
uwresil16	When I get stressed out, I'm usually able to get back to my old self in no time.	1	2	3	4	5
uwresil55	I stay calm no matter what is thrown at me.	1	2	3	4	5
uwresil76	People who know me say I can maintain a level head when things get stressful.	1	2	3	4	5
uwresil4	I maintain a positive outlook even in bad circumstances.	1	2	3	4	5
uwresil68	I do what is important to me, even when stressed.	1	2	3	4	5
uwresil82	I move forward despite adversity.	1	2	3	4	5
uwresil9	I can stay focused on my goals even when bad things happen in my life.	1	2	3	4	5
uwresil10	When something happens that makes me feel stressed, I usually calm down quickly.	1	2	3	4	5
uwresil77	I am easily thrown off by everyday hassles. (R)	5	4	3	2	1
uwresil43	When something really bad happens to me, I usually feel bad for a long time. (R)	5	4	3	2	1
uwresil15	When things get stressful, I keep focused on my values and goals.	1	2	3	4	5
uwresil36	When I experience a set-back, I keep moving forward.	1	2	3	4	5
uwresil45	It does not take me long to feel fine again after feeling stressed.	1	2	3	4	5

uwresil37	Even when I experience a set-back, I keep moving toward my goals.	1	2	3	4	5
uwresil74	When things go wrong in my life, I can pick myself up and start again.	1	2	3	4	5
uwresil22	When faced with challenges, I keep working toward a solution.	1	2	3	4	5
uwresil12	When bad things happen to me, I bounce back quickly.	1	2	3	4	5
uwresil72	I get back to my priorities after stressful events.	1	2	3	4	5
uwresil32	I maintain a clear head when something stressful happens.	1	2	3	4	5
uwresil35	I keep things in perspective when something stressful happens.	1	2	3	4	5
uwresil79	I tend to give up easily when I face set-backs. (R)	5	4	3	2	1
uwresil71	When something stressful happens, I keep going.	1	2	3	4	5
uwresil38	When I experience a set-back, I know I am able to get back to my usual self.	1	2	3	4	5
uwresil42	Although I feel bad sometimes, I usually bounce right back.	1	2	3	4	5
uwresil81	I stay focused on things that are important to me while under pressure.	1	2	3	4	5
uwresil49	During stressful times, I am usually calm and relaxed.	1	2	3	4	5
uwresil61	I bounce back when difficulties come my way.	1	2	3	4	5
uwresil69	I take care of what is important to me when facing stress or adversity.	1	2	3	4	5

(R) Indicates Items are reverse coded compared to the other items in the bank. Items are to be coded as shown in the table when generating summary scores.

University of Washington Resilience Scale Short Form – 8-Item ©
(Investigator/Clinician Version)

Please rate how well each statement describes you right now.

		Not at all	A little bit	Some what	Quite a bit	Very much
uwresil4	I maintain a positive outlook even in bad circumstances.	1	2	3	4	5
uwresil10	When something happens that makes me feel stressed, I usually calm down quickly.	1	2	3	4	5
uwresil36	When I experience a set-back, I keep moving forward.	1	2	3	4	5
uwresil42	Although I feel bad sometimes, I usually bounce right back.	1	2	3	4	5
uwresil49	During stressful times, I am usually calm and relaxed.	1	2	3	4	5
uwresil68	I do what is important to me, even when stressed.	1	2	3	4	5
uwresil71	When something stressful happens, I keep going.	1	2	3	4	5
uwresil74	When things go wrong in my life, I can pick myself up and start again.	1	2	3	4	5

University of Washington Resilience Scale Short Form – 4 Item
(Investigator/Clinician Version)

Please rate how well each statement describes you right now.

		Not at all	A little bit	Some what	Quite a bit	Very much
uwresil4	I maintain a positive outlook even in bad circumstances.	1	2	3	4	5
uwresil10	When something happens that makes me feel stressed, I usually calm down quickly.	1	2	3	4	5
uwresil71	When something stressful happens, I keep going.	1	2	3	4	5
uwresil74	When things go wrong in my life, I can pick myself up and start again.	1	2	3	4	5

28 Item Scale - Summary Score to T-score Conversion

Summary Score	T-score
28	12.8
29	14.6
30	16.1
31	17.4
32	18.5
33	19.4
34	20.3
35	21.1
36	21.9
37	22.5
38	23.1
39	23.7
40	24.3
41	24.8
42	25.3
43	25.8
44	26.3
45	26.7
46	27.2
47	27.6
48	28.0
49	28.5
50	28.9
51	29.3
52	29.7
53	30.1
54	30.5
55	30.9
56	31.3
57	31.7
58	32.1
59	32.5
60	32.9
61	33.3
62	33.6
63	34.0
64	34.4
65	34.8
66	35.1
67	35.5

Summary Score	T-score
68	35.9
69	36.2
70	36.6
71	36.9
72	37.3
73	37.7
74	38.0
75	38.4
76	38.7
77	39.1
78	39.5
79	39.8
80	40.2
81	40.5
82	40.9
83	41.3
84	41.6
85	42.0
86	42.4
87	42.7
88	43.1
89	43.5
90	43.9
91	44.2
92	44.6
93	45.0
94	45.4
95	45.8
96	46.2
97	46.6
98	47.0
99	47.4
100	47.8
101	48.3
102	48.7
103	49.2
104	49.6
105	50.1
106	50.5
107	51.0

Summary Score	T-score
108	51.5
109	52.0
110	52.5
111	53.0
112	53.5
113	54.0
114	54.5
115	55.0
116	55.4
117	55.9
118	56.4
119	56.9
120	57.4
121	57.9
122	58.4
123	58.9
124	59.4
125	59.9
126	60.4
127	60.9
128	61.5
129	62.0
130	62.6
131	63.3
132	64.0
133	64.8
134	65.7
135	66.6
136	67.8
137	69.1
138	70.8
139	73.0
140	76.1

8 Item Short Form Scale - Summary Score to T-score Conversion Table

Summary Score	T-score
8	19.4
9	22.4
10	24.6
11	26.4
12	28.1
13	29.6
14	31.0
15	32.3
16	33.6
17	34.8
18	36.1
19	37.3
20	38.5
21	39.6
22	40.8
23	41.9
24	43.1
25	44.3
26	45.6
27	46.9
28	48.3
29	49.6
30	51.1
31	52.5
32	54.0
33	55.6
34	57.2
35	58.8
36	60.5
37	62.4
38	64.6
39	67.4
40	71.6

4 Item Short Form Scale - Summary Score to T-score Conversion Table

Summary Score	T-score
4	22.4
5	26.5
6	29.5
7	32.0
8	34.3
9	36.5
10	38.7
11	40.8
12	43.0
13	45.4
14	47.9
15	50.4
16	53.0
17	55.9
18	59.2
19	62.8
20	68.0